

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

TransMedics Group, Inc.

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

Massachusetts
(State or other jurisdiction of
incorporation or organization)

83-2181531
(I.R.S. Employer
Identification No.)

200 Minuteman Road
Andover, MA 01810
(978) 552-0900

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

Waleed H. Hassanein, M.D.
Chief Executive Officer
TransMedics Group, Inc.
200 Minuteman Road
Andover, MA 01810
(978) 552-0900

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

With copies to:
Tara Fisher
Paul Kinsella
Ropes & Gray LLP
Prudential Tower
800 Boylston Street
Boston, MA
(617) 951-7000

**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 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(1)	Amount to be Registered	Proposed Maximum Offering Price per Unit or Share(3)	Proposed Maximum Aggregate Offering Price(3)	Amount of Registration Fee
Common Stock, no par value per share(2)				
Preferred Stock, no par value per share(2)				
Subscription Rights(2)(5)				
Warrants(2)				
Units(2)(6)				
Total			\$200,000,000	\$25,960 (4)

- The securities covered by this registration statement to be sold by the Registrant may be sold separately or in any combination with other securities registered under this registration statement.
- The securities being registered consist of such indeterminate number of common shares and preferred shares, such indeterminate number of warrants to purchase common shares or preferred shares, and such indeterminate number of units, as may be determined from time to time at indeterminate prices. The securities registered hereunder also include such indeterminate number of common shares and preferred shares as may be issued upon conversion of or exchange for preferred shares that provide for conversion or exchange, upon exercise of warrants or pursuant to the anti-dilution provisions of any such securities. In no event will the aggregate maximum offering price of all securities issued pursuant to this registration statement exceed \$200,000,000.
- The proposed maximum per unit and aggregate offering prices per class of securities will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered under this registration statement and is not specified as to each class of security pursuant to General Instruction I.D of Form S-3 under the Securities Act.
- Calculated pursuant to Rule 457(o) under the Securities Act.
- Rights evidencing the right to purchase common stock, preferred stock, warrants or units, or a combination thereof.
- Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. The proposed maximum offering price per unit will be determined by the registrant in connection with the issuance of the securities.

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

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 May 6, 2020

PROSPECTUS



TransMedics Group, Inc.

\$200,000,000

**Common Stock
Preferred Stock
Subscription Rights
Warrants
Units**

We may offer and sell common stock, preferred stock, subscription rights, warrants, or units described in this prospectus from time to time in one or more transactions.

We will provide specific terms of any offering in a supplement to this prospectus. Any prospectus supplement may also add, update, or change information contained in this prospectus. You should carefully read this prospectus and the applicable prospectus supplement as well as the documents incorporated or deemed to be incorporated by reference in this prospectus before you purchase any of the securities offered hereby.

These securities may be offered and sold in the same offering or in separate offerings; to or through underwriters, dealers, and agents; or directly to purchasers. The names of any underwriters, dealers, or agents involved in the sale of our securities and their compensation will be described in the applicable prospectus supplement.

General Information

Our common stock is traded on The Nasdaq Global Market under the symbol "TMDX." On May 4, 2020, the closing price of our common stock was \$16.79. We have not yet determined whether the other securities that may be offered by this prospectus will be listed on any exchange, interdealer quotation system or over-the-counter market. If we decide to seek the listing of any such securities upon issuance, the prospectus supplement relating to those securities will disclose the exchange, quotation system or market on which those securities will be listed.

Investing in our securities involves certain risks. See "[Risk Factors](#)" beginning on page 5 of this prospectus and in any prospectus supplement for a discussion of the factors you should carefully consider before deciding to purchase our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is .

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ABOUT THIS PROSPECTUS

This prospectus is part of a shelf registration statement that we filed with the Securities and Exchange Commission, or SEC. By using a shelf registration statement, we may, from time to time, sell any combination of the securities described in this prospectus 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 sell securities, we will provide a prospectus supplement and, if necessary, a free writing prospectus, that will contain specific information about the terms of that offering. The prospectus supplement and, if necessary, a free writing prospectus, may also add to, update or change information contained in this prospectus. Accordingly, to the extent inconsistent, the information in this prospectus will be deemed to be modified or superseded by any inconsistent information contained in a prospectus supplement or a free writing prospectus. You should read carefully this prospectus, the applicable prospectus supplement and any free writing prospectus, together with the additional information incorporated by reference in this prospectus described below under “Where You Can Find More Information” before making an investment in our securities.

We have not authorized anyone to give you any additional information different from that contained in this prospectus, any accompanying prospectus supplement or any free writing prospectus provided in connection with an offering. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you.

You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since that date.

This prospectus is not an offer to sell or solicitation of an offer to buy our securities in any circumstances under which or jurisdiction in which the offer or solicitation is unlawful. Unless the context otherwise indicates, the terms “TMDX,” “TransMedics,” “Company,” “we,” “us,” and “our” as used in this prospectus refer to TransMedics Group, Inc. and its subsidiaries. The phrase “this prospectus” refers to this prospectus and any applicable prospectus supplement, unless the context otherwise requires.

INDUSTRY AND MARKET DATA

The market data and certain other statistical information used throughout this prospectus and any applicable prospectus supplement and documents incorporated by reference herein and therein are based on independent industry publications, government publications and other published sources. Some data, such as our estimates of the potential pool of donors and our potential addressable commercial opportunity, are also based on our good faith estimates. Although we believe these third-party sources are reliable as of their respective dates, we have not independently verified the accuracy or completeness of this information. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those referenced in the section of any accompanying prospectus supplement entitled “Risk Factors” and the risk factors and cautionary statements referenced in other documents that we file from time to time with the SEC, specifically under “Item 1A. Risk Factors” and elsewhere in our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. These and other factors could cause results to differ materially from those expressed in these publications.

