

PROSPECTUS SUPPLEMENT
(To Prospectus dated November 13, 2023)



**19,200,001 Shares of Common Stock
Pre-Funded Warrants to Purchase 3,200,005 Shares of Common Stock**

We are offering 19,200,001 shares of our common stock and, in lieu of common stock to certain investors, pre-funded warrants to purchase 3,200,005 shares of our common stock in this offering. The purchase price of each pre-funded warrant equals the price per share at which shares of our common stock are being sold to the public in this offering, minus \$0.00001, which is the exercise price of each pre-funded warrant. The pre-funded warrants do not expire, and each pre-funded warrant will be exercisable at any time after the date of issuance. This prospectus supplement also relates to the offering of the shares of our common stock issuable upon the exercise of such pre-funded warrants.

Our common stock is listed on The Nasdaq Global Market under the symbol “PRME.” On February 13, 2024, the closing price of our common stock, as reported on The Nasdaq Global Market, was \$6.62 per share. There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on The Nasdaq Global Market or any other national securities exchange or nationally recognized trading system.

Investing in our securities involves risks that are described in the “Risk Factors” section beginning on page S-9 of this prospectus supplement and page 1 of the accompanying prospectus, and in the other documents that are incorporated by reference herein. You should read the entire prospectus supplement and the accompanying prospectus, including any information incorporated by reference herein or therein, carefully before you make your investment decision.

We are an “emerging growth company” and “smaller reporting company” under the federal securities laws and, as such, are subject to reduced public company reporting requirements. See “Prospectus Supplement Summary—Implications of Being an Emerging Growth Company and Smaller Reporting Company.”

	Per Share	Per Pre-Funded Warrant	Total
Public offering price	\$ 6.250	\$ \$ 6.24999	\$ 140,000,005.50
Underwriting discounts and commissions(1)	\$ 0.375	\$ \$ 0.375	\$ 8,400,002.25
Proceeds, before expenses, to us	\$ 5.875	\$ \$ 5.87499	\$ 131,600,003.25

(1) We refer you to “Underwriting” for additional information regarding underwriting compensation.

The underwriters may also exercise their option to purchase up to an additional 3,360,000 shares of our common stock from us, at the public offering price, less the underwriting discounts and commissions, for 30 days after the date of this prospectus supplement.

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

The underwriters expect to deliver the shares and the pre-funded warrants to purchasers on or about February 20, 2024 through the book entry facilities of The Depository Trust Company.

Joint book-running managers

J.P. Morgan

Jefferies

TD Cowen

**BMO Capital
Markets**

Lead manager

Chardan

February 14, 2024.

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We have not and the underwriters have not authorized anyone to provide you with any information other than the information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, and any free writing prospectus we have authorized for use in connection with this offering. We take no responsibility for, and can provide no

assurances as to the reliability of, any information that is in addition to or different from that contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. You should not assume that the information contained in this prospectus supplement and the accompanying prospectus, or in any free writing prospectus that we have authorized for use in connection with this offering, is accurate as of any date other than the date of those respective documents, or that information contained in any document incorporated by reference is accurate as of any date other than the date of the document incorporated by reference. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates. We are not, and the underwriters are not, making offers to sell these securities in any jurisdiction in which an offer or solicitation is not authorized or permitted or in which the person making such offer or solicitation is not qualified to do so or to any person to whom it is unlawful to make such an offer or solicitation. You should read this prospectus supplement, the accompanying prospectus, including any information incorporated by reference, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled "Incorporation of Certain Information by Reference" and "Where You Can Find More Information."

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is part of the registration statement that we filed with the Securities and Exchange Commission (the “SEC”) using a “shelf” registration process, and consists of two parts. The first part is this prospectus supplement, including the documents incorporated by reference herein, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference therein, gives more general information, some of which may not apply to this offering. Generally, when we refer to the “prospectus,” we are referring to both parts combined. This prospectus supplement and any free writing prospectus we authorize for use in connection with this offering may add to, update or change information in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement or the accompanying prospectus.

If information in this prospectus supplement is inconsistent with the accompanying prospectus or with any document incorporated by reference herein or therein that was filed with the SEC before the date of this prospectus supplement, you should rely on the information contained in this prospectus supplement; provided, that if any statement in one of these documents is inconsistent with a statement in another document having a later date, the statement in the document having the later date modifies or supersedes the earlier statement. This prospectus supplement, the accompanying prospectus, the documents incorporated by reference into each and any free writing prospectus we authorize for use in connection with this offering include important information about us, the shares and other information you should consider before purchasing the shares. See the sections entitled [“Incorporation of Certain Information by Reference”](#) and [“Where You Can Find More Information”](#) in this prospectus supplement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties and covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

As used in this prospectus supplement or the accompanying prospectus, unless the context otherwise requires, references to the terms “Prime,” “Prime Medicine,” “the Company,” “we,” “us,” and “our” and similar designations refer to Prime Medicine, Inc. and, where appropriate, our wholly-owned subsidiary.

We intend to apply for various trademarks that we use in connection with the operation of our business. This prospectus supplement may also contain trademarks, service marks and trade names of third parties, which are the property of their respective owners. Our use or display of third parties’ trademarks, service marks, trade names or products in this prospectus supplement is not intended to, and does not imply a relationship with, or endorsement or sponsorship by us. Solely for convenience, the trademarks, service marks and trade names referred to in this prospectus supplement may appear without the ®, SM and ™ symbols, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable owner of these trademarks, service marks and trade names.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, including the documents that we incorporate by reference, include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements, other than statements of historical fact, contained herein, including statements regarding our plans, objectives and expectations for our business, operations and financial performance and condition, and can be identified by terminology such as “anticipate,” “believe,” “contemplate,” “continue” “could,” “estimate,” “estimate,” “expect,” “goal,” “hope,” “intend,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “seek,” “should,” “strategy,” “target,” “will,” “would,” “can,” “future” or the negative of these words or other similar expressions. Forward-looking statements are based on management’s belief and assumptions and on information currently available to management. Although we believe that the expectations reflected in forward-looking statements are reasonable, such statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by forward-looking statements.

These forward-looking statements include, but are not limited to, statements about:

- the initiation, timing, progress and results of our research and development programs, preclinical studies and future clinical trials;
- our ability to demonstrate, and the timing of, preclinical proof-of-concept in vivo for multiple programs;
- our ability to advance any current and future product candidates that we may identify and successfully complete any clinical studies, including the manufacture of any such product candidates;
- our ability to pursue our areas of focus and any other additional programs we may advance;
- our ability to quickly leverage programs within our initial target indications and to progress additional programs to further develop our pipeline;
- the timing of our investigational new drug application submissions;
- the ability of our Prime Editing technology to address unmet medical needs in patients;
- the implementation of our strategic plans for our business, programs and technology;
- the scope and duration of protection we are able to establish and maintain for intellectual property rights covering our Prime Editing technology;
- developments related to our competitors and our industry;
- our ability to leverage the clinical, regulatory, and manufacturing advancements made by gene therapy and gene editing programs to accelerate our clinical trials and approval of current and future product candidates;
- our ability to identify and enter into future license agreements and collaborations;
- developments related to our Prime Editing technology;
- regulatory developments in the United States and foreign countries;
- our ability to attract and retain key scientific and management personnel;

- our estimates of our expenses, capital requirements, and needs for additional financing;
- our anticipated use of net proceeds from this offering;
- our expectations regarding the period during which we will remain an emerging growth company under the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”);
- our ability to maintain an effective system of internal controls;
- our expectations regarding the anticipated timeline of our cash runway, future financial performance and our ability to continue as a going concern; and
- the effect of unfavorable macroeconomic conditions or market volatility resulting from global economic conditions.

We caution you that the foregoing list of forward-looking statements made in this prospectus supplement, the accompanying prospectus and the documents we have filed with the SEC that are incorporated herein and therein by reference is not exclusive.

Any forward-looking statements in this prospectus supplement, the accompanying prospectus and the documents we have filed with the SEC that are incorporated herein and therein by reference reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements.

We may from time-to-time provide estimates, projections and other information concerning our industry, our business and the markets for our programs and product candidates. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors.

Factors that may cause actual results to differ materially from current expectations include, among other things, those discussed in the “Risk Factors” section in this prospectus supplement, the section of the accompanying prospectus 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 for the year ended December 31, 2022, and any of our subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as applicable. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement and the accompanying 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. For a more complete understanding of our Company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus, and the information referred to under the heading “Risk Factors” in this prospectus supplement on page S-9 and on page 1 of the accompanying prospectus, and those identified in our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q.

Company Overview

The Company

We are a biotechnology company committed to delivering a new class of differentiated one-time curative genetic therapies to address the widest spectrum of diseases. We are deploying Prime Editing technology, which we believe is a versatile, precise, and efficient gene editing technology.

Our Portfolio

To maximize the potential of our Prime Editing technology, we have built a diversified portfolio of investigational therapeutic programs organized around core areas of focus: hematology and immunology, liver, lung, ocular, and neuromuscular. We are advancing additional programs as potential partnership opportunities. The following table summarizes the status of certain of our programs:

Modular platform	Indication	Delivery	Discovery	Lead optimization	IND-enabling	Phase 1/2
HEMATOLOGY & IMMUNOLOGY	Chronic Granulomatous Disease	ex vivo				
	Other programs in discovery: Fanconi Anemia, Cell Shielding					
LIVER	Wilson's Disease	LNP				
	Glycogen Storage Disease 1b	LNP				
	Undisclosed	LNP				
LUNG	Cystic Fibrosis*	LNP/AAV				
OCULAR	Retinitis Pigmentosa/Rhodopsin	AAV				
	Other programs in discovery: Retinitis Pigmentosa/Usher Syndrome, Fuchs' Endothelial Corneal Dystrophy					
NEURO	Friedreich's Ataxia	AAV				
	Other programs in discovery: Amyotrophic Lateral Sclerosis, Huntington's Disease, Fragile X Syndrome					
MUSCULAR	Myotonic Dystrophy Type 1	viral/non-viral				
	Other programs in discovery: Oculopharyngeal Muscular Dystrophy, Duchenne Muscular Dystrophy					
ADDITIONAL PROGRAMS <i>Advancing as potential partnership opportunities</i>	CAR-T (oncology/autoimmune)	ex vivo				
	Other programs in discovery: Usher Syndrome (Type 3) (ear); Non-Syndromic Hearing Loss – GJB2 (ear)					

*Initial research funding provided by the Cystic Fibrosis Foundation

Highlights of the programs in our portfolio include the following:

PM359, our first product candidate within our hematology and immunology area of focus, targets chronic granulomatous disease, or CGD, a serious life-threatening disease that presents in childhood. PM359 is comprised of autologous hematopoietic stem cells modified *ex vivo* using Prime Editors that have been designed to correct a high percentage of cells containing the disease-causing mutation. We plan to submit an investigational new drug, or IND, application with the U.S. Food and Drug Administration, or the

FDA, in the first half of 2024. We believe Prime Editing is uniquely well-suited to address this form of CGD. We have completed our clinical trial design and selected global trial sites to maximize access to patients and expedite enrollment for PM359 clinical trials.

In August 2023, we received Rare Pediatric Drug designation, or RPDD, from the FDA for PM359. The FDA grants RPDD to medicines intended for the treatment of serious and life-threatening diseases that primarily affect children ages 18 years or younger and fewer than 200,000 people in the United States. Companies that receive approval for a New Drug Application, or NDA, or Biologics License Application, or BLA, for a rare pediatric disease may be eligible to receive a voucher for priority review of a subsequent marketing application for a different product. If we receive a priority review voucher, it may be used by us or sold to a third party. In addition, in January 2024, we received Orphan Drug designation from the FDA for PM359. The FDA may grant orphan designation to a drug or biological product intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making a drug or biological product available in the United States for this type of disease or condition will be recovered from sales of the product.

We have demonstrated Prime Editing of cells preclinically at predicted therapeutically relevant levels for all of our leading programs, including Wilson's Disease and Glycogen Storage Disease 1b, or GSD1b, in our liver area of focus, Retinitis Pigmentosa/Rhodopsin, or RHO, in our ocular area of focus, and Friedreich's Ataxia in our neuromuscular area of focus. In 2023, we presented preclinical research across multiple programs, including proof-of-concept data from *in vivo* rodent and large animal studies. Specifically, in October 2023, we reported preclinical data demonstrating the ability of liver-targeted Prime Editors to precisely correct with high efficiency one of the most prevalent disease-causing mutations of GSD1b in non-human primates, or NHPs, and rodent models. These data are the first Prime Editing data in NHPs, which we believe provide further proof-of-concept for our Prime Editing approach to potentially address a wide range of diseases. We presented additional *in vivo* data in October 2023, demonstrating that Prime Editors can efficiently and precisely correct the predominant mutations that cause RHO associated autosomal dominant retinitis pigmentosa. These data suggest that our proprietary dual adeno-associated virus, or AAV, platform can effectively deliver Prime Editors to the eye, with the potential to treat a range of retinal diseases.

