

PRIME MEDICINE, INC.

This free writing prospectus updates the preliminary prospectus dated October 17, 2022 included in Amendment No. 2 to the Registration Statement on Form S-1 (File No. 333-267579) relating to the initial public offering of the common stock of Prime Medicine, Inc. (the "Company"). The preliminary prospectus can be accessed at the following link:
<https://www.sec.gov/Archives/edgar/data/1894562/000162828022026491/primemedicines-1a2.htm>.

This free writing prospectus updates the preliminary prospectus dated October 17, 2022 with information noted below.

Shares of common stock offered: 10,294,118 shares

Option to purchase additional shares: We have granted the underwriters an option for a period of 30 days to purchase an additional 1,544,117 shares of our common stock from us at the initial public offering price, less underwriting discounts and commissions.

Initial public offering price: \$17.00

Participation by existing stockholders:

Certain existing stockholders of our company and their affiliates have indicated to us their interest in purchasing up to an aggregate of 6,530,000 shares of common stock offered in this offering at the initial public offering price and on the same terms as the other shares of common stock being offered. Although we expect these stockholders to purchase these shares of common stock to the extent that the underwriters allocate to them, indications of interest are not binding agreements or commitments to purchase, and we and the underwriters are currently under no obligation to sell shares of common stock to them. The number of shares of common stock available for sale to the general public will be reduced to the extent that these existing stockholders or their respective affiliates purchase shares of common stock in the offering.

Prime Medicine, Inc. has filed a registration statement (including a prospectus) with the Securities and Exchange Commission (the "SEC") for the offering to which this communication relates. Before you invest, you are encouraged to read the prospectus in that registration statement and other documents the issuer has filed with the SEC for more complete information about the issuer and this offering. You may get these documents for free by visiting EDGAR on the SEC Website at www.sec.gov. Alternatively, copies of the preliminary prospectus related to the offering may be obtained from J.P. Morgan Securities LLC, c/o J.P. Morgan Securities LLC, Attention: Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, or by telephone, at (866) 803-9204; Morgan Stanley & Co. LLC, Attention: Prospectus Department, 180 Varick Street, 2nd Floor, New York, New York 10014, by telephone at (866) 718-1649, or by email at prospectus@morganstanley.com; Goldman Sachs & Co. LLC, Attention: Prospectus Department, 200 West Street, New York, New York 10282, or by telephone at (866) 471-2526, or by email prospectus-ny@ny.email.gs.com; or Jefferies LLC, Attention: Prospectus Department, 520 Madison Avenue, New York, New York, 10022, or by telephone at (877) 821-7388, or by email at prospectus_department@jefferies.com.

This communication shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of, these securities in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such state or jurisdiction.