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

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2023
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number 001-41536

Prime Medicine, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**84-3097762**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
21 Erie Street, Cambridge, MA	**02139**
(Address of principal executive offices)	**(Zip code)**

(617) 564-0013
(Registrant's telephone number, including area code)

Not Applicable
(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.00001 per share	**PRME**	Nasdaq Global Market

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports); and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of October 31, 2023, the registrant had 97,324,301 shares of common stock, par value $0.00001 per share, outstanding.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q includes forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. These statements involve substantial risks, assumptions and uncertainties. All statements, other than statements of historical fact, contained herein, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words "anticipate," "believe," "contemplate," "continue" "could," "estimate," "estimate," "expect," "goal," "hope," "intend," "may," "might," "plan," "possible," "potential," "predict," "project," "seek," "should," "strategy," "target," "will," "would," or the negative of these words or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this Quarterly Report on Form 10-Q include 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; and
- general economic, industry and market conditions, including rising interest rates and inflation.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and these statements may be affected by inaccurate assumptions or by known or unknown risks and uncertainties. You should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q and in subsequent SEC filings, particularly in the "Risk Factors" section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Unless otherwise disclosed, our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, collaborations, joint ventures or investments we may make or enter into.

You should read this Quarterly Report on Form 10-Q and the documents that we reference herein and have filed as exhibits to our other filings with the Securities and Exchange Commission (the "SEC") completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking

statements contained in this Quarterly Report on Form 10-Q are made as of the date hereof, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise after the date of such statements, except as required by applicable law.

This Quarterly Report on Form 10-Q also contains estimates, projections and other information concerning our industry, our business and the markets for our product candidates. Such information 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 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 Quarterly Report on Form 10-Q, 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, including those discussed under the section titled “Risk Factors” set forth in Part II, Item 1A of this Quarterly Report on Form 10-Q, if any, our Annual Report on Form 10-K that was filed with the SEC on March 9, 2023, and in other SEC filings.

PRIME MEDICINE, INC.

FORM 10-Q

FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2023

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From time to time, we may use our website to distribute material information. Our financial and other material information is routinely posted to and accessible on the Investors section of our website, available at www.primemedicine.com. Investors are encouraged to review the Investors section of our website because we may post material information on that site that is not otherwise disseminated by us. Information that is contained in and can be accessed through our website is not incorporated into, and does not form a part of, this Quarterly Report.

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements (unaudited)

PRIME MEDICINE, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(Unaudited)

(in thousands, except share and per share amounts)	September 30, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 43,959	$ 187,620
Short-term investments	116,541	98,467
Short-term investment — related party	4,817	7,834
Prepaid expenses and other current assets	19,214	2,697
Total current assets	184,531	296,618
Property and equipment, net	22,032	19,009
Operating lease right-of-use assets	17,270	29,545
Restricted cash	13,496	13,496
Other assets	1,816	1,646
Total assets	$ 239,145	$ 360,314
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable [1]	$ 14,124	$ 4,332
Accrued expenses and other current liabilities [2]	14,023	10,688
Operating lease liability	11,219	11,694
Total current liabilities	39,366	26,714
Operating lease liability, net of current	5,822	17,051
Non current deferred tax liability	—	279
Total liabilities	45,188	44,044
Commitments and contingencies		
Stockholders' equity		
Common stock, par value of $0.00001 per share; 775,000,000 shares authorized; 97,324,301 and 97,209,213 shares issued and outstanding as of September 30, 2023 and December 31, 2022, respectively	2	2
Additional paid-in capital	619,791	609,849
Accumulated other comprehensive loss	(149)	(384)
Accumulated deficit	(425,687)	(293,197)
Total stockholders' equity	193,957	316,270
Total liabilities and stockholders' equity	$ 239,145	$ 360,314

(1) Includes related party amount of $0.1 million as of September 30, 2023.
(2) Includes related party amount of $0.3 million as of December 31, 2022.