In addition, our comprehensive suite of assays used to identify potential off-target events has been expanded to include new, unbiased genome-wide tools. These analyses have continued to demonstrate minimal to no detectable off-target edits, chromosomal rearrangements or translocations. No off-target activity has been detected in any of our leading programs, including CGD, Wilson's Disease, GSD1b, and RHO. We believe these preliminary analyses, across multiple editing programs, suggest a potentially best-in-class safety profile.

Recent Enhancements

We have designed proprietary high throughput methods to identify highly efficient Prime Editors and have advanced the reach and efficiency of our Prime Editing technology. In addition, we have designed a modular platform we believe will accelerate our ongoing efforts and enable rapid generation of new product candidates. We believe the core components, such as clinical, regulatory, and delivery modalities, can be leveraged to drive acceleration, efficiency and execution of our pipeline.

We believe our Prime Assisted Site-Specific Integrase Gene Editing, or PASSIGE, technology, may enable Prime Editing to insert gene-sized sequences precisely, potentially addressing large markets. PASSIGE uses Prime Editing to insert one or more recombinase recognition sequences at precisely chosen locations in the genome. In our preclinical studies, we have shown that a site-specific recombinase locates the recombinase recognition sequence and carries out DNA recombination, resulting in the desired large DNA sequence insertion at the desired location in the genome. We believe that such a technology has the potential to precisely insert "gene-sized" pieces of DNA, at a predetermined and specific site in the genome.

For example, in combination with multiplex Prime Editing, we believe PASSIGE may be able to overcome existing challenges — such as manufacturing time, cost, yield for autologous cell therapy, cell quality issues, and safety risks associated with semi-random integration and double strand breaks at multiple genomic loci — to create a potentially best-in-class allogeneic chimeric antigen receptor T cells, or CAR-T, cell product. In December 2023, we presented preclinical data suggesting PASSIGE is greater than 80 percent efficient for non-viral, site-specific delivery of chimeric antigen receptor to primary human T-cells to generate CAR-T cells, and can be multiplexed with Prime Editing at other target sites by non-viral one-step delivery with no loss of efficiency. PASSIGE-generated CAR-T cells showed potent antigen-specific function and cytotoxicity.

In addition, we are progressing the development of Prime Editors for the treatment of cystic fibrosis, which is caused by mutations in the *CFTR* gene, and in January 2024 entered into a therapeutic development agreement with the Cystic Fibrosis Foundation, or CFF, in which CFF agreed to provide us with up to \$15 million to support this development. We intend to progress two distinct strategies for applying Prime Editing to treat cystic fibrosis: hotspot editing and PASSIGE. Through hotspot editing, we aim to address a large percentage of cystic fibrosis patients with multiple mutations at mutational hotspots using a small number of Prime Editors. In parallel, using PASSIGE, we aim to address nearly all people with cystic fibrosis using a single superexon insertion strategy. Both of these strategies have the potential to restore expression of the cystic fibrosis transmembrane conductance regulator in individuals' lung cells under native expression conditions.

Furthermore, in June 2023, we entered into a research collaboration with Cimeio Therapeutics, Inc., or Cimeio, to combine our Prime Editing platform and Cimeio's Shielded Cell and Immunotherapy Pairs, or SCIP, platform to develop Prime Edited SCIP for genetic diseases, acute myeloid leukemia, and myelodysplastic syndrome. The overall goal of the research is to reduce the toxicity of conditioning regimens and introduce new therapeutic options to meaningfully expand the utility of hematopoietic stem cell, or HSC, transplant and enable the *in vivo* selection of edited HSCs to potentially remove the need for transplantation entirely.

Our Delivery Technologies

We believe our Prime Editing programs are well-positioned to leverage the clinical, regulatory, and manufacturing advancements made to date in the biotechnology field in gene therapy, gene editing, and their delivery modalities to accelerate our progression to clinical trials and potential approval. To unlock the full potential of our Prime Editing technology across our areas of focus, we are pursuing numerous clinically validated delivery modalities in parallel. For a given tissue type, we intend to use the delivery modality with the most compelling biodistribution and Prime Editing efficiency. We are currently focusing on three delivery modalities: (a) electroporation for delivery to blood cells and immune cells *ex vivo*; (b) lipid nanoparticles, or LNPs, for non-viral *in vivo* delivery to the liver, lung and potentially other organs in the future; and (c) AAV for viral *in vivo* delivery to the eye and ear, and potentially the central nervous system, lung and muscle.

Our goal is to develop highly modular delivery systems that allow us to rapidly develop new products targeting the same cells/tissues/organs by leveraging the approaches and data that precedes them. For example, we are developing a proprietary universal targeted LNP intended to be used across our liver programs. As discussed above, in a preclinical experiment, LNP-delivered Prime Editors for GSD1b achieved high levels of precise editing in non-human primate, or NHP, livers, with up to 83 percent hepatocyte editing after a single LNP administration. These results may accelerate development for other Prime Editing liver programs.

Anticipated Milestones

We expect that key upcoming events will continue to drive the Prime Medicine platform forward. Specifically, in the first half of 2024, we expect to file an IND application with the FDA and/or a clinical trial agreement, or CTA, with a foreign regulatory agency for PM359, and expect our first clinical data in 2025.

We intend to file an additional IND or CTA for one of our liver programs in the second half of 2025 or first half of 2026.

We also anticipate expanding our PASSIGE technology for new and existing programs, and we intend to maximize Prime Editing's broad therapeutic potential and create value through strategic business development that extends the reach and impact of Prime Editing to areas beyond our current areas of focus.

We believe our Prime Editing programs are well-positioned to leverage the clinical, regulatory, and manufacturing advancements made to date in the biotechnology field in gene therapy, gene editing, and their delivery modalities to accelerate our progression to clinical trials and potential approval.

Recent Developments

Certain Unaudited Preliminary Financial Results

We estimate that our cash, cash equivalents, short-term investments, related party short-term investments, and restricted cash were approximately \$135.2 million as of December 31, 2023. We estimate that our cash, cash equivalents, short-term investments, and related party short-term investments were approximately \$121.7 million as of December 31, 2023, excluding our restricted cash of \$13.5 million. The foregoing information is based on preliminary unaudited information and management estimates for the year ended December 31, 2023, is not a comprehensive statement of our financial results, and is subject to completion of our financial closing procedures. During our financial closing process our estimates can differ materially from our initial estimates presented herein based on our receipt of updated information. See the sections entitled "Risk Factors" and "Special Note Regarding Forward-Looking Statements" in this prospectus supplement and the documents incorporated by reference herein, for a discussion of certain factors that could result in differences between these preliminary unaudited estimates and the actual results.

These preliminary unaudited estimates of our cash, cash equivalents, short-term investments, related party short-term investments, and restricted cash have been prepared by and are the responsibility of management. Our independent registered public accounting firm has not audited, reviewed or performed any procedures with respect to such preliminary estimates and accordingly does not express an opinion or any other form of assurance with respect thereto. The report of our independent registered public accounting firm incorporated by reference into this document relates to our previously issued financial statements. It does not extend to the preliminary financial information and should not be read to do so. It is possible that we or our independent registered public accounting firm may identify items that require us to make adjustments to the financial information set forth above. These estimates should not be viewed as a substitute for financial statements prepared in accordance with accounting principles generally accepted in the United States and they are not necessarily indicative of the results to be achieved in any future period. Accordingly, you should not draw any conclusions based on the foregoing estimates and should not place undue reliance on these preliminary estimates. We assume no duty to update these preliminary estimates, except as required by law. Complete results as of December 31, 2023 will be included in our Annual Report on Form 10-K for the year ended December 31, 2023 (the "2023 Form 10-K").

Cash Runway Statement and Our Ability to Continue as a Going Concern

Based on our current business plans and excluding any net proceeds from this offering, as of the date hereof, we believe that our existing cash, cash equivalents, short-term investments, and related party short-term investments will be sufficient to fund our operating expenses and capital expenditure requirements into the third quarter of 2024.

In accordance with Accounting Standards Update 2014-15, Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern (Subtopic 205-40), we are required to evaluate whether there are conditions and events, considered in the aggregate, that raise substantial doubt about our ability to continue as a going concern from the issuance date of our financial statements. Because our existing

cash, cash equivalents, short-term investments, and related party short-term investments will not be sufficient to fund our operations, as currently planned, for more than one year beyond the filing date of this prospectus supplement, we have determined that there is substantial doubt regarding our ability to continue as a going concern. In addition, in connection with the future filing of the 2023 Form 10-K, although we expect to receive \$140.0 million in gross proceeds from this offering, we expect that we will disclose in such filing that we will not have sufficient liquidity to fund our operations for more than one year beyond the filing date of the 2023 Form 10-K. As a result, we expect that the opinion from our independent registered public accounting firm on such annual financial statements will contain an explanatory paragraph about such substantial doubt about our ability to continue as a going concern. We will require additional funding for the development of our current or future product candidates through regulatory authorization or approval and commercialization, if authorized or approved, and to support our continued operations. There is no assurance that we will be successful in obtaining sufficient funding on acceptable terms, if at all, and we could be forced to delay, reduce or eliminate some or all of our research and development programs, product portfolio expansion or commercialization efforts, which could materially adversely affect our business prospects or our ability to continue operations.

Corporate History and Information

We were incorporated under the laws of the State of Delaware in September 2019 under the name Prime Medicine, Inc. Our principal executive offices are located at 21 Erie Street, Cambridge, MA 02139 and our telephone number at that address is (617) 564-0013. We maintain an Internet website at the following address: www.primemedicine.com. The information contained in, or that can be accessed through, our website does not constitute a part of this prospectus supplement and is not incorporated by reference in this prospectus supplement or in any other filings we make with the SEC. We have included our website in this prospectus supplement solely as an inactive textual reference. Our common stock trades on The Nasdaq Global Market under the symbol “PRME.”

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, as amended (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. These provisions include:

- being permitted to only disclose two years of audited financial statements in addition to any required unaudited interim financial statements with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure in our periodic reports and registration statements;
- reduced disclosure about our executive compensation arrangements;
- not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved; and
- an 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 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 on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenue of \$1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering; (iii) the date on which we have issued more than \$1.07 billion in nonconvertible debt during the previous three years; or (iv) the last day of the fiscal year in which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission (the “SEC”), which means the market value of our common stock that is held

by non-affiliates exceeds \$700 million as of the prior June 30th. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus supplement. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. Additionally, 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 to avail ourselves of this exemption and, therefore, while we are an emerging growth company, we will not be subject to new or revised accounting standards at the same time that they become applicable to other public companies that are not emerging growth companies. As a result of this election, our financial statements may not be comparable to those of other public companies that comply with new or revised accounting pronouncements as of public company effective dates.

We are also a “smaller reporting company” as defined in the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies until the fiscal year following the determination that our stock held by non-affiliates is more than \$250 million measured on the last business day of our second fiscal quarter, or our annual revenues are less than \$100 million during the most recently completed fiscal year and our stock held by non-affiliates is more than \$700 million measured on the last business day of our second fiscal quarter.

THE OFFERING

Common Stock We Are Offering Pursuant to this Prospectus Supplement

19,200,001 shares.

Pre-funded warrants offered by us

We are also offering, in lieu of common stock, to certain investors who so choose, pre-funded warrants to purchase 3,200,005 shares of our common stock. The purchase price of each pre-funded warrant equals the price per share at which the shares of our common stock are being sold to the public in this offering, minus \$0.00001, which is the exercise price of each pre-funded warrant per share. The pre-funded warrants do not expire, and each pre-funded warrant will be exercisable at any time after the date of issuance of such pre-funded warrant, subject to an ownership limitation. See "Description of Pre-Funded Warrants." This prospectus supplement also relates to the offering of the shares of our common stock issuable upon the exercise of such pre-funded warrants.

The lock-up restrictions described in this prospectus supplement under "Underwriting" will not apply to issuance of common stock upon the exercise of the pre-funded warrants during the 90-day period following the date of the prospectus supplement.

Option to Purchase Additional Shares

We have granted the underwriters an option for a period of 30 days from the date of this prospectus supplement to purchase up to and additional 3,360,000 shares of our common stock. The number of shares subject to the underwriters' option equals 15% of the total number of shares of common stock we are offering plus the shares of common stock underlying the pre-funded warrants.

Common Stock to be Outstanding after this Offering

119,724,301 shares (or 123,084,301 shares if the underwriters exercise their option to purchase additional shares in full), in each case assuming no exercise of any pre-funded warrants offered and sold by us.

