

VERMILLION, INC.

Form S-3

October 24, 2017

As filed with the Securities and Exchange Commission on October 24, 2017

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Vermillion, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	33-0595156
(State or Other Jurisdiction	(I.R.S. Employer
of Incorporation or Organization)	Identification Number)

12117 Bee Caves Road, Building Three, Suite 100

Austin, Texas 78738

(512) 519-0400

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(Address, Including Zip Code, and Telephone Number,
Including Area Code, of Registrant's Principal Executive Offices)

Valerie Palmieri
President and Chief Executive Officer
12117 Bee Caves Road, Building Three, Suite 100
Austin, Texas 78738
(512) 519-0400
(Name, Address, Including Zip Code, and Telephone
Number, Including Area Code, of Agent for Service)

Copies to:

Beth E. Peev
Sidley Austin LLP
One South Dearborn Street
Chicago, IL 60603
(312) 853-7000

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

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.

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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.

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

Large accelerated filer Accelerated filer
 Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company
 Emerging growth company

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of	Proposed Maximum	Proposed Maximum		
Securities to be	Amount to be	Offering Price Per	Aggregate Offering	Amount of
Registered	Registered	Security	Price	Registration Fee
Common Stock, par value \$0.001 per share	(1)	(2)	-	-
Preferred Stock, par value \$0.001 per share	(1)	(2)	-	-
Debt Securities	(1)	(2)	-	-
Warrants (5)	(1)	(2)	-	-
Rights (6)	(1)	(2)	-	-
Units (7)	(1)	(2)	-	-
Total	-	-	\$50,000,000 (3)	\$6,225 (4)

(1)Not specified with respect to each class of securities to be registered pursuant to General Instruction II.D. of Form S-3 under the Securities Act of 1933, as amended (the “Securities Act”). This registration statement covers such

indeterminate number or amount of shares of common stock, preferred stock, debt securities, warrants, rights and units as may be issued by the registrant at indeterminate prices, but with an aggregate initial offering price not to exceed \$50,000,000. The securities registered hereunder are to be issued or sold from time to time and at prices to be determined. The securities registered hereunder also include securities that may be purchased by underwriters to cover over-allotments, if any. Pursuant to Rule 416 under the Securities Act, this registration statement also includes such additional number of securities in exercise, conversion or exchange of other securities or that may become issuable as a result of any stock splits, stock dividends or similar transactions relating to the securities issued hereunder.

(2)As permitted pursuant to Note 2 of Notes to the “Calculation of Registration Fee” Table of Form S-3, this information is omitted because the filing fee is calculated pursuant to Rule 457(o) under the Securities Act.

(3)Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(o) under the Securities Act.

(4)Calculated pursuant to Rule 457(o) under the Securities Act.

(5)Warrants will be exercisable for shares of common stock or shares of preferred stock registered hereby. Because the warrants will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.

(6)Rights will represent rights to purchase shares of common stock or shares of preferred stock registered hereby. Because the rights will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.

(7)Each unit will be issued under a unit agreement and will represent an interest in two or more securities registered hereby, which may or may not be separable.

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 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.

PROSPECTUS

\$50,000,000 Aggregate Offering Price of

Common Stock, Preferred Stock, Debt securities, Warrants, Rights and Units

Vermillion, Inc., a Delaware corporation (“Vermillion”), may offer and sell from time to time, in one or more offerings, common stock, preferred stock, debt securities, warrants, rights and units for an aggregate initial offering price up to \$50,000,000 in amounts, at prices and on terms that Vermillion will determine at the time of the offering.

This prospectus describes general terms that apply to these securities. When we decide to sell a particular class or series of these securities, we will provide specific terms of the securities, including the initial offering price and the aggregate amount of the offering, in one or more supplements 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 invest in our securities.

We may offer and sell these securities in the same offering or in separate offerings; to or through underwriters, dealers or agents; or directly to purchasers. The names of any underwriters, dealers or agents involved in the sale of our securities, their compensation and any over-allotment options held by them will be described in the applicable prospectus supplement. For a more complete description of the plan of distribution with respect to the securities covered by this prospectus, see the section entitled “Plan of Distribution” beginning on page 14 of this prospectus.

Our common stock is traded on The NASDAQ Stock Market under the symbol “VRML.” On October 23, 2017, the last reported sale price for our common stock on The NASDAQ Stock Market was \$1.42 per share. As of October 23, 2017, the aggregate market value of our common stock held by our non-affiliates, as calculated pursuant to the rules of the Securities and Exchange Commission, was \$47,382,510. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a public offering with a value exceeding more than one-third of our “public float” (the market value of our common stock held by our non-affiliates) in any 12-month period so long as our public float remains below \$75,000,000. We have not sold any securities in reliance on General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus.

INVESTING IN OUR SECURITIES INVOLVES SUBSTANTIAL RISKS. YOU SHOULD CONSIDER THE “RISK FACTORS” ON PAGE 3 OF THIS PROSPECTUS, IN THE DOCUMENTS THAT ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS AND, IF APPLICABLE, IN RISK FACTORS DESCRIBED IN ANY ACCOMPANYING PROSPECTUS SUPPLEMENT BEFORE BUYING ANY OF 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, 2017.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”) using a “shelf” registration process. Under this shelf registration process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings up to the aggregate amount of \$50,000,000.

This prospectus provides you with a general description of the securities we may offer. A prospectus supplement may add to, update or change information contained in this prospectus, and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in any prospectus supplement.

A prospectus supplement may describe, as applicable: the terms of the securities; the initial public offering price; the price paid for the securities; net proceeds; and the other specific terms related to the offering of the securities.

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement, any related free writing prospectus that we may authorize to be provided to you and the other information to which we refer you. We have not authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus or any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. If anyone provides you with different or inconsistent information, you should not rely on it. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the cover of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have

changed since those dates.

We urge you to carefully read this prospectus and any applicable prospectus supplement, together with the information incorporated herein by reference as described under the heading “Where You Can Find Additional Information.”

