

CareDx, Inc.
Form POS AM
August 25, 2017
Table of Contents

As filed with the Securities and Exchange Commission on August 25, 2017

Registration No. 333-211700

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

POST-EFFECTIVE AMENDMENT NO. 1

TO

FORM S-3

ON

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

CAREDX, INC.

(Exact name of Registrant as specified in its charter)

Delaware (State or other jurisdiction of	8071 (Primary Standard Industrial	94-3316839 (I.R.S. Employer
incorporation or organization)	Classification Code Number) 3260 Bayshore Boulevard	Identification Number)
	Brisbane, California 94005	
	(415) 287-2300	

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Peter Maag
Chief Executive Officer
CareDx, Inc.
3260 Bayshore Boulevard
Brisbane, California 94005
(415) 287-2300

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:
Jeffrey T. Hartlin, Esq.
Paul Hastings LLP
1117 S. California Avenue
Palo Alto, California 94304
(650) 320-1804

Approximate date of commencement of proposed sale to the public: From time to time, after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission acting pursuant to said Section 8(a) may determine.

Table of Contents

EXPLANATORY NOTE

We previously filed with the Securities and Exchange Commission (the SEC) a registration statement on Form S-3 (File No. 333-211700) (as amended, the Registration Statement) to register shares of our common stock for resale by the selling stockholders named therein. The Registration Statement was declared effective by the SEC on July 12, 2016. This Post-Effective Amendment No. 1 to Form S-3 on Form S-1 is being filed to convert the registration statement on Form S-3 into a registration statement on Form S-1 and to update the prospectus contained in the Registration Statement. All applicable filing fees were paid at the time of the original filing of the Registration Statement.

Table of Contents

The information in this prospectus is not complete and may be changed. We may not sell the securities until the Registration Statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION,

DATED AUGUST 25, 2017

PROSPECTUS

CareDx, Inc.

8,534,261 Shares of Common Stock

This prospectus relates to an aggregate of 8,534,261 shares of common stock (the **Common Stock**) that may be resold from time to time by the selling stockholders named in this prospectus (each a **Selling Stockholder**, collectively, the **Selling Stockholders**). The registration of the offer and sale of the securities covered by this prospectus does not necessarily mean that any of the securities will be offered or sold by the **Selling Stockholders**.

We will receive no proceeds from any sale or disposition of Securities registered hereunder that are sold by the **Selling Stockholders**, or interests therein, but we have agreed to pay certain registration expenses.

The **Selling Stockholders** may offer the securities, from time to time, as they may determine directly or through underwriters, broker-dealers or agents and in one or more public or private transactions, on or off the NASDAQ Global Market (**NASDAQ**), and at fixed prices, prevailing market prices, at prices related to prevailing market prices or at negotiated prices. If these securities are sold through underwriters, broker-dealers or agents, the **Selling Stockholders** will be responsible for underwriting discounts or commissions or agents' commissions. See **Plan of Distribution**.

Our common stock is listed on the NASDAQ Global Market under the symbol **CDNA**. On August 24, 2017, the closing sale price of our common stock was \$2.86 per share.

INVESTING IN OUR SECURITIES INVOLVES SIGNIFICANT RISKS. SEE RISK FACTORS BEGINNING ON PAGE 5 OF THIS PROSPECTUS AND IN THE APPLICABLE PROSPECTUS

SUPPLEMENT BEFORE INVESTING IN ANY SECURITIES.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is _____, 2017

Table of Contents

TABLE OF CONTENTS

	Page
<u>About this Prospectus</u>	1
<u>Prospectus Summary</u>	2
<u>Risk Factors</u>	5
<u>Disclosure Regarding Forward-Looking Statements</u>	5
<u>Use of Proceeds</u>	6
<u>Plan of Distribution</u>	6
<u>Selling Stockholders</u>	7
<u>Description of Capital Stock</u>	12
<u>Legal Matters</u>	16
<u>Experts</u>	16
<u>Where you Can Find More Information</u>	17
<u>Disclosure of Commission Position on Indemnification for Securities Act Liabilities</u>	17
<u>Important Information Incorporated by Reference</u>	17

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-1 that we filed with the United States Securities and Exchange Commission (the "SEC"). Under this registration statement, the Selling Stockholders may sell, at any time and from time to time, in one or more offerings, up to 8,534,261 shares of Common Stock. When the Selling Stockholders elect to make an offer of any Common Stock described in this prospectus, pursuant to this registration statement, a prospectus supplement, if required, may be distributed that will contain specific information about the terms of that offering. Any required prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the heading "Where You Can Find More Information" and "Information Incorporated by Reference."

As allowed by the SEC rules, this prospectus and any accompanying prospectus supplement does not contain all of the information included in the registration statement. For further information, we refer you to the registration statement, including its exhibits, as well as any accompanying prospectus supplement, any documents incorporated by reference herein or therein and any applicable free writing prospectus. Statements contained in this prospectus and any accompanying prospectus supplement or any free writing prospectus about the provisions or contents of any agreement or other document are not necessarily complete. If the SEC's rules and regulations require that an agreement or document be filed as an exhibit to the registration statement, please see that agreement or document for a complete description of the related matters.

You should only rely on the information contained or incorporated by reference in this prospectus and any prospectus supplement or issuer free writing prospectus relating to a particular offering. No person has been authorized to give any information or make any representations in connection with this offering other than those contained or incorporated by reference in this prospectus, any accompanying prospectus supplement and any related issuer free writing prospectus in connection with the offering described herein and therein, and, if given or made, such information or representations must not be relied upon as having been authorized by us. Neither this prospectus nor any prospectus supplement nor any related issuer free writing prospectus shall constitute an offer to sell or a solicitation of an offer to buy offered securities in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits.

You should read the entire prospectus and any prospectus supplement and any related issuer free writing prospectus, as well as the documents incorporated by reference into this prospectus or any prospectus supplement or any related issuer free writing prospectus, before making an investment decision. Neither the delivery of this prospectus or any prospectus supplement or any issuer free writing prospectus nor any sale made hereunder shall under any circumstances imply that the information contained or incorporated by reference herein or in any prospectus supplement or issuer free writing prospectus is correct as of any date subsequent to the date hereof or of such prospectus supplement or issuer free writing prospectus, as applicable. You should assume that the information appearing in this prospectus, any prospectus supplement or any document incorporated by reference is accurate only as of the date of the applicable documents, regardless of the time of delivery of this prospectus or any sale of securities. Our business, financial condition, results of operations and prospects may have changed since that date.

The names AlloMap, XDx and CareDx are our trademarks.

In this prospectus, except as otherwise indicated or as the context otherwise requires, CareDx, we, our, our company and us refer to CareDx, Inc., a Delaware corporation.

Table of Contents

PROSPECTUS SUMMARY

This summary description about us and our business highlights selected information contained elsewhere in this prospectus or incorporated in this prospectus by reference. This summary does not contain all of the information you should consider before buying securities in this offering. You should carefully read this entire prospectus and any applicable prospectus supplement, including each of the documents incorporated herein or therein by reference, before making an investment decision. As used in this prospectus, we, us, CareDx, the Company and our refer to CareDx, Inc., a Delaware corporation.

Overview

We are a global transplant diagnostics company with product offerings along the pre- and post-transplant continuum. We focus on discovery, development and commercialization of clinically differentiated, high-value diagnostic surveillance solutions for transplant patients. In post-transplant diagnostics, we offer AlloMap[®], which is a heart transplant molecular test (AlloMap). In pre-transplant diagnostics, we offer high quality products that increase the chance of successful transplants by facilitating a better match between a donor and a recipient of stem cells and organs.

AlloMap is a gene expression test that helps clinicians monitor and identify heart transplant recipients with stable graft function who have a low probability of moderate to severe acute cellular rejection. Since 2008, we have sought to expand the adoption and utilization of our AlloMap solution through ongoing studies to substantiate the clinical utility and actionability of AlloMap, secure positive reimbursement decisions for AlloMap from large private and public payers, develop and enhance our relationships with key members of the transplant community, including opinion leaders at major transplant centers, and explore opportunities and technologies for the development of additional solutions for post-transplant surveillance. We believe the use of AlloMap, in conjunction with other clinical indicators, can help healthcare providers and their patients better manage long-term care following a heart transplant. In particular, we believe AlloMap can improve patient care by helping healthcare providers avoid the use of unnecessary, invasive surveillance biopsies and determine the appropriate dosage levels of immunosuppressants. AlloMap has received 510(k) clearance from the U.S. Food and Drug Administration (the FDA) for marketing and sale as a test to aid in the identification of recipients with a low probability of moderate or severe acute cellular rejection. A 510(k) submission is a premarketing submission made to the FDA. Clearance may be granted by the FDA if it finds the device or test provides satisfactory evidence pertaining to the claimed intended uses and indications for the device or test. We are also pursuing the development of additional products for transplant monitoring using a variety of technologies, including AlloSure[®], our proprietary next-generation sequencing-based test to detect donor-derived cell-free DNA (dd-cfDNA) after transplantation. Through the acquisition of ImmuMetrix, Inc., a privately held development-stage company working on dd-cfDNA-based solutions in transplantation and other fields, we added to our existing know-how, expertise, and intellectual property the ability to apply dd-cfDNA technology to the surveillance of transplant recipients, which has contributed to the development of AlloSure.