Use of Proceeds

We estimate that the net proceeds to us from this offering will be approximately \$131.2 million, or approximately \$150.9 million if the underwriters exercise their option to purchase additional shares in full. We currently intend to use the net proceeds from this offering, together with our existing cash, cash equivalents, short-term investments, and related party short-term investments, primarily to fund research and development and clinical development to support the advancement of current or future product candidates and the expansion of our research and development programs, and the remainder for working capital, capital expenditures and other general corporate purposes. See "[Use of Proceeds](#)."

Risk Factors

Investing in our securities involves significant risks. You should read the “Risk Factors” section of this prospectus supplement beginning on page [S-9](#) and page [1](#) of the accompanying prospectus, and under similar headings in the other documents, including our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q, incorporated by reference into this prospectus supplement and the accompanying prospectus, for a discussion of factors to consider carefully before deciding to invest in our securities.

Nasdaq Global Market Symbol

Our shares of common stock are listed on the Nasdaq Global Market under the symbol “PRME.” We do not intend to list the pre-funded warrants on the Nasdaq Global Market or any other national securities exchange or any recognized trading system. Without an active market, the liquidity of the pre-funded warrants will be limited. See “Description of Pre-Funded Warrants.”

All information in this prospectus supplement related to the number of shares of our common stock to be outstanding immediately after this offering is based on 97,324,301 shares of our common stock outstanding as of September 30, 2023. The number of shares outstanding as of September 30, 2023 as used throughout this prospectus supplement, unless otherwise indicated, excludes:

- 7,634,966 shares of common stock issuable upon the exercise of stock options outstanding as of September 30, 2023, at a weighted average exercise price of \$9.70 per share;
- 1,262,000 shares of common stock issuable upon the vesting of restricted common stock outstanding as of September 30, 2023;
- 8,805,586 shares of common stock available for future issuance under our 2022 Stock Option and Incentive Plan as of September 30, 2023, as well as any increases in the number of shares of common stock reserved for issuance thereunder; and
- 1,942,700 shares of common stock available for future issuance under our 2022 Employee Stock Purchase Plan as of September 30, 2023, as well as any increases in the number of shares of common stock reserved for issuance thereunder.

Unless otherwise stated, all information contained in this prospectus supplement assumes:

- no exercise of stock options or the vesting of restricted common stock after September 30, 2023;
- no exercise by the underwriters of their option to purchase additional shares of our common stock from us; and
- no exercise of the pre-funded warrants that we are offering in this offering in lieu of common stock to certain investors.

In addition, the number of shares outstanding immediately after this offering does not include shares of common stock that we may offer and sell in the future pursuant to our sales agreement, or the Sales Agreement, with Jefferies LLC, as sales agent.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before you decide to invest in our securities, you should carefully consider the risks and uncertainties described below and in Part I, Item 1A. “Risk Factors” in our most recent Annual Report on Form 10-K for the year ended December 31, 2022, and any of our subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as applicable, together with all other information contained in this prospectus supplement and in our filings with the SEC that we have incorporated by reference in this prospectus supplement. If any of the following risks actually occurs, our business, financial condition or results of operations could be adversely affected, which, in turn, could have a negative impact on the price of our common stock. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. Please also read carefully the section above titled “Special Note Regarding Forward-Looking Statements.”

Additional Risks Related To Our Common Stock, Pre-Funded Warrants And This Offering

Our preliminary financial results represent management’s current estimates and are subject to change.

The preliminary financial results contained in “Prospectus Supplement Summary—Certain Unaudited Preliminary Financial Results” are only unaudited, preliminary estimates and are based on information available to management as of the date of this prospectus supplement and these estimates could change. Our actual financial results as of December 31, 2023 are subject to the completion of our financial statements as of and for such period. Such actual financial results will not be available until after this offering is completed and, consequently, will not be available to you prior to investing in this offering. Our actual financial results as of December 31, 2023 may differ materially from the preliminary financial results we have provided as a result of the completion of our final adjustments, audit by our independent registered public accounting firm and other developments arising between now and the time that our financial results for such period are finalized. Our independent registered public accounting firm has not audited, reviewed or performed any procedures with respect to such preliminary estimates and accordingly do not express an opinion or any other form of assurance with respect thereto. Complete results as of December 31, 2023 will be included in the 2023 Form 10-K. See the other risks described in this section, “Prospectus Supplement Summary—Certain Unaudited Preliminary Financial Results” and “Special Note Regarding Forward-Looking Statements” for additional information regarding factors that could result in differences between these unaudited, preliminary financial results and the actual financial results we will report as of December 31, 2023.

If you purchase securities in this offering, you will suffer immediate and substantial dilution.

If you purchase shares of our common stock or pre-funded warrants in this offering, you will incur immediate and substantial dilution in the as adjusted net tangible book value of your common stock or the underlying pre-funded warrant purchased in this offering because the price that you pay will be substantially greater than the net tangible book value per share of the shares you acquire. This dilution is due to our investors who purchased shares of our common stock prior to this offering having paid substantially less when they purchased their shares than the price at which shares of our common stock are being offered to the public in this offering. To the extent outstanding options are exercised, or outstanding restricted common stock vest, there will be further dilution to new investors. As a result of the dilution to your holdings, you may receive significantly less than the purchase price paid in this offering, if anything, in the event of a liquidation. For a further description of the dilution that you will experience immediately after this offering, see the section of this prospectus supplement titled “Dilution.”

The pre-funded warrants are not listed on any exchange and we do not intend to list the pre-funded warrants on any exchange.

If you purchase pre-funded warrants, you may be unable to sell such warrants at the prices desired or at all. There is no existing trading market for the pre-funded warrants and there can be no assurance that a liquid market will develop or be maintained for the pre-funded warrants, or that you will be able to sell any of the pre-funded warrants at a particular time (if at all). In addition, we do not intend to apply for listing of the pre-funded warrants on Nasdaq or any other securities exchange or nationally recognized trading system. The liquidity of the trading market in the pre-funded warrants and the sale price, if any, for the pre-funded warrants, may be adversely affected by, among other things: (i) changes in the overall market for the pre-funded warrants; (ii) changes in our financial performance or prospects; (iii) changes or perceived changes in our creditworthiness; (iv) the prospects for companies in the industry generally; (v) the number of holders of the pre-funded warrants; and (vi) the interest of securities dealers in making a market for the pre-funded warrants.

Except for the right to participate in certain dividends and distributions, holders of the pre-funded warrants will have no rights as common stockholders until such holders exercise their pre-funded warrants and acquire our common stock.

Until holders of the pre-funded warrants exercise their pre-funded warrants and acquire shares of our common stock, such holders will have no rights with respect to the shares of our common stock underlying such pre-funded warrants, except that the holder of a pre-funded warrant shall be entitled to participate in certain distributions, including cash dividends, if any, to all holders of our common stock for no consideration. Upon exercise of their respective pre-funded warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Significant holders or beneficial owners of our common stock may not be permitted to exercise the pre-funded warrants that they hold.

A holder of the pre-funded warrants will not be entitled to exercise any portion of such pre-funded warrants which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) to exceed 4.99% of the total number of shares of our common stock outstanding immediately after giving effect to the exercise, or (ii) the combined voting power of our securities beneficially owned by such holder (together with its affiliates and other attribution parties) to exceed 4.99% of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. Such percentage may be increased by the holder of the pre-funded warrants to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from the holder to us. As a result, you may not be able to exercise your pre-funded warrants for shares of our common stock at a time when it would be financially beneficial for you to do so. In such circumstance you could seek to sell your pre-funded warrants to realize value, but you may be unable to do so in the absence of an established trading market for the pre-funded warrants.

We will not receive any meaningful amount of additional funds upon the exercise of the pre-funded warrants.

Each pre-funded warrant will be exercisable until it is fully exercised and by means of payment of the nominal cash purchase price upon exercise or by means of a "cashless exercise" according to a formula set forth in the pre-funded warrant. Accordingly, we will not receive any meaningful additional funds upon the exercise of the pre-funded warrants.

If we do not maintain a current and effective registration statement relating to the share of common stock issuable upon exercise of the pre-funded warrants, holders will only be able to exercise such pre-funded warrants on a “cashless basis.”

If we do not maintain a current and effective registration statement relating to the shares of common stock issuable upon exercise of the pre-funded warrants at the time that holders wish to exercise such pre-funded warrants, they will only be able to exercise them on a “cashless basis” provided that an exemption from registration is available. As a result, the number of ordinary shares that holders will receive upon exercise of the pre-funded warrants will be fewer than it would have been had such holder exercised his warrant for cash, and holders may be limited in their ability to immediately sell shares upon exercise subject to volume or other securities law limitations. Further, if an exemption from registration is not available, holders would not be able to exercise on a cashless basis and would only be able to exercise their pre-funded warrants for cash if a current and effective registration statement relating to the shares of common stock issuable upon exercise of the pre-funded warrants is available.

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

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

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

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our business, financial condition or results of operations or enhance the value of our common stock. Furthermore, you will not have the opportunity as part of your investment decision to assess whether such proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of our cash and cash equivalents, including the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our cash and cash equivalents, including the net proceeds from this offering, in ways that ultimately increase the value of your investment. The net proceeds from this offering are intended to be used to primarily fund research and development and clinical development to support the advancement of our current or future product candidates and the expansion of our research and development programs, and the remainder for working capital, capital expenditures and other general corporate purposes. Pending the use of net proceeds, we intend to invest the net proceeds in a variety of capital preservation instruments, including short-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States government.

The failure by our management to apply these funds effectively could result in financial losses that could harm our business, cause the price of our common stock to decline and delay the development of our current and future product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

We have a history of losses and expect to incur substantial future losses; because our existing cash, cash equivalents, short-term investments, and related party short-term investments and the expected net proceeds from this offering will not be sufficient to fund our operations, as currently planned, for more than one year beyond the filing date of this prospectus supplement, we have determined that there is substantial doubt regarding our ability to continue as a going concern; we also expect that without raising additional sufficient funds, the report of our independent

registered public accounting firm on our consolidated financial statements for fiscal year ended December 31, 2023 will express substantial doubt about our ability to continue as a going concern.

Since inception, we have incurred significant operating losses and, as of September 30, 2023, we had an accumulated deficit of \$425.7 million. Our net loss was \$132.5 million for the nine months ended September 30, 2023, and \$122.8 million for the year ended December 31, 2022. To date, we have financed our operations primarily through the proceeds from our initial public offering and private placements of our preferred stock. Substantially all of our losses have resulted from expenses incurred in connection with our research and development and from general and administrative costs associated with our operations.

Based on our current business plans and excluding any net proceeds from this offering, we believe that our estimated cash, cash equivalents, short-term investments, and related party short-term investments of \$121.7 million as of December 31, 2023, will not be sufficient to fund our operating expenses and capital expenditure requirements for more than one year beyond the filing date of this prospectus supplement. Because our existing cash, cash equivalents, short-term investments, and related party short-term investments will not be sufficient to fund our operations for more than one year beyond the filing date of this prospectus supplement, we have determined that there is substantial doubt regarding our ability to continue as a going concern.

In addition, in connection with our future filing of the 2023 Form 10-K, although we expect to receive \$140 million in gross proceeds from this offering, we expect that we will disclose in such filing that we will not have sufficient liquidity to fund our operations for more than one year beyond the filing date of the 2023 Form 10-K and therefore that raises substantial doubt about our ability to continue as a going concern. As a result, we expect that the opinion from our independent registered public accounting firm on such annual financial statements will contain an explanatory paragraph about such substantial doubt about our ability to continue as a going concern.

The substantial doubt about our ability to continue as a going concern may adversely affect our stock price and our ability to raise capital. If we are unable to obtain additional capital, we may not be able to continue our operations on the scope or scale as currently conducted, and that could have a material adverse effect on our business, results of operations and financial condition.

Because we do not anticipate paying any cash dividends on shares of our common stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on shares of our common stock. We anticipate that we will retain our earnings, if any, for future growth and therefore do not anticipate paying cash dividends in the future. As a result, only appreciation of the price of our shares of common stock will provide a return to shareholders.

Sales of a significant number of shares of our common stock in the public markets, or the perception that such sales could occur, could depress the market price of our common stock.

Sales of a substantial number of our shares in the public markets could occur at any time, and such sales, or the perception in the market that holders of a substantial number of our shares intend to sell their shares, could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities. We, our directors and our executive officers and certain of our stockholders have agreed not to sell, dispose of or hedge any shares or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus supplement continuing through and including the date 90 days after the date of this prospectus supplement, subject to certain exceptions. J.P. Morgan Securities LLC, Jefferies LLC, Cowen and Company, LLC and BMO Capital Markets Corp. may, in their discretion, release the restrictions on any such shares at any time without notice. We cannot predict the effect that future sales of our common stock would have on the market price of our common stock.

DESCRIPTION OF PRE-FUNDED WARRANTS

The following is a brief summary of certain terms and conditions of the pre-funded warrants being offered in this offering. The following description is subject in all respects to the provisions contained in the pre-funded warrants.