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

PRIME MEDICINE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands, except share and per share amounts)	2023	2022	2023	2022
Operating expenses:				
Research and development [1]	$ 40,967	$ 25,047	$ 106,446	$ 57,664
General and administrative	10,492	6,608	30,303	20,194
Total operating expenses	51,459	31,655	136,749	77,858
Loss from operations	(51,459)	(31,655)	(136,749)	(77,858)
Other income (expense):				
Change in fair value of short-term investment — related party	(1,579)	1,789	(3,017)	(6,419)
Other income, net	2,222	728	6,997	977
Total other income (expense), net	643	2,517	3,980	(5,442)
Net loss before income taxes	(50,816)	(29,138)	(132,769)	(83,300)
(Provision for) benefit from income taxes	108	(212)	279	762
Net loss	$ (50,708)	$ (29,350)	$ (132,490)	$ (82,538)
Cumulative dividend on preferred stock	—	(6,362)	—	(18,879)
Net loss attributable to common stockholders	$ (50,708)	$ (35,712)	$ (132,490)	$ (101,417)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.55)	$ (1.61)	$ (1.46)	$ (4.91)
Weighted-average common shares outstanding, basic and diluted	91,846,835	22,226,301	90,469,866	20,665,225
Comprehensive loss:				
Net loss	$ (50,708)	$ (29,350)	$ (132,490)	$ (82,538)
Change in unrealized loss on investments, net of tax	119	(304)	235	(427)
Comprehensive loss	$ (50,589)	$ (29,654)	$ (132,255)	$ (82,965)

(1) Includes related party amount of $0.1 million and $0.8 million for the three and nine months ended September 30, 2023, respectively.

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

PRIME MEDICINE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(Unaudited)

(in thousands, except share amounts)	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Losses	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance as of December 31, 2022	97,209,213	$ 2	$ 609,849	$ (384)	$ (293,197)	$ 316,270
Issuance of common stock upon exercise of stock options	18,596	—	68	—	—	68
Stock-based compensation expense	—	—	1,681	—	—	1,681
Change in unrealized loss on investments, net of tax	—	—	—	179	—	179
Net loss	—	—	—	—	(39,397)	(39,397)
Balance as of March 31, 2023	97,227,809	2	611,598	(205)	(332,594)	278,801
Issuance of common stock upon exercise of stock options	42,106	—	166	—	—	166
Stock-based compensation expense	—	—	3,583	—	—	3,583
Change in unrealized loss on investments, net of tax	—	—	—	(63)	—	(63)
Net loss	—	—	—	—	(42,385)	(42,385)
Balance as of June 30, 2023	97,269,915	2	615,347	(268)	(374,979)	240,102
Issuance of common stock upon exercise of stock options	54,386	—	227	—	—	227
Stock-based compensation expense	—	—	4,217	—	—	4,217
Change in unrealized loss on investments, net of tax	—	—	—	119	—	119
Net loss	—	—	—	—	(50,708)	(50,708)
Balance as of September 30, 2023	97,324,301	$ 2	$ 619,791	$ (149)	$ (425,687)	$ 193,957

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

PRIME MEDICINE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE AND CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

(Unaudited)

(in thousands, except share amounts)	Redeemable Convertible Preferred Stock		Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Losses	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount				
Balance as of December 31, 2021	115,761,842	$ 196,157	45,658,957	$ 199,643	32,413,860	$ —	$ 15,162	$ (27)	$ (171,376)	$ (156,241)
Reclassification of forward contract — related party	—	—	—	—	1,101,525	—	12,020	—	—	12,020
Stock-based compensation expense	—	—	—	—	—	—	1,123	—	—	1,123
Net loss	—	—	—	—	—	—	—	—	(23,840)	(23,840)
Change in unrealized loss on investments, net of tax	—	—	—	—	—	—	—	(5)	—	(5)
Balance as of March 31, 2022	115,761,842	196,157	45,658,957	199,643	33,515,385	—	28,305	(32)	(195,216)	(166,943)
Repurchase of unvested restricted common stock	—	—	—	—	(3,116)	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	1,346	—	—	1,346
Net loss	—	—	—	—	—	—	—	—	(29,348)	(29,348)
Change in unrealized loss on investments, net of tax	—	—	—	—	—	—	—	(118)	—	(118)
Balance as of June 30, 2022	115,761,842	196,157	45,658,957	199,643	33,512,269	—	29,651	(150)	(224,564)	(195,063)
Issuance of common stock upon exercise of stock options	—	—	—	—	55,687	—	204	—	—	204
Repurchase of unvested restricted common stock	—	—	—	—	(8,044)	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	1,417	—	—	1,417
Net loss	—	—	—	—	—	—	—	—	(29,350)	(29,350)
Change in unrealized loss on investments, net of tax	—	—	—	—	—	—	—	(304)	—	(304)
Balance as of September 30, 2022	115,761,842	$ 196,157	45,658,957	$ 199,643	33,559,912	$ —	$ 31,272	$ (454)	$ (253,914)	$ (223,096)

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

PRIME MEDICINE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(Unaudited)

