

CareDx, Inc.
Form S-3
August 31, 2018
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As filed with the Securities and Exchange Commission on August 31, 2018

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-3
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
incorporation or organization)

94-3316839
(I.R.S. Employer
Identification No.)

Edgar Filing: CareDx, Inc. - Form S-3

3260 Bayshore Boulevard

Brisbane, CA 94005

(415) 287-2300

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

Peter Maag, Ph.D.

President and Chief Executive Officer

CareDx, Inc.

3260 Bayshore Boulevard

Brisbane, CA 94005

(415) 287-2300

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

With copies to:

Jeffrey T. Hartlin, Esq.

Paul Hastings LLP

1117 S. California Avenue

Palo Alto, CA 94304

(650) 320-1804

Approximate date of commencement of proposed sale to the public: From time to time after this registration statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Large accelerated filer

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 Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price	Proposed Maximum Aggregate	Amount of Registration Fee(3)
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Per Share(2) Offering Price

Common Stock, par value \$0.001 per share		
Preferred Stock, par value \$0.001 per share		
Debt Securities		
Warrants		
Units(4)		
Total:	\$200,000,000	\$24,900

- (1) There are being registered hereunder such indeterminate number of shares of common stock and preferred stock; such indeterminate principal amount of debt securities; such indeterminate number of warrants to purchase common stock, preferred stock and/or debt securities and such indeterminate number of units consisting of any combination of common stock, preferred stock, debt securities and/or warrants as may be sold by the Registrant as shall have an aggregate initial offering price not to exceed \$200,000,000. Any securities registered hereunder may be sold separately or in combination with other securities registered hereunder. The proposed maximum offering price of the securities will be determined, from time to time, by the Registrant in connection with the issuance by the Registrant of the securities registered hereunder. If any debt securities are issued at an original issue discount, then the offering price of such debt securities shall be in such greater principal amount as shall result in an aggregate offering price not to exceed \$200,000,000, less the aggregate dollar amount of all securities previously issued hereunder. The securities registered hereunder also include such indeterminate number of shares of common stock and preferred stock and amount of debt securities as may be issued upon conversion of or exchange for preferred stock or debt securities that provide for conversion or exchange, or upon exercise of warrants or units or pursuant to anti-dilution provisions of any such securities. In addition, pursuant to Rule 416 under the Securities Act of 1933, as amended, the shares of common stock and preferred stock being registered hereunder include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to such shares being registered hereunder as a result of stock splits, stock dividends or similar transactions, as applicable.
- (2) The proposed maximum aggregate offering price per class of security will be determined from time to time by the Registrant in connection with the issuance by the Registrant of the securities registered hereunder and is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under the Securities Act of 1933, as amended.
- (3) Calculated pursuant to Rule 457(o) of the rules and regulations of the Securities Act of 1933, as amended.
- (4) Each unit will represent an interest in two or more other securities, which may or may not be separable from one another.

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 that 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 this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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EXPLANATORY NOTE

This registration statement contains two prospectuses:

a base prospectus that covers the offering, issuance and sale by us of up to \$200.0 million in the aggregate of the securities identified above from time to time using the shelf registration process, or the Base Prospectus; and

a sales agreement prospectus that covers the offering, issuance and sale by us of up to a maximum aggregate offering price of \$50.0 million of our common stock that may be issued and sold under a Sales Agreement with Jefferies LLC, or the Sales Agreement Prospectus.

The Base Prospectus immediately follows this Explanatory Note. The specific terms of any securities to be offered pursuant to the Base Prospectus will be specified in a prospectus supplement to the Base Prospectus. The Sales Agreement Prospectus immediately follows the Base Prospectus. The \$50.0 million of our common stock that may be offered, issued and sold under the Sales Agreement Prospectus are included in the \$200.0 million of securities that may be offered, issued and sold by us under the Base Prospectus. Upon termination of the sales agreement with Jefferies LLC, any portion of the \$50.0 million of common stock included in the Sales Agreement Prospectus that is not sold pursuant to the sales agreement with Jefferies LLC will be available for sale in other offerings pursuant to the Base Prospectus, and if no shares are sold under the Sales Agreement Prospectus, the full \$200.0 million of securities may be sold in other offerings pursuant to the Base Prospectus and a corresponding prospectus supplement.

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The information in this prospectus is not complete and may be changed. We may not sell these 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 it 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 31, 2018

PROSPECTUS

CareDx, Inc.

\$200,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants

Units

We may offer and sell, from time to time in one or more offerings, up to \$200,000,000 in the aggregate of any combination of the securities identified above from time to time in one or more offerings, either individually or in combination with other securities. We may also offer common stock or preferred stock upon conversion of debt securities, common stock upon conversion of preferred stock, or common stock, preferred stock or debt securities upon the exercise of warrants.

Each time we offer and sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectuses may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. If any

underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled *About this Prospectus* and *Plan of Distribution* for more information. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading Risk Factors on page 4 of this prospectus, the applicable prospectus supplement and in any applicable free writing prospectuses, and under similar headings in the documents that are incorporated by reference into this prospectus.

Our common stock is currently listed on the Nasdaq Global Market under the symbol *CDNA*. On August 29, 2018, the last reported sales price for our common stock was \$22.80 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing on the Nasdaq Global Market or any securities market or other exchange of the securities, if any, covered by the applicable prospectus supplement.

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

The date of this prospectus is _____, 2018.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, utilizing a shelf registration process. Under this shelf registration process, we may offer and sell shares of our common stock and preferred stock, various series of debt securities, warrants to purchase any of such securities and/or units consisting of any combination of such securities, either individually or in combination with other securities, in one or more offerings, up to a total dollar amount of \$200,000,000. This prospectus provides you with a general description of the securities we may offer.

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

THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

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

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

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

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SUMMARY

*This summary highlights selected information that is presented in greater detail elsewhere in this prospectus or incorporated by reference in this prospectus. Because it is only a summary, it does not contain all of the information you should consider before investing in our common stock, preferred stock, debt securities, warrants or units, and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information included elsewhere in this prospectus. Before you decide whether to purchase shares of our common stock or preferred stock, or our debt securities, warrants or units, you should read this entire prospectus, the applicable prospectus supplement and any related free-writing prospectus carefully, including the risks of investing in our securities discussed under the heading **Risk Factors** contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part. Unless the context otherwise requires, the terms *CareDx*, *the Company*, *we*, *us* and *our* in this prospectus refer to *CareDx, Inc.* and its subsidiaries.*

The Company

We are a global transplant diagnostics company with product and service 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.

Testing Services

AlloMap

Our first commercialized testing solution, the AlloMap heart transplant molecular test, or 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 2005, 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. In 2008, AlloMap received 510(k) clearance from the U.S. Food and Drug Administration, or 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.

AlloMap has received positive coverage decisions for reimbursement from Medicare. The 2018 reimbursement rate for AlloMap is \$3,240, which represents a 14% increase over the 2017 reimbursement rate. AlloMap has also received positive coverage decisions for reimbursement from many of the largest U.S. private payers, including Aetna, Anthem, Cigna, Health Care Services Corporation (HCSC), Humana, Kaiser Foundation Health Plan, Inc., and TRICARE.

We have also successfully completed a number of landmark clinical trials in the transplant field demonstrating the clinical utility of AlloMap for surveillance of heart transplant recipients. We initially established the analytical and

clinical validity of AlloMap on the basis of our Cardiac Allograft Rejection Gene Expression Observational (Deng, M. et al., Am J Transplantation 2006), or CARGO, study, which was published in the *American Journal of Transplantation*. A subsequent clinical utility trial, Invasive Monitoring Attenuation through Gene Expression (Pham MX et al., N. Eng. J. Med., 2010), or IMAGE, published in The New England Journal of Medicine, demonstrated that clinical outcomes in recipients managed with AlloMap surveillance were equivalent (non-inferior) to outcomes in recipients managed with biopsies. The results of our clinical trials have also been presented at major medical society congresses.

During the first six months of 2018, there were 7,979 AlloMap patient test results provided to 128 of the approximately 135 heart transplant management centers in the United States.