With the acquisition of CareDx International AB, formerly Allenex AB on April 14, 2016, we develop, manufacture, market and sell high quality products that increase the chance of successful transplants by facilitating a better match between a donor and a recipient of stem cells and organs. Olerup SSP[®] is used to type HLA alleles based on the sequence specific primer technology and has a market in Europe and selected other markets for pre-transplant solutions. We also offer Olerup XM-ONE[®], a standardized test that identifies a patient's antigens against HLA Class I or Class II, as well as antibodies against a donor's endothelium. This cross-match test has primarily been used prior to kidney transplants. With the acquisition of the business assets of Conexio Genomics Pty Ltd on January 20, 2017, we offer a complete product range for sequence-based typing of HLA alleles. Olerup SBT Resolver[™] is a test kit for sequence based HLA typing, while Assign SBT[™] is the companion software for sequence analysis. In 2014, Olerup

began active development of a new HLA typing product, Olerup QTYPE[®] that uses real-time polymerase chain reaction methodology. Olerup QTYPE[®] was commercially launched at the end of September 2016.

Table of Contents

For a complete description of our business, financial condition, results of operations and other important information, we refer you to our filings with the SEC that are incorporated by reference in this prospectus, including our Annual Report on Form 10-K for the year ended December 31, 2016. For instructions on how to find copies of these documents, see [Where You Can Find More Information](#) .

Corporate Information

We were originally incorporated in Delaware in December 1998 under the name Hippocratic Engineering, Inc. In April 1999, we changed our name to BioCardia, Inc., and in June 2002, again we changed our name, this time to Expression Diagnostics, Inc. In July 2007, we changed our name to XDx, Inc. and in March 2014, we most recently changed our name to CareDx, Inc. Our principal executive offices are located at 3260 Bayshore Boulevard, Brisbane, California and our telephone number is (415) 287-2300.

Implications of Being an Emerging Growth Company

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012. We will remain an emerging growth company until the earlier of (1) the beginning of the first fiscal year following the fifth anniversary of our initial public offering, or January 1, 2020, (2) the beginning of the first fiscal year after our annual gross revenue is \$1.07 billion (subject to adjustment for inflation) or more, (3) the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt securities and (4) as of the end of any fiscal year in which the market value of our Common Stock held by non-affiliates exceeded \$700 million as of the end of the second quarter of that fiscal year.

For as long as we remain an emerging growth company, we may take advantage of certain exemptions from various reporting requirements that are applicable to public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation and financial statements in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote to approve executive compensation and shareholder approval of any golden parachute payments not previously approved. We will take advantage of these reporting exemptions until we are no longer an emerging growth company.

About This Offering

The securities offered in this prospectus relate to the potential resale of an aggregate of 8,534,261 shares of Common Stock.

On April 14, 2016, we completed a private placement of 591,860 units to certain of the Selling Stockholders at a purchase price of \$23.94 per unit (the [Private Placement](#)). The aggregate gross proceeds to us from the private placement were approximately \$14.1 million. Each unit is comprised of: (i) one share of Common Stock; (ii) five shares of Series A Mandatorily Convertible Preferred Stock (the [Series A Preferred](#)); and (iii) three warrants, each to purchase one share of Common Stock (the [Common Warrants](#)) (collectively, a [Unit](#)). The closing of the Private Placement was conditioned upon the closing of the Allenex acquisition, the consent of East West Bank to the Allenex acquisition, and certain other customary closing conditions. We also issued warrants exercisable for 200,000 shares of Common Stock to the placement agents in connection with the Private Placement (the [Placement Agent Warrants](#), and together with the Common Warrants, the [Warrants](#)). The placement agents did not invest in the Private Placement or purchase any other securities. No parties who purchased Units in the Private Placement acted as a broker-dealer, or received compensation for acting as a private placement agent. As part of the Private Placement, we agreed to file this registration statement to register the resale of the shares issued to the Selling Stockholders. See [Plan of Distribution](#)

and Description of Securities to be Registered for additional information concerning this registration statement.

On June 15, 2016, we completed a private placement of an additional 334,169 Units to certain additional Selling Stockholders, consisting of (i) 334,169 shares of Common Stock; (ii) 1,670,845 shares of Series A Preferred; and (iii) 1,002,507 Common Warrants, for an aggregate investment amount of approximately \$8.0 million (the

Table of Contents

Subsequent Financing). Securities issued in the Subsequent Financing are the same price and on substantially the same terms as in the Private Placement. On June 16, 2016, we held our annual shareholder meeting pursuant to which the requisite stockholders approved the conversion of all outstanding shares of Series A Preferred into shares of Common Stock, effective June 16, 2016.

Table of Contents

RISK FACTORS

Investing in shares of our Common Stock involves a high degree of risk. Before making an investment decision, you should carefully consider the risks described under Risk Factors in any applicable prospectus supplement and in our most recent Annual Report on Form 10-K, or any updates in our Quarterly Reports on Form 10-Q, together with all of the other information appearing in or incorporated by reference into this prospectus and any applicable prospectus supplement, before deciding whether to purchase any of the Common Stock being offered. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of shares of our Common Stock could decline due to any of these risks, and you may lose all or part of your investment.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into this prospectus may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), about the Company and its subsidiaries. These forward-looking statements are intended to be covered by the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Forward-looking statements are not statements of historical fact, and can be identified by the use of forward-looking terminology such as believes, expects, may, will, could, should, projects, plans, goal, targets, potential, estimates, pro form, anticipates or the negative thereof or comparable terminology. Forward-looking statements include discussions of strategy, financial projections, guidance and estimates (including their underlying assumptions), statements regarding plans, objectives, expectations or consequences of various transactions, and statements about the future performance, operations, products and services of the Company and its subsidiaries. We caution our stockholders and other readers not to place undue reliance on such statements.

You should read this prospectus and the documents incorporated by reference completely and with the understanding that our actual future results may be materially different from what we currently expect. Our business and operations are and will be subject to a variety of risks, uncertainties and other factors. Consequently, actual results and experience may materially differ from those contained in any forward-looking statements. Such risks, uncertainties and other factors that could cause actual results and experience to differ from those projected include, but are not limited to, the risk factors set forth in Part I Item 1A, Risk Factors, in our Annual Report on Form 10-K for the year ended December 31, 2016, as filed with the SEC on April 21, 2017, and elsewhere in the documents incorporated by reference into this prospectus.

You should assume that the information appearing in this prospectus, any accompanying prospectus supplement, any related free writing prospectus and any document incorporated herein by reference is accurate as of its date only. Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. All written or oral forward-looking statements attributable to us or any person acting on our behalf made after the date of this prospectus are expressly qualified in their entirety by the risk factors and cautionary statements contained in and incorporated by reference into this prospectus. Unless legally required, we do not undertake any obligation to release publicly any revisions to such forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events.

Table of Contents

USE OF PROCEEDS

This prospectus relates to the Common Stock that may be offered and sold from time to time by the Selling Stockholders who will receive all of the proceeds from any sale of the securities. We will not receive any of the proceeds from any sales of the securities by the Selling Stockholders. We will pay the registration expenses, including filing fees, printing fees and fees of our counsel and other advisers; however, the Selling Stockholders will pay, on a pro rata basis, any underwriting fees, discounts, selling commissions and stock transfer taxes relating to the sale of the securities.

PLAN OF DISTRIBUTION

The Selling Stockholders may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. The Selling Stockholders may use any one or more of the following methods when selling shares:

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

short sales;

broker-dealers may agree with the Selling Stockholders to sell a specified number of such shares at a stipulated price per share;

a combination of any such methods of sale; and

any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The Selling Stockholders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved. Any profits on the resale of shares of common stock by a broker-dealer acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. Discounts, concessions, commissions and similar selling expenses, if any, attributable to the sale of shares will be borne by a Selling Stockholder. The Selling Stockholders may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of the shares if liabilities are imposed on that person under the Securities Act.

The Selling Stockholders may from time to time pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time under this prospectus after we have filed a supplement to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933 supplementing or amending the list of Selling Stockholders to include the pledgee, transferee or other successors in interest as Selling Stockholders under this prospectus.

The Selling Stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus and may sell the shares of common stock from time to time under this prospectus after we have filed a supplement to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933 supplementing or amending the list of Selling Stockholders to include the pledgee, transferee or other successors in interest as Selling Stockholders under this prospectus.

