Accelerate Diagnostics, Inc Form S-3/A July 02, 2013

As filed with the Securities and Exchange Commission on July 2, 2013

Registration No. 333-189065

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

AMENDMENT NO. 1

TO

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Accelerate Diagnostics, Inc.

(Exact name of registrant as specified in its charter)

Delaware84-1072256(State or other jurisdiction of of incorporation or organization)(I.R.S. Employer Identification No.)

3950 South Country Club Road, Suite 470

Tucson, Arizona85714(Address of principal executive offices)(Zip Code)

Lawrence Mehren Copies to:

President and Chief Executive Officer Daniel M. Mahoney
Accelerate Diagnostics, Inc. Snell & Wilmer L.L.P.

3950 South Country Club Road, Suite 470 Tucson, Arizona 85714 (520) 365-3100

One Arizona Center 400 East Van Buren Phoenix, Arizona 85004

(Name, address and telephone number, including area (602) 382-6000 code, of agent for service)

Approximate date of commencement of proposed sale to public:

As soon as practicable after this Registration Statement is declared 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: x

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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting 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 x

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

The information contained 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 we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated JULY 2, 2013

PROSPECTUS

Subscription Rights to purchase up to 2,487,562 shares of Common Stock at \$8.04 per share

and the shares of Common Stock issuable upon the exercise of such Subscription Rights

Accelerate Diagnostics, Inc., a Delaware corporation ("us", "we", "our", "Accelerate" or the "Company"), is distributing, at no charge to holders of our common stock, par value \$0.001 per share ("Common Stock"), as of 5:00 p.m., New York City time, on July 8, 2013 (the "Record Date"), non-transferable Subscription Rights ("Subscription Rights") to purchase an aggregate of up to 2,487,562 shares of our Common Stock (the "Rights Offering").

For each share of Common Stock held by a stockholder of the Company at the close of business on the Record Date, such stockholder will receive 0.064038 Subscription Rights. Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares and will round all of the Subscription Rights down to the nearest whole number. Each whole Subscription Right will allow the holder thereof to subscribe to purchase one share of Common Stock (the "Basic Subscription Privilege") at a subscription price of \$8.04 per share (the "Subscription Price"). In addition, any holder of Subscription Rights exercising his, her or its Basic Subscription Privilege in full will be eligible to subscribe to purchase additional shares of Common Stock at the same Subscription Price per share that applies to the Basic Subscription Privilege, subject to the conditions and limitations described further in this Prospectus (the "Over-Subscription Privilege"). We offer no assurances that any subscription requests submitted pursuant to the Over-Subscription Privilege will be fulfilled in whole or in part.

If any Subscription Rights remain unexercised after the expiration of the Rights Offering, Abeja Ventures, LLC (the "Standby Purchaser") has agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights

Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their Basic Subscription Privileges and Over-Subscription Privileges. The Standby Purchaser is owned by, among other individuals and entities, Lawrence Mehren, John Patience, Jack Schuler and Matthew W. Strobeck, each of whom is a director of the Company. Messrs. Mehren and Patience also serve as managers of the Standby Purchaser. No fees or other consideration will be paid by the Company to the Standby Purchaser in exchange for its commitment to purchase any and all unsubscribed shares of Common Stock following the Rights Offering. Any shares of Common Stock issued to the Standby Purchaser in connection with the standby purchase commitment described above will be "restricted securities" as that term is defined in Rule 144 under the Securities Act of 1933, as amended. While the Standby Purchaser will not itself participate in the Rights Offering, certain of its members (including the individuals listed above) may exercise the Basic Subscription Privileges and/or Over-Subscription Privileges they hold in their capacity as stockholders of the Company. In light of the Standby Purchaser's commitment, the Company anticipates that it will receive \$20,000,000 in proceeds (before expenses) if the Rights Offering is completed.

The Subscription Rights will expire if they are not exercised by 5:00 p.m., New York City time, on the Expiration Date. The Rights Offering period may not be extended. You should carefully consider whether to exercise your Subscription Rights before the expiration of the Rights Offering. All exercises of Subscription Rights are irrevocable. Our Board of Directors is making no recommendation regarding your exercise of the Subscription Rights. The Subscription Rights may not be sold or transferred. We may in our sole discretion cancel the Rights Offering at any time and for any reason. If we cancel the Rights Offering, the Subscription Agent will return all subscription payments it has received for the cancelled offering without interest or penalty.

Our Common Stock is listed on the NASDAQ Capital Market under the symbol "AXDX". The shares of Common Stock issued in the Rights Offering will also be listed on the NASDAQ Capital Market under the same symbol. On July 1, 2013, the closing price of our Common Stock was \$8.04 per share.

Investing in our Common Stock involves risks. You should carefully review and consider the information contained in this Prospectus, including the risk factors beginning on page 14 of this Prospectus, as well as the risk factors and other information contained in any documents we incorporate by reference into this Prospectus before exercising your Subscription Rights. See "Where You Can Find More Information."

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

Our principal executive offices are located at 3950 South Country Club Road, Suite 470, Tucson, Arizona 85714, and our telephone number is (520) 365-3100.

The date of this Prospectus is July , 2013.

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If you are in a jurisdiction where offers to sell, or solicitations of offers to purchase, the securities offered by this document are unlawful, or if you are a person to whom it is unlawful to direct these types of activities, then the offer presented in this Prospectus does not extend to you.

We have not authorized anyone to provide you with any information other than the information incorporated by reference or provided in this Prospectus or any prospectus supplement. We are not making an offer of these securities in any state or other jurisdiction where the offer is not permitted. You should not assume that the information in this Prospectus, any prospectus supplement or any document incorporated or deemed to be incorporated by reference in this Prospectus is accurate as of any date other than the date of that document.