AlloSure

AlloSure, our recently launched commercial transplant surveillance solution, applies proprietary next generation sequencing technology to measure donor-derived cell free DNA, or dd-cfDNA in the blood stream emanating from the donor kidney or heart. We

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believe AlloSure may help clinicians determine rejection-specific activity manifested as cell damage in the transplanted heart, kidney and other solid organs, irrespective of the type of organ transplanted. We also believe the use of AlloSure, in conjunction with other clinical indicators, can help healthcare providers and their patients better manage long-term care following a kidney transplant. In particular, we believe AlloSure can improve patient care by helping healthcare providers to reduce the use of invasive biopsies and determine the appropriate dosage levels of immunosuppressants. Effective October 9, 2017, AlloSure became available for commercial testing with Medicare coverage and reimbursement. The Medicare reimbursement rate for AlloSure is \$2,841. AlloSure has also received payment from private payers on a case-by-case basis, but no positive coverage decisions have been made.

Prior to the commercialization of AlloSure, we generated a strong body of clinical evidence. In late 2015, we announced the completion of analytical validation of AlloSure. A report describing the analytical validation of AlloSure including clinical validation detailing the quality, reality, and consistency of analytical results information for heart transplant appeared in the November 2016 issue of The Journal of Molecular Diagnostics.

The Circulating Donor-Derived Cell-Free DNA in Blood for Diagnosing Acute Rejection in Kidney Transplant Recipients, or DART, trial, sponsored by us, was conducted between April 2015 and January 2018. DART is a 14 center observational study of kidney transplant recipients where blood specimens are drawn periodically after transplant during follow up visits and also after treatment for acute rejection. By the time of completion of the first analysis, 384 patients were followed in DART for up to 24 months. The results demonstrated that increased levels of dd-cfDNA, determined by the AlloSure assay, discriminated active rejection of a kidney transplant more effectively than serum creatinine values. In collaboration with clinical investigators, we published these findings in the scientific peer-reviewed Journal of the American Society of Nephrology and the Journal Applied Laboratory Medicine in March 2017. A total of 2,109 patient visits had been accrued in DART by January 2018; we plan to analyze and report on additional findings from this dataset in 2018 and into the future.

In late 2017, we established the Kidney Allograft Outcomes AlloSure Registry, or K-OAR, study to develop further data on the clinical utility of AlloSure for surveillance of kidney transplant recipients. We will invite 35 centers to join K-OAR, and we anticipate staggered activation of these study centers throughout 2018. As of June 30, 2018, 27 centers have been initiated as K-OAR study sites.

During the first six months of 2018, there were 3,351 AlloSure patient test results provided. Since launch, AlloSure has been ordered by 76 kidney transplant centers in the United States.

Products

We develop, manufacture, market and sell 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 Human Leukocyte Antigen, or HLA alleles, based on the sequence specific primer, or SSP technology. Olerup SBT[™] is a complete product range for sequence-based typing of HLA alleles. Olerup QTYPE[®] enables speed and precision in HLA typing at a low to intermediate resolution for samples that require a fast turn-around-time and uses real-time polymerase chain reaction, or PCR methodology. QTYPE received CE mark certification on April 10, 2018.

On May 4, 2018, we entered into a License and Commercialization Agreement with Illumina, Inc., or Illumina, which provides us with worldwide distribution, development and commercialization rights to Illumina's next generation sequencing product line for use in transplantation diagnostic testing. As a result, on June 1, 2018, we became the exclusive worldwide distributor of Illumina's TruSight HLA product line. In addition, we were granted the exclusive right to develop and commercialize other next generation sequencing product lines for use in the field of bone marrow and solid organ transplantation diagnostic testing.

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, we changed our name 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 94005 and our telephone number is (415) 287-2300.

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, 2017, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018. For instructions on how to find copies of these documents, see the section of this prospectus entitled **Where You Can Find More Information**.

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Emerging Growth Company Status

We qualify as an emerging growth company, as that term is defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For as long as we qualify as an emerging growth company, we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that do not qualify as emerging growth companies, including, without limitation, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, as amended, reduced disclosure obligations relating to executive compensation and exemptions from the requirements of holding advisory say-on-pay, say-when-on-pay and golden parachute executive compensation votes.

Under the JOBS Act, we will remain an emerging growth company until the earliest of:

the last day of the fiscal year during which we have total annual gross revenues of \$1.07 billion (subject to adjustment for inflation) or more;

the last day of the fiscal year following the fifth anniversary of the completion of our initial public offering, or January 1, 2020;

the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt; and

the date on which we are deemed to be a large accelerated filer under the Securities Exchange Act of 1934, as amended, or the Exchange Act (i.e., the first day of the fiscal year after we have (1) more than \$700.0 million in outstanding common equity held by our non-affiliates, measured each year on the last day of our second fiscal quarter, and (2) been public for at least 12 months).

We have elected to take advantage of certain of the reduced disclosure obligations regarding executive compensation in this prospectus and may elect to take advantage of other reduced reporting requirements in future filings with the SEC. As a result, the information that we provide to our stockholders may be different than the information you receive from other public reporting companies.

RISK FACTORS

Investing in any securities offered pursuant to this prospectus, the applicable prospectus supplement and any related free writing prospectus involves a high degree of risk. Before making an investment decision, you should carefully consider the risks described under Risk Factors in the applicable prospectus supplement, any related free writing prospectus 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, the applicable prospectus supplement and any related free writing prospectus, before deciding whether to purchase any of the securities being offered. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any accompanying prospectus supplement and the documents incorporated by reference in this prospectus contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act, which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as may, will, should, expects, plans, anticipates, could, intends, target, projects, contemplates, believes, potential or continue or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions. Forward-looking statements contained in this prospectus and the documents incorporated by reference in this prospectus include, but are not limited to, statements about:

our ability to generate revenue from sales of AlloMap, AlloSure and future testing services, if any, and our ability to increase the commercial success of these testing services;

our ability to generate revenue from sales of Olerup SSP, Olerup SBT, Olerup QTYPE, TruSight HLA, and future products, if any, and our ability to increase the commercial success of these products;

our ability to generate revenue from the license and commercialization agreement with Illumina;

our plans and ability to develop and commercialize new solutions for the surveillance of heart, kidney, and other solid organ transplant recipients;

our plans and ability to continue updating our products, services and technology to maintain our leading position in the surveillance market for solid organ transplants;

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our ability to obtain additional financing on terms favorable to us, or at all;

our ability to remain eligible to use Registration Statements on Form S-3 for capital-raising transactions;

our ability to obtain, maintain and expand reimbursement coverage from payers for AlloMap, AlloSure and other future testing services, if any;

the outcome or success of our clinical trial collaborations and registry studies;

our dependence on certain of our suppliers, service providers, and other distribution partners;

our compliance with federal, state and foreign regulatory requirements;

the favorable review of our testing services and product offerings, and our future solutions, if any, in peer-reviewed publications;

our ability to protect and enforce our intellectual property rights, our strategies regarding filing additional patent applications to strengthen our intellectual property rights, and our ability to defend against intellectual property claims that may be brought against us;

our anticipated cash needs and our anticipated uses of our funds, including our estimates regarding operating expenses and capital requirements;

our ability to meet our obligations under our equity financing agreements and debt agreements;

anticipated trends and challenges in our business and the markets in which we operate;

disruptions to our business, including disruptions at our laboratories and manufacturing facilities;

our ability to retain key members of our management team;

our ability to make successful acquisitions or investments and to manage the integration of such acquisitions or investments;

our ability to successfully defend against or settle any litigation brought against us or other legal matters or disputes;

our ability to expand internationally; and

our ability to continue to comply with the requirements of being a public company.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in this prospectus, in Part I - Item 1A, Risk Factors, in our Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the SEC on March 22, 2018, in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, as filed with the SEC on May 10, 2018 and in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, as filed with the SEC on August 9, 2018, the applicable prospectus supplement and any related free-writing prospectus and elsewhere in the documents incorporated by reference into this prospectus. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for us to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially and adversely from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this report may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. Except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus, the applicable prospectus supplement and any related free-writing prospectus to conform these statements to actual results or to changes in our expectations.

You should read this prospectus, the applicable prospectus supplement and any related free-writing prospectus and the documents incorporated by reference in this prospectus with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect. We qualify all forward-looking statements by these cautionary statements.

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Except as described in the applicable prospectus supplement or in any free writing prospectuses we have authorized for use in connection with a specific offering, we currently intend to use the net proceeds from the sale of securities under this prospectus, if any, for working capital and general corporate purposes, which may include, without limitation, supporting asset growth and engaging in acquisitions or other business combinations. We also may use a portion of the proceeds to repay debt.

