UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

MIMEDX GROUP, INC.

(Exact name of registrant as specified in its charter)

Florida

26-2792552

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification No.)

1775 West Oak Commons Ct., NE, Marietta, Georgia 30062

(Address of Principal Executive Offices) (Zip Code)

MiMedx Group, Inc. 2016 Equity and Cash Incentive Plan

(Full title of the plan)

Michael J. Senken MiMedx Group, Inc. Chief Financial Officer 1775 West Oak Commons Ct., NE Marietta, Georgia 30062 (Name and address of agent for service)

(770) 651-9100

(Telephone number, including area code, of agent for service)

Copies to:

David W. Ghegan, Esq. Troutman Sanders LLP 600 Peachtree Street, NE, Suite 5200 Atlanta, Georgia 30308 (404) 885-3139

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.

(Check one):

Large accelerated filer x

Accelerated filer o

Non-accelerated filer o

Smaller reporting company o

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered ⁽¹⁾⁽²⁾	Proposed maximum offering price per share ⁽³⁾	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, \$0.001 par value per share	5,000,000	\$8.21	\$41,050,000	\$4,133.74

- (1) An additional 457,567 shares of Common Stock may be issued under the MiMedx Group, Inc. 2016 Equity and Cash Incentive Plan (the "Plan") that are shares of Common Stock that remain available for issuance under the MiMedx Group, Inc. Assumed 2006 Stock Incentive Plan, as amended (the "2006 Plan"). An additional indeterminate number of shares of Common Stock may be issued under the Plan that are represented by awards which previously have been granted and are outstanding under the 2006 Plan and which subsequently expire or otherwise lapse, are terminated or forfeited, are settled in cash, or exchanged, prior to the issuance of Shares of Common Stock, for awards not involving shares of Common Stock, without the issuance of the underlying shares of Common Stock. All of such additional shares of Common Stock have previously been registered with the Securities and Exchange Commission pursuant to the Company's Form S-8 Registration Statements (Registration Nos. 333-199841, 333-189784, 333-18991 and 333-153255) for the 2006 Plan.
- (2) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), the number of shares of Common Stock registered hereunder includes such indeterminate number of additional shares of Common Stock as may be offered or issued in the future to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (3) Estimated solely for the purpose of computing the registration fee. This amount was calculated pursuant to Rule 457(h) under the Securities Act on the basis of \$8.21 per share, which was the average of the high and low prices of the Common Stock as quoted on The NASDAQ Stock Market on June 3, 2016.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information.

Not required to be filed with the Securities and Exchange Commission (the "Commission").

Item 2. Registrant Information and Employee Plan Annual Information.

MiMedx Group, Inc. (the "Company") will provide the participants, upon written or oral request and without charge, a copy of the documents incorporated by reference in Item 3 of Part II of this Registration Statement, which are incorporated by reference in the Section 10(a) prospectus, and all documents required to be delivered to employees pursuant to Rule 428(b) under the Securities Act. Request for such documents should be directed to MiMedx Group, Inc., 1775 West Oak Commons Ct., NE, Marietta, Georgia, 30062, Attention: Secretary, telephone number (770) 651-9100.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Document by Reference.

The following documents filed by the Company with the Commission are incorporated herein by reference and made a part hereof:

- 1. The Company's Annual Report on Form 10-K for the year ended December 31, 2015;
- 2. The Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016;
- 3. The Company's Current Reports on Form 8-K filed on January 13, 2016, February 26, 2016, May 20, 2016 and May 25, 2016;
- 4. The Company's Current Report on Form 8-K/A filed on March 31, 2016; and
- 5. The description of the Company's Common Stock, \$0.001 par value per share, contained in the Registration Statement on Form 8-A (Registration No. 001-35887) filed under the Securities Exchange Act of 1934, as amended (the "Exchange Act") on April 22, 2013.

All documents subsequently filed with the Commission by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, after the date of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be

deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the date of filing of such documents.

Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed document that is incorporated by reference herein modifies or supersedes such earlier statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 4. Description of Securities.

Not Applicable.

Item 5. Interests of Named Experts and Counsel.

Not Applicable.

Item 6. Indemnification of Directors and Officers

The Company is a Florida corporation. The following summary is qualified in its entirety by reference to the complete text of the Florida Business Corporation Act (the "FBCA"), the Company's Articles of Incorporation, and the Company's Bylaws.

Under Section 607.0850(1) of the FBCA, a corporation may indemnify any of its directors and officers against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding (including any appeal thereof) (i) if such person acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, and (ii) with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. In actions brought by or in the right of the corporation, however, Section 607.0850(2) provides that no indemnification shall be made in respect of any claim, issue or matter as to which the director or officer shall have been adjudged to be liable unless, and only to the extent that, the court in which such proceeding was brought, or any other court of competent jurisdiction, shall determine upon application that, despite the adjudication of liability but in view of all circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper. Article 8 of the Registrant's Articles of Incorporation and Section 9 of Article VIII of the Registrant's Bylaws require that, if in the judgment of the majority of the Board of Directors (excluding from such majority any director under consideration for indemnification) the criteria set forth under Section 607.0850 have been met, then the Registrant shall indemnify its directors and officers for certain liabilities incurred in the performance of their duties on behalf of the Registrant in the manner and to the extent contemplated by Section 607.0850 of the FBCA.