TRADEMARKS AND TRADENAMES

This prospectus and any applicable prospectus supplement and documents incorporated by reference herein and therein contain references to our trademarks and to trademarks belonging to other entities. “TransMedics” is a registered trademark of TransMedics. The TransMedics logo, Organ Care System and OCS are trademarks of TransMedics. Each of the other trademarks, trade names and service marks included in this prospectus belongs to its respective holder. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies’ trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

IMPLICATIONS OF BEING AN EMERGING GROWTH COMPANY AND SMALLER REPORTING COMPANY

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies, including:

- reduced disclosure about our executive compensation arrangements;
- exemption from the requirements to hold non-binding advisory votes on executive compensation and golden parachute payments; and
- exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions until the last day of the fiscal year following the fifth anniversary of our initial public offering or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company earlier if we have more than \$1.07 billion in annual revenue, we have more than \$700 million in market value of our stock held by non-affiliates (and we have been a public company for at least 12 months and have filed one annual report on Form 10-K with the SEC) or we issue more than \$1 billion of non-convertible debt securities over a three-year period. For so long as we remain an emerging growth company, we are permitted, and intend, to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. We may choose to take advantage of some, but not all, of the available exemptions.

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In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected not to “opt out” of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either (i) irrevocably elect to “opt out” of such extended transition period or (ii) no longer qualify as an emerging growth company. Therefore, the reported results of operations contained in our financial statements may not be directly comparable to those of other public companies.

We are also a “smaller reporting company,” as defined in Regulation S-K. We will cease to be a smaller reporting company if we have (i) more than \$250 million in market value of our shares held by non-affiliates as of the last business day of our second fiscal quarter or (ii) more than \$100 million of annual revenues in our most recent fiscal year completed before the last business day of our second fiscal quarter and a market value of our shares held by non-affiliates more than \$700 million as of the last business day of our second fiscal quarter. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

THE COMPANY

The following is a summary of selected information contained elsewhere or incorporated by reference in this prospectus. It does not contain all of the information that you should consider before buying our securities. You should read this entire prospectus carefully, as well as any applicable prospectus supplement, the documents incorporated by reference into this prospectus or the applicable prospectus supplement, and any free writing prospectus we have prepared, including the material referenced under the heading “Risk Factors”.

Overview

We are a commercial-stage medical technology company transforming organ transplant therapy for end-stage organ failure patients across multiple disease states. We developed the Organ Care System, or the OCS, to replace a decades-old standard of care that we believe is significantly limiting access to life-saving transplant therapy for hundreds of thousands of patients worldwide. Our innovative OCS technology replicates many aspects of the organ’s natural living and functioning environment outside of the human body. As such, the OCS represents a paradigm shift that transforms organ preservation for transplantation from a static state to a dynamic environment that enables new capabilities, including organ optimization and assessment. We believe our substantial body of clinical evidence has demonstrated the potential for the OCS to significantly increase the number of organ transplants and improve post-transplant outcomes.

To date, we have developed three OCS products, one for each of lung, heart and liver transplantations, making the OCS the only multi-organ technology platform. The OCS Lung has been approved by the FDA for commercial use in the United States since March 2018 for donor lungs that are currently utilized for transplantation and since May 2019 for donor lungs currently unutilized for transplantation. We also have commercialized the OCS Lung and OCS Heart outside of the United States. We submitted a premarket approval application to the FDA in December 2018 for the use of the OCS Heart for donor hearts currently utilized and unutilized for transplantation based on the results of our OCS Heart EXPAND Trial and OCS Heart PROCEED II Trial. In addition, we completed enrollment of the 300 patient OCS Liver PROTECT trial in October 2019.

Corporate Information

Our predecessor TransMedics, Inc. was incorporated in Delaware in August 1998. We were incorporated in Massachusetts in October 2018. On May 6, 2019, immediately prior to the closing of our initial public offering, we completed a corporate reorganization whereby TransMedics, Inc., the direct parent of TransMedics Group, Inc. prior to the corporate reorganization, became a direct, wholly-owned subsidiary of TransMedics Group pursuant to the merger of TMDX, Inc., a direct, wholly-owned subsidiary of TransMedics Group prior to the corporate reorganization, with and into TransMedics, with TransMedics as the surviving corporation.

Our principal executive offices are located at 200 Minuteman Road, Andover, MA 01810, and our telephone number is (978) 552-0900. Our website address is www.transmedics.com. Information contained on, or that can be accessed through, our website is not part of this prospectus.

RISK FACTORS

Investing in our securities involves significant risks. Please see the risk factors under “Item 1A. Risk Factors” in our most recent Annual Report on Form 10-K, as amended and revised or supplemented by any subsequent Quarterly Reports on Form 10-Q, each of which is on file with the SEC and incorporated by reference in this prospectus. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus and any prospectus supplement. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations. If negative events occur, our business, financial condition, results of operations, or prospects could suffer. In that event, the market price of our securities could decline, and you may lose all or part of your investment.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains “forward-looking statements” that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” “should,” “could,” “target,” “predict,” “seek” and similar expressions are intended to identify forward-looking statements. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those referenced in the section of any accompanying prospectus supplement entitled “Risk Factors” and the risk factors and cautionary statements described in other documents that we file from time to time with the SEC, specifically under “Item 1A. Risk Factors” and elsewhere in our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K, which could cause actual results to differ materially. Moreover, we operate in a very competitive and rapidly changing environment and new risks emerge from time to time. It is not possible for our management 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 from those contained in or implied by any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

Some of the key factors that could cause actual results to differ include:

- that we continue to incur losses;
- our need to raise additional funding;
- our existing and any future indebtedness, including our ability to comply with affirmative and negative covenants under our credit agreement to which we will remain subject to until maturity, and our ability to obtain additional financing on favorable terms or at all;
- the fluctuation of our financial results from quarter to quarter;
- our ability to use net operating losses and research and development credit carryforwards;
- our dependence on the success of the OCS;
- the rate and degree of market acceptance of the OCS;
- our ability to educate patients, surgeons, transplant centers and private payors of benefits offered by the OCS;
- the impact of the outbreak of the novel strain of coronavirus and associated containment and remediation efforts;
- our ability to improve the OCS platform;
- our dependence on a limited number of customers for a significant portion of our net revenue;
- the timing of and our ability to obtain and maintain regulatory approvals or clearances for our OCS products;
- our ability to adequately respond to FDA follow-up inquiries in a timely manner;
- the performance of our third-party suppliers and manufacturers;
- the timing or results of clinical trials for the OCS;
- our manufacturing, sales, marketing and clinical support capabilities and strategy;
- attacks against our information technology infrastructure;
- the economic, political and other risks associated with our foreign operations;

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- our ability to attract and retain key personnel;
- our ability to protect, defend, maintain and enforce our intellectual property rights relating to the OCS and avoid allegations that our products infringe, misappropriate or otherwise violate the intellectual property rights of third parties;
- our ability to obtain and maintain regulatory approvals or clearance for our OCS products;
- the pricing of the OCS, as well as the reimbursement coverage for the OCS in the United States and internationally;
- regulatory developments in the United States, European Union and other jurisdictions;
- the extent and success of competing products that are or may become available;
- the impact of any product recalls or improper use of our products; and
- our use of proceeds from our initial public offering; and
- our estimates regarding revenues, expenses and needs for additional financing.