(in thousands)	Nine Months Ended September 30, 2023	2022
Cash flows used in operating activities:		
Net loss	$ (132,490)	$ (82,538)
Adjustments to reconcile net loss to net cash used in operating activities		
Stock-based compensation expense	9,481	3,885
Non cash lease expense	9,440	6,992
Depreciation expense	3,406	1,354
Change in fair value of short-term investment — related party	3,017	6,419
Amortization of premiums and discount on short-term investments	(2,320)	100
Deferred income taxes	(279)	(762)
Loss on disposal of property and equipment	—	8
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(9,040)	(1,080)
Accounts payable	6,861	2,027
Accrued expenses and other current liabilities	(755)	(29,961)
Lease liabilities	(8,869)	(7,558)
Net cash used in operating activities	(121,548)	(101,114)
Cash flows used in investing activities:		
Maturities of investments	85,021	68,000
Purchases of investments	(100,541)	(89,464)
Purchases of property and equipment	(6,884)	(11,281)
Payments of security deposits	(170)	(664)
Net cash used in investing activities	(22,574)	(33,409)
Cash flows provided by (used in) financing activities:		
Net proceeds from stock option exercises	461	63
Payments of deferred offering costs	—	(2,642)
Net cash provided by (used in) financing activities	461	(2,579)
Net change in cash, cash equivalents, and restricted cash	(143,661)	(137,102)
Cash, cash equivalents, and restricted cash at beginning of period	201,116	198,545
Cash, cash equivalents, and restricted cash at end of period	$ 57,455	$ 61,443
Reconciliation of cash, cash equivalents and restricted cash:		
Cash, cash equivalents, and restricted cash at end of period	$ 57,455	$ 61,443
Less: restricted cash	13,496	13,496
Total cash, and cash equivalents	$ 43,959	$ 47,947

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

PRIME MEDICINE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(Unaudited)

(in thousands)	Nine Months Ended September 30, 2023	2022
Supplemental cash flow information:		
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 3,265	$ 28,590
Decrease in right-of-use assets due to lease termination	$ 6,100	$ —
Supplemental disclosure of non-cash investing and financing activities:		
Purchases of property and equipment included in accounts payable and accrued expenses	$ 513	$ 870
Settlement of forward contract — related party	$ —	$ 12,020
Deferred offering costs included in accounts payable and accrued expenses	$ —	$ 239

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

PRIME MEDICINE, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(Unaudited)

1. Nature of the Business and Basis of Presentation

Prime Medicine, Inc., together with its consolidated subsidiary (the "Company") is a biotechnology company committed to deliver genetic therapies to address diseases by deploying gene editing technology, Prime Editing. The company is deploying Prime Editing technology, a versatile, precise, efficient and broad gene editing technology, which is designed to make only the right edit at the right position within a gene. With the theoretical potential to repair approximately 90 percent of known disease-causing genetic mutations across many organs and cell types, medicines based on Prime Editing, if approved, could offer a one-time curative genetic therapeutic option to a broad set of patients. The Company was incorporated in the State of Delaware in September 2019.

Reverse Stock Split

On October 12, 2022, in connection with the Company's initial public offering ("IPO"), the Company effected a 1-for-3.10880 reverse stock split of its issued and outstanding shares of common stock and a proportional adjustment to the existing conversion ratios of each series of the Company's preferred stock. Accordingly, all share and per share amounts for all periods presented in the accompanying condensed consolidated financial statements and notes thereto have been adjusted retroactively, where applicable, to reflect this stock split and adjustment of the preferred stock conversion ratios.

Liquidity and Capital Resources

Since its inception, the Company has devoted substantially all of our resources to building its Prime editing platform and advancing development of our portfolio of programs, establishing and protecting our intellectual property, conducting research and development activities, organizing and staffing our company, business planning, raising capital and providing general and administrative support for these operations. The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry including, but not limited to, technical risks associated with the successful research, development and manufacturing of product candidates, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations and the ability to secure additional capital to fund operations. Current and future programs will require significant research and development efforts, including extensive preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure. Even if the Company's drug development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

In connection with its IPO, completed in October 2022, the Company issued and sold 11,721,456 shares of its common stock, including 1,427,338 shares pursuant to the exercise of the underwriters' option to purchase additional shares, at a price to the public of $17.00 per share. As a result of the IPO, the Company received $180.2 million in net proceeds, after deducting underwriting discounts, commissions and offering costs of $19.1 million. In connection with the IPO, all outstanding shares of redeemable convertible preferred stock converted into 51,923,758 shares of the Company's common stock.