The Company has purchased insurance to insure (i) the Company's directors and officers against damages from actions and claims incurred in the course of their duties, and (ii) the Company against expenses incurred in defending lawsuits arising from certain alleged acts of its directors and officers.

The Company's Board of Directors has approved a form of Indemnification Agreement to be entered into by the Company with each of its directors and executive officers (as defined by, and determined in accordance with, Section 16 and Rule 3b-7 of the Exchange Act) and authorized it to enter into separate Indemnification Agreements with each of its directors and each of its executive officers.

The Indemnification Agreements provide, among other things, that the Company will indemnify such directors and executive officers to the fullest extent permitted by Florida law for claims arising out of, or in connection with, the indemnitee's service to the Company. The indemnification is subject to limitations and other conditions specified in the Indemnification Agreements. To the extent that a change in Florida law, whether by statute or judicial decision, permits greater indemnification or advancement of expenses than would be afforded currently under the Company's Articles of Incorporation, Bylaws and the Indemnification Agreement, the indemnitee will receive under the Indemnification Agreement the greater benefits so afforded by such change.

Item 7. Exemption from Registration Claimed.

Not Applicable.

Item 8. Exhibits.

Exhibit No. Description 3.1 Articles of Incorporation of MiMedx Group, Inc. as filed with the Secretary of the State of Florida on March 31, 2008 (Incorporated by reference to Exhibit 3.1 filed with Registrant's Form 10-Q on August 8, 2013 - File No. 001-35887). Articles of Amendment to Articles of Incorporation as filed with the Secretary of the State of Florida on May 14, 2010 (Incorporated by 3.2 reference to Exhibit 3.2 filed with Registrant's Form 10-Q on August 8, 2013 - File No. 001-35887) Articles of Amendment to Articles of Incorporation as filed with the Secretary of the State of Florida on August 8, 2012 (Incorporated by 3.3 reference to Exhibit 3.3 filed with Registrant's Form 10-Q on August 8, 2013 - File No. 001-35887) 3.4 Articles of Amendment to Articles of Incorporation as filed with the Secretary of the State of Florida on November 8, 2012 (Incorporated by reference to Exhibit 3.4 filed with Registrant's Form 10-Q on August 8, 2013 - File No. 001-35887) Articles of Amendment to Articles of Incorporation as filed with the Secretary of the State of Florida on May 15, 2015 (Incorporated by 3.5 reference to Exhibit 3.5 to the Company's 10-Q filed on August 7, 2015 - File No. 001-35887) 3.6 Bylaws of MiMedx Group, Inc. (Incorporated by reference to Exhibit 3.2 filed with Registrant's Form 8-K filed on April 2, 2008 - File No. 001-35887) Amendment to the Bylaws of MiMedx Group, Inc. adopted by the Board of Directors on May 11, 2010, (Incorporated by reference to 3.7 Exhibit 3.2 to the Registrant's Form 8-K filed on May 14, 2010 - File No. 001-35887) MiMedx Group, Inc. 2016 Equity and Cash Incentive Plan (incorporated herein by reference to Appendix A to the Company's Definitive 4.1 Proxy Statement on Schedule 14A (File No. 001-35887), filed April 12, 2016). 5.1 Opinion of Troutman Sanders LLP as to the legality of the securities being registered (filed herewith). Consent of Troutman Sanders LLP (included in the opinion filed as Exhibit 5.1 to this Registration Statement). 23.1

Item 9. Undertakings

23.2

24.1

(a) The undersigned Company hereby undertakes:

Consent of Cherry Bekaert LLP (filed herewith).

Powers of Attorney (included on signature page).

- (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,
 - (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% 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 (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Company pursuant to Section 13 or 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement.

- (2) That, for the purpose of determining any liability under the Securities Act, 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.
- (b) The undersigned Company hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Company's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) 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 the time shall be deemed to be the initial bona fide offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Company has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Company of expenses incurred or paid by a director, officer or controlling person of the Company 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 Company 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 and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Marietta, State of Georgia, on this 7th day of June, 2016.

MIMEDX GROUP, INC.