SUMMARY

This summary highlights certain information contained in greater detail elsewhere in this prospectus or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our securities. You should carefully read this prospectus, any accompanying prospectus supplements, any related free writing prospectus that we have authorized for use in connection with the offering and the documents incorporated by reference herein and in any accompanying prospectus supplement, including the information referred to under the heading “Risk Factors” in this prospectus, under the heading “Risk Factors” contained in the applicable prospectus supplement and in the documents incorporated by reference into this prospectus and any prospectus supplement. Unless the context requires otherwise, all references in this prospectus to “Vermillion,” “the Company,” “we,” “us,” “our” or similar references mean Vermillion, Inc. together with its consolidated subsidiaries.

Our Company

Our vision is to drive the advancement of women’s health by providing innovative methods to detect, monitor and manage the treatment of both benign and malignant gynecologic disease, with our primary focus being diseases of the female pelvic cavity.

We are dedicated to the discovery, development and commercialization of novel high-value diagnostic and bio-analytical solutions that help physicians diagnose, treat and improve outcomes for women. Our tests are intended to detect, characterize and stage disease, and to help guide decisions regarding patient treatment, which may include decisions to refer patients to specialists, to perform additional testing, or to assist in monitoring response to therapy. A distinctive feature of our approach is to combine multiple biomarkers, other modalities and diagnostics, clinical risk factors and patient data into a single, reportable index score that has higher diagnostic accuracy than its constituents. We concentrate on our development of novel diagnostic tests for gynecologic disease, with an initial focus on ovarian cancer. We also intend to address clinical questions related to early disease detection, treatment response, monitoring of disease progression, prognosis and others through collaborations with leading academic and research institutions.

The Company also offers in-vitro diagnostic (“IVD”) trial services to third-party customers through its wholly-owned subsidiary, ASPiRA IVD, Inc. (“ASPiRA IVD”), which commenced operations in June 2016. ASPiRA IVD is a specialized, CLIA certified, laboratory provider dedicated to meeting the unique testing needs of IVD manufacturers seeking to commercialize high-complexity assays.

Corporate Information

We were originally incorporated in 1993, and we had our initial public offering in 2000. Our executive offices are located at 12117 Bee Caves Road, Building Three, Suite 100, Austin, Texas 78738, and our telephone number is (512) 519-0400. We maintain a website at www.vermillion.com and www.aspiralab.com where general information about us is available. Our websites, and the information contained therein, are not a part of this prospectus.

RISK FACTORS

Investing in our securities involves a high degree of risk. Please carefully consider the risk factors described in our most recent Annual Report on Form 10-K, any subsequent updates in our Quarterly Reports on Form 10-Q and any other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), incorporated by reference herein, before making an investment decision. Additional risk factors may be included in any prospectus supplements relating to securities described in this prospectus. The occurrence of any of those risks could materially and adversely affect our business, prospects, financial condition, results of operations or cash flow. Other risks and uncertainties that we do not now consider to be material or of which we are not now aware may become important factors that affect us in the future and could result in a complete loss of your investment.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the documents that we incorporate herein or therein by reference contain forward-looking statements, as defined in the Private Securities Litigation Reform Act of 1995. These statements involve a number of risks and uncertainties. Words such as “may,” “expects,” “intends,” “anticipates,” “believes,” “estimates,” “plans,” “seeks,” “could,” “should,” “continue,” and similar expressions are intended to identify such forward-looking statements. Readers are cautioned that these forward-looking statements speak only as of the date on which the document in which they appear is filed with the SEC, and, except as required by law, we do not assume any obligation to update, amend or clarify them to reflect events, new information or circumstances occurring after such dates.

Examples of forward-looking statements regarding our business include the following:

- projections or expectations regarding our future test volumes, revenue, cost of revenue, operating expenses, cash flow, results of operations and financial condition;
- our plan to broaden our commercial focus from ovarian cancer to differential diagnosis of women with a range of gynecological disorders;
- our planned business strategy and the anticipated timing of the implementation thereof;
- plans with respect to our market expansion and growth, including plans to market Overa outside the United States;
- plans to develop new algorithms and molecular diagnostic tests;
- plans to develop a product or tool combining an OVA1 with results of a symptom index;
- plans to establish our own payer coverage for OVA1 and Overa;
 - intentions to address clinical questions related to early disease detection, treatment response, monitoring of disease progression, prognosis and other issues in the fields of oncology and women’s health;
- plans to leverage infrastructure and enhance our pipeline of future technologies by fostering relationships with in vitro diagnostic companies;
- plans with respect to ASPIRA IVD;
- expected service revenue growth based on ASPIRA IVD;
- expected license revenue in future periods;
- our planned focus on the execution of five core strategic business drivers in ovarian cancer diagnostics and specialized laboratory services to address unmet medical needs for women faced with gynecologic disease and other conditions and the continued development of our business;
- anticipated efficacy of our products, product development activities and product innovations;
- expected competition in the markets in which we compete;
- plans with respect to ASPIRA LABS, Inc. (“ASPIRA LABS”);
- expectations regarding future services provided by Quest Diagnostics Incorporated (“Quest Diagnostics”);
- plans to expand our ovarian cancer franchise beyond OVA1, including with respect to Overa and OvaX;
- plans regarding the commercialization of Overa;
- plans to develop and perform laboratory development tests (“LDTs”);
- plans with respect to the Company’s pelvic mass registry, including anticipated sources of funding;
- anticipated effects on reimbursement for OVA1 from changes to Novitas Solutions’ administrative requirements;

- expectations regarding the Company's monitoring and combining multiple protein biomarkers to create diagnostic tests to aid physicians considering treatment options for patients with complex diseases, and the Company's future development of new In Vitro Diagnostic Multivariate Index Assays;
- expectations regarding existing and future collaborations and partnerships, including OVA1 and Overa distribution agreements;
- plans regarding future publications;
- our continued ability to comply with applicable governmental regulations, expectations regarding pending regulatory submissions and plans to seek regulatory approvals for our tests outside the United States;
- our ability to obtain and maintain the regulatory approvals required to market Overa in other countries;
- our continued ability to expand and protect our intellectual property portfolio;
 - anticipated liquidity and capital requirements;
- anticipated future losses and our ability to continue as a going concern;
- expectations regarding the second disbursement from our financing arrangement with the State of Connecticut Department of Economic and Community Development;
- expected expenditures, including the expected decrease in expenses related to research and development in 2017;
- our ability to use our net operating loss carryforwards;
- expected market adoption of our diagnostic tests, including OVA1 and Overa;
- expectations regarding our ability to launch new products developed, licensed, co-marketed or acquired;
- expectations regarding raising capital and the amount of financing anticipated to be required to fund our planned operations; and
- expectations regarding reimbursement for our products, and our ability to obtain such reimbursement, from third-party payers such as private insurance companies and government insurance plans.