The forward-looking statements included in this prospectus are made only as of the date of this prospectus. You should not rely upon forward-looking statements as predictions of future events. 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. 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 reflect interim developments.

USE OF PROCEEDS

Except as otherwise provided in a prospectus supplement in connection with an offering of securities pursuant to this prospectus, we currently intend to use the net proceeds from the sale of any securities offered by us under this prospectus primarily for general corporate purposes. General corporate purposes may include, without limitation, working capital, paydown of debt, acquisitions and other business purposes. We may temporarily invest the net proceeds we receive in saving, certificate of deposit and money market accounts as well as short-term and intermediate investment-grade interest-bearing securities and obligations, such as money market funds, commercial paper and obligations of the United States government and its agencies.

We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will have broad discretion in the application of the net proceeds we may receive, and investors will be relying on the judgment of our management regarding the application of our net proceeds. Additional information on the use of net proceeds we receive from the sale of securities covered by this prospectus may be set forth in the prospectus supplement relating to the specific offering.

GENERAL DESCRIPTION OF SECURITIES

We may offer under this prospectus:

- common stock;
- preferred stock;
- subscription rights;
- warrants to acquire common stock or preferred stock; or
- any combination of the foregoing, either individually or as units consisting of two or more securities.

The following description of the terms of these securities sets forth some of the general terms and provisions of securities that may be offered. The particular terms of securities offered by any prospectus supplement and the extent, if any, to which the general terms set forth below do not apply to those securities, will be described in the related prospectus supplement. In addition, if we offer securities as units, the terms of the units will be described in the applicable prospectus supplement. If the information contained in the prospectus supplement differs from the following description, you should rely on the information in the prospectus supplement.

Whenever references are made in this prospectus to information that will be included in a prospectus supplement, to the extent permitted by applicable law, rules or regulations, we may instead include such information or add, update or change the information contained in this prospectus by means of a post-effective amendment to the registration statement of which this prospectus is a part, through filings we make with the SEC that are incorporated by reference in this prospectus or by any other method as may be permitted under applicable law, rules or regulations.

DESCRIPTION OF CAPITAL STOCK

General Matters

Our amended and restated articles of organization, or Articles of Organization, currently authorizes us to issue up to 150,000,000 shares of common stock, no par value per share, and 25,000,000 shares of preferred stock, no par value per share. As of April 30, 2020, we had approximately 21,361,513 shares of common stock and no shares of preferred stock outstanding.

The discussion set forth below describes the most important terms of our capital stock, Articles of Organization and amended and restated bylaws, or Bylaws. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description you should refer to our Articles of Organization and Bylaws, copies of which are on file with the SEC as exhibits to previous SEC filings. Please refer to “Where You Can Find More Information” below for directions on obtaining these documents.

Common Stock

Dividend Rights. Subject to preferences that may apply to shares of preferred stock outstanding at the time, holders of outstanding shares of common stock are entitled to receive dividends out of assets legally available at the times and in the amounts as our board of directors may from time to time determine.

Voting Rights. Holders of common stock are entitled to one vote for each share of common stock held on all matters submitted to a vote of shareholders, unless otherwise provided by our Articles of Organization. An election of directors by our shareholders is determined by a majority of the votes cast by the shareholders entitled to vote in the election. Other matters shall be decided by an affirmative vote of our shareholders having a majority in voting power of the votes cast by the shareholders present or represented and voting on such matter, except as otherwise disclosed below.

No Preemptive Rights. Our common stock is not entitled to preemptive or other similar subscription rights to purchase any of our securities.

Conversion or Redemption Rights. Our common stock is neither convertible nor redeemable.

Liquidation Rights. Upon our voluntary or involuntary liquidation, dissolution or winding up, the holders of our common stock will be entitled to receive pro rata our net assets which are legally available for distribution, after payment of all debts and other liabilities and subject to the preferential rights of any holders of preferred stock then outstanding.

Nasdaq Listing. Our common stock is listed on The Nasdaq Global Market under the symbol “TMDX.”

Transfer Agent and Registrar. The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC, N.A.

Preferred Stock

Our board of directors may, without further action by our shareholders, from time to time, direct the issuance of shares of preferred stock in one or more series and may, at the time of issuance, determine the designations, powers, preferences, privileges, and relative participating, optional or special rights as well as the qualifications, limitations or restrictions thereof, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights of our common stock. Satisfaction of any dividend preferences of outstanding shares of preferred stock would reduce the amount of funds available for the payment of dividends on shares of our common stock. Holders of shares of preferred stock may be

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entitled to receive a preference payment in the event of our liquidation before any payment is made to the holders of shares of our common stock. Under certain circumstances, the issuance of shares of preferred stock may render more difficult or tend to discourage a merger, tender offer or proxy contest, the assumption of control by a holder of a large block of our securities or the removal of incumbent management. Upon the affirmative vote of a majority of the total number of directors then in office, our board of directors, without shareholder approval, may issue shares of preferred stock with voting and conversion rights, which could adversely affect the holders of shares of our common stock and the market value of our common stock.

If we offer a specific class or series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate establishing the terms of the preferred stock with the SEC. To the extent appropriate, this description will include:

- the title and stated value;
- the number of shares offered, the liquidation preference per share and the purchase price;
- the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption, if applicable;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated) and conversion period;
- voting rights, if any, of the preferred stock;
- a discussion of any material U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of the Company; and
- any material limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the Company.

The preferred stock offered by this prospectus when issued, will not have, or be subject to, any preemptive or similar rights.

Registration Rights

Pursuant to an amended and restated investor rights agreement, dated as of May 6, 2019, or Investor Rights Agreement, certain of our shareholders have the right to demand that we file a registration statement or request that their shares be included in a registration statement that we file otherwise. We refer to the shares held by holders having rights under this agreement as registrable securities. As of May 6, 2020, holders of 4,819,425 shares of registrable securities have registration rights under the Investor Rights Agreement.