The precise amount and timing of our use of the net proceeds from the sale of securities under this prospectus or any applicable prospectus supplement will depend upon a number of factors, such as the timing and progress of our research and development efforts, the timing and progress of any partnering and commercialization efforts, technological advances and the competitive environment for our products. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from the sale of securities under this prospectus or any applicable prospectus supplement. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short-term, interest-bearing instruments.

RATIO OF EARNINGS TO FIXED CHARGES

The following table sets forth the historical ratios of earnings to fixed charges for CareDx, Inc. for the periods indicated.

	Year Ended December 31,					Six Months
	2013	2014	2015	2016	2017	Ended
						June 30, 2018
Ratio of earnings to fixed charges (1)	N/A	N/A	N/A	N/A	N/A	N/A

(1) For the purpose of calculating such ratios, earnings consist of losses before income taxes plus fixed charges, which consist of interest expense, capitalized interest, amortization of debt discount and the portion of rental expense representative of interest expense. Earnings were inadequate to cover the fixed charges by approximately \$57,269,000, \$41,362,000, \$13,707,000, \$719,000 and \$3,542,000 for the years ended December 31, 2017, 2016, 2015, 2014 and 2013 and by approximately \$23,861,000 for the six months ended June 30, 2018.

As of the date of this prospectus, we have never declared or paid any preferred stock dividends, and consequently, our ratio of earnings to combined fixed charges and preferred share dividends and ratio of earnings to fixed charges are identical.

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DESCRIPTION OF CAPITAL STOCK

The following description summarizes the most important terms of our capital stock. Because it is only a summary of the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, it does not contain all of the information that may be important to you. For a complete description of the matters set forth in this Description of Capital Stock, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws and the agreements described under the heading Registration Rights below, each of which are incorporated by reference into the registration statement of which this prospectus is a part, and to the applicable provisions of Delaware law.

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 June 30, 2018, there were 35,975,493 shares of our common stock outstanding, held by approximately 136 stockholders of record, not including beneficial holders whose shares are held in names other than their own. There are no shares of preferred stock outstanding.

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. Our credit agreement with Perceptive Credit Holdings II, LP., or Perceptive, as a lender and administrative agent for the several banks and other financial institutions or entities from time to time party thereto, restricts 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 under the heading

Effect 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 under the heading Effect of Certain Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and the Delaware Anti-Takeover Statute below), 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.

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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 June 30, 2018, options to purchase 2,561,458 shares of our common stock with a weighted-average exercise price of \$6.57 per share were outstanding and restricted stock units with respect to 896,904 shares of our common stock, with a weighted-average grant date fair value of \$8.83 per share, were outstanding.

Warrants

As of June 30, 2018, warrants to purchase an aggregate of 3,328,089 shares of common stock with a weighted-average exercise price of \$5.08 per share were outstanding. All outstanding warrants are currently exercisable, except to the extent that they may include 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, and contain provisions for the adjustment of the exercise price in the event of stock dividends, stock splits or similar transactions or, in certain cases, dilutive issuances.

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Registration Rights

On July 3, 2017, we entered into a registration rights agreement, as amended, 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. We filed such registration statement on August 25, 2017, as amended on December 1, 2017, and the registration statement was declared effective on December 8, 2017.

On March 15, 2017, we entered into a registration rights agreement with certain accredited investors in connection with the sale of the senior secured 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 senior secured debentures and (ii) the shares of common stock issuable upon exercise of the warrants. We filed such registration statement on April 26, 2017, and the registration statement was declared effective on May 11, 2017. 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 again on October 10, 2017. The warrants are currently exercisable for an aggregate of 1,338,326 shares of common stock. As of March 27, 2018, all of the senior secured debentures were fully converted into shares of our common stock.

On June 15, 2016, we entered into a securities purchase agreement, or 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 a 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, June 30, 2016 and August 25, 2017, and the Registration Statement was most recently declared effective on September 8, 2017.

On April 12, 2016, we entered into a securities purchase agreement, or the April SPA with certain accredited investors in connection with the sale and issuance of approximately \$14.2 million worth of units, or Units, each Unit comprised of: (i) one share of common stock, (ii) five shares of our Series A Mandatorily Convertible Preferred Stock, par value \$0.001 per share, or 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 (A) the shares of common stock, (B) the shares of common stock into which the Series A Preferred is convertible, and (C) the shares of common stock issuable upon exercise of the warrants, in each case as issued pursuant to the April SPA.

Effect of Certain Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated 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;

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.

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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 General Corporation Law of the State of Delaware, or 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.

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 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

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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.

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DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under the indenture that we will enter into with the trustee named in the indenture. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses we authorize for use in connection with a specific offering of debt securities, as well as the complete indenture that contains the terms of the debt securities.

General Matters

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations or financial condition or transactions involving us.

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

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

the title of the series of debt securities;

any limit upon the aggregate principal amount that may be issued;

the maturity date or dates;

the form of the debt securities of the series;

the applicability of any guarantees;

whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;

whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;

if the price (expressed as a percentage of the aggregate principal amount thereof) at which the debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;

the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

our right, if any, to defer payment of interest and the maximum length of any such deferral period;

if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;

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the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;

the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;

any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;

whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities; the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities, and the depository for such global security or securities;

if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or at the holder's option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;

if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;

additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;

additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;

additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;

additions to or changes in the provisions relating to satisfaction and discharge of the indenture;

additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of the holders of the debt securities issued under the indenture;

the currency of payment of the debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;

whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;

the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any, and principal amounts of the debt securities of the series to any holder that is not a United States person for federal tax purposes;

any restrictions on transfer, sale or assignment of the debt securities of the series; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

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

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indenture will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of our assets as an entirety or substantially as an entirety. However, any successor to or acquirer of such assets (other than a subsidiary of ours) must assume all of our obligations under the indenture or the debt securities, as appropriate.

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Events of Default under the Indenture

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

if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;

if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;

if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for a period of 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, from the trustee or holders of at least 25% of the aggregate principal amount of the outstanding debt securities of the applicable series; and

if specified events of bankruptcy, insolvency or reorganization occur.

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

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

Subject to the terms of the indenture, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity. The holders of a majority of the principal amount of the outstanding debt securities of any

series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

the direction so given by the holder is not in conflict with any law or the applicable indenture; and

subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

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

the holder has given written notice to the trustee of a continuing event of default with respect to that series;

the holders of at least 25% of the aggregate principal amount of the outstanding debt securities of that series have made a written request;

such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; and

the trustee does not institute the proceeding, and does not receive from the holders of a majority of the aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

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

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

Modification of Indenture; Waiver

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may change an indenture without the consent of any holders with respect to specific matters, including, but not limited to, the following:

to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;

to comply with the provisions described above under Consolidation, Merger or Sale ;

to provide for uncertificated debt securities in addition to or in place of certificated debt securities;

to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;

to add to, delete from or revise the conditions, limitations and restrictions on the authorized amount, terms or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;

to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;

to provide for the issuance of, and to establish the form and terms and conditions of, the debt securities of any series as provided above under General Matters , to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;

to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or

to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

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

extending the fixed maturity of any debt securities of any series;

reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series of debt securities; or

reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

The indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including, but not limited to, the following obligations to:

provide for payment;

register the transfer or exchange of debt securities of the series;

replace stolen, lost or mutilated debt securities of the series;

pay principal of and premium and interest on any debt securities of the series;

maintain paying agencies;

hold monies for payment in trust;

recover excess money held by the trustee;

compensate and indemnify the trustee; and

appoint any successor trustee.

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

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indenture provides that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, known as DTC, or another depository named by us and identified in the applicable prospectus supplement with respect to that series. To the extent the debt securities of a series are issued in global form and as book-entry, a description of terms relating to any book-entry securities will be set forth in the applicable prospectus supplement.