FORWARD-LOOKING STATEMENTS

This Prospectus and the documents incorporated by reference contain statements that are considered "forward looking statements" within the meaning of United States securities laws. In addition, the Company and its management may make other written or oral communications from time to time that contain forward-looking statements.

Forward-looking statements, including statements about industry trends, management's future expectations and other matters that do not relate strictly to historical facts, are based on assumptions by management, and are often identified by such forward-looking terminology as "expect," "look," "believe," "anticipate," "estimate," "seek," "may," "will," "trend," "goal" or similar statements or variations of such terms. Forward-looking statements may include, among other things, statements about the Company's confidence in its strategies and its expectations about financial performance, market growth, market and regulatory trends and developments, acquisitions and divestitures, new technologies, services and opportunities and earnings.

Forward-looking statements are subject to various risks and uncertainties, which change over time, are based on management's expectations and assumptions at the time the statements are made, and are not guarantees of future results. Management's expectations and assumptions, and the continued validity of the forward-looking statements, are subject to change due to a broad range of factors affecting the national and global economies, the equity, debt, currency and other financial markets, as well as risk factors specific to the Company. Actual outcomes and results may differ materially from what is expressed in our forward-looking statements and from our historical financial results due to the risk factors discussed elsewhere in this Prospectus or disclosed in our other SEC fillings.

Forward-looking statements should not be relied upon as representing our expectations or beliefs as of any date subsequent to the time this Prospectus is filed with the SEC. The Company undertakes no obligation to revise the forward-looking statements contained in this Prospectus to reflect events after the time it is filed with the SEC, other than as required by law. The risk factors discussed in this Prospectus are not intended to be a complete summary of all risks and uncertainties that may affect our business. Though we strive to monitor and mitigate risk, we cannot anticipate all potential economic, operational and financial developments that may adversely impact our operations and our financial results.

Forward-looking statements should not be viewed as predictions, and should not be the primary basis upon which investors evaluate the Company. Any investor in the Company should consider all risks and uncertainties disclosed in our SEC filings described below under the heading "Where You Can Find More Information," all of which are accessible on the SEC's website at http://www.sec.gov.

ABOUT THIS PROSPECTUS

Except as otherwise indicated by the context, references in this Prospectus to the "Company," "Accelerate," "we," "us" or "our are references to the combined business of Accelerate Diagnostics, Inc.

You should rely only on the information contained or incorporated by reference in this Prospectus. We have not authorized anyone to provide you with additional or different information from that contained or incorporated by reference in this Prospectus. The information contained in this Prospectus is accurate only as of the date on the front cover of this Prospectus 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 or any exercise of the rights or sale of the securities.

The distribution of this Prospectus and the offering and sale of shares of our Common Stock in certain jurisdictions may be restricted by law. This Prospectus does not constitute an offer of, or a solicitation of an offer to buy, any shares of our Common Stock in any jurisdiction in which such offer or invitation would be unlawful.

QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING

The following are examples of what we anticipate will be common questions about the Rights Offering. The answers are based on selected information included elsewhere in this Prospectus. The following questions and answers do not contain all of the information that may be important to you and may not address all of the questions that you may have about the Rights Offering. This Prospectus and the documents we incorporate by reference contain more detailed descriptions of the terms and conditions of the Rights Offering and provide additional information about us and our business, including potential risks related to the Rights Offering, our Common Stock and our business.

What is the Rights Offering?

We are distributing, at no charge to holders of our Common Stock, as of 5:00 p.m., New York City time, on July 8, 2013, non-transferable Subscription Rights to purchase an aggregate of up to 2,487,562 shares of our Common Stock.

Why are we conducting the Rights Offering?

We are conducting the Rights Offering to (i) raise equity capital that will be needed to fund our business plan at a time when our Board of Directors believes market conditions are favorable, and (ii) provide our existing stockholders with the opportunity to purchase our Common Stock. We intend to use the net proceeds of the Rights Offering for working capital and general corporate purposes, including to fund our ongoing research and development and product commercialization initiatives, which have been previously disclosed.

What is the Basic Subscription Privilege?

For each share of Common Stock held by a stockholder of the Company at the close of business on the Record Date, such stockholder will receive 0.064038 Subscription Rights. Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares and will round all of the Subscription Rights down to the nearest whole number. Each whole Subscription Right will allow the holder thereof to subscribe to purchase one share of Common Stock at a Subscription Price of \$8.04 per share.

For example, if you owned 1,000 shares of our Common Stock on the Record Date, you would receive 64.038 Subscription Rights entitling you to purchase 64 shares of Common Stock for a total purchase price of \$514.56 pursuant to your Basic Subscription Privilege.

What is the Over-Subscription Privilege?

In addition, any holder of Subscription Rights exercising his, her or its Basic Subscription Privilege in full will be eligible to subscribe to purchase additional shares of Common Stock at the same Subscription Price per share that applies to the Basic Subscription Privilege, subject to the conditions and limitations described further in this Prospectus. We offer no assurances that any subscription requests submitted pursuant to the Over-Subscription Privilege will be fulfilled in whole or in part.

We will be able to satisfy your exercise of the Over-Subscription Privilege only if other holders of Subscription Rights do not elect to purchase all of the shares offered under their Basic Subscription Privilege. We will satisfy Over-Subscription Requests to the extent sufficient shares are available following the exercise of rights under the Basic Subscription Privilege. If the number of shares of Common Stock requested by all holders exercising the Over-Subscription Privilege is less than the total number of shares available, then subject to the foregoing reservation of rights, each holder of Subscription Rights exercising the Over-Subscription Privilege will receive the total number of shares requested (up to a maximum number of shares equal to such holder's pro rata allocation, as described in the paragraph set forth immediately below).