These statements involve estimates, assumptions and uncertainties that could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the risk factors described in any accompanying prospectus supplement or in any document incorporated by reference into this prospectus.

These factors include, among others:

- our ability to increase the volume of OVA1 or Overa sales;
- our ability to market our test through sales channels other than Quest Diagnostics, including ASPIRA LABS;
- failures by third-party payers to reimburse OVA1 or Overa or changes or variances in reimbursement rates;
- our ability to secure additional capital on acceptable terms to execute our business plan;
 - our ability to commercialize OVA1 and/or Overa both within and outside the United States;
- in the event that we succeed in commercializing OVA1 and/or Overa outside the United States, the political, economic and other conditions affecting other countries (including foreign exchange rates);
- our ability to develop and commercialize additional diagnostic products and achieve market acceptance with respect to these products;
- our ability to compete successfully;
- our ability to obtain any regulatory approval required for our future diagnostic products;
- our or our suppliers' ability to comply with United States Food and Drug Administration ("FDA") requirements for production, marketing and post-market monitoring of our products;
- additional costs that may be required to make further improvements to our manufacturing operations;

- our ability to maintain sufficient or acceptable supplies of immunoassay kits from our suppliers;
- our ability to continue to develop, protect and promote our proprietary technologies;
- future litigation against us, including infringement of intellectual property and product liability exposure;
- our ability to retain key employees;
- business interruptions;
- legislative actions resulting in higher compliance costs;
- changes in healthcare policy;
- our ability to comply with environmental laws;
- our ability to generate sufficient demand for ASPiRA LABS' services to cover its operating costs;
- our ability to comply with the additional laws and regulations that apply to us in connection with the operation of ASPiRA LABS;
- our ability to comply with FDA regulations that relate to our products and to obtain any FDA clearance or approval required to develop and perform LDTs;
- ASPiRA IVD's lack of operating history;
- ASPiRA IVD's ability to generate and maintain business;
 - fluctuations over time with respect to ASPiRA IVD's operating results;
- ASPiRA IVD's ability to enter into profitable contracts;
- ASPiRA IVD's ability to maintain effective information systems without significant interruption;
- ASPiRA IVD's ability to perform its services in compliance with contractual requirements, regulatory standards and ethical considerations; and
- our ability to continue as a going concern.

You should read this prospectus, any accompanying prospectus supplement, any related free writing prospectus and the documents that we incorporate by reference herein and therein completely and with the understanding that our actual future results may be materially different from what we currently expect. You should not put undue reliance on any forward-looking statement. We believe it is important to communicate our expectations to our investors. However, there may be events in the future that we are not able to accurately predict or that we do not fully control that could cause actual results to differ materially from those expressed or implied in our forward-looking statements.

USE OF PROCEEDS

Unless otherwise indicated in the prospectus supplement, we will use the net proceeds from the sale of securities offered by this prospectus for general corporate purposes, including working capital, for further research and development and ongoing sales and marketing expenses, and, potentially, capital expenditures and licensing of additional technologies. We may also use a portion of the net proceeds from any offering to acquire or invest in complimentary businesses, technologies, product candidates or other intellectual property, although we have no present commitments or agreements to do so. The timing and amount of our actual expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business. As a result, unless otherwise indicated in the prospectus supplement, our management will have broad discretion to allocate the net proceeds of the offerings. Pending their ultimate use, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing instruments.

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DESCRIPTION OF CAPITAL STOCK

The following summary description of our capital stock is based on the applicable provisions of the Delaware General Corporation Law (the “DGCL”), and on the provisions of our Fourth Amended and Restated Certificate of Incorporation, dated January 22, 2010, as amended effective June 19, 2014 (our “Certificate of Incorporation”), and our Fifth Amended and Restated Bylaws, effective June 19, 2014 (our “Bylaws”). This information is qualified entirely by reference to the applicable provisions of the DGCL, our Certificate of Incorporation, and our Bylaws. For information on how to obtain copies of our Certificate of Incorporation and our Bylaws, please refer to the heading “Where You Can Find More Information” in this prospectus.

Our Authorized Capital Stock

Under our Certificate of Incorporation, our authorized capital stock consists of 150,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of preferred stock, par value \$0.001 per share.

Common Stock

As of October 23, 2017, 59,998,748 shares of our common stock were outstanding, 4,753,443 shares of our common stock were subject to outstanding options (assuming, in the case of performance-based options, full attainment of the respective performance measures) and 1,525,212 shares of our common stock were reserved for future issuance to employees, directors and consultants pursuant to our stock incentive plans. In addition, as of October 23, 2017, warrants to purchase 3,180,179 shares of our common stock were outstanding. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock which we may designate in the future.

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters to be voted upon by the stockholders, and there are no cumulative voting rights.

Dividend Rights

Subject to preferences to which holders of preferred stock may be entitled and the rights of certain of our stockholders set forth in the Stockholders Agreement (as defined below), holders of common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by our Board of Directors out of funds legally available therefor. We have never paid or declared any dividend on our common stock, and we do not anticipate paying cash dividends on any common stock in the foreseeable future. We intend to retain all available funds and any future earnings to fund the development and expansion of our business.

No Preemptive or Similar Rights

Holders of our common stock do not have preemptive rights, and our common stock is not convertible or redeemable. As described under “Stockholders Agreement,” certain holders of our common stock have the right to purchase shares in connection with most equity offerings made by the Company.