Risks and Uncertainties

The Company is subject to risks and uncertainties common to early stage companies in the biotechnology industry, including, but not limited to, completing preclinical studies and clinical trials, obtaining regulatory approval for product candidates, market acceptance of products, development by competitors of new technological innovations, dependence on key personnel, the ability to attract and retain qualified employees, reliance on third-party organizations, protection of proprietary technology, compliance with government regulations, and the ability to raise additional capital to fund operations. The Company's product candidates currently under development will require significant additional research and development efforts, including extensive preclinical and clinical testing and

regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure, and extensive compliance-reporting capabilities. Even if the Company's development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

Since its inception, the Company has incurred substantial losses and, as of September 30, 2023, the Company had an accumulated deficit of $425.7 million. The Company expects to generate operating losses and negative operating cash flows for the foreseeable future. The Company expects that its cash, cash equivalents, and investments as of September 30, 2023 of $165.3 million will be sufficient to fund its operations for at least the next twelve months from the date of issuance of these financial statements. The Company will need additional financing to support its continuing operations and pursue its growth strategy. Until such time as the Company can generate significant revenue from product sales, if ever, it expects to finance its operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. The Company may be unable to raise additional funds or enter into such other agreements when needed on favorable terms or at all. The inability to raise capital as and when needed would have a negative impact on the Company's financial condition and its ability to pursue its business strategy. The Company will need to generate significant revenue to achieve profitability, and it may never do so.

Basis of Presentation

The accompanying condensed consolidated financial statements reflect the operations of the Company and its wholly-owned subsidiary. Intercompany balances and transactions have been eliminated in consolidation. The accompanying condensed consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States of America ("U.S. GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASU") of the Financial Accounting Standards Board ("FASB").

The accompanying condensed consolidated financial statements of Prime Medicine, Inc. are unaudited. The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited annual consolidated financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for the fair statement of the Company's financial position as of September 30, 2023, the results of its operations for the three and nine months ended September 30, 2023 and 2022, the condensed consolidated statements of stockholders' equity for the three and nine months ended September 30, 2023 and 2022, and its cash flows for the nine months ended September 30, 2023 and 2022. The financial data and other information disclosed in these notes related to the three and nine months ended September 30, 2023 and 2022 are also unaudited. The results for the three and nine months ended September 30, 2023 are not necessarily indicative of results to be expected for the year ending December 31, 2023, any other interim periods, or any future year or period. The condensed consolidated balance sheet data as of December 31, 2022 was derived from our audited financial statements, but does not include all disclosures required by U.S. GAAP. These interim financial statements should be read in conjunction with the audited financial statements as of and for the year ended December 31, 2022, and notes thereto, which are included in the Company's Annual Report on Form 10-K that was filed with the Securities and Exchange Commission (the "SEC") on March 9, 2023.

2. Summary of Significant Accounting Policies

The Company's significant accounting policies are disclosed in Note 2,*Summary of significant accounting policies*, in the audited consolidated financial statements for the year ended December 31, 2022, and notes thereto, included in the Company's Annual Report on Form 10-K that was filed with the SEC on March 9, 2023. Since the date of those financial statements, there have been no material changes to its significant accounting policies.

Use of Estimates

The preparation of the Company's condensed consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting periods. Significant estimates and

assumptions reflected within these condensed consolidated financial statements include, but are not limited to the valuation of the Company's common stock and stock-based awards, and the valuation of the related party forward contract liability. The Company bases its estimates on historical experience, known trends and other market-specific or other relevant factors that it believes to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates, as there are changes in circumstances, facts and experience. Actual results may differ materially from those estimates or assumptions.

Recently Issued Accounting Pronouncements Not Yet Adopted

Accounting standards that have been issued by the FASB or other standards-setting bodies that do not require adoption until a future date are not expected to have a material impact on our financial statements upon adoption.

3. Fair Value Measurements and Investments

The following tables present the Company's fair value hierarchy for its assets that are measured at fair value on a recurring basis and indicate the level of the fair value hierarchy utilized to determine such fair value:

	As of September 30, 2023:			
(in thousands)	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ —	$ 20,204	$ —	$ 20,204
U.S. Treasury and government securities	—	15,980	—	15,980
Short-term investments:				
U.S. Treasury and government securities	—	116,541	—	116,541
Related party short-term investment:				
Beam equity securities	4,817	—	—	4,817
Total cash equivalents and investments	$ 4,817	$ 152,725	$ —	$ 157,542

	As of December 31, 2022:			
(in thousands)	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ —	$ 120,511	$ —	$ 120,511
Short-term investment:				
U.S. Treasury securities	—	98,467	—	98,467
Related party short-term investment:				
Beam equity securities	7,834	—	—	7,834
Total cash equivalents and short-term investments	$ 7,834	$ 218,978	$ —	$ 226,812

The Company classifies its U.S. Treasury securities as short-term based on each instrument's underlying contractual maturity date. The fair value of the Company's U.S. Treasury securities and money market funds are classified as Level 2 because they are valued using observable inputs to quoted market prices, benchmark yields, reported trades, broker/dealer quotes or alternative pricing sources with reasonable levels of price transparency and U.S. Treasury securities.