The Selling Stockholders and any broker-dealers or agents that are involved in selling the shares of common stock may be deemed to be underwriters within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares of common stock purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

Table of Contents

We are required to pay all fees and expenses incident to the registration of the shares of common stock. We have agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

The Selling Stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their shares of common stock, nor is there an underwriter or coordinating broker acting in connection with a proposed sale of shares of common stock by any Selling Stockholder. If we are notified by any Selling Stockholder that any material arrangement has been entered into with a broker-dealer for the sale of shares of common stock, if required, we will file a supplement to this prospectus. If the Selling Stockholders use this prospectus for any sale of the shares of common stock, they will be subject to the prospectus delivery requirements of the Securities Act.

The anti-manipulation rules of Regulation M under the Securities Exchange Act of 1934 may apply to sales of our common stock and activities of the Selling Stockholders.

SELLING STOCKHOLDERS

The common shares being offered by the Selling Stockholders are those previously issued to the Selling Stockholders, and those issuable to the Selling Stockholders, upon exercise of the warrants. For additional information regarding the issuances of those common shares and warrants, see Prospectus Summary About this Offering above. We are registering the common shares in order to permit the Selling Stockholders to offer the shares for resale from time to time. Except for the ownership of the common shares and the warrants, the Selling Stockholders have not had any material relationship with us within the past three years.

The table below lists the Selling Stockholders and other information regarding the beneficial ownership of the common shares by each of the Selling Stockholders. The second column lists the number of common shares beneficially owned by each Selling Stockholder, based on its ownership of the common shares and warrants as of August 9, 2017, assuming exercise of the warrants held by the Selling Stockholders on that date, without regard to any limitations on exercises.

The third column lists the common shares being offered by this prospectus by the Selling Stockholders.

In accordance with the terms of a registration rights agreement with the Selling Stockholders, this prospectus generally covers the resale of at least the sum of (i) the maximum number of common shares issued and (ii) the maximum number of common shares issuable upon exercise of the related warrants, determined as if the outstanding warrants were exercised in full as of the trading day immediately preceding the date this registration statement was initially filed with the SEC, each as of the trading day immediately preceding the applicable date of determination and all subject to adjustment as provided in the registration right agreement, without regard to any limitations on the exercise of the warrants. The fourth column assumes the sale of all of the shares offered by the Selling Stockholders pursuant to this prospectus.

Under the terms of the warrants, a Selling Stockholder may not exercise the warrants to the extent such exercise would cause such Selling Stockholder, together with its affiliates, to beneficially own a number of common shares which would exceed 4.99% of our then outstanding common shares following such exercise, excluding for purposes of such determination common shares issuable upon exercise of the warrants which have not been exercised. The number of shares in the second column does not reflect this limitation. The Selling Stockholders may sell all, some or none of their shares in this offering. See Plan of Distribution.

Name of Selling Stockholder	Number of Common Shares Owned Prior to the Offering	Percentage of Shares Beneficially Owned Prior to the Offering	Maximum Number of Common Shares to be Sold Pursuant to this Prospectus (53)	Number of Common Shares Owned After the Offering	Percentage of Shares Beneficially Owned After to the Offering
Neil Gagnon	3,844,901(1)	17.0%	162,612	3,682,289	16.3%
Gagnon Securities LLC P/S Plan	3,519(2)	*	3,519		
Gagnon Securities Profit Sharing Plan	10,827(3)	*	10,827		
Gagnon Investment Associates Master Fund	413,244(4)	1.8%	413,244		
Gagnon Family Partnership	43,353(5)	*	43,353		
Lois Gagnon	115,416(6)	*	115,416		
Henry Beinstein	46,989(7)	*	46,989		
Henry Beinstein & Phyllis Beinstein JTWROS	9,387(8)	*	9,387		
Debra Beinstein	18,792(9)	*	18,792		
David Beinstein	18,792(10)	*	18,792		
Stanley Beinstein	18,792(11)	*	18,792		
Brian Gagnon	16,938(12)	*	16,938		
Darwin Partnership	40,293(13)	*	40,293		
Highland Long/Short Healthcare Fund	1,397,508(14)	6.1%	939,843	457,665	2.0%

Table of Contents

Name of Selling Stockholder	Number of Common Shares Owned Prior to the Offering	Percentage of Shares Beneficially Owned Prior to the Offering	Maximum Number of Common Shares to be Sold Pursuant to this Prospectus (53)	Number of Common Shares Owned After the Offering	Percentage of Shares Beneficially Owned After to the Offering
NexPoint Capital, Inc.	751,878(15)	3.3%	751,878		
1989 Bishop Trust	7,137(16)	*	7,137		
David & Elaine Butterworth Community Property	75,186(17)	*	75,186		
Edward L. Butterworth Jr. 2012 Irrevocable Trust	14,283(18)	*	14,283		
Jeffrey A. Baker	24,543(19)	*	24,543		
Kenneth T. Butterworth	29,322(20)	*	29,322		
Richard McKay Living Trust	248,112(21)	1.1%	248,112		
Sandy Point Trust	93,978(22)	*	93,978		
Shirley T. Butterworth Revocable Trust	52,623(23)	*	52,623		
The Townsend Trust	9,396(24)	*	9,396		
Thomas Brook Townsend IV and Jennifer G. Townsend Trust dtd 6/13/06	86,463(25)	*	86,463		
Paragon Associates and Paragon Associates II Joint Venture	1,683,800(26)	7.4%	630,000	1,053,800	4.7%
Merckle International GmbH	1,118,830(27)	4.9%	448,830	670,000	3.0%
Industry Ventures Healthcare, LLC	1,188,003(28)	5.2%	563,904	624,099	2.8%
Intracoastal Capital LLC	93,960(29)	*	93,960		
Iroquois Capital Investment Group LLC	9,405(30)	*	9,405		
Iroquois Master Fund Ltd	84,591(31)	*	84,591		
Richard A. Smith	18,792(32)	*	18,792		
Cynergy Healthcare Investors Emerging Bridge, LLC	46,989(33)	*	46,989		
Firstfire Global Opportunities Fund LLC	56,385(34)	*	56,385		
Lincoln Park Capital Fund, LLC	93,987(35)	*	93,987		
AAR Associates, LP	7,515(36)	*	7,515		
Cynthia Finerman Living Trust	3,753(37)	*	3,753		
Ralph Finerman	7,515(38)	*	7,515		
The Wood Family Trust	9,396(39)	*	9,396		
Bruce Andrew Miles	2,600(40)	*	2,600		
John Dexter Pearson	2,600(41)	*	2,600		
Angela C. Dong	1,300(42)	*	1,300		
William Buchanan Jr.	30,100(43)	*	30,100		
Harris R.L. Lydon	30,100(44)	*	30,100		
Scott A. Katzmann	30,100(45)	*	30,100		

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Michael Fontaine	1,600(46)	*	1,600		
Patrick Sturgeon	1,600(47)	*	1,600		
CRT Associates LLC	50,000(48)	*	50,000		
M.M. Dillon & Co. Group LLC	50,000(49)	*	50,000		
FastPartner AB	2,130,996(50)	9.3%	1,139,850	991,146	4.4%
Midroc Invest AB	2,394,504(51)	10.4%	1,281,204	1,113,300	4.9%
Xenella Holding AB	871,291(52)	3.8%	586,467	284,824	1.3%

* Denotes less than 1%.

- (1) The number of shares offered by the Selling Stockholder is comprised of (i) 108,408 shares of Common Stock held by the Selling Stockholder; and (ii) 54,204 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Information is partially based on a Schedule 13G/A filed with the SEC on February 14, 2017, which reported 3,538,673 shares of common stock and warrants to purchase an aggregate of 306,228 shares of common stock beneficially held by Mr. Gagnon. Mr. Gagnon is principal of FINRA registered broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities. The address for the Selling Stockholder is 1370 Avenue of the Americas, 24th Floor, New York, NY 10019.
- (2) The number of shares offered by the Selling Stockholder is comprised of (i) 2,346 shares of Common Stock held by the Selling Stockholder; and (ii) 1,173 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Neil Gagnon exercises voting and investment control over the shares owned by the Selling Stockholder. Mr. Gagnon is principal of FINRA registered broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities. The address for the Selling Stockholder is 1370 Avenue of the Americas, 24th Floor, New York, NY 10019.
- (3) The number of shares offered by the Selling Stockholder is comprised of (i) 7,218 shares of Common Stock held by the Selling Stockholder; and (ii) 3,609 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Neil Gagnon is a trustee and has sole voting and sole dispositive power. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities. The address for the Selling Stockholder is 1370 Avenue of the Americas, 24th Floor, New York, NY 10019.
- (4) The number of shares offered by the Selling Stockholder is comprised of (i) 275,496 shares of Common Stock held by the Selling Stockholder; and (ii) 137,748 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Neil Gagnon exercises voting and investment control over the shares owned by the Selling Stockholder. Mr. Gagnon is principal of FINRA registered broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities. The address for the Selling Stockholder is 1370 Avenue of the Americas, 24th Floor, New York, NY 10019.
- (5) The number of shares offered by the Selling Stockholder is comprised of (i) 28,902 shares of Common Stock held by the Selling Stockholder; and (ii) 14,451 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Neil Gagnon exercises voting and investment control over the shares owned by the Selling Stockholder. Mr. Gagnon is principal of FINRA registered broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities. The address for the Selling Stockholder is 1370 Avenue of the Americas, 24th Floor, New York, NY 10019.

