

October 17, 2022

VIA EDGAR

Dillon Hagus
Tim Buchmiller
Tracey Houser
Angela Connell
U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F. Street, N.E.
Washington, D.C. 20549

**Re: Prime Medicine, Inc.
Acceleration Request for Registration Statement on Form S-1
File No. 333-267579**

Dear Mr. Hagus,

Pursuant to Rule 461 under the Securities Act of 1933, as amended (the “**Act**”), Prime Medicine, Inc. (the “**Company**”) hereby requests that the effective date of the above-referenced registration statement (the “**Registration Statement**”) be accelerated to October 19, 2022, at 4:00 p.m., Eastern Time, or as soon thereafter as practicable, unless we or our outside counsel, Goodwin Procter LLP, request by telephone that such Registration Statement be declared effective at some other time. In making this acceleration request, the Company acknowledges that it is aware of its responsibilities under the Act.

Once the Registration Statement is effective, please orally confirm the event with our counsel, Goodwin Procter LLP by calling Gabriela Morales-Rivera at (617) 570-1329. We also respectfully request that a copy of the written order from the Securities and Exchange Commission (the “**Commission**”) verifying the effective time and date of the Registration Statement be sent to our counsel, Goodwin Procter LLP, Attention: Gabriela Morales-Rivera, by facsimile to (617) 801-8858.

If you have any questions regarding this request, please contact Gabriela Morales-Rivera of Goodwin Procter LLP at (617) 570-1329.

Sincerely,

PRIME MEDICINE, INC.

/s/ Keith Gottesdiener

Keith Gottesdiener, M.D

President and Chief Executive Officer

cc: Carman Alenson, *Prime Medicine, Inc*
Karen Brown, *Prime Medicine, Inc*
Kingsley L. Taft, *Goodwin Procter LLP*
Gabriela Morales-Rivera, *Goodwin Procter LLP*
Della Fok, *Goodwin Procter LLP*

[Signature Page to Acceleration Request]