If there are not enough shares of Common Stock available to satisfy all subscriptions made under the Over-Subscription Privilege, we will allocate the available shares pro rata among the stockholders exercising their Over-Subscription Privileges. With respect to any individual stockholder, "pro rata" means the percentage of our issued and outstanding shares of Common Stock that such stockholder owned, beneficially or of record, as of the Record Date. Any excess subscription payments received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable following the completion of the Rights Offering.

What is the role of the Standby Purchaser in this offering?

In connection with the Rights Offering, we have entered into a Standby Purchase Agreement with Abeja Ventures, LLC. Pursuant to the Standby Purchase Agreement, the Standby Purchaser has agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their Basic Subscription Privileges and Over-Subscription Privileges. The Standby Purchaser is owned by, among other individuals and entities, Lawrence Mehren, John Patience, Jack Schuler and Matthew W. Strobeck, each of whom is a director of the Company. Messrs. Mehren and Patience also serve as managers of the Standby Purchaser. Any shares of Common Stock issued to the Standby Purchaser in connection with the standby purchase commitment described above will be "restricted securities" as that term is defined in Rule 144 under the Securities Act of 1933, as amended. While the Standby Purchaser will not itself participate in the Rights Offering, certain of its members (including the individuals listed above) may exercise the Basic Subscription Privileges and/or Over-Subscription Privileges they hold in their capacity as stockholders of the Company.

Is the Standby Purchaser receiving any compensation for its standby commitment?

No fees or other consideration will be paid by the Company to the Standby Purchaser in exchange for its commitment to purchase any and all unsubscribed shares of Common Stock following the Rights Offering.

How many shares of Common Stock will the Standby Purchaser own after the Rights Offering?

The number of shares of Common Stock that will be purchased by the Standby Purchaser can only be determined upon the completion of the Rights Offering. The Standby Purchaser will purchase all shares of Common Stock that could have been but were not subscribed for in the Rights Offering. If the Rights Offering is fully subscribed by stockholders through the exercise in full of their Basic Subscription Privileges and Over-Subscription Privileges, the Standby Purchaser will not purchase any additional shares of Common Stock pursuant to the Standby Purchase Agreement. If, on the other hand, no stockholders were to purchase any shares of Common Stock through the exercise of their Basic Subscription Privileges and Over-Subscription Privileges, all of the shares offered pursuant to the Rights Offering would be issued and sold to the Standby Purchaser. In that event, 2,487,562 shares of Common Stock would be issued to the Standby Purchaser, representing approximately 6.02% of the Company's outstanding Common Stock after giving effect to such issuance.

Am I required to exercise the Subscription Rights that I receive in the Rights Offering?

No. You may exercise your Subscription Rights in full or in part, or you may choose not to exercise any of your Subscription Rights. However, if you choose not to fully exercise your Basic Subscription Privilege, the percentage of our Common Stock owned by stockholders participating in the Rights Offering (or, at a minimum, the Standby Purchaser) will increase relative to your ownership percentage, and your voting and other rights will likewise be diluted. In addition, if you do not exercise your Basic Subscription Privilege in full, you will not be entitled to subscribe to purchase additional shares pursuant to the Over-Subscription Privilege, and your ownership percentage and related voting and other rights may be further diluted to the extent that participating stockholders exercise their Over-Subscription Privileges.

What are the limitations on the exercise of the Basic Subscription Privilege and Over-Subscription Privilege?

In the event that the exercise by a stockholder of the Basic Subscription Privilege or the Over-Subscription Privilege could, as determined by the Company in its sole discretion, potentially result in a limitation on the Company's ability to use net operating losses, tax credits and other tax assets, which we refer to as the "Tax Attributes," under the Internal Revenue Code of 1986, as amended, which we refer to as the "Code", and rules promulgated by the Internal Revenue Service, the Company may, but is under no obligation to, reduce the maximum exercise by such stockholder of the Basic Subscription Privilege and/or the Over-Subscription Privilege to such number of Subscription Rights as the Company in its sole discretion shall determine to be advisable in order to preserve the Company's ability to use the Tax Attributes.

How soon must I act to exercise my Subscription Rights?

Stockholders desiring to exercise their Subscription Rights will be required to submit payment in full for all of the shares of Common Stock that they wish to purchase under their Basic Subscription Privilege and pursuant to the Over-Subscription Privilege to the Subscription Agent, by no later than 5:00 p.m., New York City time, on July 29, 2013 (the "Expiration Date"). Any fractional shares of our Common Stock resulting from the exercise of Subscription Rights, including under the Basic Subscription Privilege and the Over-Subscription Privilege, will be eliminated by rounding down to the nearest whole share, with the total subscription payment being adjusted accordingly. Any excess subscription payments that stockholders may pay to the Subscription Agent in the Rights Offering will be returned, without interest or penalty, by the Subscription Agent to the applicable stockholder(s) as soon as practicable following the completion of the Rights Offering.

The Subscription Rights will expire if they are not exercised by 5:00 p.m., New York City time, on the Expiration Date. The Rights Offering period may not be extended. You should carefully consider whether to exercise your Subscription Rights before the expiration of the Rights Offering. All exercises of Subscription Rights are irrevocable.

We may in our sole discretion cancel the Rights Offering at any time and for any reason. If we cancel the Rights Offering, the Subscription Agent will return all subscription payments it has received for the cancelled offering without interest or penalty.

May I transfer my Subscription Rights?

No, you may not sell, transfer or assign your Subscription Rights to anyone else.