Form

The pre-funded warrants will be issued as individual warrant agreements to investors. The form of pre-funded warrant will be filed as an exhibit to a Current Report on Form 8-K that we expect to file with the SEC.

Term

The pre-funded warrants do not expire.

Exercisability

The pre-funded warrants are exercisable at any time on or after their original issuance. The pre-funded warrants are exercisable, at the option of each holder, in whole or in part by delivering to us a duly signed exercise notice and by payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise. As an alternative to payment in immediately available funds, the holder may, in its sole discretion, elect to exercise the pre-funded warrant through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the pre-funded warrant. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the fair market value of the common stock on the exercise date.

Exercise Limitations

We may not effect the exercise of any pre-funded warrant, and a holder will not be entitled to exercise any portion of any pre-funded warrant that, upon giving effect to such exercise, would cause the aggregate number of shares of our common stock beneficially owned by the holder (together with its attribution affiliates (as defined below)) to exceed 4.99% of the number of shares of our common stock that would be outstanding immediately after giving effect to the exercise. However, any holder of a pre-funded warrant may increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from the holder to us. For purposes of the foregoing, "attribution affiliates" means, collectively, the following persons and entities with respect to any holder: (i) its direct or indirect affiliates, (ii) any person acting or who could be deemed to be acting as a Section 13(d) "group" together with the holder or any attribution parties and (iii) any other persons whose beneficial ownership of our common stock would or could be aggregated with the holder and/or any other attribution parties for purposes of Section 13(d) or Section 16 of the Securities Exchange Act of 1934, as amended.

Exercise Price

The exercise price per whole share of our common stock purchasable upon the exercise of the pre-funded warrants is \$0.00001 per share of common stock. The exercise price of the pre-funded warrants and the number of shares of our common stock issuable upon exercise of the pre-funded warrants is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

Transferability

Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent. The ownership of the pre-funded warrants and any transfers of the pre-funded

warrants will be registered in a warrant register maintained by the warrant agent. We will initially act as warrant agent for the pre-funded warrants.

Exchange Listing

There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the pre-funded warrants on the Nasdaq Global Market or any other national securities exchange or any nationally recognized trading system. Without an active market, the liquidity of the pre-funded warrants will be limited.

Fundamental Transactions

In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of more than 50% of the voting power represented by our outstanding common stock, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction without regard to any limitations on exercise contained in the pre-funded warrants.

Rights as a Stockholder

Except for the right to participate in certain dividends and distributions and as otherwise provided in the pre-funded warrants or by virtue of a holder's ownership of shares of our common stock, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the pre-funded warrant.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$131.2 million, or approximately \$150.9 million if the underwriters exercise in full their option to purchase additional shares of common stock, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We will receive nominal proceeds, if any, from any exercise of pre-funded warrants.

We currently intend to use the net proceeds from this offering, together with our existing cash, cash, short-term investments, and related party short-term investments, to primarily fund research and development and clinical development to support the advancement of our current or future product candidates and the expansion of our research and development programs, and the remainder for working capital, capital expenditures and other general corporate purposes. Pending the use of net proceeds, we intend to invest the net proceeds in a variety of capital preservation instruments, including short-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States government.

This expected use of our net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from clinical trials, as well as any collaborations that we may enter into with third parties for our drug candidates, and any unforeseen cash needs, including the factors described under "Risk Factors" in this prospectus supplement and in the documents incorporated by reference herein. Due to the uncertainties inherent in the clinical development and regulatory approval process, it is difficult to estimate with certainty the exact amounts of the net proceeds from this offering that may be used for the above purposes. As such, our management will retain broad discretion over the use of the net proceeds from this offering and investors will be relying on the judgment of our management regarding the application of the proceeds from this offering.

DILUTION

If you invest in our common stock or pre-funded warrants in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock or pre-funded warrants and the as-adjusted net tangible book value per share of our common stock immediately after this offering.

As of September 30, 2023, we had net tangible book value of approximately \$194.0 million, or \$1.99 per share of our common stock, based upon 97,324,301 shares of our common stock outstanding as of that date. Historical net tangible book value per share is equal to our total tangible assets, less total liabilities, divided by the number of outstanding shares of our common stock.

Without taking into account any other changes in our historical net tangible book value after September 30, 2023, other than to give effect to the issuance and sale of shares of our common stock in this offering at the public offering price of \$6.25 per share, and pre-funded warrants to purchase shares of common stock at the public offering price of \$6.24999 per pre-funded warrant (which equals the public offering price of the common stock at which shares of our common stock are being sold to the public in this offering less the \$0.00001 per share exercise price of each such pre-funded warrant) (including shares of common stock issuable upon exercise of the pre-funded warrants, any proceeds which may be received upon exercise of the pre-funded warrants but excluding any resulting accounting associated with the exercise of the pre-funded warrants), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our as-adjusted net tangible book value as of September 30, 2023 would have been \$325.1 million, or \$2.72 per share. This represents an immediate increase in as-adjusted net tangible book value of \$0.73 per share to existing stockholders and an immediate dilution in as-adjusted net tangible book value of \$3.53 per share to investors participating in this offering. Dilution per share to investors purchasing shares of our common stock or pre-funded warrants in this offering is determined by subtracting as adjusted net tangible book value per share after this offering from the public offering price per share paid by investors purchasing shares of our common stock or pre-funded warrants in this offering, as illustrated in the following table:

Public offering price per share		\$	6.25
Historical net tangible book value per share as of September 30, 2023	\$	1.99	
Increase in as-adjusted net tangible book value per share attributable to this offering	\$	0.73	
As-adjusted net tangible book value per share after this offering		\$	2.72
Dilution per share to new investors in this offering		\$	3.53

If the underwriters exercise their option to purchase additional shares in full, the dilution in as adjusted net tangible book value per share to investors participating in this offering would be \$2.80 per share.

The above discussion and table are based on 97,324,301 shares of our common stock outstanding as of September 30, 2023 excludes:

- 7,634,966 shares of common stock issuable upon the exercise of stock options outstanding as of September 30, 2023, at a weighted average exercise price of \$9.70 per share;
- 1,262,000 shares of common stock issuable upon the vesting of restricted common stock outstanding as of September 30, 2023;
- 8,805,586 shares of common stock available for future issuance under our 2022 Stock Option and Incentive Plan as of September 30, 2023, as well as any increases in the number of shares of common stock reserved for issuance thereunder; and

- 1,942,700 shares of common stock available for future issuance under our 2022 Employee Stock Purchase Plan as of September 30, 2023, as well as any increases in the number of shares of common stock reserved for issuance thereunder.

If the underwriters exercise in full their option to purchase up to an additional 3,360,000 shares of common stock, the number of shares of common stock held by existing stockholders will be reduced to 79.1% of the total number of shares of common stock to be outstanding after this offering.

To the extent that outstanding options are exercised, shares of common stock are issued upon the vesting of outstanding restricted common stock, or additional shares of common stock are issued pursuant to the Sales Agreement with Jefferies LLC, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently plan to retain all of our future earnings, if any, to finance the operation, development and growth of our business. Therefore, we do not expect to pay any cash dividends on our common stock in the foreseeable future. Payment of future dividends, if any, will be at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, restrictions contained in current or future financing instruments, provisions of applicable law and other factors the board deems relevant. Our ability to pay dividends on our common stock may be restricted by the terms of any of our future indebtedness.

UNDERWRITING

We are offering the shares of common stock and pre-funded warrants described in this prospectus supplement through a number of underwriters. J.P. Morgan Securities LLC, Jefferies LLC, Cowen and Company, LLC and BMO Capital Markets Corp. are acting as joint book-running managers of the offering and as representatives of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement, the number of shares of common stock and pre-funded warrants listed next to its name in the following table:

Name	Number of Shares	Number of Pre-Funded Warrants
J.P. Morgan Securities LLC	7,680,001	1,280,002
Jefferies LLC	4,800,000	800,001
Cowen and Company, LLC	3,840,000	640,001
BMO Capital Markets Corp.	1,920,000	320,001
Chardan Capital Markets, LLC	960,000	160,000
Total	19,200,001	3,200,005

The underwriters are committed to purchase all the shares of common stock offered by us if they purchase any shares of common stock. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the shares of common stock directly to the public at the public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of \$0.225 per share and per pre-funded warrant. After the initial offering of the shares of common stock and pre-funded warrants to the public, if all of the securities are not sold at the public offering price, the underwriters may change the offering price and the other selling terms. Sales of any shares of common stock and pre-funded warrants made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to 3,360,000 additional shares of common stock from us to cover sales of shares of common stock by the underwriters which exceed the number of shares of common stock specified in the table above. The underwriters have 30 days from the date of this prospectus supplement to exercise this option to purchase additional shares of common stock. If any shares of common stock are purchased with this option to purchase additional shares of common stock, the underwriters will purchase shares of common stock in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares of common stock on the same terms as those on which the shares of common stock are being offered.

The underwriting fee is equal to the public offering price per common share and per pre-funded warrant less the amount paid by the underwriters to us per common share and per pre-funded warrant, as the case may be. The underwriting fee is \$0.375 per share and per pre-funded warrant. The following table shows the per share, per pre-funded warrant and total underwriting discounts and commissions to be paid

to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares of common stock.

	Without option to purchase additional shares exercise	With full option to purchase additional shares exercise
Per Share	\$ 0.375	\$ 0.375
Per Pre-Funded Warrant	\$ 0.375	\$ 0.375
Total	\$ 8,400,000.33	\$ 9,660,000.00

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately \$450,000. We have agreed to reimburse the underwriters for certain of their expenses in an amount of up to \$40,000.

A prospectus supplement in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares of common stock or pre-funded warrants to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed with the underwriters that we will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, or submit to, or file with, the SEC a registration statement under the Securities Act relating to, any of our shares of common stock or securities convertible into or exercisable or exchangeable for any of our shares of common stock, or publicly disclose the intention to undertake any of the foregoing, or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences of ownership of any shares of common stock or any such other securities (regardless of whether any of these transactions are to be settled by the delivery of shares of common stock or such other securities, in cash or otherwise), in each case without the prior written consent of the representatives for a period of 90 days after the date of this prospectus, other than shares of our common stock to be sold in this offering.

The restrictions on our actions described in the immediately preceding paragraph do not apply to certain transactions, including (i) the issuance of shares of common stock or securities convertible into or exercisable for shares of common stock pursuant to the conversion or exchange of convertible or exchangeable securities or the exercise of warrants or options (including net exercise) or the settlement of restricted stock units (including net settlement), in each case outstanding on the date of this prospectus and described herein, (ii) grants of stock options, stock awards, restricted stock, restricted stock units, or other equity awards and the issuance of shares of common stock or securities convertible into or exercisable or exchangeable for shares of common stock (whether upon the exercise of stock options or otherwise) to our employees, officers, directors, advisors, or consultants pursuant to the terms of an equity compensation plan in effect as of the closing date of this offering and described herein, (iii) the issuance of up to 10% of outstanding shares of our common stock, or securities convertible into, exercisable for, or which are otherwise exchangeable for, shares of our common stock, immediately following the closing date of this offering, in acquisitions or other similar strategic transactions or pursuant to an employee benefit plan assumed by us in connection with such acquisitions or similar transactions or other securities issued in connection with a transaction with an unaffiliated third party that includes a debt financing or a bona fide commercial relationship (including joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements) or any acquisition of assets or acquisition of not less than a majority or controlling portion of the equity of another entity,

provided that the recipients of any such shares of common stock and/or securities issued pursuant to this clause (iii) during the 90-day restricted period described above enter into a lock-up agreement with the underwriters for the remainder of the 90-day restricted period, or (iv) the filing of any registration statement on Form S-8 relating to securities granted or to be granted pursuant to any plan in effect on the date of this prospectus and described herein or any assumed benefit plan pursuant to an acquisition or similar strategic transaction contemplated by clause (iii). The restrictions described in the immediately preceding paragraph will also not apply to issuance of common stock upon the exercise of the pre-funded warrants during the 90 day period following the date of this prospectus, provided that the common stock received upon such exercise shall be subject to such restrictions.