Investments in Debt Securities

Unrealized gains and losses of investments in debt securities consisted of the following:

	As of September 30, 2023:			
(in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Short-term investments in debt securities:				
U.S. Treasury and government securities	$ 116,692	$ —	$ (151)	$ 116,541
Total short-term investments in debt securities	$ 116,692	$ —	$ (151)	$ 116,541

	As of December 31, 2022:			
(in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Short-term investments:				
U.S. Treasury and government securities	$ 98,851	$ —	$ (384)	$ 98,467
Total short-term investments in debt securities	$ 98,851	$ —	$ (384)	$ 98,467

The contractual maturities of the Company's investments in debt securities held were as follows:

(in thousands)	September 30, 2023	December 31, 2022
Due within one year	$ 116,541	$ 98,467

Marketable securities in unrealized loss positions consisted of the following:

	As of September 30, 2023:		
(in thousands, except number of securities)	Number of Securities	Fair Value	Gross Unrealized Losses
Investments in continuous loss position for less than 12 months:			
U.S. Treasury and government securities	46	$ 111,506	$ (151)

Based on factors such as historical experience, market data, issuer-specific factors, and current economic conditions, the Company did not record an allowance for credit losses as of September 30, 2023 related to these investments. Further, given the lack of significant change in the credit risk, the Company does not consider these investments to be impaired.

4. Property and Equipment, Net

Property and equipment, net consisted of the following:

(in thousands)	September 30, 2023	December 31, 2022
Property and equipment:		
Laboratory equipment	$ 23,663	$ 19,422
Leasehold improvement	579	564
Furniture and Fixture	278	235
Computer hardware and software	11	11
Construction in progress	3,738	1,608
Total property and equipment	28,269	21,840
Less: Accumulated depreciation	(6,237)	(2,831)
Total property and equipment, net	$ 22,032	$ 19,009

Depreciation expense related to property and equipment is as follows:

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Depreciation Expense	$ 1,236	$ 631	$ 3,406	$ 1,354

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

(in thousands)	September 30, 2023	December 31, 2022
Accrued expenses and other current liabilities		
Accrued employee compensation and benefits	$ 5,634	$ 6,529
Accrued professional fees	4,963	2,162
Lab-related supplies and services	2,579	1,219
Accrued license fee–related party	—	329
Other	847	449
Total accrued expenses and other current liabilities	$ 14,023	$ 10,688

6. Stock-Based Compensation

2019 Equity Incentive Plan

The Company's 2019 Stock Option and Grant Plan (the "2019 Plan") provides for the Company to grant incentive stock options ("ISO"), non-qualified stock options, unrestricted stock awards, restricted stock awards ("RSA") and other stock-based awards (collectively, the "Awards") to the officers, employees, consultants and other key persons of the Company. The 2019 Plan was administered by the Board of Directors, or at the discretion of the Board of Directors, by a committee of the Board of Directors. The exercise prices, vesting and other restrictions are determined at the discretion of the Board of Directors, or its committee if so delegated.

In October 2022, in connection with the closing of the Company's IPO, the Board of Directors determined that no further awards would be granted under the 2019 Plan.

2022 Stock Option and Incentive Plan

On February 9, 2022, the Company's Board of Directors adopted, and on October 10, 2022 its stockholders approved, the 2022 Stock Option and Incentive Plan (the "2022 Plan"), which became effective immediately preceding the date on which the registration statement for the Company's IPO was declared effective by the SEC. The 2022 Plan allows the Company to make equity-based and cash-based incentive awards to its officers, employees, directors, and consultants. The 2022 Plan provides for the grant of incentive stock options, non-qualified stock options, stock appreciation rights, restricted stock awards, restricted stock units and other stock-based awards.