Table of Contents

- (6) The number of shares offered by the Selling Stockholder is comprised of (i) 76,944 shares of Common Stock held by the Selling Stockholder; and (ii) 38,472 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of Mr. Gagnon who is principal of FINRA broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities.
- (7) The number of shares offered by the Selling Stockholder is comprised of (i) 31,326 shares of Common Stock held by the Selling Stockholder; and (ii) 15,663 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of Mr. Gagnon who is principal of FINRA broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities.
- (8) The number of shares offered by the Selling Stockholder is comprised of (i) 6,258 shares of Common Stock held by the Selling Stockholder; and (ii) 3,129 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of Mr. Gagnon who is principal of FINRA broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities.
- (9) The number of shares offered by the Selling Stockholder is comprised of (i) 12,528 shares of Common Stock held by the Selling Stockholder; and (ii) 6,264 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of Mr. Gagnon who is principal of FINRA broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities.
- (10) The number of shares offered by the Selling Stockholder is comprised of (i) 12,528 shares of Common Stock held by the Selling Stockholder; and (ii) 6,264 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of Mr. Gagnon who is principal of FINRA broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities.
- (11) The number of shares offered by the Selling Stockholder is comprised of (i) 12,528 shares of Common Stock held by the Selling Stockholder; and (ii) 6,264 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of Mr. Gagnon who is principal of FINRA broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities.
- (12) The number of shares offered by the Selling Stockholder is comprised of (i) 11,292 shares of Common Stock held by the Selling Stockholder; and (ii) 5,646 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of Mr. Gagnon who is principal of FINRA broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities.
- (13) The number of shares offered by the Selling Stockholder is comprised of (i) 26,862 shares of Common Stock held by the Selling Stockholder; and (ii) 13,431 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Neil Gagnon exercises voting and investment control over the shares owned by the

Selling Stockholder. Mr. Gagnon is principal of FINRA registered broker-dealer, Gagnon Securities, LLC. The Selling Stockholder purchased the securities being registered for resale in the ordinary course of business. The Selling Stockholder did not have any agreements or understandings, directly or indirectly, with any person, to distribute the securities. The address for the Selling Stockholder is 1370 Avenue of the Americas, 24th Floor, New York, NY 10019.

- (14) The number of shares offered by the Selling Stockholder is comprised of (i) 626,562 shares of Common Stock held by the Selling Stockholder; and (ii) 313,281 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Information is partially based on a Schedule 13G filed with the SEC on February 10, 2017, which reported 1,397,508 shares of common stock held by the Selling Stockholder. The Selling Stockholder is a series of Highland Funds I. Highland Capital Management Fund Advisors, L.P. (Highland Fund Advisors), as the investment advisor to the Selling Stockholder, and Strand Advisors XVI, Inc. (Strand), as the general partner of Highland Fund Advisors, may be deemed the beneficial owners of the common stock held by the Selling Stockholder. Highland Capital Healthcare Advisors, L.P. (Highland Healthcare Advisors), as the investment advisor to Highland Capital Healthcare Partners (Master), L.P. (HCHPM) and Sterling Capital Long/Short Healthcare (SCLSH); Highland Capital Healthcare Advisors GP, LLC (Healthcare Advisors GP), as the general partner of Highland Healthcare Advisors; and Highland Capital Management Services, Inc. (Highland Management Services), as the sole owner of Healthcare Advisors GP, may be deemed the beneficial owners over the shares of Common Stock held by HCHPM and SCLSH. James D. Dondero may be deemed the beneficial owner over the shares of the Common Stock held by the Selling Stockholder, HCHPM and SCLSH. The address of the Selling Stockholder, HCHPM, SCLSH, Highland Fund Advisors, Strand, Highland Healthcare Advisors, Healthcare Advisors GP, Highland Management Services and Mr. Dondero is 300 Crescent Court, Suite 700, Dallas, Texas 75201.
- (15) The number of shares offered by the Selling Stockholder is comprised of (i) 501,252 shares of Common Stock held by the Selling Stockholder; and (ii) 250,626 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is a closed-end management investment company that has elected to be treated as a business development company under the Investment Company Act of 1940.
- (16) The number of shares offered by the Selling Stockholder is comprised of (i) 4,758 shares of Common Stock held by the Selling Stockholder; and (ii) 2,379 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Rita J. Bishop and Robert L. Bishop have voting and investment power with respect to the shares owned by the Selling Stockholder.
- (17) The number of shares offered by the Selling Stockholder is comprised of (i) 50,124 shares of Common Stock held by the Selling Stockholder; and (ii) 25,062 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder.
- (18) The number of shares offered by the Selling Stockholder is comprised of (i) 9,522 shares of Common Stock held by the Selling Stockholder; and (ii) 4,761 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. David Butterworth has voting and investment power with respect to the shares owned by the Selling Stockholder.
- (19) The number of shares offered by the Selling Stockholder is comprised of (i) 16,362 shares of Common Stock held by the Selling Stockholder; and (ii) 8,181 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder.
- (20) The number of shares offered by the Selling Stockholder is comprised of (i) 19,548 shares of Common Stock held by the Selling Stockholder; and (ii) 9,774 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder.
- (21) The number of shares offered by the Selling Stockholder is comprised of (i) 165,408 shares of Common Stock held by the Selling Stockholder; and (ii) 82,704 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. David Butterworth has voting and investment power with respect to the shares owned by the Selling Stockholder.
- (22) The number of shares offered by the Selling Stockholder is comprised of (i) 62,652 shares of Common Stock held by the Selling Stockholder; and (ii) 31,326 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder.

Table of Contents

- (23) The number of shares offered by the Selling Stockholder is comprised of (i) 35,082 shares of Common Stock held by the Selling Stockholder; and (ii) 17,541 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. David Butterworth has voting and investment power with respect to the shares owned by the Selling Stockholder.
- (24) The number of shares offered by the Selling Stockholder is comprised of (i) 6,264 shares of Common Stock held by the Selling Stockholder; and (ii) 3,132 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Marlene Townsend has voting and investment power with respect to the shares owned by the Selling Stockholder.
- (25) The number of shares offered by the Selling Stockholder is comprised of (i) 57,642 shares of Common Stock held by the Selling Stockholder; and (ii) 28,821 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Thomas Brook Townsend IV and Jennifer G. Townsend have voting and investment power with respect to the shares owned by the Selling Stockholder.
- (26) The number of shares offered by the Selling Stockholder is comprised of (i) 420,000 shares of Common Stock held by the Selling Stockholder; and (ii) 210,000 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Information is partially based on a Schedule 13D/A filed with the SEC on September 23, 2016, which reported 1,683,800 shares of common stock held by the Selling Stockholder. The common stock was purchased by Bradbury Dyer III (Mr. Dyer) for the account of Selling Stockholder on behalf of Paragon Associates, Ltd. (Paragon), Paragon Associates II, Ltd. (Paragon II), and Paragon Associates III, Ltd. (Paragon III). Paragon JV Partners, LLC (Paragon GP) serves as the general partner of each of Paragon, Paragon II, and Paragon III and the investment advisor of the Selling Stockholder and may direct the vote and disposition over the shares of Common Stock held by the Selling Stockholder. As the sole and managing member of Paragon GP, Mr. Dyer may direct Paragon GP to direct, and, as the authorized agent to the Selling Stockholder, may direct the vote and disposition of over the shares held by the Selling Stockholder. The address for the Selling Stockholder is 500 Crescent Court, Suite 260, Dallas, Texas 75201.
- (27) The number of shares offered by the Selling Stockholder is comprised of (i) 299,220 shares of Common Stock held by the Selling Stockholder; and (ii) 149,610 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Information is partially based on a Schedule 13D/A filed with the SEC on June 24, 2016, which reported 1,118,830 shares of common stock held by the Selling Stockholder. Mr. Ludwig Merckle is the managing director of the Selling Stockholder. The Selling Stockholder has the sole power to direct the vote and the disposition of the shares held by the Selling Stockholder. The address for the Selling Stockholder is Nicolaus-Otto-Straße 25, 89079 Ulm, Germany.
- (28) The number of shares offered by the Selling Stockholder is comprised of (i) 375,936 shares of Common Stock held by the Selling Stockholder; and (ii) 187,968 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Information is partially based on Schedule 13G filed with the SEC on February 16, 2016, which reported 642,099 shares of common stock directly held by Industry Ventures Healthcare, LLC (IV Healthcare). Johan Swildens (Swildens) is the sole Managing Member of Industry Ventures Management VII, LLC (IV Management), which is the sole Manager of IV Healthcare. Each of Swildens and IV Management may be deemed to share voting and dispositive power over the shares held by IV Healthcare. The address for the Selling Stockholder is 30 Hotaling Place, San Francisco, CA 94111.
- (29) The number of shares offered by the Selling Stockholder is comprised of (i) 62,640 shares of Common Stock held by the Selling Stockholder; and (ii) 31,320 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mitchell P. Kopin (Mr. Kopin) and Daniel B. Asher (Mr. Asher), each of whom are managers of Intracoastal Capital LLC (Intracoastal), have shared voting control and investment discretion over the securities reported herein that are held by Intracoastal. As a result, each of Mr. Kopin and Mr. Asher may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act)) of the securities reported herein that are held by Intracoastal. Mr. Asher, who is a manager of Intracoastal, is also a control person of a broker-dealer. As a result of such common control, Intracoastal may be deemed to be an affiliate of a broker-dealer. Intracoastal acquired the ordinary shares being