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

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

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

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

issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the date of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the date of the mailing; or

register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except for the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

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

Payment and Paying Agents

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

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

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

Governing Law

The indenture and the debt securities, and any claim, controversy or dispute arising under or related to the indenture or the debt securities, will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Perceptive Credit Agreement

On April 17, 2018, we entered into a Credit Agreement and Guaranty, or the Perceptive Credit Agreement, with Perceptive as a lender and administrative agent for the several banks and other financial institutions or entities from time to time party to the Perceptive Credit Agreement for an initial term loan of \$15.0 million, or the Tranche A Term Loan, with a second tranche of \$10.0 million available at our option, subject to the satisfaction of customary conditions, or the Tranche B Term Loan, and, together with the Tranche A Term Loan, the Term Loan. In connection with the Perceptive Credit Agreement, we entered into a Security Agreement with Perceptive, as administrative agent, or the Security Agreement. The Security Agreement provides that the Term Loan is secured by substantially all of our assets and a pledge of 65% of the equity interests of CareDx International AB. The Term Loan accrues interest per annum at 9.00%, or the Applicable Margin, plus the greater of the one-month LIBOR or 1.5%. Payments under the Perceptive Credit Agreement are interest-only until the first principal payment is due on April 30, 2021, followed by monthly payments of principal and interest through the scheduled maturity date on April 17, 2023. We may prepay the Term Loan, in whole or in part at any time, subject to a prepayment fee.

The Perceptive Credit Agreement contains customary affirmative and restrictive covenants and representations and warranties, including financial reporting obligations and limitations on indebtedness, liens, fundamental changes, acquisitions, investments, dividends or distributions, corporate changes, asset sales, affiliate transactions, material agreements, licenses, sale and leaseback transactions, hazardous materials, accounting, compliance with laws and reimbursement of certain expenses of Perceptive. The Perceptive Credit Agreement also contains other customary provisions, such as expense reimbursement and confidentiality obligations, as well as indemnification rights for the benefit of Perceptive.

The Perceptive Credit Agreement provides for customary events of default, including, among other things, nonpayments of principal, interest and other amounts, inaccuracies in representations and warranties, failure to comply with covenants, defaults on other material indebtedness, bankruptcy or insolvency, judgments, changes of control or impairments of Perceptive's security interests. Upon the occurrence of an event of default and following any applicable cure periods, if any, the Applicable Margin shall automatically increase 3.00% per annum, or the Default Rate. The Default Rate may be applied to the outstanding loan balances, and Perceptive may declare all outstanding obligations immediately due and payable and take such other actions as set forth in the Perceptive Credit Agreement.

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DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in the applicable prospectus supplements and free writing prospectuses we have authorized for use in connection with a specific offering, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series.

Warrants may be issued independently or together with common stock, preferred stock or debt securities offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus we authorize for use in connection with the specific offering. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, if any, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses we have authorized for use in connection with a specific offering, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

General Matters

We will describe in the applicable prospectus supplement the terms relating to a series of warrants being offered, including:

the title of such securities;

the offering price or prices and aggregate number of warrants offered;

the currency or currencies for which the warrants may be purchased;

if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;

if applicable, the date on and after which the warrants and the related securities will be separately transferable;

if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;

in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at which, and currency in which, this principal amount of debt securities may be purchased upon such exercise;

in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which, and the currency in which, these shares may be purchased upon such exercise;

the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;

the terms of any rights to redeem or call the warrants;

the terms of any rights to force the exercise of the warrants;

any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;

the dates on which the right to exercise the warrants will commence and expire;

the manner in which the warrant agreements and warrants may be modified;

a discussion of any material or special United States federal income tax consequences of holding or exercising the warrants;

the terms of the securities issuable upon exercise of the warrants; and

any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

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Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

in the case of warrants to purchase debt securities, the right to receive payments of principal of, or premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or

in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent in connection with the exercise of the warrant.

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

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements, and any claim, controversy or dispute arising under or related to the warrants or warrant agreements, will be governed by and construed in accordance with the laws of the State of New York.

Enforceability of Rights by Holders of Warrants

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

consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

Warrant Agreement Will Not Be Qualified Under Trust Indenture Act

No warrant agreement will be qualified as an indenture, and no warrant agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of warrants issued under a warrant agreement will not have the protection of the Trust Indenture Act with respect to their warrants.

Calculation Agent

Calculations relating to warrants may be made by a calculation agent, an institution that we appoint as our agent for this purpose. The prospectus supplement for a particular warrant will name the institution that we have appointed to act as the calculation agent for that warrant as of the original issue date for that warrant. We may appoint a different institution to serve as calculation agent from time to time after the original issue date without the consent or notification of the holders.

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The calculation agent's determination of any amount of money payable or securities deliverable with respect to a warrant will be final and binding in the absence of manifest error.

Outstanding Warrants

As of June 30, 2018, warrants to purchase an aggregate of 3,328,089 shares of our common stock with a weighted-average exercise price of \$5.08 per share were outstanding. For additional information about our outstanding warrants, see the information under the heading "Warrants" in the section of this prospectus entitled "Description of Capital Stock".

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DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in the applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus we authorize for use in connection with a specific offering of units, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

the title of the series of units;

identification and description of the separate constituent securities comprising the units;

the price or prices at which the units will be issued;

the date, if any, on and after which the constituent securities comprising the units will be separately transferable;

a discussion of certain U.S. federal income tax considerations applicable to the units; and

any other terms of the units and their constituent securities.

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LEGAL OWNERSHIP OF SECURITIES

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

Book-Entry Holders

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

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

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

Street Name Holders

We may terminate a global security in certain situations, as described under Special Situations When a Global Security Will Be Terminated, or issue securities that are not issued in global form. In these cases, investors may choose to hold their securities in their own names or in street name. Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

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

Legal Holders

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

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

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Special Considerations for Indirect Holders

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

how it handles securities payments and notices;

whether it imposes fees or charges;

how it would handle a request for the holders' consent, if ever required;

whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;

how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and

if the securities are in book-entry form, how the depositary's rules and procedures will affect these matters.

Global Securities

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

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

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

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

Special Considerations for Global Securities

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

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

an investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations described below;

an investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as described above;

an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;

an investor may not be able to pledge his or her interest in the global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;

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the depositary's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in the global security;

we and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in the global security, nor will we or any applicable trustee supervise the depositary in any way;

the depositary may, and we understand that DTC will, require that those who purchase and sell interests in the global security within its book-entry system use immediately available funds, and your broker or bank may require you to do the same; and

financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in the global security, may also have their own policies affecting payments, notices and other matters relating to the securities.

There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

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

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

if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;

if we notify any applicable trustee that we wish to terminate that global security; or

if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The applicable prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the prospectus supplement. When a global security terminates, the depositary, and neither we nor any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

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PLAN OF DISTRIBUTION

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

at a fixed price or prices, which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

A prospectus supplement or supplements (and any related free writing prospectus that we may have authorized for use in connection with a specific offering) will describe the terms of the offering of the securities, including, to the extent applicable:

the name or names of the underwriters, if any;

the purchase price of the securities or other consideration therefor, and the proceeds, if any, we will receive from the sale;

any over-allotment options under which underwriters may purchase additional securities from us;

any agency fees or underwriting discounts and other items constituting agents or underwriters compensation;

any public offering price;

any discounts or concessions allowed or re-allowed or paid to dealers; and

any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement will be underwriters of the securities offered by the prospectus supplement.

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

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

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

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

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

Any underwriter may engage in over-allotment, stabilizing transactions, short-covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum price. Syndicate-covering or other short-covering transactions involve purchases of the securities, either through

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exercise of the over-allotment option or in the open market after the distribution is completed, to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

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

In compliance with guidelines of the Financial Industry Regulatory Authority, or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate amount of the securities offered pursuant to this prospectus and the applicable prospectus supplement.

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LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered by this prospectus, and any supplement thereto, will be passed upon for us by Paul Hastings LLP, Palo Alto, California.

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, 2017, as set forth in their report, 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.

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-3 under the Securities Act with respect to the securities 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 securities 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>.

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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, 2017, filed with the SEC on March 22, 2018;
- (b) The Registrant's Definitive Proxy Statement on Schedule 14A filed with the SEC on April 30, 2018;
- (c) The Registrant's Quarterly Reports on Form 10-Q for (i) the quarter ended March 31, 2018, filed with the SEC on May 10, 2018, and (ii) the quarter ended June 30, 2018, filed with the SEC on August 9, 2018;
- (d) The Registrant's Current Reports on Form 8-K filed with the SEC on (i) March 1, 2018, (ii) April 16, 2018, (iii) April 18, 2018, (iv) May 8, 2018, (v) June 26, 2018, (vi) June 28, 2018, and (vii) August 6, 2018; 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 is 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 securities made by this prospectus and 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. 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.

