

UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

October 19, 2022

Keith Gottesdiener, M.D. President and Chief Executive Officer Prime Medicine, Inc. 21 Erie Street Cambridge, MA 02139

Re: Prime Medicine, Inc.

Amendment No. 2 to Registration Statement on Form S-1

Exhibit Nos. 10.13 - 10.16 Filed October 17, 2022 File No. 333-267579

Dear Dr. Gottesdiener:

We have concluded our assessment of your redacted exhibits for compliance with applicable form requirements and will process your supplemental response and related materials in accordance with your request.

Sincerely,

Division of Corporation Finance

cc: Gabriela Morales-Rivera, Esq.