The shares of common stock underlying any awards under the 2022 Plan and the 2019 Plan that are forfeited, cancelled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by the Company prior to vesting, satisfied without the issuance of stock, expire, or are otherwise terminated (other than by exercise) will be added back to the shares of common stock available for issuance under the 2022 Plan. The number of shares reserved and available for issuance under the 2022 Plan increased on January 1, 2023 and will increase on each January 1 hereafter, by five percent of the outstanding number of shares of common stock on the immediately preceding December 31 or such lesser number of shares as determined by the Compensation Committee. On January 1, 2023, the annual increase resulted in an additional 4,860,461 shares authorized being added to the 2022 Plan. As of September 30, 2023, the Company had 16,734,122 shares reserved under the 2022 Plan and the 2019 Plan, and 8,808,586 shares available for issuance under the 2022 Plan.

2022 Employee Stock Purchase Plan

On February 9, 2022, the Company's Board of Directors adopted, and on October 10, 2022 its stockholders approved, the 2022 Employee Stock Purchase Plan (the "2022 ESPP"), which became effective immediately preceding the date on which the registration statement for the Company's IPO was declared effective by the SEC.

The number of shares of common stock that may be issued under the 2022 ESPP cumulatively increased beginning on January 1, 2023 and shall increase on each January 1 hereafter through January1, 2032, by the least of (i) 971,350 shares of common stock, (ii) one percent of the outstanding number of shares of common stock on the immediately preceding December 31, or (iii) such number of shares of common stock as determined by the administrator of the 2022 ESPP. On January 1, 2023, the annual increase resulted in an additional 971,350 shares authorized being added to the 2022 Plan. As of September 30, 2023, the Company had 1,942,700 shares available for issuance under the 2022 Plan.

No shares of the Company's common stock were issued during the nine months ended September 30, 2023 related to the 2022 ESPP.

Stock Options

The following table summarizes the Company's stock option activity for the nine months ended September 30, 2023:

	Number of Shares	Weighted-Average Exercise Price
Outstanding at December 31, 2022	3,954,265	$ 6.43
Granted	3,950,794	12.87
Exercised	(115,088)	4.02
Cancelled or forfeited	(276,165)	8.82
Outstanding at September 30, 2023	7,513,806	$ 9.77
Options vested and exercisable at September 30, 2023	1,926,941	$ 6.49
Options vested and expected to vest at September 30, 2023	7,513,806	$ 9.77

As of September 30, 2023, there was $44.0 million of total unrecognized compensation cost related to time-based unvested stock options the Company expects to recognize such amount over a remaining weighted-average period of 2.9 years.

Performance-Based Stock Options

The following table summarizes the Company's performance-based stock option activity for the nine months ended September 30, 2023:

	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding at December 31, 2022	411,730	$ 6.65
Granted	—	—
Exercised	—	—
Cancelled or forfeited	—	—
Outstanding at September 30, 2023	411,730	$ 6.65
Vested and exercisable at September 30, 2023	121,160	$ 5.11

As of September 30, 2023, there was $2.3 million of total unrecognized compensation cost related to performance-based stock options.

Restricted Common Stock Awards

The Company awarded restricted common stock to employees and non-employees under its 2019 Plan. The vesting of these restricted stock awards are time-based or performance-based.

Time-Based Restricted Common Stock

The following table summarizes the Company's time-based restricted common stock activity for the nine months ended September 30, 2023:

	Number of Shares	Weighted-Average Grant-Date Fair Value
Outstanding at December 31, 2022	5,015,034	$ 0.10
Issued	—	—
Vested	(3,753,034)	0.08
Repurchased	—	—
Outstanding at September 30, 2023	1,262,000	$ 0.16

As of September 30, 2023, there was $0.2 million of total unrecognized compensation cost related to unvested time-based restricted common stock which the Company expects to recognize over a weighted-average period of 0.9 years.

Performance-Based Restricted Common Stock

The following table summarizes the Company's performance-based restricted common stock activity for the nine months ended September 30, 2023:

	Number of Shares	Weighted-Average Grant-Date Fair Value
Outstanding at December 31, 2022	3,832,769	$ 0.07
Issued	—	—
Vested	—	—
Repurchased	—	—
Outstanding at September 30, 2023	3,832,769	$ 0.07

As of September 30, 2023, there was $0.3 million of total unrecognized compensation cost related to unvested performance-based restricted common stock.