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3260 Bayshore Boulevard

Brisbane, CA 94005

Attn: Investor Relations

Telephone Number: (415) 287-2300

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\$200,000,000

Common Stock

Preferred Stock

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, 2018

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The information in this prospectus is not complete and may be changed. We may not sell these 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 it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED AUGUST 31, 2018

PROSPECTUS

\$50,000,000

Common Stock

We have entered into a Sales Agreement with Jefferies LLC, or Jefferies, dated August 31, 2018, relating to shares of our common stock offered by this prospectus. In accordance with the terms of the sales agreement, under this prospectus we may offer and sell shares of our common stock having an aggregate offering price of up to \$50.0 million from time to time through Jefferies, acting as our agent.

Sales of shares of our common stock, if any, under this prospectus will be made by any method permitted that is deemed an at the market offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, or the Securities Act. Jefferies is not required to sell any specific amount, but will act as our sales agent using commercially reasonable efforts consistent with its normal trading and sales practices. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Jefferies will be entitled to compensation at a commission rate of up to 3.0% of the gross sales price of the shares sold under the sales agreement. See Plan of Distribution beginning on page S-13 for additional information regarding the compensation to be paid to Jefferies. In connection with the sale of the common stock on our behalf, Jefferies will be deemed to be an underwriter within the meaning of the Securities Act and the compensation of Jefferies will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Jefferies with respect to certain liabilities, including civil liabilities under the Securities Act.

We are an emerging growth company as that term is used in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings with the Securities and Exchange Commission.

Our common stock is currently listed on the Nasdaq Global Market under the symbol CDNA. On August 29, 2018, the last reported sale price for our common stock was \$22.80 per share.

Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading Risk Factors on page S-6 of this prospectus, and under similar headings in the documents that are incorporated by reference into this prospectus.

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

Jefferies

The date of this prospectus is , 2018.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, utilizing a shelf registration process. This prospectus relates only to an offering of up to \$50.0 million of shares of our common stock through Jefferies. These sales, if any, will be made pursuant to the terms of the sales agreement entered into between us and Jefferies on August 31, 2018, a copy of which is filed as an exhibit to the registration statement of which this prospectus is a part.

Before you invest, you should carefully read this prospectus, all information incorporated by reference herein and the additional information described under **Where You Can Find More Information** and **Information Incorporated by Reference**. These documents contain information you should consider when making your investment decision. To the extent that any statement that we make in this prospectus is inconsistent with statements made in any documents incorporated by reference, the statements made in this prospectus will be deemed to modify or supersede those made in such documents incorporated by reference.

You should rely only on the information contained or incorporated by reference in this prospectus, the documents incorporated by reference herein and any free writing prospectus we provide you. We have not, and Jefferies has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and Jefferies is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, the documents incorporated by reference herein and any free writing prospectus we provide you is accurate only as of the date on those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, including the documents incorporated by reference herein, when making your investment decision. You should also read and consider the information in the documents we have referred you to in the sections of this prospectus entitled **Where You Can Find More Information** and **Incorporation of Documents by Reference**. The distribution of this prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States, or the U.S., who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus outside the U.S. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless otherwise indicated, information contained in this prospectus or the documents incorporated by reference herein concerning our industry and the markets in which we operate, including our general expectations and market position, market opportunity and market share, is based on information from our own management estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. In addition, assumptions and estimates of our and our industry's future performance are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in **Risk Factors** in this prospectus, in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, as filed with the SEC on March 22, 2018, in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, as filed with the SEC on May 10, 2018 and in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, as filed with the SEC on August 9, 2018, which are incorporated by reference into this prospectus. These and other important factors could cause our future performance to differ materially from our assumptions and estimates. See **Disclosure Regarding Forward-Looking Statements**.

General information about us can be found on our website at www.caredx.com. The information on our website is for informational purposes only and should not be relied on for investment purposes. The information on our website is not incorporated by reference into either this prospectus and should not be considered part of this or any other report filed with the SEC.

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Table of Contents**PROSPECTUS SUMMARY**

*This summary highlights certain information about us, this offering and selected information contained elsewhere in this prospectus or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information referred to under the heading *Risk Factors* in this prospectus on page S-6 and in the documents incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part. Unless the context otherwise requires, the terms *CareDx*, *the Company*, *we*, *us* and *our* in this prospectus refer to *CareDx, Inc.* and its subsidiaries.*

The Company

We are a global transplant diagnostics company with product and service 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.

Testing Services***AlloMap***

Our first commercialized testing solution, the AlloMap heart transplant molecular test, or 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 2005, 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. In 2008, AlloMap received 510(k) clearance from the U.S. Food and Drug Administration, or 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.

AlloMap has received positive coverage decisions for reimbursement from Medicare. The 2018 reimbursement rate for AlloMap is \$3,240, which represents a 14% increase over the 2017 reimbursement rate. AlloMap has also received positive coverage decisions for reimbursement from many of the largest U.S. private payers, including Aetna, Anthem, Cigna, Health Care Services Corporation (HCSC), Humana, Kaiser Foundation Health Plan, Inc., and TRICARE.

We have also successfully completed a number of landmark clinical trials in the transplant field demonstrating the clinical utility of AlloMap for surveillance of heart transplant recipients. We initially established the analytical and clinical validity of AlloMap on the basis of our Cardiac Allograft Rejection Gene Expression Observational (Deng, M. et al., *Am J Transplantation* 2006), or CARGO, study, which was published in the *American Journal of Transplantation*. A subsequent clinical utility trial, Invasive Monitoring Attenuation through Gene Expression (Pham

MX et al., N. Eng. J. Med., 2010), or IMAGE, published in The New England Journal of Medicine, demonstrated that clinical outcomes in recipients managed with AlloMap surveillance were equivalent (non-inferior) to outcomes in recipients managed with biopsies. The results of our clinical trials have also been presented at major medical society congresses.

During the first six months of 2018, there were 7,979 AlloMap patient test results provided to 128 of the approximately 135 heart transplant management centers in the United States.

AlloSure

AlloSure, our recently launched commercial transplant surveillance solution, applies proprietary next generation sequencing technology to measure donor-derived cell free DNA, or dd-cfDNA in the blood stream emanating from the donor kidney or heart. We believe AlloSure may help clinicians determine rejection-specific activity manifested as cell damage in the transplanted heart, kidney and other solid organs, irrespective of the type of organ transplanted. We also believe the use of AlloSure, in conjunction with other clinical indicators, can help healthcare providers and their patients better manage long-term care following a kidney transplant. In

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particular, we believe AlloSure can improve patient care by helping healthcare providers to reduce the use of invasive biopsies and determine the appropriate dosage levels of immunosuppressants. Effective October 9, 2017, AlloSure became available for commercial testing with Medicare coverage and reimbursement. The Medicare reimbursement rate for AlloSure is \$2,841. AlloSure has also received payment from private payers on a case-by-case basis, but no positive coverage decisions have been made.

Prior to the commercialization of AlloSure, we generated a strong body of clinical evidence. In late 2015, we announced the completion of analytical validation of AlloSure. A report describing the analytical validation of AlloSure including clinical validation detailing the quality, reality, and consistency of analytical results information for heart transplant appeared in the November 2016 issue of *The Journal of Molecular Diagnostics*.

The Circulating Donor-Derived Cell-Free DNA in Blood for Diagnosing Acute Rejection in Kidney Transplant Recipients, or DART, trial, sponsored by us, was conducted between April 2015 and January 2018. DART is a 14 center observational study of kidney transplant recipients where blood specimens are drawn periodically after transplant during follow up visits and also after treatment for acute rejection. By the time of completion of the first analysis, 384 patients were followed in DART for up to 24 months. The results demonstrated that increased levels of dd-cfDNA, determined by the AlloSure assay, discriminated active rejection of a kidney transplant more effectively than serum creatinine values. In collaboration with clinical investigators, we published these findings in the scientific peer-reviewed *Journal of the American Society of Nephrology* and the *Journal Applied Laboratory Medicine* in March 2017. A total of 2,109 patient visits had been accrued in DART by January 2018; we plan to analyze and report on additional findings from this dataset in 2018 and into the future.