registered hereunder in the ordinary course of business, and at the time of the acquisition of the ordinary shares and warrants described herein, Intracoastal did not have any arrangements or understandings with any person to distribute such securities. The address of the Selling Stockholder is 245 Palm Trail, Delray Beach, FL 33483.

- (30) The number of shares offered by the Selling Stockholder is comprised of (i) 6,270 shares of Common Stock held by the Selling Stockholder; and (ii) 3,135 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Richard Abbe and Mr. Joshua Silverman are the members of the Selling Stockholder who have the authority and responsibility for the investments made on behalf of the Selling Stockholder. As such, Mr. Abbe and Mr. Silverman may be deemed to beneficially own all shares of Common Stock held by the Selling Stockholder. The address for the Selling Stockholder is 205 E. 42nd St., 20th Floor, New York, NY 10017.
- (31) The number of shares offered by the Selling Stockholder is comprised of (i) 56,394 shares of Common Stock held by the Selling Stockholder; and (ii) 28,197 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Richard Abbe and Mr. Joshua Silverman are the members of the Selling Stockholder who have the authority and responsibility for the investments made on behalf of the Selling Stockholder. As such, Mr. Abbe and Mr. Silverman may be deemed to beneficially own all shares of Common Stock held by the Selling Stockholder. The address for the Selling Stockholder is 205 E. 42nd St., 20th Floor, New York, NY 10017.
- (32) The number of shares offered by the Selling Stockholder is comprised of (i) 12,528 shares of Common Stock held by the Selling Stockholder; and (ii) 6,264 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder.
- (33) The number of shares offered by the Selling Stockholder is comprised of (i) 31,326 shares of Common Stock held by the Selling Stockholder; and (ii) 15,663 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Patrick Adams has voting and investment power with respect to the shares owned by the Selling Stockholder.
- (34) The number of shares offered by the Selling Stockholder is comprised of (i) 37,590 shares of Common Stock held by the Selling Stockholder; and (ii) 18,795 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is controlled by its managing member, Eliezer Fireman.
- (35) The number of shares offered by the Selling Stockholder is comprised of (i) 62,658 shares of Common Stock held by the Selling Stockholder; and (ii) 31,329 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Lincoln Park Capital LLC is the manager of Lincoln Park Capital Fund, LLC. Rockledge Capital Corporation and Alex Noah Investors, Inc. are the managers of Lincoln Park Capital LLC. Mr. Joshua Sheinfeld and Mr. Jonathan Cope are the Presidents of Rockledge Capital Corporation and Alex Noah Investors, Inc., respectively, and have voting and dispositive authority over the shares held by Lincoln Park Capital Fund, LLC and disclaim beneficial ownership of such shares, except to the extent of their pecuniary interest therein.
- (36) The number of shares offered by the Selling Stockholder is comprised of (i) 5,010 shares of Common Stock held by the Selling Stockholder; and (ii) 2,505 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Ralph Finerman is the general partner of the Selling Stockholder and has the power to vote, direct the vote of, dispose of and direct the disposition over the shares.
- (37) The number of shares offered by the Selling Stockholder is comprised of (i) 2,502 shares of Common Stock held by the Selling Stockholder; and (ii) 1,251 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mrs. Cynthia Finerman has voting and investment power with respect to the shares owned by the Selling Stockholder.
- (38) The number of shares offered by the Selling Stockholder is comprised of (i) 5,010 shares of Common Stock held by the Selling Stockholder; and (ii) 2,505 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder.
- (39) The number of shares offered by the Selling Stockholder is comprised of (i) 6,264 shares of Common Stock held by the Selling Stockholder; and (ii) 3,132 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Jason M. Wood has voting and investment power with respect to the shares owned by Selling Stockholder.
- (40) The number of shares offered by the Selling Stockholder is comprised of 2,600 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and

placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 1 Wannamaker Court, Chestnut Ridge, NY 10952.

Table of Contents

- (41) The number of shares offered by the Selling Stockholder is comprised of 2,600 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 380 Broome St. Apt 1, New York, NY 10013.
- (42) The number of shares offered by the Selling Stockholder is comprised of 1,300 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 200 East 57th St. Apt 17K, New York, NY 10022.
- (43) The number of shares offered by the Selling Stockholder is comprised of 30,100 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 8 Smith Ridge Lane, New Canaan, CT 06840.
- (44) The number of shares offered by the Selling Stockholder is comprised of 30,100 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 17 White St. Apt 2B, New York, NY 10013.
- (45) The number of shares offered by the Selling Stockholder is comprised of 30,100 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 53 Westgate Blvd., Plandome, NY 11030.
- (46) The number of shares offered by the Selling Stockholder is comprised of 1,600 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 123 Washington St. #42G, New York, NY 10006.

- (47) The number of shares offered by the Selling Stockholder is comprised of 1,600 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, CIM Securities, LLC. Brookline Capital Markets, a division of CIM Securities, LLC, entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is 34 Desbrosses St. Apt 420, New York, NY 10013.
- (48) The number of shares offered by the Selling Stockholder is comprised of 50,000 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is an affiliate of FINRA registered broker-dealer, M.M. Dillon & Co. Group LLC. M.M. Dillon & Co. Group LLC entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is One Sound Shore Drive, Greenwich, CT 06983.
- (49) The number of shares offered by the Selling Stockholder is comprised of 50,000 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. The Selling Stockholder is a FINRA registered broker-dealer. M.M. Dillon & Co. Group LLC entered into a financial advisors and placement agents agreement to act as our lead financial advisors and placement agents in connection with the Private Placement, pursuant to which we issued the securities being registered for resale as compensation for acting as a private placement agent. The agreement was entered into in the ordinary course of business. The address for the Selling Stockholder is One Sound Shore Drive, Greenwich, CT 06983.
- (50) The number of shares offered by the Selling Stockholder is comprised of (i) 759,900 shares of Common Stock held by the Selling Stockholder; and (ii) 379,950 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Information is partially based on a Schedule 13G/A filed with the SEC on July 7, 2017, which reported 1,751,046 shares of common stock and warrants to purchase 379,950 shares of common stock beneficially held by the Selling Stockholder. Mr. Sven Olof Johansson has sole voting and investment power with respect to the shares owned by the Selling Stockholder. The address for the Selling Stockholder is Post Office Box 55625, 102 14 Stockholm, Sweden.
- (51) The number of shares offered by the Selling Stockholder is comprised of (i) 854,136 shares of Common Stock held by the Selling Stockholder; and (ii) 427,068 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Information is partially based on a Schedule 13G/A filed with the SEC on July 7, 2017, which reported 1,967,436 shares of common stock and warrants to purchase 427,068 shares of common stock beneficially held by the Selling Stockholder. Mr. Mohammed Al Amoudi has sole voting and investment power with respect to the shares owned by the Selling Stockholder. The address for the Selling Stockholder is Post Office Box 3002, 169 03 Solna, Sweden.
- (52) The number of shares offered by the Selling Stockholder is comprised of (i) 390,978 shares of Common Stock held by the Selling Stockholder; and (ii) 195,489 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mssrs. Sven Olof Johansson and Mohammed Al Amoudi have shared voting and investment power with respect to the shares owned by the Selling Stockholder. The address for the Selling Stockholder is C/O Västra Hamnen Corporate Finance AB, 211 19 Malmö, Sweden.
- (53) We do not know when or in what amounts a Selling Stockholder may offer shares for sale. The Selling Stockholders may choose not to sell any or all of the shares offered by this prospectus. The Company has entered into Voting Agreements with each of the Selling Stockholders which limits the ability of each Selling Stockholder to sell or otherwise transfer the shares of Common Stock it beneficially owns until the earlier to occur of (i) the date upon which the stockholders of the Company, in any annual, special or adjourned meeting of the stockholders of the Company, or by written consent in lieu of any such meeting, approve the Private Placement and the Subsequent Financing, (ii) the termination of the Securities Purchase Agreement in accordance with its terms, and (iii) June 30, 2016. Because the Selling Stockholders may offer all or some of the shares pursuant to this offering, we cannot estimate the number of the shares that will be held by the Selling

Stockholders after completion of the offering. However, for purposes of this table, we have assumed that, after completion of the offering, all of the shares covered by this prospectus will be sold by the Selling Stockholders.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following is a description of the material terms of our capital stock as provided in our (i) amended and restated certificate of incorporation, and (ii) amended and restated bylaws. We also refer you to our amended and restated certificate of incorporation (including our amendment to our amended and restated certificate of incorporation) and our amended and restated bylaws, copies of which are incorporated by reference as exhibits to the registration statement of which this prospectus forms a part.