Demand Registration Rights. Pursuant to the Investor Rights Agreement, until the fifth anniversary of the consummation of our initial public offering, the holders of at least 50% of the registrable securities then outstanding can demand that we file up to two registration statements on Form S-1 registering their registrable securities, if the aggregate anticipated offering price is at least \$5.0 million. Under specified circumstances, we

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also have the right to defer filing of a requested registration statement for a period of not more than 90 days, which right may not be exercised more than once during any 12-month period. These registration rights are subject to additional conditions and limitations, including the right of the underwriters to limit the number of shares included in any such registration under certain circumstances.

Form S-3 Registration Rights. Pursuant to the Investor Rights Agreement, the holders of at least 30% of the registrable securities then outstanding have the right to demand that we file additional registration statements, including a shelf registration statement, for such holders on Form S-3, if the aggregate anticipated offering price is at least \$1.0 million. These holders can demand up to two such registrations in any 12-month period.

Piggyback Registration Rights. Pursuant to the Investor Rights Agreement, if we propose to file a registration statement under the Securities Act (other than with respect to a registration statement on Form S-8 or Form S-4, or their successors, or any other form for a similar limited purpose, or any registration statement covering only securities proposed to be issued in exchange for securities or assets of another corporation), the holders of all registrable securities are entitled to receive notice of the registration and to include their registrable securities in such registration. The underwriters of any underwritten offering will have the right to limit the number of the number of registrable securities that may be included in the registration statement.

Expenses of Registration. We are required to pay all expenses relating to any demand, Form S-3 or piggyback registration, other than the underwriting discount, subject to certain limited exceptions. We will not pay for any expenses of any demand registration if the request is subsequently withdrawn by the holders of a majority of the shares requested to be included in such a registration statement, subject to limited exceptions.

Anti-takeover Effects of Our Articles of Organization and Bylaws

Our Articles of Organization and Bylaws contain certain provisions that are intended to enhance the likelihood of continuity and stability in the composition of our board of directors but which may have the effect of delaying, deferring or preventing a future takeover or change in control of us unless such takeover or change in control is approved by our board of directors.

These provisions include:

Action By Written Consent; Special Meetings of Shareholders. Our Bylaws provide that shareholder action can be taken only at an annual or special meeting of shareholders or by the unanimous written consent of all shareholders entitled to vote on the matter in lieu of such a meeting. Our Articles of Organization and Bylaws also provide that, except as otherwise required by law, special meetings of the shareholders can only be called pursuant to a resolution adopted by a majority of our board of directors or holders of at least 25% of all the votes entitled to be cast on any issue to be considered at the proposed special meeting. Except as described above, shareholders are not permitted to call a special meeting or to require our board of directors to call a special meeting.

Advance Notice Procedures. Our Bylaws establish an advance notice procedure for shareholder proposals to be brought before an annual meeting of our shareholders, including proposed nominations of persons for election to the board of directors. Shareholders at an annual meeting are only be able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a shareholder who was a shareholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has given timely written notice, in proper form, of the shareholder's intention to bring that business before the meeting. Although the Bylaws do not give our board of directors the power to approve or disapprove shareholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting, the Bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of us.

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Number of Directors and Filling Vacancies. Our Articles of Organization provide that the number of directors is established by the board of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office. The ability of our board of directors to increase the number of directors and fill any vacancies may make it more difficult for our shareholders to change the composition of our board of directors.

Authorized But Unissued Shares. Our authorized but unissued shares of common stock and preferred stock are available for future issuance without shareholder approval. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of a majority of our common stock by means of a proxy contest, tender offer, merger or otherwise.

Exclusive Forum. Our Articles of Organization require, to the fullest extent permitted by law, that any action under Massachusetts statutory or common law brought derivatively in the name of TransMedics Group, Inc., against directors, officers and employees for breach of a fiduciary duty and other similar actions may be brought only in the Business Litigation Session of the Superior Court of Suffolk County, Massachusetts (or, if and only if the Business Litigation Session of the Superior Court of Suffolk County, Massachusetts lacks jurisdiction, another state or federal court located within the Commonwealth of Massachusetts). Although we believe this provision benefits us by providing increased consistency in the application of Massachusetts law in the types of lawsuits to which it applies, the provision may have the effect of discouraging lawsuits against our directors and officers. In addition, our Articles of Organization provide that any person or entity purchasing or otherwise acquiring any interest in shares of our common stock is deemed to have notice of and consented to the foregoing provisions. This provision does not apply to actions arising under the Securities Exchange Act of 1934, as amended, or Exchange Act, or the Securities Act.

Anti-Takeover Provisions under Massachusetts Law

Provisions Regarding Business Combinations

We are subject to the provisions of Chapter 110F of the Massachusetts Business Corporation Act, or MBCA. In general, Chapter 110F prohibits a publicly held Massachusetts corporation from engaging in a “business combination” with an “interested stockholder” for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes, among other things, a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns, or did own within three years prior to the determination of interested stockholder status, five percent or more of the corporation’s voting stock.

Under Chapter 110F, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions: before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder; upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 90% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or at or after the time the stockholder became interested, the business combination was approved by our board of directors of the corporation and authorized at an annual or special meeting of the shareholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

A Massachusetts corporation may “opt out” of these provisions with an express provision in its original articles of organization or an express provision in its articles of organization or bylaws resulting from a shareholders’

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amendment approved by at least a majority of the outstanding voting shares. We have not opted out of these provisions. As a result, mergers or other takeover or change in control attempts of us may be discouraged or prevented.

Provisions Regarding a Classified Board of Directors

Section 8.06(b) of the MBCA provides that, unless a company opts out of such provision, the terms of directors of a public Massachusetts company shall be staggered by dividing the directors into three groups, as nearly equal in number as possible, with only one group of directors being elected each year. Our board of directors has opted out of this default requirement for a classified board of directors, and all of our directors serve for one-year terms and are elected annually.