(Registrant)

By: /s/ Michael J. Senken Michael J. Senken Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned constitutes and appoints Parker H. Petit, Michael J. Senken and Alexandra O. Haden, and each of them individually, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for the undersigned and in his or her name, place and stead, in any and all capacities, to sign any or all amendments to this registration statement (including post-effective amendments), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto such attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he might or could in person, hereby ratifying and confirming all that such attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature/Name	Title	Date
/s/ Parker H. Petit Parker H. Petit	Chairman of the Board, Chief Executive Officer and Director (principal executive officer)	June 7, 2016
/s/ Michael J. Senken Michael J. Senken	Chief Financial Officer (principal financial and accounting officer)	June 7, 2016
/s/ William C. Taylor	President, Chief Operating Officer and Director	June 7, 2016
William C. Taylor		
/s/ Charles E. Koob	Director	June 7, 2016
Charles E. Koob		
/s/ Larry W. Papasan	Director	June 7, 2016
Larry W. Papasan		
/s/ Joseph G. Bleser Joseph G. Bleser	Director	June 7, 2016
Joseph G. Diesei		
/s/ J. Terry Dewberry	Director	June 7, 2016
J. Terry Dewberry		

/s/ Bruce L. Hack	Director	June 7, 2016
Bruce L. Hack		
/s/ Charles R. Evans Charles R. Evans	Director	June 7, 2016
/s/ Neil S. Yeston	Director	June 7, 2016
Neil S. Yeston		

EXHIBIT INDEX

Exhibit No. Description

24.1

Powers of Attorney (included on signature page).

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4.1	MiMedx Group, Inc. 2016 Equity and Cash Incentive Plan (incorporated herein by reference to Appendix A to the Company's Definitive Proxy Statement on Schedule 14A (File No. 001-35887), filed April 12, 2016.
5.1	Opinion of Troutman Sanders LLP as to the legality of the securities being registered (filed herewith).
23.1	Consent of Troutman Sanders LLP (included in the opinion filed as Exhibit 5.1 to this Registration Statement).
23.2	Consent of Cherry Bekaert LLP (filed herewith).

TROUTMAN SANDERS TROUTMAN SANDERS LLP
Attorneys at Law
Bank of America Plaza
600 Peachtree Street, NE, Suite 5200
Atlanta, Georgia 30308-2216
404.885.3000 telephone
troutmansanders.com

June 7, 2016

MiMedx Group, Inc. 1775 West Oak Commons Court, NE Marietta, Georgia 30062

Ladies and Gentlemen:

We have acted as counsel to MiMedx Group, Inc., a Florida corporation (the "Company"), in connection with the filing with the Securities and Exchange Commission ("SEC") of a Registration Statement (the "Registration Statement") on Form S-8 under the Securities Act of 1933, as amended (the "Act"), relating to the registration of 5,000,000 shares of the Company's Common Stock, \$0.001 par value per share, (the "Plan Shares"), to be issued in connection with the MiMedx Group, Inc. 2016 Equity and Stock Incentive Plan, as amended (the "Plan"). This opinion is being provided at your request for inclusion in the Registration Statement.

In connection with this opinion, we have examined originals, or copies certified or otherwise identified to our satisfaction, of such instruments, certificates, records and documents, and have reviewed such questions of law, as we have deemed necessary or appropriate for purposes of this opinion. In such examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to the original documents of all documents submitted as copies and the authenticity of the originals of such latter documents. As to any facts material to our opinion, we have relied upon the aforesaid instruments, certificates, records and documents and inquiries of your representatives.

Based upon the foregoing examination, we are of the opinion that, subject to compliance with the pertinent provisions of the Act and to compliance with such securities or "Blue Sky" laws of any jurisdiction as may be applicable and the maintenance of all requisite regulatory and other approvals, the Plan Shares have been duly authorized and, when issued by the Company in the manner contemplated by the Plan, will be validly issued, fully paid and nonassessable.

We do not purport to render an opinion based on the laws of any jurisdiction other than the Florida Business Corporation Act (including the relevant statutory provisions, the applicable provisions of the Constitution of the State of Florida and the reported judicial decisions interpreting these laws) and the federal laws of the United States of America, and we express no opinion herein as to the effect of any other laws. In addition, we are not opining on "blue sky" or other state securities laws.

We hereby consent to the filing of this opinion with the SEC as an exhibit to the Registration Statement. In giving the foregoing consent, we do not hereby admit that we come within the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the SEC thereunder. This opinion may not be furnished or quoted to, or relied upon by, any other person for any other purpose, without our prior written consent.

Very truly yours,

/s/ Troutman Sanders LLP

EXHIBIT 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement of MiMedx Group, Inc. and Subsidiaries on Form S-8 of (a) our reports dated February 29, 2016, with respect to the consolidated financial statements of MiMedx Group, Inc. and the effectiveness of internal control over financial reporting of MiMedx Group, Inc. appearing in its Annual Report on Form 10-K for the year ended December 31, 2015 filed on February 29, 2016 with the Securities and Exchange Commission; and (b) our report dated March 31, 2016, relating to the balance sheets of Stability Inc. as of December 31, 2015 and 2014 and the related statements of operations, stockholders' equity (deficit), and cash flows for the years then ended, filed with the MiMedx Group, Inc. Form 8-K/A filed on March 31, 2016 with the Securities and Exchange Commission.

/s/ Cherry Bekaert LLP Atlanta, Georgia June 7, 2016