Authorized Capitalization

Our authorized capital stock consists of 100,000,000 shares of Common Stock with a \$0.001 par value per share, and 10,000,000 shares of preferred stock with a \$0.001 par value per share. Our board of directors may establish the rights and preferences of the preferred stock from time to time. As of August 9, 2017, there were 22,541,668 shares of our Common Stock issued and outstanding and no shares of preferred stock outstanding.

The following is a summary of the material provisions of the Common Stock provided for in our amended and restated certificate of incorporation and amended and restated bylaws. For additional detail about our capital stock, please refer to our amended and restated certificate of incorporation and amended and restated bylaws.

Listing

Our Common Stock is listed on the NASDAQ Global Market under the symbol CDNA.

Transfer Agent and Registrar

The transfer agent and registrar for the Common Stock is Computershare Trust Company, N.A. Its address is 250 Royall Street, Canton, MA 02021, and its telephone number is 1-800-962-4284.

Common Stock

Each holder of our Common Stock is entitled to one vote for each share on all matters to be voted upon by the stockholders. Subject to any preferential rights of any outstanding preferred stock, holders of our Common Stock are entitled to receive ratably the dividends, if any, as may be declared from time to time by the board of directors out of funds legally available therefor. We have never declared or paid any cash dividend on our capital stock and do not anticipate paying any cash dividends in the foreseeable future. The terms of our outstanding debentures restrict our ability to pay cash dividends on our Common Stock, and we may also enter into credit agreements or other borrowing arrangements in the future that will further restrict our ability to declare or pay cash dividends on our Common Stock. In the event of our liquidation, dissolution or winding up, holders of our Common Stock are entitled to share ratably in our assets remaining after the payment of liabilities and any preferential rights of any outstanding preferred stock.

Holders of our Common Stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to the Common Stock. The outstanding shares of Common Stock are fully paid and non-assessable. The rights, preferences and privileges of the holders of our Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Voting Rights

Each share of our Common Stock entitles its holder to one vote in the election of each director. No share of our Common Stock affords any cumulative voting rights. This means that the holders of a majority of the voting power of the shares voting for the election of directors can elect all directors to be elected if they choose to do so, subject to any voting rights granted to holders of any outstanding preferred stock. Generally, except as discussed in *Effects of Certain Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and the Delaware Anti-Takeover Statute* below, all matters to be voted on by stockholders must be approved by a majority of the total voting power of the Common Stock present in person or represented by proxy at a meeting at which a quorum exists, subject to any voting rights granted to holders of any outstanding preferred stock. Except as otherwise provided by law or in the amended and restated certificate of incorporation (as further discussed in *Effects of Certain Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and the Delaware Anti-Takeover Statute*), and subject to any voting rights granted to holders of any outstanding preferred stock, amendments to the amended and restated certificate of incorporation must be approved by a majority of the votes entitled to be cast by the holders of Common Stock.

Table of Contents

Dividends

Subject to the rights of holders of any outstanding preferred stock, holders of our Common Stock are entitled to dividends in such amounts and at such times as our board of directors in its discretion may declare out of funds legally available for the payment of dividends. Dividends on our Common Stock will be paid at the discretion of our board of directors after taking into account various factors, including:

our financial condition;

our results of operations;

our capital requirements and development expenditures;

our future business prospects; and

any restrictions imposed by future debt instruments.

Other Rights

On our liquidation, dissolution or winding up, after payment in full of the amounts required to be paid to holders of any outstanding preferred stock, all holders of Common Stock are entitled to receive the same amount per share with respect to any distribution of assets to holders of shares of Common Stock.

No shares of Common Stock are subject to redemption or have preemptive rights to purchase additional shares of our Common Stock or other securities.

Preferred Stock

Our board of directors is authorized, subject to limitations prescribed by Delaware law, to issue up to 10,000,000 shares of our preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, powers, preferences, and rights of the shares of each series and any of its qualifications, limitations or restrictions, in each case without further vote or action by our stockholders. Our board of directors can also increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our Common Stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and might adversely affect the market price of our Common Stock and the voting and other rights of the holders of our Common Stock.

Equity Awards

As of August 9, 2017, options to purchase 1,903,916 shares of our Common Stock with a weighted-average exercise price of \$5.31 per share were outstanding and restricted stock units with respect to 351,193 shares of our Common Stock were outstanding.

Warrants

As of August 9, 2017, warrants to purchase an aggregate of 4,529,605 shares of Common Stock with a weighted-average exercise price of \$4.04 per share were outstanding. Of such warrants, warrants to purchase an aggregate of 1,296,679 shares of Common Stock will be exercisable on September 16, 2017, and are subject to a blocker provision, which restricts the exercise of a warrant if, as a result of such exercise, the warrant holder, together with its affiliates and any other person whose beneficial ownership of Common Stock would be aggregated with the warrant holder's for purposes of Section 13(d) of the Exchange Act, would beneficially own in excess of 4.9% or 9.9% of our then issued and outstanding shares of Common Stock (including the shares of Common Stock issuable upon such exercise), as such percentage ownership is determined in accordance with the terms of such warrant (the "Warrant Blocker") and contain provisions for the adjustment of the exercise price in the event of stock dividends, stock splits or similar transactions (the "JGB Warrants"). All of our other outstanding warrants are currently exercisable, except to the extent that certain of them may be subject to a blocker provision similar to the Warrant Blocker and contain provisions for the adjustment of the exercise price in the event of stock dividends, stock splits or similar transactions. Warrants to purchase an aggregate of 4,274,766 shares of Common Stock, including the JGB Warrants, also provide for the adjustment of the exercise price in the event of stock dividends or certain dilutive issuances.

Table of Contents**Debentures**

As of August 9, 2017, we had outstanding debentures with an aggregate principal amount of \$27.8 million, which mature on February 28, 2020, accrue interest at 9.5% per year and are convertible, at the holder's option, into shares of Common Stock at a price of \$4.40 per share (the Conversion Price), which is subject to adjustment for accrued and unpaid interest and upon the occurrence of certain transactions (the Debentures). Additionally, after September 1, 2017, upon the satisfaction of certain conditions, including the volume weighted average price of the Common Stock exceeding 250% of the Conversion Price for twenty consecutive trading days, we can require that the Debentures be converted into shares of our Common Stock, subject to certain limitations. Commencing on March 1, 2018, the holders of the Debentures will have the right, at their option, to require us to redeem up to an aggregate of \$937,500 of the outstanding principal amount of the Debentures per month. We will be required to promptly, but in any event no more than one trading day after a holder delivers a redemption notice to us, pay the applicable redemption amount in cash or, at our election and subject to certain conditions, in shares of Common Stock. If we elect to pay the redemption amount in shares of Common Stock, then the shares will be delivered based on a price equal to the lesser of (a) a 12% discount to the average of the three lowest volume weighted average prices of the Common Stock over the prior 20 trading days, (b) a 12% discount to the prior trading day's volume weighted average price, or (c) the Conversion Price. We may only opt for payment in shares of Common Stock if certain conditions are met.

Registration Rights

On July 3, 2017, we entered into a registration rights agreement, pursuant to which we agreed, among other things, that we would file with the SEC a Registration Statement under the Securities Act that covers the resale of the shares issued and issuable pursuant to the Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements, dated July 1, 2017 that we entered into with each of Midroc Invest AB, FastPartner AB and Xenella Holding AB.

On March 15, 2017, we entered into a registration rights agreement with certain accredited investors in connection with the sale of the Debentures and warrants to purchase 1,250,000 shares of Common Stock, pursuant to which we agreed, among other things, that we would file with the SEC a Registration Statement under the Securities Act that covers the resale of (i) the shares of Common Stock issuable upon conversion or redemption of the Debentures and (ii) the shares of Common Stock issuable upon exercise of the warrants. Pursuant to the anti-dilution adjustments in the warrants issued on March 15, 2017, the number of shares subject to the warrants was adjusted on July 3, 2017 and the warrants are currently exercisable for an aggregate of 1,296,679 shares of Common Stock.