Our directors and executive officers, and certain holders of our common stock who beneficially own in the aggregate approximately 57% of the outstanding shares of our common stock as of February 14, 2024 (such persons, the “lock-up parties”) have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each lock-up party, with limited exceptions, for a period of 90 days after the date of this prospectus (such period, the “restricted period”), may not (and may not cause any of their direct or indirect affiliates to), without the prior written consent of the representatives, (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for common stock (including without limitation, common stock or such other securities which may be deemed to be beneficially owned by the lock-up party in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant) (collectively with the common stock, “lock-up securities”), (2) enter into any hedging, swap, or other agreement or transaction that transfers, in whole or in part, any of the economic consequences of ownership of the lock-up securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of lock-up securities, in cash or otherwise, (3) make any demand for or exercise any right with respect to the registration of any lock-up securities, or (4) publicly disclose the intention to do any of the foregoing. Each lock-up party will further acknowledge that the foregoing precludes the lock-up party from engaging in any hedging or other transactions or arrangements (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward, swap or any other derivative transaction or instrument, however described or defined) designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition or transfer (whether by the lock-up party or any other person) of any economic consequences of ownership, in whole or in part, directly or indirectly, of any lock-up securities, whether any such transaction or arrangement (or instrument provided for thereunder) would be settled by delivery of lock-up securities, in cash or otherwise. Each lock-up party will further confirm subject to limited exceptions and conditions that (1) neither the lock-up party, nor any of its affiliates, is party to as of the date of the lock-up agreement, any transaction which would have been restricted by the lock-up agreement if it had been entered into by the lock-up party during the restricted period or (2) that it will furnish the representatives with the details of any transaction the lock-up party, or any of its affiliates, is a party to as of the date hereof, which transaction would have been restricted by the lock-up agreement if it had been entered into by the lock-up party during the restricted period. The restrictions described in this paragraph and contained in the lock-up agreements between the underwriters and the lock-up parties do not apply, subject in certain cases to various conditions, to certain transactions, including (a) transfers or dispositions of the lock-up party’s lock-up securities: (i) as a bona fide gift or gifts, or for bona fide estate planning purposes, (ii) by will or intestacy or other testamentary document, (iii) to any trust for the direct or indirect benefit of the lock-up party or the immediate family of the lock-up party, or if the lock-up party is a trust, to a trustor or beneficiary of the trust or to the estate of a beneficiary of such trust, (iv) to a corporation, partnership, limited liability company, investment fund or other entity (A) of which the lock-up party and/or the immediate family of the lock-up party are, directly or indirectly, the legal and beneficial owner of all of the outstanding equity securities or similar interests, or (B) controlled by, or under common control with, the lock-up party or the immediate family of the lock-up party, (v) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (iv) above, (vi) if the lock-up party is a corporation, partnership, limited liability company, trust or other

business entity, (A) to another corporation, partnership, limited liability company, trust, or other business entity that is an affiliate (as defined in Rule 405 promulgated under the Securities Act) of the lock-up party, or to any investment fund or other entity controlling, controlled by, managing or managed by or under common control or common investment management with the lock-up party or affiliates of the lock-up party (including, for the avoidance of doubt, where the lock-up party is a partnership, to its general partner or a successor partnership or fund, or any other funds managed by such partnership), or to the undersigned's or its affiliates' partners, managers, members, employees, officers, directors or trustees, or (B) as part of a distribution or other transfer to general or limited partners, direct or indirect members, subsidiaries, affiliates or shareholders of the lock-up party, (vii) by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce decree or separation agreement, (viii) to us from an employee upon death, disability or termination of employment, in each case, of such employee, (ix) as part of a sale or other transaction involving of the lock-up party's or its direct or indirect affiliates' lock-up securities acquired in this offering, subject to certain exceptions, or in open market transactions after the pricing date for this offering; (x) to us in connection with the vesting, settlement, or exercise of restricted stock units, options, warrants or other rights to purchase shares of common stock (including, in each case, by way of "net" or "cashless" exercise), including for the payment of exercise price and tax and remittance payments due as a result of the vesting, settlement, or exercise of such restricted stock units, options, warrants or rights, provided that any such shares of common stock received upon such exercise, vesting or settlement shall be subject to the terms of the lock-up agreement, and provided further that any such restricted stock units, options, warrants or rights are held by the lock-up party pursuant to an agreement or equity awards granted under a stock incentive plan or other equity award plan, each such agreement or plan which is described in this prospectus, (xi) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction that is approved by our board of directors and made to all holders of our capital stock involving a "change of control" (as defined below) (for purposes hereof, "change of control" shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons, of shares of capital stock if, after such transfer, such person or group of affiliated persons would hold at least a majority of our outstanding voting securities (or the surviving entity)) provided that in the event that such tender offer, merger, consolidation or other similar transaction is not completed, the lock-up party's lock-up securities shall remain subject to the provisions of the lock-up agreement, or (xii) pursuant to any trading plan pursuant to Rule 10b5-1 under the Securities Exchange Act that was entered into by the undersigned prior to the date of this Letter Agreement; provided that (A) in the case of any transfer, disposition or distribution pursuant to clause (a)(i), (ii), (iii), (iv), (v) and (vii), such transfer shall not involve a disposition for value and in the case of any transfer, disposition or distribution pursuant to clause (a)(i), (ii), (iii), (iv), (v), (vi) and (vii), each donee, devisee, transferee or distributee shall execute and deliver to the representatives a lock-up letter in the form of the lock-up agreement, (B) in the case of any transfer, disposition or distribution pursuant to clause (a) (i), (ii), (iii), (iv), (v) and (vi) no filing by any party (donor, donee, devisee, transferor, transferee, distributor or distributee) under the Exchange Act or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than (i) a filing on a Form 5 or a filing required pursuant to Section 13 of the Exchange Act and the rules and regulations promulgated thereunder subject to certain conditions, and (ii) filing in the case of a transfer pursuant to clause (a)(i) required pursuant to Section 16 of the Exchange Act, provided, however, any such filing shall state that such transfer is a bona fide gift and that such shares remain subject to the restrictions set forth in such agreement), (C) in the case of any transfer or distribution pursuant to clause (a)(vii), (viii) and (x) it shall be a condition to such transfer that no public filing, report or announcement shall be voluntarily made and if any filing under Section 16(a) of the Exchange Act, or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of common stock in connection with such transfer or distribution shall be legally required during the restricted period, such filing, report or announcement shall clearly indicate in the footnotes thereto the nature and conditions of such transfer, and (D) in the case of any transfer or distribution pursuant to clause (a)(xii), any filing required to be made under Section 16(a) of the Exchange Act state that such transfer or distribution is pursuant to such 10b5-1 plan; (b) the exercise of outstanding options, settled restricted stock units or other equity awards or warrants pursuant to plans described in this prospectus; provided that any lock-up securities received upon such exercise, vesting or settlement shall be subject to

the terms of the lock-up agreement; (c) the conversion of outstanding preferred stock, warrants to acquire preferred stock or convertible securities into shares of common stock or warrants to acquire shares of common stock; provided that any such shares of common stock or warrants received upon such conversion shall be subject to the terms of the lock-up agreement; and (d) the establishment of trading plans pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of lock-up securities; provided that (1) such plans do not provide for the transfer of lock-up securities during the restricted period and (2) no filing by any party under the Exchange Act or other public announcement shall be required or made voluntarily in connection with such trading plan except as required by law or regulation, provided further that to the extent such filing under the Exchange Act or other public announcement is required by law or regulation, such filing or announcement shall include a statement to the effect that no transfers may be made pursuant to such 10b5-1 plan during the restricted period.

The representatives, in their sole discretion, may release the securities subject to any of the lock-up agreements with the underwriters described above, in whole or in part at any time.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act.

Our common stock is listed on The Nasdaq Global Market under the symbol "PRME". We do not intend to list the pre-funded warrants on the Nasdaq Global Market, any other national securities exchange or any other recognized trading system.

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing or retarding a decline in the market price of the shares of common stock while this offering is in progress. These stabilizing transactions may include making short sales of shares of common stock, which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be "covered" shorts, which are short positions in an amount not greater than the underwriters' option to purchase additional shares of common stock referred to above, or may be "naked" shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option to purchase additional shares of common stock, in whole or in part, or by purchasing shares of common stock in the open market. In making this determination, the underwriters will consider, among other things, the price of shares of common stock available for purchase in the open market compared to the price at which the underwriters may purchase shares of common stock through the option to purchase additional shares of common stock. 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 shares of common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares of common stock in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the shares of common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase shares of common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares of common stock as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the shares of common stock or preventing or retarding a decline in the market price of the shares of common stock, and, as a result, the price of the shares of common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on Nasdaq, in the over-the-counter market or otherwise.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The securities offered by this prospectus supplement may not be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus supplement comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus supplement in any jurisdiction in which such an offer or a solicitation is unlawful.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. Jefferies LLC is the sales agent under our Open Market Sale Agreement, or the Sale Agreement, dated November 3, 2023, between us and Jefferies LLC. Under the Sale Agreement, we may offer and sell, from time to time, shares of our common stock through Jefferies LLC through an “at the market offering” as defined in Rule 415(a)(4) promulgated under the Securities Act. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future. The underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each a “Relevant State”), no shares of our common stock or pre-funded warrants have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares of our common stock or pre-funded warrants which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of Shares or pre-funded warrants may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

- (a) to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;
- (b) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation), subject to obtaining the prior consent of the underwriters; or
- (c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares of common stock or pre-funded warrants shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation and each person who initially acquires any shares of common stock or pre-funded warrants or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with each of the underwriters and the Company that it is a “qualified investor” within the meaning of Article 2(e) of the Prospectus Regulation. In the case of any shares of common stock or pre-funded warrants being offered to a financial intermediary as that term is used in the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares of common stock or pre-funded warrants acquired by it in the

offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares or pre-funded warrants to the public other than their offer or resale in a Relevant State to qualified investors as so defined or in circumstances in which the prior consent of the underwriters have been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an “offer to the public” in relation to shares of common stock or pre-funded warrants in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any Shares or pre-funded warrants to be offered so as to enable an investor to decide to purchase or subscribe for any Shares or pre-funded warrants, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

Notice to Prospective Investors in the United Kingdom

No shares of our common stock or pre-funded warrants have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the shares of common stock or pre-funded warrants which has been approved by the Financial Conduct Authority, except that the shares of common stock or pre-funded warrants may be offered to the public in the United Kingdom at any time:

- (a) to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;
- (b) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of underwriters for any such offer; or
- (c) in any other circumstances falling within Section 86 of the FSMA.

provided that no such offer of the shares of common stock or pre-funded warrants shall require the Company or any manager to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. For the purposes of this provision, the expression an “offer to the public” in relation to the shares of our common stock or pre-funded warrants in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock or pre-funded warrants to be offered so as to enable an investor to decide to purchase or subscribe for any shares of our common stock or pre-funded warrants and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are “qualified investors” (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the “Order”) and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as “relevant persons”) or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares of our common stock or pre-funded warrants in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Notice to Prospective Investors in Canada

The shares of common stock or pre-funded warrants may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument

45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares of common stock or pre-funded warrants must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Switzerland

The shares of common stock or pre-funded warrants may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document does not constitute a prospectus within the meaning of, and has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares of common stock or pre-funded warrants or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares of common stock or pre-funded warrants have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares of common stock or pre-funded warrants will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares of common stock or pre-funded warrants has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares of common stock or pre-funded warrants.

Notice to Prospective Investors in Hong Kong

The shares of common stock or pre-funded warrants have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (the "SFO") of Hong Kong and any rules made thereunder; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the "CO") or which do not constitute an offer to the public within the meaning of the CO. No advertisement, invitation or document relating to the shares of common stock or pre-funded warrants has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares of common stock or pre-funded warrants which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made thereunder.

Notice to Prospective Investors in Singapore

Each joint lead manager has acknowledged that this prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each joint lead manager has represented and agreed that it has not offered or sold any shares of common stock or pre-funded warrants or caused the shares of common stock or pre-funded warrants to be made the subject of an invitation for subscription or purchase and will not offer or sell any shares of common stock or pre-funded warrants or cause the shares of common stock to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares of common stock, whether directly or indirectly, to any person in Singapore other than:

- (a) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the "SFA")) pursuant to Section 274 of the SFA;
- (b) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or
- (c) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares of common stock or pre-funded warrants are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares of common stock or pre-funded warrants pursuant to an offer made under Section 275 of the SFA except:
 - (i) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
 - (ii) where no consideration is or will be given for the transfer;
 - (iii) where the transfer is by operation of law;
 - (iv) as specified in Section 276(7) of the SFA; or
 - (v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Notice to Prospective Investors in Japan

The shares of common stock or pre-funded warrants have not been and will not be registered pursuant to Article 4, Paragraph 1 of the Financial Instruments and Exchange Act. Accordingly, none of the shares of common stock or pre-funded warrants nor any interest therein may be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any "resident" of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise

in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan in effect at the relevant time.

Notice to Prospective Investors in the United Arab Emirates

The shares of common stock or pre-funded warrants have not been, and are not being, publicly offered, sold, promoted or advertised in the United Arab Emirates (including the Dubai International Financial Centre) other than in compliance with the laws of the United Arab Emirates (and the Dubai International Financial Centre) governing the issue, offering and sale of securities. Further, this prospectus does not constitute a public offer of securities in the United Arab Emirates (including the Dubai International Financial Centre) and is not intended to be a public offer. This prospectus has not been approved by or filed with the Central Bank of the United Arab Emirates, the Securities and Commodities Authority or the Dubai Financial Services Authority.