Are we requiring a minimum subscription to complete the Rights Offering?

No, but our Board of Directors reserves the right to cancel the Rights Offering for any reason, including if our Board of Directors believes that there is insufficient participation by our stockholders. If the Rights Offering is cancelled, all subscription proceeds received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable.

How was the Subscription Price determined?

The Subscription Price is equal to the closing price of our Common Stock, as reported by the NASDAQ Capital Market, on July 1, 2013 (which was the latest practicable date on which the Subscription Price could be established prior to the launch of the Rights Offering). The Subscription Price is not necessarily related to our book value, results of operations, cash flows, financial condition or the future market value of our Common Stock. We cannot assure you that you will be able to sell shares purchased in this Rights Offering at a price equal to or greater than the Subscription Price. We do not intend to change the Subscription Price in response to changes in the trading price of our Common Stock prior to the closing of the Rights Offering.

Are there any other conditions to the completion of the Rights Offering?

Yes. The completion of the Rights Offering is subject to the conditions described under "The Rights Offering—Conditions and Cancellation."

Can the Rights Offering be cancelled?

Yes. We may cancel the Rights Offering at any time prior to the Expiration Date and for any reason. If the Rights Offering is cancelled, all subscription payments received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable to those persons who subscribed for shares in the Rights Offering.

How do I exercise my Subscription Rights?

You must properly complete the enclosed Subscription Rights Certificate and deliver it, along with the full Subscription Price (including any amounts in respect of your Over-Subscription Privilege), to the Subscription Agent before 5:00 p.m., New York City time, on the Expiration Date. If you use the mail, we recommend that you use insured, registered mail, return receipt requested. If you cannot deliver your Subscription Rights Certificate to the Subscription Agent prior to the expiration of the Rights Offering, you may follow the guaranteed delivery procedures described under "The Rights Offering—Notice of Guaranteed Delivery."

If you send a payment that is insufficient to purchase the number of shares you requested, or if the number of shares you requested is not specified in the forms, the payment received will be applied to exercise your Basic Subscription Privilege and, if applicable, any Over-Subscription Privilege request that we have accepted to the fullest extent possible based on the amount of the payment received, subject to the elimination of fractional shares. If the payment exceeds the Subscription Price for the full exercise of your Basic Subscription Privilege and any applicable Over-Subscription Privilege request that we have accepted, or if you subscribe for more shares than you are eligible to purchase pursuant to the Over-Subscription Privilege, then the excess will be returned to you as soon as practicable. You will not receive interest on any payments refunded to you under the Rights Offering.

If the Rights Offering is not completed, will my subscription payment be refunded to me?

Yes. The Subscription Agent will hold all funds it receives in a segregated bank account until completion of the Rights Offering. If the Rights Offering is not completed, the Subscription Agent will return, without interest or penalty, as soon as practicable all subscription payments. If you own shares in "street name," it may take longer for you to receive payment because the Subscription Agent will return payments through the record holder of the shares.

What form of payment must I use to pay the Subscription Price?

You must timely pay the full Subscription Price for the full number of shares of Common Stock you wish to acquire under the Basic Subscription Privilege and any Over-Subscription Privilege request by delivering to the Subscription Agent a certified or cashier's check, a bank draft drawn on a U.S. bank, or a personal check that clears before the Expiration Date.

What should I do if I want to participate in the Rights Offering, but my shares are held in the name of my broker, dealer, custodian bank or other nominee?

If your shares of Common Stock are held in the name of a broker, dealer, custodian bank or other nominee, then your broker, dealer, custodian bank or other nominee is the record holder of the shares you own. You will not receive a Subscription Rights Certificate. The record holder must exercise the Subscription Rights on your behalf for the shares of Common Stock you wish to purchase.

We will ask your broker, dealer, custodian bank or other nominee to notify you of the Rights Offering. You should complete and return to your record holder the form entitled "Beneficial Owner Election Form." You should receive this form from your record holder with the other Rights Offering materials.

If you wish to participate in the Rights Offering and purchase shares of our Common Stock, please contact the record holder of your shares promptly. Your bank, broker or other nominee holder is the holder of the shares you own and must exercise the Subscription Rights on your behalf for shares you wish to purchase. Your broker, dealer, custodian bank or other nominee may establish a deadline prior to the 5:00 p.m., New York City time, on the Expiration Date.

After I exercise my Subscription Rights, can I change my mind?

No. All exercises of Subscription Rights are irrevocable, even if you later learn information that you consider to be unfavorable to the exercise of your Subscription Rights. You should not exercise your Subscription Rights unless you are certain that you wish to purchase additional shares of our Common Stock at the Subscription Price.

Are there risks in exercising my Subscription Rights?

Yes. The exercise of your Subscription Rights involves risks. Exercising your Subscription Rights means buying shares of our Common Stock and should be considered as carefully as you would consider any other equity investment. Among other things, you should carefully consider the risks described under the heading "Risk Factors" in this Prospectus and the risks described in documents incorporated by reference in this Prospectus, including but not limited to the sections entitled "Risk Factors" in our Transition Report on Form 10-K for the transition period from August 1, 2012 to December 31, 2012, and "Management's Discussion and Analysis of Financial Condition and Results of Operation" in our Transition Report on Form 10-K for the transition period from August 1, 2012 to December 31, 2012, and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.

Has our Board of Directors made a recommendation to our stockholders regarding the Rights Offering and is the Board of Directors participating in the Rights Offer?