Right to Receive Liquidation Distributions

In the event of our liquidation, dissolution or winding up, holders of common stock would be entitled to share in our assets remaining after the payment of liabilities and the satisfaction of any liquidation preference granted the holders of any outstanding shares of any senior class of securities. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock which we may designate in the future.

Preferred Stock

As of October 23, 2017, there were no shares of our preferred stock outstanding.

Our Board of Directors is authorized, subject to any limitations prescribed by law, without stockholder approval, to issue from time to time up to an aggregate of 5,000,000 shares of preferred stock, in one or more series, each of such series to have such rights and preferences, including voting rights, dividend rights, conversion rights, redemption terms and liquidation preferences as shall be determined by our Board of Directors. Any issuance of shares of preferred stock could adversely affect the voting power of holders of common stock, and the likelihood that the holders of preferred stock will receive dividend payments and payments upon liquidation could have the effect of delaying, deferring or preventing a change in control.

Warrants

We may issue warrants to purchase shares of common stock or shares of preferred stock. We will issue warrants under one or more warrant agreements between us and a warrant agent we will name in the prospectus supplement.

The prospectus supplement relating to any warrants we are offering will include specific terms relating to the offering. These terms will include some or all of the following:

- the aggregate number of warrants offered;
- the title of the warrants;
- the designation, number and terms of the shares of common stock or shares of preferred stock purchasable upon exercise of the warrants and procedures by which those numbers may be adjusted;
- the exercise price of the warrants;
- the dates or periods during which the warrants are exercisable;
- the designation and terms of any securities with which the warrants are issued;
- if the warrants are issued as a unit with another security, the date on and after which the warrants and the other security will be separately transferable;
- if the exercise price is not payable in U.S. dollars, the foreign currency, currency unit or composite currency in which the exercise price is denominated;

- any minimum or maximum amount of warrants that may be exercised at any one time;
- any terms relating to the modification of the warrants; and
- any terms, procedures and limitations relating to the transferability, exchange or exercise of the warrants.

Rights

We may issue rights for the purchase of shares of our common stock or shares of our preferred stock. Each series of rights will be issued under a separate rights agreement which we will enter into with a bank or trust company, as rights agent, all as set forth in the applicable prospectus supplement. The rights agent will act solely as our agent in connection with the certificates relating to the rights and will not assume any obligation or relationship of agency or trust with any holders of rights certificates or beneficial owners of rights. We will file the rights agreement and the rights certificates relating to each series of rights with the SEC and incorporate them by reference as an exhibit to the registration statement of which this prospectus is a part on or before the time we issue a series of rights.

The applicable prospectus supplement will describe the terms of any rights we issue, including as applicable:

- the date for determining the persons entitled to participate in the rights distribution;
- the aggregate number or amount of underlying securities purchasable upon exercise of the rights and the exercise price;

- the aggregate number of rights being issued;
- the date, if any, on and after which the rights may be transferable separately;
- the date on which the right to exercise the rights commences and the date on which such right expires;
- the designation and terms of any securities with which the warrants are issued;
- a discussion of any material or special U.S. federal income tax considerations applicable to the rights; and
- any other terms of the rights, including the terms, procedures and limitations relating to the distribution, exchange and exercise of the rights.

Rights will be exercisable for U.S. dollars only and will be in registered form only.

Units

We may issue securities in units, each consisting of two or more types of securities. For example, we might issue units consisting of a combination of common stock and warrants to purchase common stock. If we issue units, the prospectus supplement relating to the units will contain information with regard to each of the securities that is a component of the units. In addition, the prospectus supplement relating to the units will describe the terms of any units we issue, including as applicable:

- the date, if any, on and after which the units may be transferable separately;
- whether we will apply to have the units traded on a securities exchange or securities quotation system;
- a discussion of any material or special U.S. federal income tax considerations applicable to the units; and
- how, for U.S. federal income tax purposes, the purchase price paid for the units is to be allocated among the component securities.

Stockholders Agreement

In connection with a private placement in May 2013, we entered into a stockholders agreement with the purchasers named therein (the "Stockholders Agreement"). Pursuant to and subject to the terms of the Stockholders Agreement, certain of the investors received rights to participate in any future equity offerings on the same price and terms as other investors, and rights to exercise "piggyback" registration rights for any registration statements that we file prior to May 13, 2018 on our own account or for the account of others with respect to shares of our common stock. Some or all of such investors might participate in one or more of the equity offering under the registration statement of which this prospectus is a part.

In addition, the Stockholders Agreement prohibits the Company from taking material actions without the consent of at least one of the two primary investors. These material actions include:

- making any acquisition with value greater than \$2 million;
- entering into, or amending the terms of agreements with Quest Diagnostics, provided that such investors' consent shall not be unreasonably withheld, conditioned or delayed following good faith consultation with the Company;
- submitting any resolution at a meeting of stockholders or in any other manner changing or authorizing a change in the size of our Board of Directors;
- offering, selling or issuing any securities senior to our common stock or any securities that are convertible into or exchangeable or exercisable for securities ranking senior to our common stock;
- amending our Certificate of Incorporation or our Bylaws in any manner that affects the rights, privileges or economics of our common stock or the warrants purchased in the May 2013 private placement;
- taking any action that would result in a change in control of Vermillion or an insolvency event;

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- paying or declaring dividends on any securities of the Company or distributing any assets of the Company other than in the ordinary course of business or repurchasing any outstanding securities of the Company; or
- adopting or amending any stockholder rights plan.

In addition, the two primary investors (Jack W. Schuler, on the one hand, and Oracle Partners, LP and Oracle Ten Fund Master, LP, on the other hand) each received the right to designate a person to serve on our Board of Directors. These rights terminate for each investor when that investor ceases to beneficially own less than 50% of the shares and warrants (taking into account shares issued upon exercise of the warrants), in the aggregate, that it purchased at the closing of our May 2013 private placement.