In late 2017, we established the Kidney Allograft Outcomes AlloSure Registry, or K-OAR, study to develop further data on the clinical utility of AlloSure for surveillance of kidney transplant recipients. We will invite 35 centers to join K-OAR, and we anticipate staggered activation of these study centers throughout 2018. As of June 30, 2018, 27 centers have been initiated as K-OAR study sites.

During the first six months of 2018, there were 3,351 AlloSure patient test results provided. Since launch, AlloSure has been ordered by 76 kidney transplant centers in the United States.

Products

We develop, manufacture, market and sell 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 Human Leukocyte Antigen, or HLA alleles, based on the sequence specific primer, or SSP technology. Olerup SBT[™] is a complete product range for sequence-based typing of HLA alleles. Olerup QTYPE[®] enables speed and precision in HLA typing at a low to intermediate resolution for samples that require a fast turn-around-time and uses real-time polymerase chain reaction, or PCR methodology. QTYPE received CE mark certification on April 10, 2018.

On May 4, 2018, we entered into a License and Commercialization Agreement with Illumina, Inc., or Illumina, which provides us with worldwide distribution, development and commercialization rights to Illumina's next generation sequencing product line for use in transplantation diagnostic testing. As a result, on June 1, 2018, we became the exclusive worldwide distributor of Illumina's TruSight HLA product line. In addition, we were granted the exclusive right to develop and commercialize other next generation sequencing product lines for use in the field of bone marrow and solid organ transplantation diagnostic testing.

Corporate Information

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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, we changed our name 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 94005 and our telephone number is (415) 287-2300.

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, 2017, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018. For instructions on how to find copies of these documents, see the section of this prospectus entitled **Where You Can Find More Information**.

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Emerging Growth Company Status

We qualify as an emerging growth company, as that term is defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For as long as we qualify as an emerging growth company, we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that do not qualify as emerging growth companies, including, without limitation, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, as amended, reduced disclosure obligations relating to executive compensation and exemptions from the requirements of holding advisory say-on-pay, say-when-on-pay and golden parachute executive compensation votes.

Under the JOBS Act, we will remain an emerging growth company until the earliest of:

the last day of the fiscal year during which we have total annual gross revenues of \$1.07 billion (subject to adjustment for inflation) or more;

the last day of the fiscal year following the fifth anniversary of the completion of our initial public offering, or January 1, 2020;

the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt; and

the date on which we are deemed to be a large accelerated filer under the Securities Exchange Act of 1934, or the Exchange Act (i.e., the first day of the fiscal year after we have (1) more than \$700.0 million in outstanding common equity held by our non-affiliates, measured each year on the last day of our second fiscal quarter, and (2) been public for at least 12 months).

We have elected to take advantage of certain of the reduced disclosure obligations regarding executive compensation in this prospectus and may elect to take advantage of other reduced reporting requirements in future filings with the SEC. As a result, the information that we provide to our stockholders may be different than the information you receive from other public reporting companies.

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The Offering

Common stock offered by us	Shares of our common stock having an aggregate offering price of up to \$50.0 million.
Manner of offering	At the market offering that may be made from time to time on the Nasdaq Global Market or other existing trading market for our common stock through our agent, Jefferies LLC. See Plan of Distribution on page S-13.
Use of Proceeds	We currently intend to use the net proceeds from this offering for working capital and general corporate purposes, which may include capital expenditures, research and development expenditures, clinical trial expenditures, acquisitions of new technologies and investments, business combinations and the repayment, refinancing, redemption or repurchase of indebtedness or capital stock. We reserve the right, at the sole discretion of our management, to reallocate the proceeds of this offering in response to developments in our business and other factors. See Use of Proceeds on page S-10.
Risk Factors	Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading Risk Factors on page S-6 of this prospectus and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus.
Nasdaq Global Market Listing	Our common stock is listed on the Nasdaq Global Market under the symbol CDNA.

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RISK FACTORS

*Investing in our common stock involves risk. Before deciding whether to invest in our common stock, you should consider carefully the risks and uncertainties described below. You should also consider the risks, uncertainties and assumptions discussed under the heading *Risk Factors* included in our most recent annual report on Form 10-K, as revised or supplemented by our most recent quarterly report on Form 10-Q, each of which are on file with the SEC and are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. If any of these risks actually occurs, our business, business prospects, financial condition or results of operations could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled *Disclosure Regarding Forward-Looking Statements*.*

Risks Related to This Offering

We will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We currently intend to use the net proceeds of this offering for working capital and general corporate purposes, which may include capital expenditures, research and development expenditures, clinical trial expenditures, acquisitions of new technologies and investments, business combinations and the repayment, refinancing, redemption or repurchase of indebtedness or capital stock, as further described in the section of this prospectus entitled *Use of Proceeds*. We will have broad discretion in the application of the net proceeds in the category of other working capital and general corporate purposes and investors will be relying on the judgment of our management regarding the application of the proceeds of this offering.

The precise amount and timing of the application of these proceeds will depend upon a number of factors, such as the timing and progress of our research and development efforts, the timing and progress of any partnering and commercialization efforts, technological advances and the competitive environment for our products. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Depending on the outcome of our efforts and other unforeseen events, our plans and priorities may change and we may apply the net proceeds of this offering in different manners than we currently anticipate.

The failure by our management to apply these funds effectively could harm our business, financial condition and results of operations. Pending their use, we may invest the net proceeds from this offering in short-term, interest-bearing instruments. These investments may not yield a favorable return to our stockholders.

You may experience immediate and substantial dilution.

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 2,192,982 shares of our common stock are sold during the term of the sales agreement with Jefferies at a price of \$22.80 per share, the last reported sale price of our common stock on the Nasdaq Global Market on August 29, 2018, for aggregate gross proceeds of approximately \$50.0 million, after deducting commissions and estimated aggregate offering expenses payable by us you will experience immediate dilution of \$22.01 per share, representing the difference between the assumed offering price per share and our as adjusted net tangible book value per share as of June 30, 2018 after giving effect to this offering. The exercise of outstanding stock options and warrants may result in further dilution of your investment. See the section

entitled "Dilution" below for a more detailed illustration of the dilution you would incur if you participate in this offering.

The actual number of shares we will issue under the sales agreement with Jefferies, at any one time or in total, is uncertain.

Subject to certain limitations in the sales agreement with Jefferies and compliance with applicable law, we have the discretion to deliver placement notices to Jefferies at any time throughout the term of the sales agreement. The number of shares that are sold by Jefferies after delivering a placement notice will fluctuate based on the market price of the common stock during the sales period and limits we set with Jefferies.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

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We do not expect to pay dividends in the foreseeable future. As a result, you must rely on stock appreciation for any return on your investment.

We do not anticipate paying cash dividends on our common stock in the foreseeable future. Any payment of cash dividends will also depend on our financial condition, results of operations, capital requirements and other factors and will be at the discretion of our board of directors. Accordingly, you will have to rely on capital appreciation, if any, to earn a return on your investment in our common stock. Furthermore, our credit agreement with Perceptive Credit Holdings II, LP prohibits us from paying dividends without the prior consent of Perceptive Credit Holdings II, LP, and we may in the future become subject to additional contractual restrictions on, or prohibitions against, the payment of dividends.