Our Board of Directors is making no recommendation regarding your exercise of the Subscription Rights. Stockholders who exercise Subscription Rights risk investment loss on new money invested. We cannot assure you that the market price of our Common Stock will be above the Subscription Price at the time of exercise or at the expiration of the Rights Offering or that anyone purchasing shares at the Subscription Price will be able to sell those shares in the future at the same price or a higher price. You are urged to decide whether or not to exercise your Subscription Rights based on your own assessment of our business and the Rights Offering. Among other things, you should carefully consider the risks described under the heading "Risk Factors" in this Prospectus and the risks described in documents incorporated by reference in this Prospectus, including but not limited to the sections entitled "Risk Factors" in our Transition Report on Form 10-K for the transition period from August 1, 2012 to December 31, 2012, and "Management's Discussion and Analysis of Financial Condition and Results of Operation" in our Transition Report on Form 10-K for the transition period from August 1, 2012, and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.

In connection with the Rights Offering, we have entered into a Standby Purchase Agreement with Abeja Ventures, LLC. Pursuant to the Standby Purchase Agreement, the Standby Purchaser has agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their Basic Subscription Privileges and Over-Subscription Privileges. The Standby Purchaser is owned by, among other individuals and entities, Lawrence Mehren, John Patience, Jack Schuler and Matthew W. Strobeck, each of whom is a director of the Company. Messrs. Mehren and Patience also serve as managers of the Standby Purchaser. Other members of the Board of Directors may decide to participate in the Rights Offering but are not required to do so. Any shares of Common Stock issued to the Standby Purchaser in connection with the standby purchase commitment described above will be "restricted securities" as that term is defined in Rule 144 under the Securities Act of 1933, as amended. While the Standby Purchaser will not itself participate in the Rights Offering, certain of its members (including the individuals listed above) may exercise the Basic Subscription Privileges and/or Over-Subscription Privileges they hold in their capacity as stockholders of the Company.

What fees or charges apply if I exercise my Subscription Rights?

We are not charging any fees or sales commissions to issue Subscription Rights to you or to issue shares to you if you exercise your Subscription Rights. If you exercise your Subscription Rights through a broker or other holder of your shares, you are responsible for paying any fees that person may charge.

How do I exercise my Subscription Rights if I live outside of the United States or have a U.S. military post office or foreign post office address?

The Subscription Agent will hold Subscription Rights Certificates for stockholders having addresses outside the United States or who have a U.S. military post office or foreign post office address. In order to exercise Subscription Rights, our foreign stockholders and stockholders with a U.S. military post office or foreign post office address must notify the Subscription Agent and timely follow other procedures described below under the heading "The Rights Offering—Foreign Stockholders."

When will I receive my new shares of Common Stock?

All shares that you purchase in the Rights Offering will be issued in book-entry, or uncertificated, form. When issued, the shares will be registered in the name of the Subscription Rights holder of record. As soon as practicable after the expiration of the Rights Offering, the Subscription Agent will arrange for the issuance of the shares of Common Stock purchased pursuant to the Basic Subscription Privilege. Shares purchased pursuant to the Over-Subscription Privilege will be issued as soon as practicable after the Expiration Date and following the completion of any pro-rations as may be necessary in the event the Over-Subscription Privilege requests exceed the number of shares available to satisfy such requests. Subject to state securities laws and regulations, we have the discretion to delay distribution of any shares you may have elected to purchase by exercise of your Subscription Rights in order to comply with state securities laws.

Will the Subscription Rights be listed on a stock exchange or trading market?

The Subscription Rights may not be sold, transferred or assigned to anyone else and will not be listed on the NASDAQ Capital Market or any other stock exchange or trading market. Our Common Stock trades on the NASDAQ Capital Market under the symbol "AXDX" and the shares to be issued in connection with the Rights Offering will be eligible for trading on the NASDAQ Capital Market under the same symbol.

What are the U.S. federal income tax consequences of exercising my Subscription Rights?

The receipt and exercise of Subscription Rights pursuant to the Basic Subscription Privilege or subscription for shares pursuant to the Over-Subscription Privilege should generally not be taxable for U.S. federal income tax purposes. You should, however, seek specific tax advice from your tax advisor in light of your particular circumstances and as to the applicability and effect of any other tax laws. See "Certain Material U.S. Federal Income Tax Consequences."

What happens if I choose not to exercise my Subscription Rights?

You are not required to exercise your Subscription Rights or otherwise take any action in response to this Rights Offering. If you do not exercise your Subscription Rights and the Rights Offering is completed, the number of shares of our Common Stock you own will not change but your percentage ownership of our total outstanding voting stock will decrease because shares will be purchased by other stockholders in the Rights Offering or by the Standby Purchaser. Your percentage ownership of our voting stock may also decrease if you do not exercise your Basic Subscription Privilege in full.

How many shares of Common Stock will be outstanding after the Rights Offering?

As of July 2, 2013, 38,845,209 shares of Common Stock were issued and outstanding. Assuming no other transactions by us involving our Common Stock, and no options for our Common Stock are exercised prior to the expiration of the Rights Offering, if the Rights Offering is fully subscribed through the exercise of the Subscription Rights and/or the Standby Purchaser acquires all of the Common Stock not purchased by the holders of Subscription Rights, then an additional 2,487,562 shares of our Common Stock will be issued and outstanding after the closing of the Rights Offering, for a total of 41,332,771 shares of Common Stock issued and outstanding. As a result of the Rights Offering, the ownership interests and voting interests of the existing stockholders that do not fully exercise their Basic Subscription Privileges will be diluted.

How much money will we receive from the Rights Offering?

In light of the Standby Purchaser's commitment, the total proceeds to us from the Rights Offering (before expenses) will be approximately \$20,000,000.

To whom should I send my forms and payment?