Section 203 of the Delaware Corporation Law

We are subject to Section 203 of the DGCL, which prevents an “interested stockholder” (defined in Section 203 of the DGCL, generally, as a person owning 15% or more of a corporation’s outstanding voting stock), from engaging in a “business combination” (as defined in Section 203 of the DGCL) with a publicly-held Delaware corporation for three years following the date such person became an interested stockholder, unless:

- before such person became an interested stockholder, the board of directors of the corporation approved the transaction in which the interested stockholder became an interested stockholder or approved the business combination;
- upon consummation of the transaction that resulted in the interested stockholders becoming an interested stockholder, the interested stockholder owns at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced (excluding stock held by directors who are also officers of the corporation and by employee stock plans that do not provide employees with the rights to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer); or
- following the transaction in which such person became an interested stockholder, the business combination is approved by the board of directors of the corporation and authorized at a meeting of stockholders by the affirmative vote of the holders of two-thirds of the outstanding voting stock of the corporation not owned by the interested stockholder.

The provisions of Section 203 of the DGCL could make a takeover of the Company difficult.

Effect of Certain Provisions of Our Certificate of Incorporation and Bylaws

Certain provisions of our Certificate of Incorporation and Bylaws may have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of us. Such provisions could limit the price that certain investors might be willing to pay in the future for our securities. Our Certificate of Incorporation eliminates the right of stockholders to call special meetings of stockholders or to act by written consent without a meeting, and our Bylaws require advance notice for stockholder proposals and director nominations, which may preclude stockholders from bringing matters before an annual meeting of stockholders or from making nominations for directors at an annual meeting of stockholders. Our Certificate of Incorporation authorizes undesignated preferred stock, which makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us.

These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of us. The amendment of any of the provisions of our Certificate of Incorporation described in the immediately preceding paragraph would require approval by our Board of Directors and the affirmative vote of at least 66 2/3% of our then outstanding voting securities, and the amendment of any of the provisions of our Bylaws described in the immediately preceding paragraph would require approval by our Board of Directors or the affirmative vote of at least 66 2/3% of our then outstanding voting securities.

Transfer Agent

The transfer agent for our common stock is Wells Fargo Shareowner Services.

Listing

Our common stock is listed on The NASDAQ Stock Market under the symbol “VRML.”

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description of Debt Securities

This section describes the general terms and provisions of the debt securities that we may issue from time to time in the form of one or more series of debt securities. We may offer secured or unsecured debt securities which may be senior or subordinated and which may be convertible. The applicable prospectus supplement and/or other offering materials will describe the specific terms of the debt securities offered through that prospectus supplement as well as any general terms described in this section that will not apply to those debt securities. To the extent the applicable prospectus supplement or other offering materials relating to an offering of debt securities are inconsistent with this prospectus, the terms of that prospectus supplement or other offering materials will supersede the information in this prospectus. In this “Description of Debt Securities,” unless otherwise indicated, “we,” “our,” “the Company” and similar words refer to Vermillion, Inc. and not any of its subsidiaries.

The debt securities will be issued under one or more indentures to be entered into between us and one or more trustees. References herein to the “indenture” and the “trustee” refer to the applicable indenture and the applicable trustee pursuant to which any particular series of debt securities is issued. The terms of any series of debt securities will be those specified in or pursuant to the applicable indenture and in the certificates evidencing that series of debt securities and those made part of the indenture by the Trust Indenture Act of 1939, as amended (the “Trust Indenture Act”). We may issue senior, subordinated and convertible debt securities under the same indenture.

The following summary of selected provisions of the indenture and the debt securities is not complete, and the summary of selected terms of a particular series of debt securities included in the applicable prospectus supplement also will not be complete. You should review the applicable form of indenture and the applicable form of certificate evidencing the debt securities, which forms have been or will be filed as exhibits to the registration statement of which this prospectus is a part or as exhibits to documents which have been or will be incorporated by reference in this prospectus. To obtain a copy of the indenture or the form of certificate for the debt securities, see “Where You Can Find More Information” in this prospectus. The following summary and the summary in any applicable prospectus supplement are qualified in their entirety by reference to all of the provisions of the indenture and the certificates evidencing the debt securities (including any amendments or supplements we may enter into from time to time which are permitted under the debt securities or any indenture), which provisions, including defined terms, are incorporated by reference in this prospectus.

Unless otherwise specified in a prospectus supplement, the debt securities will be direct unsecured obligations of the Company and will rank junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness, and will be structurally junior to all existing and future indebtedness incurred by our subsidiaries. Any debt securities designated as senior will rank equally with any of our other senior and unsubordinated debt. Any debt securities designated as subordinated will be subordinate and junior in right of payment to any senior indebtedness. There may be subordinated debt securities that are senior or junior to other series of subordinated debt securities.

The applicable prospectus supplement will set forth the terms of the debt securities or any series thereof, including, if applicable:

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the title of the debt securities and whether the debt securities will be senior debt securities or subordinated debt securities;

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any limit on the aggregate principal amount of the debt securities;

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whether the debt securities will be issued as registered securities, bearer securities or both, and any restrictions on the exchange of one form of debt securities for another and on the offer, sale and delivery of the debt securities in either form;

.
the date or dates on which the principal amount of the debt securities will mature;

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if the debt securities bear interest, the rate or rates at which the debt securities bear interest, or the method for determining the interest rate, and the date or dates from which interest will accrue;

.
if the debt securities bear interest, the dates on which interest will be payable, or the method for determining such dates, and the regular record dates for interest payments;

.
the place or places where the payment of principal, any premium and interest will be made, where the debt securities may be surrendered for transfer or exchange and where notices or demands to or upon us may be served;

.
any optional redemption provisions, which would allow us to redeem the debt securities in whole or in part;

.
any sinking fund or other provisions that would obligate us to redeem, repay or purchase the debt securities;

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if the currency in which the debt securities will be issuable is United States dollars, the denominations in which any registered securities will be issuable, if other than denominations of \$1,000 and any integral multiple thereof;