Notice to Prospective Investors in Israel

In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of common stock or pre-funded warrants under the Israeli Securities Law, 5728—1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728—1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions, or the Addressed Investors; or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728—1968, subject to certain conditions, or the “Qualified Investors”. The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. We have not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728—1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our shares of common stock or pre-funded warrants to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728—1968. In particular, we may request, as a condition to be offered shares of common stock or pre-funded warrants, that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728—1968 and the regulations promulgated thereunder in connection with the offer to be issued shares of common stock or pre-funded warrants; (iv) that the shares of common stock or pre-funded warrants that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728—1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728—1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor’s name, address and passport number or Israeli identification number.

Notice to Prospective Investors in Australia

This prospectus:

- (a) does not constitute a disclosure document or a prospectus under Chapter 6D.2 of the Corporations Act 2001 (Cth) (the “Corporations Act”);
- (b) has not been, and will not be, lodged with the Australian Securities and Investments Commission (“ASIC”), as a disclosure document for the purposes of the Corporations Act and does not purport

to include the information required of a disclosure document for the purposes of the Corporations Act; and

(c) may only be provided in Australia to select investors who are able to demonstrate that they fall within one or more of the categories of investors, available under section 708 of the Corporations Act (“Exempt Investors”).

The shares of common stock or pre-funded warrants may not be directly or indirectly offered for subscription or purchased or sold, and no invitations to subscribe for or buy the shares of common stock or pre-funded warrants may be issued, and no draft or definitive offering memorandum, advertisement or other offering material relating to any shares of common stock or pre-funded warrants may be distributed in Australia, except where disclosure to investors is not required under Chapter 6D of the Corporations Act or is otherwise in compliance with all applicable Australian laws and regulations. By submitting an application for the shares of common stock or pre-funded warrants, you represent and warrant to us that you are an Exempt Investor.

As any offer of shares of common stock or pre-funded warrants under this document will be made without disclosure in Australia under Chapter 6D.2 of the Corporations Act, the offer of those securities for resale in Australia within 12 months may, under section 707 of the Corporations Act, require disclosure to investors under Chapter 6D.2 if none of the exemptions in section 708 applies to that resale. By applying for the shares of common stock or pre-funded warrants you undertake to us that you will not, for a period of 12 months from the date of sale of the shares of common stock or pre-funded warrants, offer, transfer, assign or otherwise alienate those shares of common stock or pre-funded warrants to investors in Australia except in circumstances where disclosure to investors is not required under Chapter 6D.2 of the Corporations Act or where a compliant disclosure document is prepared and lodged with ASIC.

Notice to Prospective Investors in China

This prospectus will not be circulated or distributed in the PRC and the shares of common stock or pre-funded warrants will not be offered or sold, and will not be offered or sold to any person for re-offering or resale directly or indirectly to any residents of the PRC except pursuant to any applicable laws and regulations of the PRC. Neither this prospectus nor any advertisement or other offering material may be distributed or published in the PRC, except under circumstances that will result in compliance with applicable laws and regulations.

Notice to Prospective Investors in Korea

The shares of common stock or pre-funded warrants have not been and will not be registered under the Financial Investments Services and Capital Markets Act of Korea and the decrees and regulations thereunder (the “FSCMA”), and the shares of common stock or pre-funded warrants have been and will be offered in Korea as a private placement under the FSCMA. None of the shares of common stock or pre-funded warrants may be offered, sold or delivered directly or indirectly, or offered or sold to any person for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except pursuant to the applicable laws and regulations of Korea, including the FSCMA and the Foreign Exchange Transaction Law of Korea and the decrees and regulations thereunder (the “FETL”). Furthermore, the purchaser of the shares of common stock or pre-funded warrants shall comply with all applicable regulatory requirements (including but not limited to requirements under the FETL) in connection with the purchase of the shares of common stock. By the purchase of the shares of common stock or pre-funded warrants, the relevant holder thereof will be deemed to represent and warrant that if it is in Korea or is a resident of Korea, it purchased the shares of common stock or pre-funded warrants pursuant to the applicable laws and regulations of Korea.

Notice to Prospective Investors in Saudi Arabia

This document may not be distributed in the Kingdom of Saudi Arabia except to such persons as are permitted under the Offers of Securities Regulations as issued by the board of the Saudi Arabian Capital

Market Authority (“CMA”) pursuant to resolution number 2-11-2004 dated 4 October 2004 as amended by resolution number 1-28-2008, as amended (the “CMA Regulations”). The CMA does not make any representation as to the accuracy or completeness of this document and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective purchasers of the securities offered hereby should conduct their own due diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this document, you should consult an authorized financial adviser.

Notice to Prospective Investors in the Dubai International Financial Centre (“DIFC”)

This document relates to an Exempt Offer in accordance with the Markets Rules 2012 of the Dubai Financial Services Authority (“DFSA”). This document is intended for distribution only to persons of a type specified in the Markets Rules 2012 of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus supplement nor taken steps to verify the information set forth herein and has no responsibility for this document. The securities to which this document relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the securities offered should conduct their own due diligence on the securities. If you do not understand the contents of this document you should consult an authorized financial advisor.

In relation to its use in the DIFC, this document is strictly private and confidential and is being distributed to a limited number of investors and must not be provided to any person other than the original recipient, and may not be reproduced or used for any other purpose. The interests in the securities may not be offered or sold directly or indirectly to the public in the DIFC.

Notice to Prospective Investors in Bermuda

Shares of common stock or pre-funded warrants may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

LEGAL MATTERS

The validity of the securities offered by this prospectus supplement and the accompanying prospectus will be passed upon by Goodwin Procter LLP, Boston, Massachusetts. Davis Polk & Wardwell LLP, New York, New York, has acted as counsel for the underwriters in connection with this offering.

EXPERTS

The financial statements incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended December 31, 2022 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.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov and on our investor website at www.primemedicine.com. Information contained in or accessible through our website is not a part of this prospectus supplement or the accompanying prospectus and is not incorporated by reference in this prospectus supplement or the accompanying prospectus.

This prospectus supplement and the accompanying prospectus is part of a registration statement on Form S-3 that we filed with the SEC and does not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided above. Statements in this prospectus supplement and the accompanying prospectus about any documents filed as exhibits to the registration statement are summaries, and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference in this prospectus supplement and the accompanying prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus, and later information that we file with the SEC (Commission File No. 001-41536) will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made by us with the SEC (other than Current Reports on Form 8-K or portions thereof 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 and other portions of documents that are furnished, but not filed, pursuant to applicable rules promulgated by the SEC) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the filing and concurrent effectiveness of the registration statement but prior to the termination of all offerings covered by this prospectus supplement:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on [March 9, 2023](#);
- The information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2022 from our definitive proxy statement on Schedule 14A (other than information furnished rather than filed), which was filed with the SEC on [April 28, 2023](#);
- Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2023, June 30, 2023 and September 30, 2023, filed with the SEC on [May 11, 2023](#), [August 7, 2023](#) and [November 3, 2023](#), respectively;
- Current Reports on Form 8-K filed with the SEC on [May 11, 2023](#), [June 16, 2023](#), [January 5, 2024](#), and [January 5, 2024](#); and
- The description of our common stock contained in our Registration Statement on Form 8-A (File No. 001-41536) as filed with the SEC on [October 17, 2022](#), including any amendments or reports filed for the purpose of updating such description, including Exhibit 4.3 to our Annual Report on Form 10-K for the year ended December 31, 2022, as filed with the SEC on [March 9, 2023](#).

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

Prime Medicine, Inc.
21 Erie Street
Cambridge, MA 02139
(617) 564-0013

You may also access these documents, free of charge on the SEC's website at www.sec.gov or on our website at www.primemedicine.com. Information contained in or accessible through our website does not constitute a part of this prospectus supplement and is not incorporated by reference in this prospectus supplement. We have included our website solely as an inactive textual reference.

This prospectus supplement and the accompanying prospectus are part of a registration statement we filed with the SEC. We have incorporated exhibits into the registration statement. You should read the exhibits carefully for provisions that may be important to you.

You should rely only on the information incorporated by reference or provided in this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus supplement, the accompanying

prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus supplement or those documents.

In accordance with Rule 412 of the Securities Act, any statement contained in a document incorporated by reference herein shall be deemed modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

\$500,000,000



**Common Stock
Preferred Stock
Debt Securities
Warrants
Units**

We may from time to time issue, in one or more series or classes, up to \$500,000,000 in aggregate principal amount of our common stock, preferred stock, debt securities, warrants and/or units, in any combination, together or separately, in one or more offerings in amounts, at prices and on the terms that we will determine at the time of the offering and which will be set forth in a prospectus supplement to this prospectus and any related free writing prospectus.

We may offer these securities separately or together in units. Each time we sell securities described herein, we will provide prospective investors with a supplement to this prospectus that will specify the terms of the securities being offered. We may sell these securities to or through underwriters or dealers and also to other purchasers or through agents. We will set forth the names of any underwriters or agents, and any fees, conversions, or discount arrangements, in the applicable prospectus supplement. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus and in the applicable prospectus supplement. We may not sell any securities under this prospectus without delivery of the applicable prospectus supplement. You should read this document and any prospectus supplement or amendment carefully before you invest in our securities.

We are an “emerging growth company” and “smaller reporting company” under the federal securities laws and, as such, are subject to reduced public company reporting requirements. See “Prospectus Summary—Implications of Being an Emerging Growth Company and Smaller Reporting Company.”

Our common stock is listed on The Nasdaq Global Market under the symbol “PRME.” On October 31, 2023, the closing price for our common stock, as reported on The Nasdaq Global Market, was \$6.49 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing on The Nasdaq Global Market or any securities market or other exchange of the securities, if any, covered by the prospectus supplement.

Investing in these securities involves certain risks. See “[Risk Factors](#)” on page [1](#) of this prospectus as well as those included in any accompanying prospectus supplement and in the documents incorporated by reference in this prospectus for a discussion of the factors you should carefully consider before deciding to purchase these 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 November 13, 2023.

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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”) utilizing 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 for an aggregate initial offering price of up to \$500,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities described herein, we will provide one or more prospectus supplements that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus. This prospectus, together with any accompanying prospectus supplement, contains important information you should know before investing in our securities, including important information about us and the securities being offered. You should read both this prospectus, any applicable accompanying prospectus supplement, and any related free writing prospectus, together with the additional information described under the headings “[Where You Can Find More Information](#)” and “[Incorporation by Reference](#)” beginning on page 32 of this prospectus.

You should rely only on the information contained in or incorporated by reference in this prospectus, any accompanying prospectus supplement or in any related free writing prospectus filed by us with the SEC. We have not authorized anyone to provide you with different information. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in any accompanying prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any accompanying 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 materially since those dates. This prospectus, any applicable prospectus supplement and the information incorporated herein or therein by reference contains market data, industry statistics and other data that have been obtained or compiled from information made available by independent third parties. We are responsible for all of the disclosures contained in this prospectus, and we believe that these sources are reliable; however, we have not independently verified the information contained in such publications.

THIS PROSPECTUS MAY NOT BE USED TO OFFER AND SELL SECURITIES UNLESS IT IS ACCOMPANIED BY AN ADDITIONAL PROSPECTUS OR A PROSPECTUS SUPPLEMENT.

As used in this prospectus, unless the context otherwise requires, references to the terms “Prime,” “Prime Medicine,” “the Company,” “we,” “us” and “our,” and similar designations refer to Prime Medicine, Inc. and, where appropriate, our wholly-owned subsidiary.

We intend to apply for various trademarks that we use in connection with the operation of our business. This prospectus may also contain trademarks, service marks and trade names of third parties, which are the property of their respective owners. Our use or display of third parties’ trademarks, service marks, trade names or products in this prospectus is not intended to, and does not imply a relationship with, or endorsement or sponsorship by us. Solely for convenience, the trademarks, service marks and trade names referred to in this prospectus may appear without the ®, SM and ™ symbols, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable owner of these trademarks, service marks and trade names.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks set forth in our filings with the SEC that are incorporated by reference herein and any prospectus supplement, as well as other information we include or incorporate by reference into this prospectus and any applicable prospectus supplement, before making an investment decision. Our business, financial condition or results of operations could be materially adversely affected by the materialization of any of these risks. The trading price of our securities could decline due to the materialization of any of these risks, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

This prospectus and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks described in the documents incorporated herein by reference, including our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K, as applicable, and the other documents we file with the SEC that are deemed incorporated by reference into this prospectus.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements, other than statements of historical fact, contained herein, including statements regarding our plans, objectives and expectations for our business, operations and financial performance and condition, and can be identified by terminology such as “anticipate,” “believe,” “contemplate,” “continue” “could,” “estimate,” “expect,” “goal,” “hope,” “intend,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “seek,” “should,” “strategy,” “target,” “will,” “would,” “can,” “future” or the negative of these words or other similar expressions. Forward-looking statements are based on management’s belief and assumptions and on information currently available to management. Although we believe that the expectations reflected in forward-looking statements are reasonable, such statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by forward-looking statements.