On April 12, 2016, we entered into a securities purchase agreement (the April SPA) with certain accredited investors in connection with the sale and issuance of approximately \$14.1 million worth of units (Units), each Unit comprised of: (i) one share of Common Stock, (ii) five shares of Series A Mandatorily Convertible Preferred Stock of the Company, par value \$0.001 per share (the Series A Preferred) and (iii) three warrants, each to purchase one share of Common Stock upon exercise of such warrants. The April SPA also provided that we file with the SEC, by no later than May 30, 2016, a Registration Statement under the Securities Act that covers the resale of (i) the shares of Common Stock, (ii) the shares of Common Stock into which the Series A Preferred is convertible and (iii) the shares of Common Stock issuable upon exercise of the warrants, in each case as issued pursuant to the April SPA.

On June 15, 2016, we entered into a securities purchase agreement (the June SPA) with certain accredited investors in connection with the sale and issuance of an additional approximately \$8.0 million worth of Units. The June SPA also provided that we file with the SEC, by no later than August 1, 2016, a Registration Statement under the Securities Act that covers the resale of (i) the shares of Common Stock, (ii) the shares of Common Stock into which the Series A Preferred is convertible and (iii) the shares of Common Stock issuable upon exercise of the warrants, in each case as

issued pursuant to the June SPA. On June 16, 2016, each share of Series A Preferred was converted into one share of the Common Stock. We filed the registration statement registering the shares of Common Stock issued and issuable pursuant to the April SPA and the June SPA for resale on May 27, 2016, as amended on June 15, 2016 and June 30, 2016, and the registration statement was declared effective on July 12, 2016. We are filing the amendment to registration statement of which this prospectus forms a part to maintain the registration of the shares of Common Stock issued and issuable pursuant to the April SPA and the June SPA for resale.

Effect of Certain Provisions of our Amended and Restated Certificate of Incorporation and Bylaws and the Delaware Anti-Takeover Statute

Certain provisions of Delaware law, along with certain provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, may have the effect of delaying, deferring or discouraging another person from acquiring control of our company and could make the following transactions more difficult:

acquisition of us by means of a tender offer;

Table of Contents

acquisition of us by means of a proxy contest or otherwise; or

removal of our incumbent officers and directors.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids and to promote stability in our management. These provisions are also designed, in part, to encourage persons seeking to acquire control of our company to first negotiate with our board of directors. However, these provisions could have the effect of deferring hostile takeovers or delaying, discouraging or preventing attempts to acquire us, which could deprive our stockholders of opportunities to sell their shares of Common Stock at prices higher than prevailing market prices.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our amended and restated certificate of incorporation and our amended and restated bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes relating to the control of our board of directors or management team, including the following:

Board of Directors Vacancies. Our amended and restated certificate of incorporation and amended and restated bylaws authorize only our board of directors to fill vacant directorships, including newly created seats. In addition, the number of directors constituting our board of directors can be set only by a resolution adopted by a majority vote of our entire board of directors. These provisions would prevent a stockholder from increasing the size of our board of directors and then gaining control of our board of directors by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of our board of directors and promotes continuity of management.

Classified Board. Our amended and restated certificate of incorporation provides that our board of directors is classified into three classes of directors. A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of our company as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board of directors.

Stockholder Action; Special Meeting of Stockholders. Our amended and restated certificate of incorporation provides that our stockholders may not take action by written consent, but may only take action at annual or special meetings of our stockholders. As a result, a holder controlling a majority of our capital stock would not be able to amend our amended and restated bylaws or remove directors without holding a meeting of our stockholders called in accordance with our amended and restated bylaws. Our amended and restated bylaws further provide that special meetings of our stockholders may be called only by a majority of our board of directors, the Chairperson of our board of directors, our Chief Executive Officer or our President, thus prohibiting a stockholder (in the capacity as a stockholder) from calling a special meeting. These provisions might delay the ability of our stockholders to force consideration of a proposal or for stockholders controlling a majority of our capital stock to take any action, including the removal of directors.

Advance Notice Requirements for Stockholder Proposals and Director Nominations. Our amended and restated bylaws provide advance notice procedures for stockholders seeking to bring business before our

annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our amended and restated bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

No Cumulative Voting. The DGCL provides that stockholders may cumulate votes in the election of directors if the corporation's certificate of incorporation allows for such mechanism. Our amended and restated certificate of incorporation does not provide for cumulative voting.

Directors Removed Only for Cause. Our amended and restated certificate of incorporation provides that stockholders may remove directors only for cause and only by the affirmative vote of the holders of at least 66 2/3% in voting power of our stock entitled to vote thereon.

Amendment of Charter Provisions. Any amendment of the above provisions in our amended and restated certificate of incorporation, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require approval by the affirmative vote of the holders of at least 66 2/3% of our then outstanding common stock.

Table of Contents

Issuance of Undesignated Preferred Stock. Our board of directors has the authority, without further action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock would enable our board of directors to render more difficult or to discourage an attempt to obtain control of our company by means of a merger, tender offer, proxy contest or other means.

Delaware Anti-Takeover Statute

We are subject to the provisions of Section 203 of the General Corporation Law of the State of Delaware (the "DGCL") regulating corporate takeovers. In general, those provisions prohibit a public Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

the transaction is approved by the board of directors before the date the interested stockholder attained that status;

upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced; or

on or after the date of the transaction, the transaction is approved by the board of directors and authorized at a meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 of the DGCL defines a business combination to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or

the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 of the DGCL defines an interested stockholder as any entity or person beneficially owning, or who within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by any such entity or person.

A Delaware corporation may opt out of this provision by express provision in its original certificate of incorporation or by amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out of, and do not currently intend to opt out of, this provision. The statute could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, may discourage attempts to acquire our company.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California. Additional legal matters may be passed upon for us or any underwriters, dealers or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements), which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the SEC. We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the Common Stock being offered under this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the shares of Common Stock being offered under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You may read and copy the registration statement, as well as our reports, proxy statements and other information, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including CareDx, Inc. The SEC's Internet site can be found at <http://www.sec.gov>.

**DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT
LIABILITIES**

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers, and persons controlling us pursuant to the provisions described in Item 14 of the registration statement of which this prospectus forms a part or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. In the event that a claim for indemnification against such liabilities (other than our payment of expenses incurred or paid by our directors, officers, or controlling persons in the successful defense of any action, suit, or proceeding) is asserted by our directors, officers, or controlling persons in connection with the Common Stock being registered, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of the issue.

IMPORTANT INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this prospectus:

- (a) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on April 21, 2017;
- (b) The Registrant's Amendment No. 1 to Annual Report on Form 10-K/A, filed with the SEC on May 1, 2017;
- (c) The Registrant's Quarterly Reports on Form 10-Q filed with the SEC on (i) June 9, 2017, and (ii) August 11, 2017;

- (d) The Registrant's Current Reports on Form 8-K filed with the SEC on (i) January 23, 2017, filed at 8:49 a.m. Eastern Time, (ii) January 23, 2017, filed at 8:56 a.m. Eastern Time (other than information furnished under Item 7.01 therein), (iii) March 15, 2017, (iv) April 21, 2017, filed at 3:14 p.m. Eastern Time (other than information furnished under Item 7.01 or Item 9.01 therein), (v) May 22, 2017 (other than information furnished under Item 7.01 or Item 9.01 therein), (vi) July 3, 2017 (other than information furnished under Item 2.02, Item 7.01 or Item 9.01 therein), and (vii) July 14, 2017; and
- (e) The description of the Registrant's Common Stock set forth in the Registrant's Registration Statement on Form 8-A (File No. 001-36536), filed with the SEC on July 11, 2014, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the Common Stock made by this prospectus and such future filings will become a part of this prospectus from the respective dates that such documents are filed with the SEC. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof or of the related prospectus supplement to the extent that a statement contained herein or in any other subsequently filed document which is also incorporated or deemed to be incorporated herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

The documents incorporated by reference into this prospectus are also available on our corporate website at www.caredx.com under the heading "Investors". Information contained on, or that can be accessed through, our website is not part of this prospectus, and you should not consider information on our website to be part of this report unless specifically incorporated herein by reference.

Table of Contents

You may obtain copies of the documents incorporated by reference in this prospectus from us free of charge by requesting them in writing or by telephone at the following address:

CareDx, Inc.

3260 Bayshore Boulevard

Brisbane, California 94005

Attn: Investor Relations

Telephone: (415) 287-2300

Table of Contents

CAREDX, INC.