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if other
than the
entire
principal
amount,
the
portion of
the
principal
amount
of debt
securities
which
will be
payable
upon a
declaration
of
acceleration
of the
maturity
of the
debt
securities;

.
the events
of default
and
covenants
relevant
to the
debt
securities,
including
the
inapplicability
of any
event of
default or
covenant
set forth
in the
indenture
relating
to the
debt
securities,
or the

applicability
of any
other
events of
defaults
or
covenants
in
addition
to the
events of
default or
covenants
set forth
in the
indenture
relating
to the
debt
securities;

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the name
and
location
of the
corporate
trust
office of
the
applicable
trustee
under the
indenture
for such
series of
notes;

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if other
than
United
States
dollars,
the
currency
in which
the debt
securities
will be
paid or

denominated;

.

if the debt securities are to be payable, at our election or the election of a holder of the debt securities, in a currency other than that in which the debt securities are denominated or stated to be payable, the terms and conditions upon which that election may be made, and the time and manner of determining the exchange rate between the currency in which the debt securities are

denominated
or stated
to be
payable
and the
currency
in which
the debt
securities
are to be
so
payable;

.

the
designation
of the
original
currency
determination
agent, if
any;

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if the debt
securities
are
issuable
as
indexed
securities,
the
manner in
which the
amount
of
payments
of
principal,
any
premium
and
interest
will be
determined;

.

if the debt
securities
do not
bear

interest,
the dates
on which
we will
furnish to
the
applicable
trustee
the names
and
addresses
of the
holders of
the debt
securities;

.

if other
than as
set forth
in an
indenture,
provisions
for the
satisfaction
and
discharge
or
defeasance
or
covenant
defeasance
of that
indenture
with
respect to
the debt
securities
issued
under that
indenture;

.

the date
as of
which
any
bearer
securities
and any
global

security
will be
dated if
other than
the date
of
original
issuance
of the
first debt
security
of a
particular
series to
be issued;

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whether
and under
what
circumstances
we will
pay
additional
amounts
to
non-United
States
holders in
respect of
any tax
assessment
or
government
charge;

.

whether
the debt
securities
will be
issued in
whole or
in part in
the form
of a
global
security
or
securities
and, in

that case,
any
depository
and
global
exchange
agent for
the global
security
or
securities,
whether
the global
form
shall be
permanent
or
temporary
and, if
applicable,
the
exchange
date;

.

if debt
securities
are to be
issuable
initially
in the
form of a
temporary
global
security,
the
circumstances
under
which the
temporary
global
security
can be
exchanged
for
definitive
debt
securities
and
whether
the

definitive
debt
securities
will be
registered
securities,
bearer
securities
or will be
in global
form and
provisions
relating
to the
payment
of interest
in respect
of any
portion of
a global
security
payable
in respect
of an
interest
payment
date prior
to the
exchange
date;

.

the extent
and
manner to
which
payment
on or in
respect of
debt
securities
will be
subordinated
to the
prior
payment
of our
other
liabilities
and
obligations;

.
whether
payment
of any
amount
due under
the debt
securities
will be
guaranteed
by one or
more
guarantors,
including
one or
more of
our
subsidiaries;
.

whether the
debt securities
will be
convertible
and the terms
of any
conversion
provisions;
.

the forms of
the debt
securities; and
.

any other
terms of
the debt
securities,
which
terms
shall not
be
inconsistent
with the
requirements
of the
Trust
Indenture
Act.

This prospectus is part of a registration statement that provides that we may issue debt securities from time to time in one or more series under one or more indentures, in each case with the same or various maturities, at par or at a discount. Unless otherwise indicated in a prospectus supplement, we may issue additional debt securities of a particular series without the consent of the holders of the debt securities of such series outstanding at the time of the issuance. Any such additional debt securities, together with all other outstanding debt securities of that series, will constitute a single series of debt securities under the applicable indenture.

We intend to disclose any restrictive covenants for any issuance or series of debt securities in the applicable prospectus supplement.

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus in one or more of the following ways (or in any combination) from time to time:

- to or through underwriters or dealers;
- directly to purchasers, including our affiliates;
- through agents; or
- a combination of any these methods.

If underwriters or dealers are used in the sale, the securities will be acquired by the underwriters or dealers for their own account and may be resold from time to time in one or more transactions, including:

- in one or more transactions at a fixed price or prices, which may be changed from time to time;
- in “at-the-market offerings,” within the meaning of Rule 415(a)(4) of the Securities Act of 1933, as amended (the “Securities Act”), to or through a market maker or into an existing trading market, on an exchange or otherwise;
- through a market maker or into an existing trading market on an exchange or otherwise;
- at prices related to those prevailing market prices; or
- at negotiated prices.

The prospectus supplement will include the following information:

- the terms of the offering;
- the names of any underwriters or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities;
- the net proceeds from the sale of the securities;

- any delayed delivery arrangements;
- any underwriting discounts, commissions and other items constituting underwriters' compensation;
- any initial public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any commissions paid to agents.

Sale Through Underwriters or Dealers

If underwriters are used in the sale of any securities, the underwriters will acquire the securities for their own account, including through underwriting, purchase, security lending or repurchase agreements with us. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions. Underwriters may sell the securities in order to facilitate transactions in any of our other securities (described in this prospectus or otherwise), including other public or private transactions and short sales. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise indicated in the prospectus supplement, the obligations of the underwriters to purchase the

securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers. The prospectus supplement will include the names of the principal underwriters, the respective amount of securities underwritten, the nature of the obligation of the underwriters to take the securities and the nature of any material relationship between an underwriter and us.

If dealers are used in the sale of securities offered through this prospectus, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. The prospectus supplement will include the names of the dealers and the terms of the transaction.

We may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase our securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions paid for solicitation of these contracts.

Underwriters, dealers and agents may contract for or otherwise be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments made by the underwriters, dealers or agents, under agreements between us on one hand, and the underwriters, dealers and agents, on the other hand.

We may grant underwriters who participate in the distribution of our securities an option to purchase additional securities to cover over-allotments, if any, in connection with the distribution.