However, pursuant to Section 8.06(c)(2) of the MBCA, our board of directors may unilaterally opt back into default requirements under Section 8.06(b) of the MBCA and become a classified board of directors without the approval of our shareholders. Sections 8.06(d) and (e) of the MBCA provide that when a board of directors is so classified, (i) shareholders may remove directors only for cause, (ii) the number of directors shall be fixed only by the vote of the board of directors, (iii) vacancies and newly created directorships shall be filled solely by the affirmative vote of a majority of the remaining directors, and (iv) a decrease in the number of directors will not shorten the term of any incumbent director. If our board of directors opts into this classified structure in the future, these provisions are likely to increase the time required for shareholders to change the composition of our board of directors. For example, at least two annual meetings would generally be necessary for shareholders to effect a change in a majority of the members of our board of directors. As a result, the ability of our board of directors to adopt a classified structure in the future without the approval of our shareholders could have the effect of discouraging a potential acquirer from making a tender offer for a majority of the outstanding voting interest of our capital stock or otherwise attempting to obtain control of the Company.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase shares of our common stock and/or preferred stock in one or more series together with other securities or separately, as described in each applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the applicable warrant agreements and the applicable prospectus supplement for the warrants.

To the extent appropriate, the applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

- the specific designation and aggregate number of, and the price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the designation, amount and terms of the securities purchasable upon exercise of the warrants;
- if applicable, the exercise price for shares of our common stock and the number of shares of common stock to be received upon exercise of the warrants;
- if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise, and a description of that class or series of our preferred stock;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if the warrants may not be continuously exercised throughout that period, the specific date or dates on which the warrants may be exercised;
- whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- if applicable, the date from and after which the warrants and the common stock and/or the preferred stock will be separately transferable;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of the warrants, if any;
- any redemption or call provisions;
- whether the warrants are to be sold separately or with other securities as parts of units; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

DESCRIPTION OF SUBSCRIPTION RIGHTS

We may issue subscription rights to purchase common stock, preferred stock, warrants or units or any combination thereof. These subscription rights may be issued independently or together with any other security offered by us and may or may not be transferable by the securityholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more purchasers, including underwriters, pursuant to which such purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

To the extent appropriate, the applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the subscription rights to purchase shares of our securities offered thereby:

- the date of determining the securityholders entitled to the subscription rights distribution;
- the price, if any, for the subscription rights;
- the exercise price payable for common stock, preferred stock or other securities upon the exercise of the subscription rights;
- the number of subscription rights issued to each securityholder;
- the amount of common stock, preferred stock or other securities that may be purchased per each subscription right;
- any provisions for adjustment of the amount of securities receivable upon exercise of the subscription rights or of the exercise price of the subscription rights;
- the extent to which the subscription rights are transferable;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities;
- the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of subscription rights;
- any applicable federal income tax considerations; and
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the transferability, exchange and exercise of the subscription rights.

DESCRIPTION OF UNITS

The following is a general description of the terms of the units we may offer from time to time. Particular terms of the units will be described in the applicable unit agreements and the applicable prospectus supplement for the units. We urge you to read the applicable prospectus supplement related to the units that we may sell under this prospectus, as well as the complete unit agreements that will contain the terms of any 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 issue units directly or under a unit agreement to be entered into between us and a unit agent. We will name any unit agent in the applicable prospectus supplement. Any unit agent will act solely as our agent in connection with the units of a particular series and will not assume any obligation or relationship of agency or trust for or with any holders or beneficial owners of units.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time, or at any time before a specified date. We may issue units in such amounts and in such numerous distinct series as we determine.

To the extent appropriate, the applicable prospectus supplement will contain, where applicable, the following terms and other information relating to the units:

- 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.

PLAN OF DISTRIBUTION

We are registering securities, with an aggregate offering price not to exceed \$200,000,000, to be sold by us under a “shelf” registration process.

If we offer any securities under this prospectus, we will amend or supplement this prospectus by means of an accompanying prospectus supplement setting forth the specific terms and conditions and other information about that offering as is required or necessary.

We may sell the securities in any of the following ways (or in any combination) from time to time:

- to or through underwriters, brokers or dealers;
- directly to one or more purchasers;
- through agents;
- “at-the-market” to or through market makers or into an existing market for the securities;
- as part of a collaboration with a third party;
- as part of an acquisition or merger with a third party;
- in privately negotiated transactions; or
- any other method permitted pursuant to applicable law and described in an applicable prospectus supplement.

The prospectus supplement will set forth the terms of the offering of such securities, including:

- the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them;
- the terms of the securities being offered;
- any option under which underwriters may purchase additional securities from us; and
- the public offering price of the securities and the proceeds to us and any discounts, commissions or concessions allowed or reallocated or paid to dealers.

We may effect the distribution of the securities from time to time in one or more transactions either:

- at a fixed price or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices relating to the prevailing market prices; or
- at negotiated prices.

Offers to purchase securities may be solicited directly by us and the sale thereof may be made by us directly to institutional investors or others. In such a case, no underwriters or agents would be involved. We may use electronic media, including the Internet, to sell offered securities directly.

If underwriters are used in the sale of any securities, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. Generally, the underwriters’ obligations to purchase the securities will be subject to certain conditions precedent. Depending on the type of offering, the underwriters may be obligated to purchase all of the securities if they purchase any of the securities (other than any securities purchased upon exercise of any over-allotment option).

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We may offer the securities covered by this prospectus into an existing trading market on the terms described in the prospectus supplement relating thereto. Underwriters, dealers and agents who participate in any at-the-market offerings will be described in the prospectus supplement relating thereto. To the extent that we make sales through one or more underwriters or agents in at-the-market offerings, we will do so pursuant to the terms of a sales agency financing agreement or other at-the-market offering arrangement between us and the underwriters or agents. If we engage in at-the-market sales pursuant to any such agreement, we will issue and sell our securities through one or more underwriters or agents, which may act on an agency basis or on a principal basis. During the term of any such agreement, we may sell our securities on a daily basis in exchange transactions or otherwise as we agree with the underwriters or agents. The agreement will provide that any common stock sold will be sold at prices related to the then-prevailing market prices for our securities. Therefore, exact figures regarding proceeds that will be raised or commissions to be paid cannot be determined at this time. Pursuant to the terms of the agreement, we also may agree to sell, and the relevant underwriters or agents may agree to solicit offers to purchase, blocks of our securities. The terms of each such agreement will be set forth in more detail in the applicable prospectus supplement.

We may sell the securities through agents from time to time. The prospectus supplement will name any agent involved in the offer or sale of the securities and any commissions paid to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment.

If we utilize a dealer in the sale of the securities in respect of which this prospectus is delivered, we may sell those securities to the dealer, as principal. The dealer may then resell those securities to the public at varying prices to be determined by the dealer at the time of resale.