If your shares are held in the name of a broker, dealer or other nominee, then you should send your subscription documents, rights certificate, notices of guaranteed delivery and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, notices of guaranteed delivery and subscription payment by hand delivery or overnight courier service to:

Broadridge Corporate Issuer Solutions, Inc.

Attention: Reorganization Department

1981 Marcus Avenue, Suite 100

Lake Success, NY 11042

If delivering documents via first class mai	l, you should send	your subscription	documents,	Subscription	Rights
Certificate, Notice of Guaranteed Delivery	and Subscription	Price payment to:			

Broadridge Corporate Issuer Solutions, Inc.

Attention: Reorganization Department

P.O. Box 1317

Brentwood, NY 11717-0693

You are solely responsible for completing delivery to the Subscription Agent of your subscription documents, rights certificate and payment. We urge you to allow sufficient time for delivery of your subscription materials to the Subscription Agent.

What if I have more questions?

If you have more questions about the Rights Offering or need additional copies of the Rights Offering documents, please contact the Subscription Agent (Broadridge Corporate Issuer Solutions, Inc.) at (855) 793-5068.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this Prospectus. Because it is a summary, it does not contain all of the information that you should consider before investing in our securities. You should read the entire Prospectus carefully, including the "Risk Factors" section and the other documents we refer to and incorporate by reference, in order to understand this offering fully. In particular, we incorporate important business and financial information into this Prospectus by reference.

Company Information

Accelerate Diagnostics, Inc. is a corporation organized under the laws of the State of Delaware. Since 2004, we have focused on developing and commercializing innovative instrumentation for the rapid identification and antibiotic susceptibility testing of infectious pathogens. The Company currently conducts no other significant business activities. Our website address is www.acceleratediagnostics.com. None of the information contained on, or that may be accessed through, our website is a prospectus or constitutes part of, or is otherwise incorporated into, this Prospectus.

Our Common Stock is listed on the NASDAQ Capital Market under the symbol "AXDX". Our principal executive offices are located at 3950 South Country Club Road, Suite 470, Tucson, Arizona 85714, and our telephone number is (520) 365-3100.

Rights Offering Summary

The following summary describes the principal terms of the Rights Offering, but is not intended to be complete. See the information under the heading "The Rights Offering" in this Prospectus for a more detailed description of the terms and conditions of the Rights Offering.

Securities Offered

We are distributing, at no charge to holders of our Common Stock, non-transferable Subscription Rights to purchase up to 2,487,562 shares of our Common Stock. For each share of Common Stock held of record at the close of business on the Record Date (as specified below), you will receive 0.064038 of a Subscription Right. Each whole Subscription Right will entitle you to purchase one share of our Common Stock at the Subscription Price specified below. Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares of Common Stock upon exercise of Subscription Rights and, to the extent that the number of Subscription Rights that are distributed to

you on the record date is not a whole number, the shares of Common Stock issuable upon exercise of the Subscription Rights will be rounded down to the nearest whole share for purposes of determining the number of shares of Common Stock for which you may subscribe.

Basic Subscription Privilege For each whole Subscription Right that you hold, you will have a Basic Subscription Privilege to buy from us one share of our Common Stock at the Subscription Price. You may exercise your Basic Subscription Privilege for some or all of your Subscription Rights, or you may choose not to exercise your Subscription Rights in your sole discretion. If you do not exercise your Subscription Rights and the Rights Offering is completed, the number of shares of our Common Stock you own will not change but your percentage ownership of our total outstanding voting stock will decrease because shares will be purchased by other stockholders in the Rights Offering or by the Standby Purchaser. Your percentage ownership of our voting stock may also decrease if you do not exercise your Basic Subscription Privilege in full.

Over-Subscription Privilege

If you exercise all of the Subscription Rights distributed to you pursuant to the Basic Subscription Privilege, you will also have the opportunity to purchase additional shares not purchased by other stockholders pursuant to their Basic Subscription Privilege at the same Subscription Price per share that applies to the Basic Subscription Privilege.

We will be able to satisfy your exercise of the Over-Subscription Privilege only if other holders of Subscription Rights do not elect to purchase all of the shares offered under their Basic Subscription Privilege. We will satisfy Over-Subscription Requests to the extent sufficient shares are available following the exercise of rights under the Basic Subscription Privilege. If the number of shares of Common Stock requested by all holders exercising the Over-Subscription Privilege is less than the total number of shares available, then subject to the foregoing reservation of rights, each holder of Subscription Rights exercising the Over-Subscription Privilege will receive the total number of shares requested (up to a maximum number of shares equal to such holder's pro rata allocation, as described in the paragraph set forth immediately below).

If there are not enough shares of Common Stock available to satisfy all subscriptions made under the Over-Subscription Privilege, we will allocate the available shares pro rata among the stockholders exercising their Over-Subscription Privileges. With respect to any individual stockholder, "pro rata" means the percentage of our issued and outstanding shares of Common Stock that such stockholder owned, beneficially or of record, as of the Record Date. Any excess subscription payments received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable following the completion of the Rights Offering.

Subscription Price

\$8.04 per share of Common Stock. To be effective, any payment related to the exercise of a Subscription Right must clear prior to the Expiration Date.

Limitation on Exercise of Basic Subscription Privilege and Over-Subscription Privilege In the event that the exercise by a stockholder of the Basic Subscription Privilege or the Over-Subscription Privilege could, as determined by the Company in its sole discretion, potentially result in a limitation on the Company's ability to use Tax Attributes, under the Code, and rules promulgated by the Internal Revenue Service, the Company may, but is under no obligation to, reduce the maximum exercise by such stockholder of the Basic Subscription Privilege and/or the Over-Subscription Privilege to such number of rights as the Company in its sole discretion shall determine to be advisable in order to preserve the Company's ability to use the Tax Attributes.