Underwriters, dealers, or agents may receive compensation in the form of discounts, concessions or commissions from us or our purchasers, as their agents in connection with the sale of our securities. These underwriters, dealers or agents may be considered to be underwriters under the Securities Act. As a result, discounts, commissions or profits on resale received by the underwriters, dealers or agents may be treated as underwriting discounts and commissions. The prospectus supplement for any securities offered by us will identify any such underwriter, dealer or agent and describe any compensation received by them from us. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time.

Underwriters, broker-dealers or agents who may become involved in the sale of our securities may engage in transactions with and perform other services for us for which they receive compensation.

Direct Sales and Sales Through Agents

We may sell the securities offered through this prospectus directly. In this case, no underwriters or agents would be involved. Such securities may also be sold through agents designated from time to time. The prospectus supplement will name any agent involved in the offer or sale of the offered securities and will describe any commissions payable to the agent by us. Unless otherwise indicated in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act, with respect to any sale of those securities.

At-the-Market Offerings

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,

on one hand, and the underwriters or agents, on the other. 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 a principal basis. During the term of any such agreement, we may sell securities on a daily basis in exchange transactions or otherwise as we agree with the underwriters or agents. Any such agreement will provide that any securities 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 may agree to sell, and the relevant underwriters or agents may agree to solicit offers to purchase blocks of our common stock or other securities. The terms of any such agreement will be set forth in more detail in the prospectus supplement.

Market Making, Stabilization and Other Transactions

In connection with an offering through underwriters, an underwriter may, to the extent permitted by applicable rules and regulations, purchase and sell securities in the open market. These transactions, to the extent permitted by applicable

rules and regulations, may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in the offering. "Covered" short sales are short sales made in an amount not greater than the underwriters' option to purchase additional securities from us in the offering, if any. If the underwriters have an over-allotment option to purchase additional securities from us, the underwriters may consider, among other things, the price of securities available for purchase in the open market as compared to the price at which they may purchase securities through the over-allotment option. "Naked" short sales, which may be prohibited or restricted by applicable rules and regulations, are any sales in excess of such option or where the underwriters do not have an over-allotment option. The underwriters must close out any naked short position by purchasing securities in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.

Accordingly, to cover these short positions or to otherwise stabilize or maintain the price of the securities, the underwriters may bid for or purchase securities in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if securities previously distributed in the offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the securities to the extent that it discourages resale of the securities. The magnitude or effect of any stabilization or other transactions is uncertain.

Derivative Transactions and Hedging

We, the underwriters or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters or agents. The underwriters or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

Trading Market and Listing of Securities

Any common stock sold or resold pursuant to a prospectus supplement will be listed on The NASDAQ Stock Market or on such other national securities exchange as our common stock may then be listed. The securities other than common stock may or may not be listed on a national securities exchange. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities.

General Information

Agents, underwriters, and dealers may be entitled, under agreements entered into with us, to indemnification by us against certain liabilities, including liabilities under the Securities Act.

LEGAL MATTERS

Sidley Austin LLP will pass upon the validity of the securities being registered by the registration statement of which this prospectus is a part. Michael A. Gordon, a stockholder of the Company, is a partner at such firm. As of October 23, 2017, Mr. Gordon beneficially owned securities representing less than one percent of the outstanding common stock of the Company. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements as of December 31, 2016 and 2015 and for the years then ended incorporated by reference in this prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. We have filed with the SEC a registration statement on Form S-3 under the Securities Act of which this prospectus forms a part. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities that may be offered under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You may read and copy, at prescribed rates, any document we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including Vermillion, Inc. The SEC's Internet site can be found at <http://www.sec.gov>. Our filings are also available to the public over the Internet at our website, www.vermillion.com.

Information on any Vermillion website, any subsection, page, or other subdivision of any Vermillion website, or any website linked to by content on any Vermillion website, is not part of this prospectus and you should not rely on that information unless that information is also in this prospectus or incorporated by reference in this prospectus.

IMPORTANT INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus the information contained in other documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus, to the extent that a statement contained in or omitted from this prospectus, or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. We incorporate by reference the documents listed below which have been filed by us and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) subsequent to the date of the initial filing of the registration statement of which this prospectus forms a part until the offering of the securities covered by this prospectus is completed:

- (a) Our Annual Report on Form 10-K for the year ended December 31, 2016 filed with the SEC on March 31, 2017 (including those portions of our Definitive Proxy Statement on Schedule 14A filed with the SEC on April 27, 2017 that are incorporated by reference into Part III of such Annual Report on Form 10-K);
- (b) Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017 and June 30, 2017 filed with the SEC on May 11, 2017 and August 11, 2017, respectively;
- (c) Our Current Reports on Form 8-K filed with the SEC on (i) February 17, 2017 (Items 1.01 and 3.02 only), (ii) March 3, 2017, (iii) March 13, 2017, (iv) June 26, 2017 and (v) August 28, 2017; and
- (d) The description of our common stock set forth in the Registration Statement on Form 8-A filed with the SEC on July 6, 2010 (File No. 001-34810), including any amendments or reports filed for the purpose of updating such description.

Upon written or oral request, we will provide without charge to each person, including any beneficial owner, to whom a copy of the prospectus is delivered a copy of the documents incorporated by reference herein (other than exhibits to such documents unless such exhibits are specifically incorporated by reference herein). You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Vermillion, Inc.