In effecting sales, broker-dealers or agents engaged by us may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts, or concessions from us in amounts to be negotiated immediately prior to the sale.

Any underwriter, broker-dealer, or agent that participates in the distribution of the securities may be deemed to be an “underwriter” as defined in the Securities Act. Any commissions paid or any discounts or concessions allowed to any such persons, and any profits they receive on resale of the securities, may be deemed to be underwriting discounts and commissions under the Securities Act. We will identify any underwriters or agents and describe their compensation in a prospectus supplement. Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement.

Underwriters or agents may purchase and sell the securities in the open market. These transactions may include over-allotment, stabilizing transactions, syndicate covering transactions and penalty bids. Over-allotment involves sales in excess of the offering size, which creates a short position. Stabilizing transactions consist of bids or purchases for the purpose of preventing or retarding a decline in the market price of the securities and are permitted so long as the stabilizing bids do not exceed a specified maximum. Syndicate covering transactions involve the placing of any bid on behalf of the underwriting syndicate or the effecting of any purchase to reduce a short position created in connection with the offering. The underwriters or agents also may impose a penalty bid, which permits them to reclaim selling concessions allowed to syndicate members or certain dealers if they repurchase the securities in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the securities, which may be higher than the price that might otherwise prevail in the open market. These activities, if begun, may be discontinued at any time. These transactions may be effected on any exchange on which the securities are traded, in the over-the-counter market or otherwise.

Our common stock is listed on the Nasdaq Global Market under the symbol “TMDX.”

Agents, broker-dealers and underwriters may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the agents or underwriters may be required to make in respect thereof.

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Agents, broker-dealers and underwriters or their affiliates may be customers of, engage in transactions with, or perform services for, us in the ordinary course of business. We may also use underwriters or other third parties with whom we have a material relationship. We will describe the nature of any such relationship in the applicable prospectus supplement.

We are subject to the applicable provisions of the Exchange Act and the rules and regulations under the Exchange Act, including Regulation M, which may limit the timing of purchases and sales of any of the securities offered in this prospectus by any other person. The anti-manipulation rules under the Exchange Act may apply to sales of securities in the market and to the actions of the Company.

In order to comply with the securities laws of certain states, if applicable, the securities must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

To the extent required, this prospectus may be amended and/or supplemented from time to time to describe a specific plan of distribution. Instead of selling securities under this prospectus, we may sell the securities offered, including shares of common stock in compliance with the provisions of Rule 144 or Rule 144A under the Securities Act, if available, or pursuant to other available exemptions from the registration requirements of the Securities Act.

WHERE YOU CAN FIND MORE INFORMATION

We are currently subject to the information requirements of the Exchange Act and in accordance therewith file periodic reports, proxy statements and other information with the Securities and Exchange Commission. Our SEC filings will also be available to you on the SEC's website at <http://www.sec.gov>.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" certain information into this prospectus, which means that we can disclose important information about us by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede information in this prospectus. We incorporate by reference into this prospectus the documents listed below and any future filings, including all filings made after the date of the filing of the registration statement of which this prospectus is part and prior to the effectiveness of such registration statement, made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except for information "furnished" under Items 2.02, 7.01 or 9.01 on Form 8-K or other information "furnished" to the SEC which is not deemed filed and not incorporated in this prospectus, in each case, until the offering described under the registration statement is terminated or completed:

- our Annual Report on [Form 10-K](#) for the fiscal year ended December 28, 2019, as filed with the SEC on March 17, 2020;
- our Quarterly Report on [Form 10-Q](#) for the fiscal quarter ended March 31, 2020, as filed with the SEC on May 6, 2020;
- our Current Reports on Form 8-K filed with the SEC on [January 15, 2020](#), [February 28, 2020](#), [April 13, 2020 \(only with respect to Item 5.02 and Exhibit 10.1\)](#), [April 24, 2020](#) and [April 28, 2020](#);
- portions of the [Definitive Proxy Statement](#) on Schedule 14A, filed with the SEC on April 14, 2020 that are incorporated by reference into Part III of our Annual Report on [Form 10-K](#) for the year ended December 31, 2019, filed with the SEC on March 17, 2020; and
- the description of capital stock contained in the Registration Statement on [Form 8-A](#), as filed with the SEC on May 1, 2019, as supplemented by the "Description of Capital Stock" found on page 10 of this prospectus, and including any amendments or reports filed for the purpose of updating such description.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus or the prospectus supplement will be deemed modified, superseded or replaced for purposes of this prospectus and the prospectus supplement to the extent that a statement contained in this prospectus or the prospectus supplement modifies, supersedes or replaces such statement.

Upon request, either orally or in writing, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus and the prospectus supplement is delivered, a copy of the documents incorporated by reference into this prospectus and the prospectus supplement but not delivered with the prospectus. You may request a copy of these filings and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost, by writing to us at the following address: TransMedics Group, Inc., 200 Minuteman Road, Andover, Massachusetts 01810, Attention: Corporate Secretary, or via telephone at (978) 552-0900.

Copies of these filings are also available, without charge, on the SEC's website at www.sec.gov and on our website at <http://investors.transmedics.com> as soon as reasonably practicable after they are filed electronically with the SEC. The information contained on our website is not part of this prospectus.

LEGAL MATTERS

Unless the applicable prospectus supplement indicates otherwise, the validity of any securities offered from time to time by this prospectus and any related prospectus supplement will be passed upon for us by Ropes & Gray LLP, Boston, Massachusetts.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 28, 2019 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

TransMedics Group, Inc.



PROSPECTUS

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the issuance and distribution of the offered securities, other than underwriting discounts and commissions.

Securities and Exchange Commission Registration Fee	\$ 25,960
Printing and engraving expenses	(1)
Legal fees and expenses	(1)
Accounting fees and expenses	(1)
Transfer Agent and Registrar fees	(1)
Miscellaneous	(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 2.02 of the MBCA, under which the registrant is governed, provides that the articles of organization of a corporation may contain a provision eliminating or limiting the personal liability of a director to the corporation for monetary damages for breach of a fiduciary duty as a director notwithstanding any provision of law imposing such liability; provided, however, that such provision shall not eliminate or limit the liability of a director (1) for any breach of the director's duty of loyalty to the corporation or its shareholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) for improper distributions under Sections 6.40 of the MBCA or (4) for any transaction from which the director derived an improper personal benefit. Article VI.C of the registrant's restated articles of organization provides that a director shall not be liable to the registrant or its shareholders for damages for any breach of fiduciary duty, except to the extent that the elimination or limitations of liability is not permitted under law.