In addition, under applicable federal and state banking laws, any purchase of shares of our Common Stock may also require the prior clearance or approval of, or prior notice to, federal and state bank regulatory authorities if the purchase will result in any person or entity or group of persons or entities acting in concert owning or controlling shares in excess of such threshold ownership interest.

Record Date

July 8, 2013

Expiration Date

The Subscription Rights will expire at 5:00 p.m., New York City time, on July 29, 2013.

Procedure for Exercising Rights

You must properly complete the enclosed Subscription Rights Certificate and deliver it, along with the full Subscription Price (including any amounts in respect of your Over-Subscription Privilege), to the Subscription Agent before the Expiration Date.

If you use the mail, we recommend that you use insured, registered mail, return receipt requested. If you cannot deliver your Subscription Rights Certificate to the Subscription Agent on time, you may follow the guaranteed delivery procedures described under "The Rights Offering—Guaranteed Delivery Procedures."

Standby Purchaser and Standby Purchase Agreement In connection with the Rights Offering, we have entered into a Standby Purchase Agreement with Abeja Ventures, LLC. Pursuant to the Standby Purchase Agreement, the Standby Purchaser has agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their Basic Subscription Privileges and Over-Subscription Privileges. The Standby Purchaser is owned by, among other individuals and entities, Lawrence Mehren, John Patience, Jack Schuler and Matthew W. Strobeck, each of whom is a director of the Company. Messrs. Mehren and Patience also serve as managers of the Standby Purchaser. Any shares of Common Stock issued to the Standby Purchaser in connection with the standby purchase commitment described above will be "restricted securities" as that term is defined in Rule 144 under the Securities Act of 1933, as amended. While the Standby Purchaser will not itself participate in the Rights Offering, certain of its members (including the individuals listed above) may exercise the Basic Subscription Privileges and/or Over-Subscription Privileges they hold in their capacity as stockholders of the Company.

Use of Proceeds

We expect the net proceeds from the Rights Offering and the transactions contemplated by the Standby Purchase Agreement to be approximately \$20,000,000 (before expenses). We intend to use the net proceeds from the Rights Offering for general corporate purposes, including to fund our ongoing research and development and product commercialization initiatives, which have been previously disclosed.

Non-Transferability of Rights

The Subscription Rights may not be sold, transferred or assigned and will not be listed for trading on the NASDAQ Capital Market or any other stock exchange or trading market.

No Revocation

All exercises of Subscription Rights are irrevocable, even if you later learn information about us that you consider unfavorable. You should not exercise your Subscription Rights unless you are certain that you wish to purchase the shares of Common Stock offered pursuant to the Rights Offering.

Conditions to the Rights Offering

The completion of the Rights Offering is subject to the conditions described under "The Rights Offering—Conditions and Cancellation."

Cancellation

We reserve the right to withdraw the Rights Offering at any time prior to the Expiration Date and for any reason. If the Rights Offering is cancelled, all subscription payments received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable to those persons who subscribed for shares in the Rights Offering.

No Board Recommendation Our Board of Directors is making no recommendations regarding your exercise of the Subscription Rights. You are urged to make your own decision whether or not to exercise your Subscription Rights based on your own assessment of our business and the Rights Offering. See the section below entitled "Risk Factors."

Stock

Issuance of Common If you purchase shares of Common Stock through the Rights Offering, we will issue those shares to you in book-entry, or uncertificated, form as soon as practicable after the completion of the Rights Offering. Stock certificates will not be issued for shares of our Common Stock purchased in the Rights Offering.

Listing of Common Stock

Our Common Stock is listed on the NASDAQ Capital Market under the symbol "AXDX" and the shares to be issued in connection with the Rights Offering will also be listed on the NASDAQ Capital Market under the same symbol.

Federal Income Tax Consequences

The receipt and exercise of Subscription Rights pursuant to the Basic Subscription Privilege or subscription for shares pursuant to the Over-Subscription Privilege will generally not be taxable for U.S. federal income tax purposes. You should, however, seek specific tax advice from your tax advisor in light of your particular circumstances and as to the applicability and effect of any other tax laws. See "Certain Material U.S. Federal Income Tax Consequences."

Subscription and Information Agent

Broadridge Corporate Issuer Solutions, Inc.

Questions

If you have any questions about the Rights Offering, including questions about subscription procedures and requests for additional copies of this Prospectus or other documents, please contact Broadridge Corporate Issuer Solutions, Inc. at (855) 793-5068.

Fees and Expenses

We will pay the fees and expenses related to the Rights Offering.

Risk Factors

Before you invest in the Rights Offering, you should be aware that there are risks associated with your investment, including the risks described in the section entitled "Risk Factors" beginning on page 14 of this Prospectus. You should carefully read and consider these risk factors together with all of the other information included in or incorporated by reference into this Prospectus before you decide to exercise your Subscription Rights to purchase shares of our Common Stock.

RISK FACTORS

An investment in our securities involves a high degree of risk. You should carefully consider the risks described below, together with the other information contained or incorporated by reference into this Prospectus, including the information contained in the sections entitled "Risk Factors" in our Transition Report on Form 10-K for the transition period from August 1, 2012 to December 31, 2012, and "Management's Discussion and Analysis of Financial Condition and Results of Operation" in our Transition Report on Form 10-K for the transition period from August 1, 2012 to December 31, 2012, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013, and any risks described in our other filings with the Securities and Exchange Commission, pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act of 1934, as amended, before making a decision to invest in our Common Stock.