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DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference in this prospectus contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as may, will, should, expects, plans, anticipates, could, intends, target, projects, continues, estimates, predicts, potential or continue or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions. Forward-looking statements contained in this prospectus and the documents incorporated by reference in this prospectus include, but are not limited to, statements about:

our ability to generate revenue from sales of AlloMap, AlloSure and future testing services, if any, and our ability to increase the commercial success of these testing services;

our ability to generate revenue from sales of Olerup SSP, Olerup SBT, Olerup QTYPE, TruSight HLA, and future products, if any, and our ability to increase the commercial success of these products;

our ability to generate revenue from the license and commercialization agreement with Illumina;

our plans and ability to develop and commercialize new solutions for the surveillance of heart, kidney, and other solid organ transplant recipients;

our plans and ability to continue updating our products, services and technology to maintain our leading position in the surveillance market for solid organ transplants;

our ability to obtain additional financing on terms favorable to us, or at all;

our ability to remain eligible to use Registration Statements on Form S-3 for capital-raising transactions;

our ability to obtain, maintain and expand reimbursement coverage from payers for AlloMap, AlloSure and other future testing services, if any;

the outcome or success of our clinical trial collaborations and registry studies;

our dependence on certain of our suppliers, service providers, and other distribution partners;

our compliance with federal, state and foreign regulatory requirements;

the favorable review of our testing services and product offerings, and our future solutions, if any, in peer-reviewed publications;

our ability to protect and enforce our intellectual property rights, our strategies regarding filing additional patent applications to strengthen our intellectual property rights, and our ability to defend against intellectual property claims that may be brought against us;

our anticipated cash needs and our anticipated uses of our funds, including our estimates regarding operating expenses and capital requirements;

our ability to meet our obligations under our equity financing agreements and debt agreements;

anticipated trends and challenges in our business and the markets in which we operate;

disruptions to our business, including disruptions at our laboratories and manufacturing facilities;

our ability to retain key members of our management team;

our ability to make successful acquisitions or investments and to manage the integration of such acquisitions or investments;

our ability to successfully defend against or settle any litigation brought against us or other legal matters or disputes;

our ability to expand internationally; and

our ability to continue to comply with the requirements of being a public company.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in this prospectus, in Part I - Item 1A, "Risk Factors", in our Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the SEC on March 22, 2018, in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, as filed with the SEC on May 10, 2018 and in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, as filed with the SEC on August 9, 2018, and elsewhere in the documents incorporated by reference into this prospectus. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for us to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially and adversely from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this report may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking

statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. Except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations.

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You should read this prospectus and the documents incorporated by reference in this prospectus with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect. We qualify all forward-looking statements by these cautionary statements.

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USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sales proceeds of up to \$50.0 million from time to time. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. There can be no assurance that, in the future, we will sell any shares under or fully utilize the sales agreement with Jefferies as a source of financing.

We currently intend to use the net proceeds from this offering for working capital and general corporate purposes, which may include capital expenditures, research and development expenditures, clinical trial expenditures, acquisitions of new technologies and investments, business combinations and the repayment, refinancing, redemption or repurchase of indebtedness or capital stock.

The precise amount and timing of the application of these proceeds will depend upon a number of factors, such as the timing and progress of our research and development efforts, the timing and progress of any partnering and commercialization efforts, technological advances and the competitive environment for our products. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Depending on the outcome of our efforts and other unforeseen events, our plans and priorities may change and we may apply the net proceeds of this offering in different manners than we currently anticipate. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short-term, interest-bearing instruments.

Table of Contents**DILUTION**

If you purchase our common stock in this offering, your interest will be diluted to the extent of the difference between the public offering price per share and the net tangible book value per share of our common stock after this offering. We calculate net tangible book value per share by dividing our net tangible assets (tangible assets less total liabilities) by the number of shares of our common stock issued and outstanding as of June 30, 2018.

Our net tangible book value at June 30, 2018 was \$(17.8) million, or \$(0.50) per share. After giving effect to the sale of our common stock during the term of the sales agreement with Jefferies in the aggregate amount of \$50.0 million at an assumed offering price of \$22.80 per share, the last reported sale price of our common stock on the Nasdaq Global Market on August 29, 2018, and after deducting commissions and estimated aggregate offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2018 would have been approximately \$30.3 million, or \$0.79 per share of common stock. This represents an immediate increase in the net tangible book value of \$1.29 per share to our existing stockholders and an immediate dilution in net tangible book value of \$22.01 per share to new investors. The following table illustrates this per share dilution:

Assumed public offering price per share	\$ 22.80
Net tangible book value per share as of June 30, 2018	\$ (0.50)
Increase in net tangible book value per share attributable to this offering	\$ 1.29
As adjusted net tangible book value per share as of June 30, 2018, after giving effect to this offering	\$ 0.79
Dilution per share to new investors purchasing shares in this offering	\$ 22.01

The table above assumes for illustrative purposes that an aggregate of 2,192,982 shares of our common stock are sold during the term of the sales agreement with Jefferies at a price of \$22.80 per share, the last reported sale price of our common stock on the Nasdaq Global Market on August 29, 2018, for aggregate net proceeds of approximately \$48.2 million, after deducting commissions and estimated aggregate offering expenses payable by us. The as adjusted information is illustrative only and will adjust based on the actual price to the public, the actual number of shares sold and other terms of the offering determined at the time shares of our common stock are sold pursuant to this prospectus. The shares pursuant to the sales agreement with Jefferies are being sold from time to time at various prices. An increase of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$22.80 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$50.0 million during the term of the sales agreement with Jefferies is sold at that price, would increase our as adjusted net tangible book value per share after the offering to \$0.80 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$23.00 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$22.80 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$50.0 million during the term of the sales agreement with Jefferies is sold at that price, would result in our as adjusted net tangible book value per share after the offering remaining at \$0.79 per share but would decrease the dilution in net tangible book value per share to new investors in this offering to \$21.01 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

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The above discussion and table are based on 35,975,493 shares of our common stock issued and outstanding as of June 30, 2018 and excludes the following:

896,904 shares of our common stock issuable upon the vesting of restricted stock units outstanding under our equity incentive plans as of June 30, 2018, with a weighted-average grant date fair value of \$8.83 per share;

2,561,458 shares of our common stock issuable upon the exercise of stock options outstanding under equity incentive plans as of June 30, 2018, at a weighted-average exercise price of \$6.57 per share;

26,844 shares of our common stock reserved for future issuance under our 2016 Inducement Plan as of June 30, 2018;

647,249 shares of our common stock reserved for future issuance under our 2014 Equity Incentive Plan as of June 30, 2018;

372,568 shares of our common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan as of June 30, 2018; and

3,328,089 shares of our common stock issuable upon the exercise of outstanding warrants as of June 30, 2018, at a weighted-average exercise price of \$5.08 per share.

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To the extent that options or warrants outstanding as of June 30, 2018 have been or are exercised, or other shares are issued, investors purchasing shares in this offering could experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

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PLAN OF DISTRIBUTION

We have entered into the sales agreement with Jefferies, dated August 31, 2018, under which we may issue and sell from time to time up to \$50.0 million of shares of our common stock through Jefferies as our sales agent. This summary of the material provisions of the sales agreement does not purport to be a complete statement of its terms and conditions. The sales agreement has been filed as an exhibit to the registration statement of which this prospectus forms a part.

Sales of shares of our common stock, if any, under this prospectus may be made in sales deemed to be at-the-market equity offerings as defined in Rule 415 promulgated under the Securities Act including sales made directly on or through the Nasdaq Global Market, the existing trading market for our common stock, sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices, and/or any other method permitted by law.

When requested by us, Jefferies will offer the shares of common stock subject to the terms and conditions of the sales agreement, which may be on a daily basis for periods of time, or as we may otherwise agree with Jefferies. We will designate the maximum amount of shares of common stock to be sold through Jefferies when we request Jefferies to do so. Jefferies has agreed, subject to the terms and conditions of the sales, to use its commercially reasonable efforts to execute our orders to sell, as our sales agent and on our behalf, shares of our common stock submitted to Jefferies from time to time by us, consistent with its normal sales and trading practices. We may instruct Jefferies not to place shares of common stock at or below a price designated by us. We or Jefferies may suspend the offering of shares of common stock under the sales agreement upon proper notice to the other party.

If we and Jefferies so agree, Jefferies may act as principal in connection with the placement of the securities offered hereby.

We will pay Jefferies a commission equal to 3.0% of the gross proceeds of any shares sold through it pursuant to this prospectus, and reimburse Jefferies for up to \$50,000 of its expenses, including fees and disbursements to its legal counsel. The estimated offering expenses payable by us, in addition to such commission and expenses, are approximately \$350,000, which includes legal, accounting and printing costs and various other fees associated with registering the shares of common stock. The remaining sale proceeds, after deducting any other transaction fees, will equal our net proceeds from the sale of such shares.

Jefferies will provide written confirmation to us following the close of trading on the Nasdaq Global Market each day on which shares of common stock are sold under the sales agreement. Each confirmation will include the number of shares sold on that day, the aggregate gross proceeds of such sales and the commission payable by us to Jefferies. Settlement for sales of common stock will occur, unless otherwise agreed, on the second business day following the date on which such sales were made. Sales of our common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Jefferies may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sale of our common stock on our behalf, Jefferies will be deemed to be an underwriter within the meaning of the Securities Act, and the compensation paid to Jefferies will be deemed to be underwriting commissions or discounts.