Section 8.51 of the MBCA provides that a corporation may indemnify a director who is a party to a proceeding because he or she is a director against liability incurred in the proceeding if he or she conducted himself or herself in good faith and he or she reasonably believed that his or her conduct was in the best interests of the corporation or that his or her conduct was at least not opposed to the best interests of the corporation, and, in the case of any criminal proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Section 8.52 of the MBCA requires corporations to indemnify any director who was wholly successful in the defense of any proceeding to which he or she was a party because he or she was a director of the corporation against reasonable expenses incurred by him or her in connection with the proceeding.

Section 8.53 of the MBCA provides that, before the final disposition of a proceeding, a corporation may advance funds to pay for or reimburse the reasonable expenses incurred by a director who is party to such proceeding because he or she is a director if he or she delivers to the corporation (a) a written affirmation of his or her good faith belief that he or she has met the relevant standard of good faith described in Section 8.51 of the MBCA or that the proceeding involves conduct for which liability has been eliminated pursuant to Section 2.02 of the MBCA and (b) a written undertaking with an unlimited general obligation of the director to repay any funds advanced if he or she is not entitled to mandatory indemnification under Section 8.52 and it is ultimately determined, under Section 8.54 or Section 8.55 that he or she does not meet the relevant standard of conduct described in Section 8.51.

Section 8.56 of the MBCA provides that a corporation may indemnify and advance expenses to an officer of the corporation who is a party to a proceeding because he or she is an officer of the corporation to the same extent as

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a director, and, if he or she is an officer but not a director, to such further extent as may be provided by the articles of organization, the bylaws, a resolution of the board of directors or contract, except for liability arising out of acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law. Section 8.56 also provides that an officer of the corporation who is not a director is entitled to mandatory indemnification under Section 8.52, and that the officer may apply to a court for indemnification or an advance for expenses, in each case to the same extent to which a director may be entitled to indemnification or advance under those provisions.

Article VI of our amended and restated bylaws provide that we will indemnify, and advance funds to and reimburse expenses of, our directors and its officers that have been appointed by the board of directors to the fullest extent permitted by law, and may indemnify, and advance funds to and reimburse expenses of, such other officers and employees as determined by the board of directors, in each case including those circumstances in which indemnification would otherwise be discretionary. We have entered into indemnification agreements with our directors and officers. These agreements provide broader indemnity rights than those provided under the MBCA and our Articles of Organization. The indemnification agreements are not intended to deny or otherwise limit third-party or derivative suits against us or our directors or officers, but to the extent a director or officer were entitled to indemnity or contribution under the indemnification agreement, the financial burden of a third-party suit would be borne by us, and we would not benefit from derivative recoveries against the director or officer. Such recoveries would accrue to our benefit but would be offset by our obligations to the director or officer under the indemnification agreement.

Section 8.57 of the MBCA also contains provisions authorizing a corporation to obtain insurance on behalf of any director or officer of the corporation against liabilities asserted against or incurred by him or her in that capacity or arising from his or her status as an officer or officer, whether or not the corporation would have the power to indemnify against such liabilities. We maintain directors' and officers' liability insurance for the benefit of our directors and officers.

Item 16. Exhibits.

The following is a list of exhibits filed as part of this registration statement.

<u>Exhibit Number</u>	<u>Exhibit</u>
1.1	Form of Underwriting Agreement*
3.1	Amended and Restated Articles of Organization of TransMedics Group, Inc., dated November 26, 2018 (incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K (File No. 001-38891) as filed with the SEC on March 17, 2020).
3.2	Amended and Restated Bylaws of TransMedics Group, Inc. (incorporated by reference to Exhibit 3.4 to the Company's Form S-1 (File No. 333-230736) as filed with the SEC on April 22, 2019).
4.1	Form of Common Stock Warrant Agreement and Warrant Certificate*
4.2	Form of Preferred Stock Warrant Agreement and Warrant Certificate*
5.1	Opinion of Ropes & Gray LLP (filed herewith)
23.1	Consent of PricewaterhouseCoopers LLP (filed herewith)
23.2	Consent of Ropes & Gray LLP (included in Exhibit 5.1) (filed herewith)
24.1	Power of attorney (included on the signature page)

* To be filed if necessary, subsequent to the effectiveness of this registration statement by an amendment to this registration statement or incorporated by reference pursuant to a Current Report on Form 8-K in connection with the offering of securities.

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 the undertakings set forth in paragraphs (a)(1)(i), (a)(1)(ii) and (a)(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 a 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) If the registrant is relying on Rule 430B:

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

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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; or

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

(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 shall be deemed to be 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) 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 Act 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

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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 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, TransMedics Group, Inc. 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.

TRANSMEDICS GROUP, INC.

By: /s/ WALEED H. HASSANEIN, M.D.

Waleed H. Hassanein, M.D.
President and Chief Executive Officer (Principal Executive Officer)

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Waleed H. Hassanein, M.D. and Stephen Gordon, and each of them, either of whom may act without the joinder of the other, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her 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 including any registration statement relating to an offering covered by this registration statement and filed pursuant to Rule 462(b) of the rules promulgated under the Securities Act of 1933, 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 or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or either of them, or their or his or her substitute or substitutes, 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 below by the following persons in the capacities and on the dates indicated.

Dated: May 6, 2020

SIGNATURES	TITLE	DATE
<u>/s/ WALEED H. HASSANEIN, M.D.</u> Waleed H. Hassanein, M.D.	President, Chief Executive Officer, and Director (Principal Executive Officer)	May 6, 2020
<u>/s/ STEPHEN GORDON</u> Stephen Gordon	Chief Financial Officer, Treasurer, and Secretary (Principal Financial Officer and Accounting Officer)	May 6, 2020
<u>/s/ JAMES R. TOBIN</u> James R. Tobin	Chairman of the Board of Directors	May 6, 2020
<u>/s/ EDWARD M. BASILE</u> Edward M. Basile	Director	May 6, 2020
<u>/s/ THOMAS J. GUNDERSON</u> Thomas J. Gunderson	Director	May 6, 2020

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SIGNATURES	TITLE	DATE
<hr/> <i>/s/ EDWIN M. KANIA, JR.</i> Edwin M. Kania, Jr.	Director	May 6, 2020
<hr/> <i>/s/ DAVID WEILL, M.D.</i> David Weill, M.D.	Director	May 6, 2020

May 6, 2020

TransMedics Group, Inc.
200 Minuteman Road, Suite 302
Andover, MA 01810

Re: Registration of Securities by TransMedics Group, Inc.