8,534,261 SHARES OF COMMON STOCK

PROSPECTUS

_____, 2017

Neither we nor the Selling Stockholders have authorized any dealer, salesperson or other person to give any information or to make any representations not contained in this prospectus or any prospectus supplement. You must not rely on any unauthorized information. This prospectus is not an offer to sell these securities in any jurisdiction where an offer or sale is not permitted. The information in this prospectus is current as of the date of this prospectus. You should not assume that this prospectus is accurate as of any other date.

Table of Contents**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS*****Item 13. Other Expenses of Issuance and Distribution***

The following table sets forth all expenses payable by the Registrant in connection with the sale of the common stock being registered. The security holders will not bear any portion of such expenses. All the amounts shown are estimates except for the registration fee.

Securities and Exchange Commission registration fee	\$ 3,970.43
Accounting fees and expenses	100,000
Legal fees and expenses	225,000
Printing and engraving	26,700
Fees and expenses of the transfer agent or trustee	22,200
Miscellaneous	
Total	\$ 377,870.43

Item 14. Indemnification of Directors and Officers

Section 145 of the General Corporation Law of the State of Delaware (DGCL) authorizes a corporation s board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

As permitted by Section 102(b)(7) of the DGCL, the Registrant s amended and restated certificate of incorporation includes provisions that eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers.

In addition, as permitted by Section 145 of the DGCL, the amended and restated certificate of incorporation and amended and restated bylaws of the Registrant provide that:

The Registrant shall indemnify its directors and officers for serving the Registrant in those capacities or for serving other business enterprises at the Registrant s request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person s conduct was unlawful.

The Registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.

The Registrant is required to advance expenses, as incurred, to its directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is

ultimately determined that such person is not entitled to indemnification.

The Registrant is not obligated pursuant to the amended and restated certificate of incorporation and amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person, except with respect to proceedings authorized by the Registrant's board of directors or brought to enforce a right to indemnification.

The rights conferred in the amended and restated certificate of incorporation and amended and restated bylaws are not exclusive, and the Registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.

The Registrant may not retroactively amend the bylaw provisions to reduce its indemnification obligations to directors, officers, employees and agents.

The Registrant has entered into separate indemnification agreements with each of its directors and executive officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the DGCL and also to provide for certain additional procedural protections. The Registrant also maintains directors and officers insurance to insure such persons against certain liabilities.

Table of Contents

These indemnification provisions and the indemnification agreements entered into between the Registrant and its executive officers and directors may be sufficiently broad to permit indemnification of the Registrant's executive officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

See also the undertakings set out in response to Item 17 herein.

Item 15. Recent Sales of Unregistered Securities

Since August 1, 2014, the Registrant has issued the following securities that were not registered under the Securities Act of 1933, as amended, or the Securities Act:

- (1) On January 30, 2015, in connection with the Loan and Security Agreement between the Registrant and East West Bank, the Registrant issued to East West Bank a warrant to purchase an aggregate of 34,483 shares of common stock.
- (2) On April 12, 2016, pursuant to the Securities Purchase Agreement between the Registrant and the accredited investors named therein, the Registrant issued and sold approximately \$14.1 million worth of units. Each unit was comprised of: (i) one share of common stock of the Registrant; (ii) five shares of Series A Mandatorily Convertible Preferred Stock of the Registrant; and (iii) three warrants, each to purchase one share of common stock of the Registrant upon exercise, at a purchase price of \$23.94 per unit, which is the equivalent of \$3.99 per share of common stock, assuming conversion of the Series A Mandatorily Convertible Preferred Stock.
- (3) On April 12 2016, the Registrant issued warrants to purchase an aggregate of 200,000 shares of common stock to certain placement agents who acted as the Registrant's lead financial advisors in connection with a private placement.
- (4) On June 15, 2016, pursuant to the Securities Purchase Agreement between the Registrant and the accredited investors named therein, the Registrant issued and sold approximately \$8.0 million worth of units. Each unit was comprised of: (i) one share of common stock of the Registrant; (ii) five shares of Series A Mandatorily Convertible Preferred Stock of the Registrant; and (iii) three warrants, each to purchase one share of common stock of the Registrant upon exercise, at a purchase price of \$23.94 per unit, which is the equivalent of \$3.99 per share of common stock, assuming conversion of the Series A Mandatorily Convertible Preferred Stock.
- (5) On May 15, 2017, pursuant to the Securities Purchase Agreement between the Registrant and the accredited investors named therein, the Registrant issued and sold for an aggregate purchase price of \$25 million, \$27.78 million in aggregate principal amount of Senior Secured Debentures and warrants to purchase up to an aggregate of 1.25 million shares of the common stock of the Registrant.
- (6) On July 3, 2017, pursuant to those certain Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements entered into between the Registrant and each of the accredited investors named therein on July 1, 2017, the Registrant issued 1,022,544 shares of the common stock of the Registrant and may issue an additional 1,791,755 shares of common stock if the Registrant obtains the approval of its stockholders to issue such shares in accordance with the requirements of Nasdaq.

The offers, sales and issuances of the securities described in each of the paragraphs above were deemed to be exempt from registration under the Securities Act in reliance upon Section 4(a)(2) of the Securities Act as transactions by an issuer not involving any public offering. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about the Registrant.

All purchasers of securities in transactions exempt from registration pursuant to Section 4(a)(2) of the Securities Act represented to the Registrant that they were accredited investors and were acquiring the shares for investment purposes only and not with a view to, or for sale in connection with, any distribution thereof and that they could bear the risks of the investment and could hold the securities for an indefinite period of time. The purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration statement or an available exemption from the registration requirements of the Securities Act.

(7) On April 14, 2016, in connection with a tender offer to acquire all shares of Allenex AB, the Registrant issued 1,375,026 shares of the Registrant's common stock to the shareholders of Allenex AB, in exchange for approximately 98.37% of the outstanding shares of Allenex AB. The shares of the Registrant's common stock issued to the shareholders of Allenex AB was deemed to be exempt from registration under the Securities Act in reliance upon the exemption from registration provided by Rule 802 thereunder for exchange offers for a class of securities of a foreign private issuer where U.S. holders of foreign subject company hold no more than 10% of the securities that are the subject of the exchange offer.

Table of Contents

All of the foregoing securities are deemed restricted securities for purposes of the Securities Act. The certificates representing the issued shares of capital stock described in this Item 15 included appropriate legends setting forth that the applicable securities have not been registered and reciting the applicable restrictions on transfer. There were no underwriters employed in connection with any of the transactions set forth in this Item 15.

Item 16. Exhibits and Financial Statement Schedules**(a) Exhibits**

Exhibit Number	Description	Registrant s Form	Date Filed with the SEC	Exhibit Number
3.1	Amended and Restated Certificate of Incorporation.	10-Q	8/28/2014	3.1
3.2	Amended and Restated Bylaws.	10-Q	8/28/2014	3.4
4.1	Form of Common Stock Certificate.	10-K	3/31/2015	4.1
4.2	Sixth Amended and Restated Investors Rights Agreement, dated July 1, 2009, as amended on March 29, 2012, June 10, 2014, and July 14, 2014, between the Registrant and certain holders of the Registrant s capital stock named therein.	10-K	3/31/2015	4.2
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.	S-3/A	6/30/2016	5.1
10.1	Form of Securities Purchase Agreement.	8-K	4/14/2016	10.1
10.2	Form of Securities Purchase Agreement.	8-K	6/15/2016	10.1
23.1*	Consent of Ernst & Young LLP.			
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1).	S-3/A	6/30/2016	5.1
24.1*	Power of Attorney (included on the signature page to this Registration Statement).			

* Filed herewith.

(b) Financial Statement Schedules

All financial statement schedules are omitted because they are not applicable, the required information is not present in amounts sufficient to require submission of such schedules or the information is included in the Registrant s financial statements or notes thereto.

Item 17. Undertakings

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement.

Table of Contents

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that:

Paragraphs (1)(i), (1)(ii) and (1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(7) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

Table of Contents**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Brisbane, State of California, on August 25, 2017.

CAREDX, INC.

By: /s/ Peter Maag
Peter Maag

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Peter Maag and Michael Bell, and each or any one of them, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Peter Maag	President, Chief Executive Officer and Director	August 25, 2017
Peter Maag	<i>(Principal Executive Officer)</i>	
/s/ Michael Bell	Chief Financial Officer	August 25, 2017
Michael Bell	<i>(Principal Financial and Accounting Officer)</i>	
/s/ George W. Bickerstaff	Director	August 25, 2017
George W. Bickerstaff		
/s/ Fred E. Cohen	Director	August 25, 2017
Fred E. Cohen		

/s/ Michael Goldberg	Director	August 25, 2017
Michael Goldberg		
/s/ William Hagstrom	Director	August 25, 2017
William Hagstrom		
/s/ Ralph Snyderman	Director	August 25, 2017
Ralph Snyderman		

II-5

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