We have agreed to indemnify Jefferies against certain liabilities, including liabilities under the Securities Act, and liabilities arising from breaches of representations and warranties contained in the sales agreement. We have also agreed to contribute to payments Jefferies may be required to make in respect of such liabilities.

The offering of shares of common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all shares of common stock subject to the sales agreement, or (ii) the termination of the sales agreement according to its terms by either Jefferies or us. We and Jefferies may each terminate the sales agreement at any time by giving advance written notice to the other party as required by the sales agreement.

Jefferies has provided, and may in the future provide, various investment banking, commercial banking, financial advisory and other services to us and our affiliates for which services it has received, and may in the future receive, customary fees. In the course of its business, Jefferies may actively trade our securities for its own account or for the accounts of customers, and, accordingly, Jefferies may at any time hold long or short positions in such securities.

This prospectus in electronic format may be made available on a website maintained by Jefferies and Jefferies may distribute this prospectus electronically.

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LEGAL MATTERS

Certain legal matters relating to the issuance of the common stock offered by this prospectus will be passed upon for us by Paul Hastings LLP, Palo Alto, California. Latham & Watkins LLP, San Diego, California, is acting as counsel for Jefferies in connection with this offering.

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, 2017, as set forth in their report, 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.

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-3 under the Securities Act with respect to the securities 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 securities 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>.

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INCORPORATION OF DOCUMENTS 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, 2017, filed with the SEC on March 22, 2018;
- (b) The Registrant's Definitive Proxy Statement on Schedule 14A filed with the SEC on April 30, 2018;
- (c) The Registrant's Quarterly Reports on Form 10-Q for (i) the quarter ended March 31, 2018, filed with the SEC on May 10, 2018, and (ii) the quarter ended June 30, 2018, filed with the SEC on August 9, 2018;
- (d) The Registrant's Current Reports on Form 8-K filed with the SEC on (i) March 1, 2018, (ii) April 16, 2018, (iii) April 18, 2018, (iv) May 8, 2018, (v) June 26, 2018, (vi) June 28, 2018, and (vii) August 6, 2018; 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 is 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 securities made by this prospectus and 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 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. 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:

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3260 Bayshore Boulevard

Brisbane, CA 94005

Attn: Investor Relations

Telephone Number: (415) 287-2300

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\$50,000,000

Common Stock

PROSPECTUS

Jefferies

, 2018

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The following is an estimate of the fees and expenses, other than underwriting discounts or commissions, payable by the Registrant in connection with the issuance and distribution of the securities being registered. All the amounts shown are estimates except for the registration fee. All of the expenses below will be paid by the Registrant.

SEC registration fee	\$ 24,900
FINRA filing fee	\$ (1)
Transfer agent's fees and expenses	\$ (1)
Legal fees and expenses	\$ (1)
Accounting fees and expenses	\$ (1)
Trustee fees and expenses	\$ (1)
Printing fees and expenses	\$ (1)
Miscellaneous fees and expenses	\$ (1)
Total	\$ (1)

- (1) These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

Section 145 of the General Corporation Law of the State of Delaware, or the 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.

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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.

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 16. Exhibits

Exhibit		Registrant's Date Filed with the		Exhibit
Number	Description	Form	SEC	Number
1.1	Form of Underwriting Agreement.			
1.2*	<u>Sales Agreement, dated August 31, 2018, by and between CareDx, Inc. and Jefferies LLC</u>			
3.1	<u>Amended and Restated Certificate of Incorporation.</u>	10-Q	8/28/2014	3.1
3.2	<u>Amended and Restated Bylaws.</u>	10-Q	8/28/2014	3.4
4.1	<u>Form of Registrant's common stock certificate.</u>	10-K	3/31/2015	4.1
4.2	<u>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.</u>	10-K	3/31/2015	4.2
4.3#	<u>1998 Equity Incentive Plan and forms of agreements thereunder.</u>	S-1	6/3/2014	10.2
4.4#	<u>2008 Equity Incentive Plan and forms of agreements thereunder.</u>	S-1	6/3/2014	10.3
4.5#	<u>ImmuMetrix, Inc. 2013 Equity Incentive Plan.</u>	S-1	6/3/2014	10.19
4.6#	<u>2014 Equity Incentive Plan, as amended.</u>	8-K	6/26/2018	10.1
4.7#	<u>Form of Option Agreement under the 2014 Equity Incentive Plan for New Options.</u>	SC TO-I	10/12/2017	99(d)(3)
4.8#	<u>2014 Employee Stock Purchase Plan and forms of agreements thereunder.</u>	S-8	7/18/2014	4.5
4.9#	<u>2016 Inducement Equity Incentive Plan.</u>	S-8	5/23/2016	4.1

4.10#	<u>Form of Warrant.</u>	8-K	4/14/2016	10.3
4.11	<u>Form of Common Stock Purchase Warrant issued to the Purchasers on March 15, 2017.</u>	8-K	3/15/2017	4.2
4.12	<u>Registration Rights Agreement dated March 15, 2017 between the Registrant and the Purchasers.</u>	8-K	3/15/2017	4.3
4.13	<u>Registration Rights Agreement dated July 3, 2017 among the Registrant, FastPartner AB, Midroc Invest AB and Xenella Holding AB.</u>	10-Q	8/11/2017	4.7
4.14	<u>Amendment No. 1 to Registration Rights Agreement, dated November 14, 2017, among the Registrant, FastPartner AB, Midroc Invest AB and Xenella Holding AB.</u>	8-K	11/14/2017	4.1
4.15	<u>Form of Common Stock Purchase Warrant issued to the Purchasers on April 17, 2018.</u>	10-Q	8/9/2018	4.12
4.16*	<u>Form of Indenture, between the Registrant and one or more trustees to be named.</u>			
4.17	Form of Common Stock Warrant Agreement and Warrant Certificate.			
4.18	Form of Preferred Stock Warrant Agreement and Warrant Certificate.			
4.19	Form of Debt Securities Warrant Agreement and Warrant Certificate.			
4.20	Form of Debt Securities.			
4.21	Form of Unit Agreement.			
4.22	Specimen Preferred Stock Certificate and Form of Certificate of Designation of Preferred Stock.			

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- 5.1* Opinion of Paul Hastings LLP.
- 12.1* Statement Regarding the Computation of Ratio of Earnings to Fixed Charges for the Years Ended December 31, 2013, 2014, 2015, 2016 and 2017 and the Six Months Ended June 30, 2018.
- 23.1* Consent of Independent Registered Public Accounting Firm.
- 23.2* Consent of Paul Hastings LLP (included in Exhibit 5.1).
- 24.1* Power of Attorney (included on the signature page to this Registration Statement).
- 25.1+ Statement of Eligibility of Trustee under the Indenture.

To be filed by amendment or as an exhibit to a Current Report on Form 8-K and incorporated herein by reference, if applicable.

Indicates management contract or compensatory plan or arrangement.

* Filed herewith.

+ To be filed separately under the electronic form type 305B2, if applicable.

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.

(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, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of 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

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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) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(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) That, for purposes of determining any liability under the Securities Act of 1933:

(i) the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be a part of this registration statement as of the time it was declared effective; and

(ii) each post-effective amendment that contains a form of prospectus 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.

(8) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Trust Indenture Act.

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, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and 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 31, 2018.

CAREDX, INC.

By: /s/ Peter Maag, Ph.D.
Peter Maag, Ph.D.

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, Ph.D. 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, Ph.D. Peter Maag, Ph.D.	President, Chief Executive Officer, and Director <i>(Principal Executive Officer)</i>	August 31, 2018
/s/ Michael Bell Michael Bell	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	August 31, 2018
/s/ Michael D. Goldberg Michael D. Goldberg	Director	August 31, 2018
/s/ Amy Abernethy, M.D., Ph.D. Amy Abernethy, M.D., Ph.D.	Director	August 31, 2018
/s/ George W. Bickerstaff, III George W. Bickerstaff, III	Director	August 31, 2018

/s/ Fred E. Cohen, M.D. Fred E. Cohen, M.D.	Director	August 31, 2018
/s/ William Hagstrom William Hagstrom	Director	August 31, 2018
/s/ Ralph Snyderman, M.D. Ralph Snyderman, M.D.	Director	August 31, 2018

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