Ladies and Gentlemen:

We have acted as counsel to TransMedics Group, Inc., a Massachusetts corporation (the "Company"), in connection with the registration statement on Form S-3 (the "Registration Statement") filed on or about the date hereof by the Company with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration under the Securities Act, and the proposed issuance and sale from time to time pursuant to Rule 415 under the Securities Act, of up to \$200,000,000 of the following securities:

- (i) shares of the common stock of the Company, no par value per share ("Common Stock");
- (ii) shares of preferred stock of the Company, no par value per share ("Preferred Stock");
- (iii) subscription rights to purchase the Common Stock, Preferred Stock, Warrants (defined herein) or Units (defined herein) or any combination thereof (the "Subscription Rights");
- (iv) warrants representing the right to acquire, upon exercise, a number of shares of Common Stock or Preferred Stock ("Warrants"); and
- (v) units of the Company consisting of two or more of any combination of Common Stock, Preferred Stock, Subscription Rights or Warrants (the "Units").

The Common Stock, the Preferred Stock, the Subscription Rights, the Warrants and the Units are referred to herein collectively as the "Securities."

In connection with this opinion letter, we have examined such certificates, documents and records and have made such investigation of fact and such examination of law as we have deemed appropriate in order to enable us to render the opinions set forth herein. In conducting such investigation, we have relied, without independent verification, upon certificates of officers of the Company, public officials and other appropriate persons.

The opinions expressed below are limited to the Massachusetts Business Corporation Act (the “MBCA”).

Based upon and subject to the foregoing and the assumptions, qualifications and limitations set forth below, we are of the opinion that:

1. When (i) the issuance and sale of any shares of Common Stock have been duly authorized by all necessary corporate action of the Company and (ii) such shares have been issued and delivered against payment of the purchase price therefor (in an amount in excess of the par value thereof) in accordance with the applicable purchase, underwriting or other agreement, and as contemplated by the Registration Statement, such shares of Common Stock will be validly issued, fully paid and nonassessable. The Common Stock covered in the opinion in this paragraph includes any shares of Common Stock that may be issued upon exercise, conversion or exchange pursuant to the terms of any other Securities.

2. When (i) the terms of any Preferred Stock of a particular series and their issuance and sale have been duly authorized by all necessary corporate action of the Company, (ii) a certificate of amendment to the Company’s articles of organization with respect to such series of Preferred Stock has been duly adopted by the Company and filed with the Secretary of the Commonwealth of Massachusetts in accordance with the MBCA and (iii) such shares of Preferred Stock have been issued and delivered against payment of the purchase price therefor (in an amount in excess of the par value thereof) in accordance with the applicable purchase, underwriting or other agreement, and as contemplated by the Registration Statement, such shares of Preferred Stock will be validly issued, fully paid and nonassessable. The Preferred Stock covered in the opinion in this paragraph includes any shares of Preferred Stock that may be issued upon exercise, conversion or exchange pursuant to the terms of any other Securities.

3. When (i) the terms of any Subscription Rights and their issuance and sale have been duly authorized by all necessary corporate action of the Company and (ii) such Subscription Rights have been duly issued and delivered in accordance with the applicable rights agreement and against payment of the purchase price therefor in accordance with the applicable purchase, underwriting or other agreement, and as contemplated by the Registration Statement, such Subscription Rights will constitute valid and binding obligations of the Company enforceable against the Company in accordance with their terms.

4. When (i) the terms of any Warrants and their issuance and sale have been duly authorized by all necessary corporate action of the Company and (ii) such Warrants have been duly executed, countersigned and delivered in accordance with the applicable warrant agreement and against payment of the purchase price therefor in accordance with the applicable purchase,

underwriting or other agreement, and as contemplated by the Registration Statement, such Warrants will constitute valid and binding obligations of the Company enforceable against the Company in accordance with their terms.

5. When (i) the terms of any Units (including the terms of the component Securities) and their sale have been duly authorized by all necessary corporate action of the Company and (ii) any Unit agreements have been duly executed (if the Units are represented by a separate instrument) and delivered in accordance with the applicable purchase, underwriting or other agreement, and as contemplated by the Registration Statement, such Units will constitute valid and binding obligations of the Company enforceable against the Company in accordance with their respective terms.

In rendering the opinions set forth above, we have assumed that (i) the Registration Statement will have become effective under the Securities Act, a prospectus supplement will have been prepared and filed with the Commission describing the Securities offered thereby and such Securities will have been issued and sold in accordance with the terms of such prospectus supplement; (ii) a definitive purchase, underwriting or similar agreement and any applicable warrant agreement, pursuant to which such Securities may be issued, will have been duly authorized, executed and delivered by the Company and the other parties thereto, and the specific terms of such Securities will have been duly established in conformity with the applicable agreement and the articles of organization and bylaws of the Company (if applicable); (iii) at the time of the issuance of any Securities, the Company will be a validly existing corporation under the law of its jurisdiction of incorporation; (iv) the number of shares of Common Stock issued pursuant to the Registration Statement, together with the number of shares outstanding or reserved at the time of issuance, will not exceed the respective number of shares authorized by the Company's articles of organization in effect at the time of such issuance; (v) the number of shares of Preferred Stock issued pursuant to the Registration Statement, together with the number of shares outstanding or reserved at the time of issuance, will not exceed the respective number of shares authorized by the Company's articles of organization in effect at the time of such issuance; and (vi) all the foregoing actions to be taken by the Company will have been taken so as not to violate any applicable law and so as to comply with any requirement or restriction imposed by any court or governmental or regulatory body having jurisdiction over the Company or any of its property.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and to the use of our name therein and in the related prospectus under the caption "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Ropes & Gray LLP

Ropes & Gray LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of TransMedics Group, Inc. of our report dated March 17, 2020 relating to the financial statements, which appears in TransMedics Group, Inc.'s Annual Report on Form 10-K for the year ended December 28, 2019. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
May 6, 2020