Stock-Based Compensation

The following table below summarizes the classification of the Company's stock-based compensation expense related to stock options and restricted common stock awards in the condensed consolidated statements of operations and comprehensive loss:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2023	2022	2023	2022
Stock-based compensation expense:				
Research and development	$ 2,224	$ 950	$ 5,558	$ 2,597
General and administrative	1,993	467	3,923	1,288
Total stock-based compensation expense	$ 4,217	$ 1,417	$ 9,481	$ 3,885

7. Leases

In April 2023, the Company entered into an amendment to its operating lease (the "Amended Lease") for additional office and laboratory space at 21 Erie Street, Cambridge, Massachusetts. The Amended Lease is subject to fixed-rate rent escalations. The 23-month lease term of the Amended Lease, over which the Company is obligated to pay approximately $3.7 million, commenced in April 2023. Upon the commencement of the Amended Lease, the Company recorded a lease liability and a right-of-use asset of $3.3 million.

The table below reconciles the undiscounted future annual lease payments to the total operating lease liabilities recorded in the condensed consolidated balance sheet as of September 30, 2023:

(in thousands)	Undiscounted Amounts
Undiscounted lease payments:	
Remaining in 2023	$ 3,649
2024	9,669
2025	2,656
2026	1,683
2027	567
Total undiscounted lease payments	18,224
Less: imputed interest	(1,183)
Total operating lease liability	$ 17,041

The Company is party to a lease for office and laboratory space at 60 First Street, Cambridge, Massachusetts, with the rent commencement date expected to occur in the first quarter of 2024, subject to any credits pursuant to the terms of the lease. Also subject to any credits pursuant to the terms of the lease, the Company expects to pay up to approximately $208.7 million over the ten-year lease term. As of September 30, 2023, the lease has not commenced in accordance with ASC 842,*Leases*; accordingly, the operating lease liabilities and operating lease right-of-use assets on the condensed consolidated balance sheet through September 30, 2023, and the table above excludes any amounts related to this lease.

As of September 30, 2023, the Company determined that it is reasonably certain to exercise its option to terminate one of its leases. This option allows the Company to terminate its lease by providing an advanced notice to the lessor. This determination and the subsequent reassessment of the lease resulted in a $6.1 million deduction of the Company's operating lease liability and its operating lease right-of-use asset on the condensed consolidated balance sheet as of September 30, 2023. Further, the above table includes the reduction in lease payments resulting from the reasonably certain lease termination.

8. License and Collaboration Agreements

The Company's significant license agreements are disclosed in Note 11,*License and Collaboration Agreements*, in the audited consolidated financial statements for the year ended December 31, 2022, and notes thereto, included in the Company's Annual Report on Form 10-K that was filed with the SEC on March 9, 2023. Since the date of those financial statements, there have been no changes to its license agreements except as otherwise described herein.

9. Net Loss per Share

Basic and diluted net loss per common share attributable to common stockholders was calculated as follows:

(in thousands, except share and per share amounts)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Numerator:				
Net loss	$ (50,708)	$ (29,350)	$ (132,490)	$ (82,538)
Cumulative dividend on preferred stock	—	(6,362)	—	(18,879)
Net loss attributable to common stockholders	$ (50,708)	$ (35,712)	$ (132,490)	$ (101,417)
Denominator:				
Weighted-average common shares outstanding, basic and diluted	91,846,835	22,226,301	90,469,866	20,665,225
Net loss per share attributable to common stockholders, basic and diluted	$ (0.55)	$ (1.61)	$ (1.46)	$ (4.91)

Diluted net loss per share available to common stockholders was computed by giving effect to all potentially dilutive common stock equivalents outstanding for the period. For purposes of this calculation, preferred stock, unvested restricted stock and stock options to purchase common stock were considered common stock equivalents but had been excluded from the calculation of diluted net loss per share available to common stockholders as their effect was anti-dilutive. In periods in which the Company reports a net loss available to common stockholders, diluted net loss per share available to common stockholders is the same as basic net loss per share available to common stockholders, since dilutive common shares are not assumed to have been issued if their effect is anti-dilutive.

The following common stock equivalents were excluded from the calculation of diluted net loss per share applicable to common stockholders for the periods indicated because including them would have had an anti-dilutive effect:

	As of September 30, 2023	As of September 30, 2022
Anti-dilutive common stock equivalents:		
Options to purchase common stock	7,634,966	3,971,557
Unvested restricted common stock	5,094,769	10,597,726
Convertible preferred stock (as converted to common stock)	—	51,923,758
Total anti-dilutive common stock equivalents:	12,729,735	66,493,041

10. Related Party Transactions

Founder Consulting Services

For both the three months ended September 30, 2023 and 2022, the Company made payments of $37,500 in each period, and for the nine months ended September 30, 2023 and 2022, the Company made payments of $112,500 in each period to one of the co-founder stockholders for scientific consulting and other expenses. As of September 30, 2023, $12,500 was included within accounts payable, and, as of December 31, 2022, there were no amounts included within accounts payable.