The risks described below and in the documents referred to in the preceding sentence are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially and adversely affect our business operations. If any of the following risks actually occurs, our business, results of operations and financial condition could suffer. In that case, the trading price of our Common Stock could decline, and you may lose all or part of your investment.

Risks Related to the Rights Offering

The Subscription Price determined for this Rights Offering is not necessarily an indication of the value of our Common Stock.

The Subscription Price is equal to the closing price of our Common Stock, as reported by the NASDAQ Capital Market, on July 1, 2013 (which was the latest practicable date on which the Subscription Price could be established prior to the launch of the Rights Offering). The Subscription Price is not necessarily related to our book value, results of operations, cash flows, financial condition or the future market value of our Common Stock. We cannot assure you that you will be able to sell shares purchased in this Rights Offering at a price equal to or greater than the Subscription Price. We do not intend to change the Subscription Price in response to changes in the trading price of our Common Stock prior to the closing of the Rights Offering.

The Rights Offering may cause the price of our Common Stock to decline.

Depending upon the trading price of our Common Stock at the time of our announcement of the Rights Offering, the announcement of the Rights Offering and its terms, including the Subscription Price, together with the number of

shares of Common Stock we could issue if the Rights Offering is completed, may result in a decrease in the trading price of our Common Stock. This decrease may continue after the completion of the Rights Offering. If that occurs, your purchase of shares of our Common Stock in the Rights Offering may be at a price greater than the prevailing trading price.

Because you may not revoke or change your exercise of the Subscription Rights, you could be committed to buying shares above the prevailing trading price at the time the Rights Offering is completed.

Once you exercise your Subscription Rights, you may not revoke or change the exercise. The trading price of our Common Stock may decline before the Subscription Rights expire. If you exercise your Subscription Rights, and, afterwards, the trading price of our Common Stock decreases below the Subscription Price, you will have committed to buying shares of our Common Stock at a price above the prevailing trading price and could have an immediate unrealized loss.

Our Common Stock is traded on the NASDAQ Capital Market under the symbol, "AXDX" and the closing sale price of our Common Stock on the NASDAQ Capital Market on July 1, 2013 was \$8.04 per share. There can be no assurances that the trading price of our Common Stock will equal or exceed the Subscription Price at the time of exercise or at the expiration of the Subscription Rights offering period.

You may not be able to resell any shares of our Common Stock that you purchase pursuant to the exercise of Subscription Rights immediately upon expiration of the Subscription Rights offering period or be able to sell your shares at a price equal to or greater than the Subscription Price.

If you exercise Subscription Rights, you may not be able to resell the Common Stock purchased by exercising your Subscription Rights until you, or your broker, custodian bank or other nominee, if applicable, have received those shares. Moreover, you will have no rights as a stockholder of the shares you purchased in the Rights Offering until we issue the shares to you. Although we will endeavor to issue the shares as soon as practicable after completion of the Rights Offering, including the guaranteed delivery period and after all necessary calculations have been completed, there may be a delay between the Expiration Date of the Rights Offering and the time that the shares are issued. In addition, we cannot assure you that, following the exercise of your Subscription Rights, you will be able to sell your Common Stock at a price equal to or greater than the Subscription Price.

If you do not exercise your Subscription Rights, you will suffer dilution.

If you do not exercise your Subscription Rights, you will suffer dilution of your percentage ownership of our equity securities relative to stockholders who exercise their Subscription Rights and/or the Standby Purchaser.

As of July 2, 2013, there were 38,845,209 shares of our Common Stock outstanding. We anticipate issuing a total of 2,487,562 shares of Common Stock in connection with the Rights Offering and the transactions contemplated by the Standby Purchase Agreement.

Based on the number of shares of Common Stock outstanding as of July 2, 2013 and assuming that no options or warrants are exercised and there are no other changes in the number of outstanding shares prior to the expiration of the Rights Offering, if we issue all 2,487,562 shares of Common Stock available in this Rights Offering (to stockholders participating in the Rights Offering and/or the Standby Purchaser), we would have 41,332,771 shares of Common Stock outstanding following the completion of the Rights Offering and the transactions contemplated by the Standby Purchase Agreement.

We may cancel the Rights Offering at any time prior to the expiration of the Rights Offering period, and neither we nor the Subscription Agent will have any obligation to you except to return your subscription payment.

We may at our sole discretion cancel the Rights Offering at any time prior to the expiration of the Rights Offering period. If we elect to cancel the Rights Offering, neither we nor the Subscription Agent will have any obligation with

respect to the Subscription Rights except to return to you, without interest or penalty, as soon as practicable any subscription payments.

If you do not act promptly and follow the subscription instructions, your exercise of Subscription Rights will be rejected.

Stockholders that desire to purchase shares in the Rights Offering must act promptly to ensure that all required forms and payments are actually received by the Subscription Agent prior to the Expiration Date of the Rights Offering. If you are a beneficial owner of shares, you must act promptly to ensure that your broker, dealer, custodian bank or other nominee acts for you and that all required forms and payments are actually received by the Subscription Agent prior to the expiration of the Rights Offering period. We are not responsible if your broker, dealer, custodian bank or nominee fails to ensure that all required forms and payments are actually received by the Subscription Agent prior to the expiration of the Rights Offering period. If you fail to complete and sign the required subscription forms, send an incorrect payment amount or otherwise fail to follow the subscription procedures that apply to your exercise in the Rights Offering prior to the expiration of the Rights Offering period, the Subscription Agent may, depending on the circumstances, reject your subscription or accept it only to the extent of the payment received. Neither we nor the Subscription Agent undertakes to contact you concerning, or attempt to correct, an incomplete or incorrect subscription form. We have the sole discretion to determine whether the exercise of your Subscription Rights properly and timely follows