Forward-looking statements include, but are not limited to, statements about:

- the initiation, timing, progress and results of our research and development programs, preclinical studies and future clinical trials;
- our ability to demonstrate, and the timing of, preclinical proof-of-concept in vivo for multiple programs;
- our ability to advance any product candidates that we may identify and successfully complete any clinical studies, including the manufacture of any such product candidates;
- our ability to pursue our four strategic indication categories: immediate target indications, differentiation target indications, “blue sky” indications and “march up the chromosome” approaches;
- our ability to quickly leverage programs within our initial target indications and to progress additional programs to further develop our pipeline;
- the timing of our investigational new drug applications submissions;
- the ability of our Prime Editing technology to address unmet medical needs in patients;
- the implementation of our strategic plans for our business, programs and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our Prime Editing technology;
- developments related to our competitors and our industry;
- our ability to leverage the clinical, regulatory, and manufacturing advancements made by gene therapy and gene editing programs to accelerate our clinical trials and approval of product candidates;
- our ability to identify and enter into future license agreements and collaborations;
- developments related to our Prime Editing technology;
- regulatory developments in the United States and foreign countries;
- our ability to attract and retain key scientific and management personnel;
- our estimates of our expenses, capital requirements and needs for additional financing;
- our anticipated use of net proceeds from any offering of our securities pursuant to this prospectus;
- general economic, industry and market conditions, including rising interest rates and inflation; and

- other risks and uncertainties, including those listed under the caption “Risk Factors” and elsewhere in our most recent Annual Report on Form 10-K and our subsequent Quarterly Reports on Form 10-Q, and the section of any accompanying prospectus supplement entitled “Risk Factors”, as well as in other filings made with the SEC subsequent to the date hereof that are incorporated by reference herein.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

We may from time-to-time provide estimates, projections and other information concerning our industry, our business and the markets for our programs and product candidates. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors. You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus and the documents that we reference therein and have filed with the SEC as exhibits thereto completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements. These estimates involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors, including those discussed under Part I, Item 1A “Risk Factors” and elsewhere in our most recent Annual Report on Form 10-K and our subsequent Quarterly Reports on Form 10-Q, and the section of any accompanying prospectus supplement entitled “Risk Factors”, as well as in other filings made with the SEC subsequent to the date hereof that are incorporated by reference herein. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance.

OUR COMPANY

Overview

We are a biotechnology company committed to delivering a new class of differentiated one-time curative genetic therapies to address the widest spectrum of diseases. We are deploying Prime Editing technology, which we believe is a versatile, precise, efficient and broad gene editing technology designed to make only the right edit at the right position within a gene.

To maximize the potential of our Prime Editing technology to provide one-time curative genetic therapies to the broadest set of diseases possible, we have purposefully built a diversified portfolio of 18 investigational therapeutic programs organized around four strategic indication categories, each set of indications chosen to deliver a different strategic goal:

- Immediate target indications: Deliberately chosen as potentially the fastest, most direct path to demonstrate technological success of Prime Editing in patients. We are initially focusing on diseases of the blood via ex vivo delivery to hematopoietic stem cells and on diseases of the liver, the eye and the ear.
- Differentiation target indications: Aimed to create therapeutics to address the underlying cause of severe genetic diseases with therapeutics that we believe could not have been created before, especially using other gene-editing approaches. These include repeat expansion diseases and conditions where expansion of pathological DNA repeats results in serious disease.
- “Blue sky” indications: Intended to push new and innovative technological developments in Prime Editing and extend its application beyond rare genetic diseases and towards our goal of more broadly addressing human disease. These programs remain in the early stages of conception and will become an increasing focus over the next few years.
- “March up the chromosome” approaches: Represents opportunities to deliver upon our overarching vision to ultimately treat all patients with a disease and correct the full set of mutations in a particular gene. This category may overlap with other strategic indication categories, where most of our disclosed indications could accommodate expansion opportunities to address additional mutations in that disease.

We believe our Prime Editing programs are well-positioned to leverage the clinical, regulatory, and manufacturing advancements made to date across gene therapy, gene editing, and delivery modalities to accelerate progression to clinical trials and potential approval.

Corporate History

We were incorporated under the laws of the State of Delaware in September 2019 under the name Prime Medicine, Inc. Our principal executive offices are located at 21 Erie Street, Cambridge, MA 02139 and our telephone number at that address is (617) 564-0013. Our website address is www.primemedicine.com. The information contained in, or that can be accessed through, our website, does not constitute a part of this prospectus, and is not incorporated by reference in this prospectus or in any other filings we make with the SEC. We have included our website in this prospectus solely as an inactive textual reference. Our common stock trades on the Nasdaq Global Market under the symbol “PRME.”

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, as amended (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. These provisions include:

- being permitted to only disclose two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;

- reduced disclosure about our executive compensation arrangements;
- not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002; and
- an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor’s report on the financial statements.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of \$1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering; (iii) the date on which we have issued more than \$1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. Additionally, 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 to avail ourselves of this exemption and, therefore, while we are an emerging growth company we will not be subject to new or revised accounting standards at the same time that they become applicable to other public companies that are not emerging growth companies. As a result of this election, our financial statements may not be comparable to those of other public companies that comply with new or revised accounting pronouncements as of public company effective dates. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

We are also a “smaller reporting company,” meaning that the market value of our shares held by nonaffiliates plus the aggregate amount of gross proceeds to us as a result of this offering is less than \$700 million and our annual revenue was less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of our shares held by nonaffiliates is less than \$700 million. 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.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of the securities offered hereby. Except as described in any applicable prospectus supplement or in any free writing prospectuses that we may authorize to be provided to you in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered hereby for general corporate purposes. General corporate purposes may include, without limitation, research and development and clinical development costs to support the advancement of our current or future product candidates and the expansion of our research and development programs; working capital; capital expenditures; and other general corporate purposes. We may temporarily invest the net proceeds in a variety of capital preservation instruments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities, or may hold such proceeds as cash, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

SECURITIES THAT MAY BE OFFERED

This prospectus contains summary descriptions of the securities we may offer from time to time. These summary descriptions are not meant to be complete descriptions of each security. The particular terms of any security will be described in the applicable prospectus supplement. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities described herein, we will provide prospective investors with a supplement to this prospectus that will contain specific information about the terms of that offering, including the specific amounts, prices and terms of the securities offered.

We may sell the securities to or through underwriters, dealers or agents, directly to purchasers or through a combination of any of these methods of sale or as otherwise set forth below under "Plan of Distribution." We, as well as any agents acting on our behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Any prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and therefore is not a complete description of our capital stock. This description is based upon, and is qualified by reference to, our certificate of incorporation, our bylaws, and applicable provisions of Delaware corporate law. You should read our certificate of incorporation and our bylaws, in each case, as amended and supplemented, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you. We refer in this section to our third amended and restated certificate of incorporation as our certificate of incorporation, and we refer to our amended and restated bylaws as our bylaws.

General

Our authorized capital stock consists of 775,000,000 shares of common stock, par value \$0.00001 per share and 10,000,000 shares of preferred stock, par value \$0.00001 per share, all of which shares of preferred stock are undesignated. The following description of our capital stock and provisions of our certificate of incorporation and bylaws are summaries and are qualified by reference to our certificate of incorporation and our bylaws, in each case, as amended and supplemented.

Common Stock

As of October 31, 2023, we had outstanding 97,324,301 shares of common stock.

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. Each outstanding share of common stock is fully paid and non-assessable.

Undesignated Preferred Stock

As of October 31, 2023, no shares of our preferred stock were issued and outstanding.

Our board of directors has the authority, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our Company or other corporate action.

The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may

also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Registration Rights

Certain of our stockholders are entitled to rights with respect to the registration of securities under the Securities Act. These rights are provided under the terms of the Amended and Restated Investors' Rights Agreement between us, certain holders of our common stock and holders of our preferred stock dated as of August 13, 2021 (the "amended and restated investors' rights agreement"). The amended and restated investors' rights agreement includes demand registration rights, short-form registration rights and piggyback registration rights. All fees, costs and expenses of underwritten registrations under this agreement will be borne by us and all selling expenses, including underwriting discounts and selling commissions, will be borne by the holders of the shares being registered.

Demand Registration Rights

Certain stockholders are entitled to demand registration rights. Under the terms of the amended and restated investors' rights agreement, we will be required, upon the written request of holders of at least a majority of the registrable securities then outstanding to file a registration statement with respect to at least a majority of the registrable securities then outstanding, we will be required to file a registration statement within 60 days of such request covering all securities eligible for registration that our stockholders request to be included in such registration. We are required to effect only one registration pursuant to this provision of the amended and restated investors' rights agreement in any twelve-month period.

Short-form Registration Rights

Pursuant to the amended and restated investors' rights agreement, if we are eligible to file a registration statement on Form S-3, upon the written request of stockholders holding at least twenty percent of the securities eligible for registration then outstanding we will be required to file a Form S-3 registration restatement with respect to outstanding securities of such stockholders having an anticipated aggregate offering, net of related fees and expenses, of at least \$3.0 million. We are required to effect only two registrations in any twelve month period pursuant to this provision of the amended and restated investors' rights agreement. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Piggyback Registration Rights

Pursuant to the amended and restated investors' rights agreement, if we register any of our securities either for our own account or for the account of other security holders, the holders of our common stock, including those issuable upon the conversion of our preferred stock, are entitled to include their shares in the registration. Subject to certain exceptions contained in the amended and restated investors' rights agreement, we and the underwriters may limit the number of shares included in the underwritten offering to the number of shares which we and the underwriters determine in our sole discretion will not jeopardize the success of the offering.

Indemnification

Our amended and restated investors' rights agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Expiration of Registration Rights

The demand registration rights and short form registration rights granted under the amended and restated investors' rights agreement will terminate on the earliest to occur of (a) the closing of certain liquidation events, (b) the fifth anniversary of the completion of our initial public offering or (c) at such time after our initial public offering when the holders' shares may be sold without restriction pursuant to Rule 144 under the Securities Act within a three month period.

Expenses

Ordinarily, other than underwriting discounts and commissions, we are generally required to pay all expenses incurred by us related to any registration effected pursuant to the exercise of these registration rights. These expenses may include all registration and filing fees, printing expenses, fees and disbursements of our counsel, reasonable fees and disbursements of a counsel for the selling security holders and blue-sky fees and expenses.

Anti-takeover Effects of our Certificate of Incorporation and Bylaws and Delaware Law

Certain provisions of the Delaware General Corporation Law (the “DGCL”) and of our certificate of incorporation and bylaws could have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board Composition and Filling Vacancies

Our certificate of incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of two-thirds or more of the shares then entitled to vote at an election 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 of directors, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No Written Consent of Stockholders

Our certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of Stockholders

Our certificate of incorporation and bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our bylaws specify the requirements as to form and content of all stockholders’ notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and Bylaws

Any amendment of our certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled

to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, limitation of liability and the amendment of our bylaws and certificate of incorporation must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended at an annual meeting of stockholders by the affirmative vote of at least two-thirds of the outstanding shares entitled to vote on the amendment, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated Preferred Stock

Our certificate of incorporation provides for 10,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Choice of Forum

Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any state law claims for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, and employees to us or our stockholders, (3) any action asserting a claim arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws (including the interpretation, validity or enforceability thereof) or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware, or (4) any action asserting a claim that is governed by the internal affairs doctrine; provided, however, that this provision shall not apply to any causes of action arising under the Securities Act, Exchange Act or to any claim for which the federal courts have exclusive jurisdiction. In addition, our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, the Exchange Act or the respective rules and regulations promulgated thereunder. To the fullest extent permitted by law, any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these forum provisions. These forum provisions may impose additional costs on stockholders, may limit our stockholders' ability to bring a claim in a forum they find favorable, and the designated courts may reach different judgments or results than other courts. In addition, there is uncertainty as to whether the federal forum provision for Securities Act claims will be enforced, which may impose additional costs on us and our stockholders.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware 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. Under Section 203, 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 85% 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, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge, exchange, mortgage or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Listing on The Nasdaq Global Market

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

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar’s address is 150 Royall Street, Canton, MA 02021, and its telephone number is (781) 575-2000.