12117 Bee Caves Road, Building Three, Suite 100

Austin, Texas 78738

(512) 519-0400

Attn: Corporate Secretary

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the estimated costs and expenses, other than underwriting discounts and commissions payable by us in connection with the offering of the securities being registered. All the amounts shown are estimates, except for the SEC registration fee:

SEC Registration Fee	\$	6,225
Printing Fees and Expenses		(1)
Accounting Fees and Expenses		(1)
Legal Fees and Expenses		(1)
Trustee and Transfer Agent Fees and Expenses		(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

Under Section 145 of the DGCL, a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that he or she is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding (i) if such person acted in good faith and in a manner that the person reasonably believed to be in or not opposed to the best interests of the corporation and (ii) with respect to any criminal action or proceeding, if he or she had no reasonable cause to believe such conduct was unlawful. In actions brought by or in the right of the corporation, a corporation may indemnify such person against expenses (including attorney's fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted in good faith and in a manner that the person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification may be made in respect of any claim, issue or matter as to which that person has been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery of the State of Delaware or the court in which such action or suit was brought determines upon application that, despite the adjudication of liability but in view of all circumstances of the case, such person is fairly and reasonably entitled to indemnification for such expense which the Court of Chancery or other such court deems proper. To the extent that such person has been successful on the merits or otherwise in defending any such action, suit or proceeding referred to above in any claim, issue or matter therein,

he or she is entitled to indemnification for expenses (including attorney's fees) actually and reasonably incurred by him or her in connection therewith. The indemnification and advancement of expenses provided for or granted pursuant to Section 145 of the DGCL are not exclusive of any other rights of indemnification or advancement of expenses to which those seeking indemnification or advancement of expenses may be entitled, and a corporation may purchase and maintain insurance against liabilities asserted against any former or current director, officer, employee or agent of the corporation, or a person who is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, whether or not the power to indemnify is provided by the statute.

Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability for any breach of the director's duty of loyalty to the corporation or its stockholders, for

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acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law, for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions, or for any transaction from which the director derived an improper personal benefit. Article VII of our Certificate of Incorporation provides for such limitation of liability.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the Company pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in such Act and is therefore unenforceable.

Certificate of Incorporation and Bylaws. Article VII of our Certificate of Incorporation and Article VI of our Bylaws provide in substance that, to the fullest extent permitted by the DGCL, each director and officer shall be indemnified against reasonable costs and expenses, including attorneys fees, and any liabilities which he or she may incur in connection with any action to which he or she may be made a party by reason of his or her being or having been a director or officer of the Company, a predecessor of the Company, or serves or served as a director, officer or employee of another enterprise at the request of the Company or any predecessor of the Company. The indemnification provided by our Certificate of Incorporation is not deemed exclusive of or intended in any way to limit any other rights to which any person seeking indemnification may be entitled.

D&O Insurance. We maintain standard policies of insurance under which coverage is provided to our directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act, and to us with respect to payments which may be made by us to such officers and directors pursuant to the above indemnification provision or otherwise as a matter of law.

Item 16. Exhibits

The following documents are filed as exhibits to this registration statement, including those exhibits incorporated herein by reference to one of our prior filings under the Securities Act or the Exchange Act:

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Filing Date Herewith
		Form	File No.	Exhibit	
1.1	Form of Underwriting Agreement				(1)
4.1	Fourth Amended and Restated Certificate of Incorporation of Vermillion, Inc. dated January 22, 2010	8-K	000-31617	3.1	January 25, 2010
4.2	Certificate of Amendment of Fourth Amended and Restated Certificate of Incorporation of Vermillion, Inc., effective June 27, 2014	10-Q	000-34810	3.2	August 14, 2014
4.3	Fifth Amended and Restated Bylaws of Vermillion, Inc., as amended effective June 19, 2014	10-Q	000-34810	3.3	August 14, 2014
4.4	Form of Vermillion, Inc. (formerly CIPHERGEN Biosystems, Inc.) Common Stock Certificate	S-1/A	333-32812	4.1	August 24, 2000
4.5					(1)

Form of Certificate of Designation, including specimen certificate (relating to the preferred stock registered hereby)

- 4.6 Form of Indenture (relating to the debt securities registered hereby)
- 4.7 Form of Warrant Agreement (including form of warrant certificate) (1)
- 4.8 Form of Rights Agreement (including form of rights, if any) (1)

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4.9 Form of Unit Agreement (including form of unit, if any) (1)

5.1 Opinion of Sidley Austin LLP

23.1 Consent of BDO USA, LLP, Independent Registered Public Accounting Firm

23.2 Consent of Sidley Austin LLP (included in Exhibit 5.1)

24.1 Power of Attorney (contained herein on signature page)

25.1 Statement of Eligibility of Trustee on Form T-1 (2)

(1) To the extent applicable, to be filed by amendment or as an exhibit to a document filed under the Securities Exchange Act of 1934, as amended, and incorporated by reference herein.

(2) To the extent applicable, to be incorporated herein by reference to a subsequent filing in accordance with Section 305(b)(2) of the Trustee Indenture Act of 1939, as amended.

Item 17. Undertakings

The undersigned registrant hereby undertakes:

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

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

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

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

Provided, however, that:

Paragraphs (1)(i), (1)(ii) and (1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

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

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

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

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

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

(5) 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.

The undersigned registrant hereby undertakes 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 Section 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 this registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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

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The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act (“Act”) in accordance with the rules and regulations prescribed by the Securities and Exchange Commission under section 305(b)(2) of the Act.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the city of Austin, State of Texas, on October 24, 2017.

Vermillion, Inc.

By: /s/ Valerie B. Palmieri
Valerie B. Palmieri

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Valerie B. Palmieri and Eric J. Schoen, and each or any one of them, his or her true and lawful attorney-in-fact and agent, 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), and any registration statement for the same offering that is to be effective under Rule 462(b) of the Securities Act, to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his or her substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ Valerie B. Palmieri	President and Chief	October 24,
Valerie B. Palmieri	Executive Officer (Principal Executive Officer) and Director	2017

/s/ Eric J. Schoen

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Eric J. Schoen	Senior Vice President, Finance and Chief Accounting Officer (Principal Financial and Accounting Officer)	October 24, 2017
/s/ James T. LaFrance James T. LaFrance	Chairman of the Board of Directors	October 24, 2017
/s/ James S. Burns James S. Burns	Director	October 24, 2017

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/s/ Veronica G. H. Jordan Director October
24,
Veronica G. H. Jordan 2017

/s/ David Schreiber Director October
24,
David Schreiber 2017

/s/ Carl Severinghaus Director October
24,
Carl Severinghaus 2017

/s/ Eric Varma Director October
24,
Eric Varma 2017