DESCRIPTION OF DEBT SECURITIES

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

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

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

General

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

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

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

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;
- the applicability of any guarantees;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;

- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;
- the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities; the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities; and the depository for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;
- additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;
- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;

- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;
- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

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

Consolidation, Merger or Sale

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

Events of Default under the Indenture

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

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;
- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;
- if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

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

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

Subject to the terms of the indenture, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.
- A holder of the debt securities of any series will have the right to institute a proceeding under the indenture or to appoint a receiver or trustee, or to seek other remedies only if:
- the holder has given written notice to the trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request,
- such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

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

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

Modification of Indenture; Waiver

We and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under “Description of Debt Securities — Consolidation, Merger or Sale”;
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;

- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under “Description of Debt Securities — General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

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

- extending the fixed maturity of any debt securities of any series;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- provide for payment;
- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

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

Form, Exchange and Transfer

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

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

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

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

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

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

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

Payment and Paying Agents

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

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

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

Governing Law

The indenture and the debt securities will be governed by and construed in accordance with the laws of the state of New York, except to the extent that the Trust Indenture Act is applicable.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement, which includes this prospectus.

General

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we will issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the periods during which, and places at which, the warrants are exercisable;
- the manner of exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants;

- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

DESCRIPTION OF UNITS

We may issue units comprised of shares of common stock, shares of preferred stock, debt securities and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement. If so described in a particular supplement, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to the registration statement, which includes this prospectus.

Each unit that we may issue 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. The applicable prospectus supplement may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” “Description of Debt Securities” and “Description of Warrants” will apply to the securities included in each unit, to the extent relevant and as may be updated in any prospectus supplements.

Issuance in Series

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series of units will be described in the applicable prospectus supplement.

Unit Agreements

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement.

The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement:

Modification without Consent

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder:

- to cure any ambiguity; any provisions of the governing unit agreement that differ from those described below;
- to correct or supplement any defective or inconsistent provision; or
- to make any other change that we believe is necessary or desirable and will not adversely affect the interests of the affected holders in any material respect.

We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of the holder of the unaffected unit; we need only obtain any required approvals from the holders of the affected units.

Modification with Consent

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would:

- impair any right of the holder to exercise or enforce any right under a security included in the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or
- reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval:

- If the change affects only the units of a particular series issued under that agreement, the change must be approved by the holders of a majority of the outstanding units of that series; or
- If the change affects the units of more than one series issued under that agreement, it must be approved by the holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement, as the governing document.

In each case, the required approval must be given by written consent.

Unit Agreements Will Not Be Qualified under Trust Indenture Act

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

Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

Governing Law

The unit agreements and the units will be governed by New York law.

Form, Exchange and Transfer

We will issue each unit in global—i.e., book-entry—form only. Units in book-entry form will be represented by a global security registered in the name of a depository, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participants in the depository's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depository and its participants. We will describe book-entry securities, and other terms regarding the issuance and registration of the units in the applicable prospectus supplement.

Each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them.

The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount is not changed.

- Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.
- Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder's proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.
- If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise our right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement.

Only the depository will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

Payments and Notices

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following discussion is a summary of certain material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their ownership and disposition of shares of our common stock issued pursuant to this offering. For purposes of this discussion, a non-U.S. holder means a beneficial owner of our common stock that is for U.S. federal income tax purposes:

- a non-resident alien individual;
- a foreign corporation or other foreign organization taxable as a corporation; or
- a foreign trust or estate the income of which is not subject to U.S. federal income tax on a net income basis.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended (the “Code”), existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and, all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any such change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus. There can be no assurance that the Internal Revenue Service (the “IRS”), will not challenge one or more of the tax consequences described herein. We assume in this discussion that a non-U.S. holder holds shares of our common stock as a capital asset within the meaning of Section 1221 of the Code, generally property held for investment.

This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder’s individual circumstances nor does it address any aspects of U.S. state, local or non-U.S. taxes, the alternative minimum tax, the Medicare contribution tax on net investment income, the rules regarding qualified small business stock within the meaning of Section 1202 of the Code, or any other aspect of any U.S. federal tax other than income taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt or governmental organizations;
- financial institutions;
- brokers or dealers in securities;
- “regulated investment companies” and “real estate investment trusts”;
- pension plans;
- “controlled foreign corporations,” “passive foreign investment companies,” and corporations that accumulate earnings to avoid U.S. federal income tax;
- “qualified foreign pension funds,” or entities wholly owned by a “qualified foreign pension fund”;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and partners and investors therein);
- persons deemed to sell our common stock under the constructive sale provisions of the Code;

- persons that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment; and
- U.S. expatriates.

This discussion is for general information only and is not tax advice. Accordingly, all prospective non-U.S. holders of our common stock should consult their tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock.

Distributions on Our Common Stock

We have never declared or paid any cash distributions on our capital stock and we do not anticipate paying cash distributions on our common stock for the foreseeable future. Distributions, if any, on our common stock will generally constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in "Gain on Sale or Other Taxable Disposition of Our Common Stock." Any such distributions will also be subject to the discussions below under the sections entitled "Backup Withholding and Information Reporting" and "Withholding and Information Reporting Requirements-FATCA."

Subject to the discussion in the following two paragraphs in this section, dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30 percent rate or a reduced rate specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30 percent withholding tax if the non-U.S. holder satisfies applicable certification requirements. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30 percent rate or a reduced rate specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable or successor form) to the applicable withholding agent and satisfy applicable certification and other requirements. Any documentation provided to an applicable withholding agent may need to be updated in certain circumstances. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

Gain on Sale or Other Taxable Disposition of Our Common Stock

Subject to the discussions below under "Backup Withholding and Information Reporting" and "Withholding and Information Reporting Requirements-FATCA," a non-U.S. holder generally will not be subject to any U.S. federal income or withholding tax on any gain realized upon such holder's sale or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to United States

persons (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in “Distributions on Our Common Stock” also may apply;

- the non-U.S. holder is a nonresident alien individual who is present in the United States for a period or periods aggregating 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30 percent tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder’s country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or
- we are, or have been, at any time during the five-year period preceding such sale or other taxable disposition (or the non-U.S. holder’s holding period, if shorter) a “U.S. real property holding corporation,” as described below, unless our common stock is regularly traded on an established securities market and the non-U.S. holder holds no more than 5 percent of our outstanding common stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. Generally, a corporation is a U.S. real property holding corporation if the fair market value of its U.S. real property interests, as defined in the Code and applicable Treasury regulations, equals or exceeds 50 percent of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

Backup Withholding and Information Reporting

We (or the applicable paying agent) must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. A non-U.S. holder may have to comply with specific certification procedures to establish that the holder is not a United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in “Distributions on Our Common Stock,” generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker.

Non-U.S. holders should consult their tax advisors regarding the application of the information reporting and backup withholding rules to them. Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder’s U.S. federal income tax liability, if any, provided that an appropriate claim is filed with the IRS in a timely manner.

Withholding and Information Reporting Requirements - FATCA

Provisions of the Code commonly referred to as the Foreign Account Tax Compliance Act (“FATCA”) generally impose a U.S. federal withholding tax at a rate of 30 percent on payments of dividends on, or, subject to

the discussion of certain proposed U.S. Treasury regulations below, gross proceeds from the sale or other disposition of, our common stock paid to a foreign entity unless (i) if the foreign entity is a “foreign financial institution,” such foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a “foreign financial institution,” such foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA. However, the U.S. Treasury released proposed regulations which, if finalized in their present form, would eliminate the federal withholding tax of 30 percent applicable to the gross proceeds of a sale or other disposition of our common stock. In the preamble to such proposed regulations, the U.S. Treasury stated that taxpayers (including withholding agents) may generally rely on the proposed regulations until final regulations are issued. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of this withholding tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their tax advisors regarding the possible implications of this legislation on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30 percent withholding tax under FATCA.

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus and any accompanying prospectus supplement, if required, in any of the following ways: (i) to or through underwriters or dealers, (ii) directly to purchasers, including our affiliates, (iii) through agents, (iv) in an “at the market offering,” within the meaning of Rule 415(a)(4) of the Securities Act or (v) through a combination of any of these methods or any other method permitted by law. The securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices, either:

- on or through the facilities of The Nasdaq Global Market or any other securities exchange or quotation or trading service on which such securities may be listed, quoted or traded at the time of sale; and/or
- to or through a market maker otherwise than on The Nasdaq Global Market or such other securities exchanges or quotation or trading services.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. In the prospectus supplement relating to such offering, we will name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay to any such agent. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are used in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement, sales agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

In connection with the offering of securities, we may grant to the underwriters an option to purchase additional securities with an additional underwriting commission, as may be set forth in the accompanying prospectus supplement. If we grant any such option, the terms of such option will be set forth in the prospectus supplement for such securities.

If a dealer is used in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer, who may be deemed to be an “underwriter” as that term is defined in the Securities Act, may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Offered securities may also be offered and sold, if so indicated in the prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreement, if any, with us and its compensation will be described in the applicable prospectus supplement. Remarketing firms may be deemed to be underwriters in connection with their remarketing of offered securities.

Certain agents, underwriters and dealers, and their associates and affiliates, may be customers of, have borrowing relationships with, engage in other transactions with, or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

Certain underwriters may use this prospectus and any accompanying prospectus supplement for offers and sales related to market-making transactions in the securities. These underwriters may act as principal or agent in these transactions, and the sales will be made at prices related to prevailing market prices at the time of sale. Any underwriters involved in the sale of the securities may qualify as “underwriters” within the meaning of Section 2(a)(11) of the Securities Act. In addition, the underwriters’ commissions, discounts or concessions may qualify as underwriters’ compensation under the Securities Act and the rules of the Financial Industry Regulatory Authority (“FINRA”).

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallocate in connection with the offering, creating a short position for their own accounts. In addition, to cover overallocations or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

Any underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

The anticipated date of delivery of offered securities will be set forth in the applicable prospectus supplement relating to each offer.

LEGAL MATTERS

Unless the applicable prospectus supplement indicates otherwise, the validity of the securities in respect of which this prospectus is being delivered will be passed upon by Goodwin Procter LLP, Boston, Massachusetts. Any underwriters will also be advised about the validity of the securities and other legal matters by their own counsel, which will be named in the prospectus supplement.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2022 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.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov and on our website at www.primemedicine.com. Information contained in, or that can be accessed through, our website is not a part of this prospectus and is not incorporated by reference in this prospectus.

We have the authority to designate and issue more than one class or series of stock having various preferences, conversion and other rights, voting powers, restrictions, limitations as to dividends, qualifications, and terms and conditions of redemption. See "Description of Capital Stock." We will furnish a full statement of the relative rights and preferences of each class or series of our stock which has been so designated and any restrictions on the ownership or transfer of our stock to any stockholder upon request and without charge. Written requests for such copies should be directed to Prime Medicine, Inc., 21 Erie Street, Cambridge, MA 02139.

This prospectus is part of a registration statement on Form S-3 we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiaries and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including all filings made after the date of the filing of this registration statement and prior to the effectiveness of this registration statement, except as to any portion of any future report or document that is not deemed filed under such provisions until we sell all of the securities:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on [March 9, 2023](#);
- The information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2022 from our definitive proxy statement on Schedule 14A (other than information furnished rather than filed), which was filed with the SEC on [April 28, 2023](#);
- Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2023, June 30, 2023 and September 30, 2023, filed with the SEC on [May 11, 2023](#), [August 7, 2023](#) and [November 3, 2023](#), respectively;
- Current Reports on Form 8-K filed with the SEC on [May 11, 2023](#) and [June 16, 2023](#); and
- The description of our common stock contained in our Registration Statement on Form 8-A (File No. 001-41536) as filed with the SEC on [October 17, 2022](#), including any amendments or reports filed for the purpose of updating such description, including Exhibit 4.3 to our Annual Report on Form 10-K for the year ended December 31, 2022, as filed with the SEC on [March 9, 2023](#).

In addition, all reports and other documents filed by us pursuant to the Exchange Act after the date of the initial registration statement and prior to effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

Prime Medicine, Inc.
21 Erie Street
Cambridge, MA 02139
(617) 564-0013

You may also access these documents, free of charge on the SEC's website at www.sec.gov or on our website at www.primemedicine.com. Information contained in or accessible through our website does not constitute a part of this prospectus and is not incorporated by reference in this prospectus. We have included our website solely as an inactive textual reference.

Notwithstanding the foregoing, unless specifically stated to the contrary, information that we furnish (and that is not deemed "filed" with the SEC) under Items 2.02 and 7.01 of any Current Report on Form 8-K, including the related exhibits under Item 9.01, is not incorporated by reference into this prospectus or the registration statement of which this prospectus is a part.

This prospectus is part of a registration statement we filed with the SEC. We have incorporated exhibits into this registration statement. You should read the exhibits carefully for provisions that may be important to you.

You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus or those documents.



***19,200,001 Shares of Common Stock Pre-Funded Warrants to Purchase
3,200,005 Shares of Common Stock***

PROSPECTUS SUPPLEMENT

Joint book-running managers

J.P. Morgan

Jefferies

TD Cowen

BMO Capital Markets

Lead manager

Chardan

February 14, 2024