Myeloid Therapeutics

In December 2021, the Company and Myeloid Therapeutics, Inc. (“Myeloid”) entered into the Myeloid Collaboration Agreement and Myeloid Subscription Agreement. The Company and Myeloid have one common board member, who is also an affiliate of Newpath, one of the Company’s holders of its common stock. The Company provided notice to Myeloid of its intent to terminate the Myeloid Collaboration Agreement during the second quarter of 2023, which termination is now effective. As of September 30, 2023, there was $0.1 million in

accounts payable, and, as of December 31, 2022, there was $0.3 million included within accrued expenses and other current liabilities related to license fees.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our condensedconsolidated financial statements and the related notes thereto included elsewhere in this Quarterly Report on Form 10-Q and our audited consolidated financial statements and notes and Management's Discussion and Analysis of Financial Condition and Results of Operations, included in our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on March 9, 2023. As discussed in the section titled "Special Note Regarding Forward-Looking Statements," the following discussion and analysis contains forward-looking statements that involve risks and uncertainties, such as statements regarding our plans, objectives, expectations, intentions, or projections, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2022, and the "Risk Factors" section of subsequent Quarterly Reports on Form 10-Q. Our historical results are not necessarily indicative of the results that may be expected for any period in the future.

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.

Components of Our Results of Operations

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred in connection with the development and research of our immediate target indications and our differentiation target indications. These expenses include:

- the cost allocated to acquire in-process research and development ("IPR&D"), with no alternative future use associated with asset acquisitions or transactions to license intellectual property, such as our Broad License Agreement;
- expenses incurred in connection with our Pledge to Broad Institute;
- personnel-related expenses, including salaries, bonuses, benefits and stock-based compensation for employees engaged in manufacturing, research and development functions;
- expenses incurred in connection with continuing our current research programs and preclinical development of any product candidates we may identify, including under agreements with third parties, such as consultants and contractors;
- the cost of developing and validating our manufacturing process for use in our preclinical studies and future clinical trials;
- laboratory supplies and research materials; and
- facilities, depreciation and other expenses related to research and development activities, which include direct or allocated expenses for rent and maintenance of facilities, and utilities.

Upfront and milestone payments made are accrued for and expensed when the achievement of the milestone is probable up to the point of regulatory approval. Milestone payments made upon regulatory approval will be capitalized and amortized over the remaining useful life of the related product.

We expense all research and development costs in the periods in which they are incurred. Most of our research and development expenses have been related to early stage development activities. We do not allocate employee costs, costs associated with our discovery efforts, laboratory supplies, and facilities expenses, including depreciation or other indirect costs, to specific product development programs because these costs are deployed across multiple programs and our platform and, as such, are not separately classified.

We expect our research and development expenses to increase substantially for the foreseeable future as we continue to invest in research and development activities related to developing any future product candidates, including investments in manufacturing, as we advance any product candidates we may identify and begin to conduct clinical trials.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and personnel-related costs, including stock-based compensation, for our personnel in executive, legal, finance and accounting, human resources and other administrative functions. General and administrative expenses also include legal fees relating to patents and corporate matters; professional fees paid for accounting, auditing, consulting and tax service; insurance costs; office and information technology costs; and facilities, depreciation and other general and administrative expenses, which include direct or allocated expenses for rent and maintenance of facilities and utilities.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support research and development activities; increased accounting, legal, insurance, and investor and public relations costs as we continue to operate as a public company; and additional intellectual property-related expenses as we file patent applications to protect innovations arising from our research and development activities.

Other Income (Expense)

Other income (expense), net primarily consists of the change in the fair value of our short-term investment in Beam Therapeutics Inc. ("Beam"), a related party, in connection with the Beam Collaboration Agreement, which is discussed in greater detail in Note 11, *License and Collaboration Agreements*, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2022.

Results of Operations

Comparison of the Three Months Ended September 30, 2023 and 2022

The following table summarizes our results of operations for the three months ended September 30, 2023 and 2022:

	Three Months Ended September 30,		
(in thousands, except share and per share amounts)	2023	2022	Change
Operating expenses:			
Research and development	$ 40,967	$ 25,047	$ 15,920
General and administrative	10,492	6,608	3,884
Total operating expenses	51,459	31,655	19,804
Loss from operations	(51,459)	(31,655)	(19,804)
Other income (expense):			
Change in fair value of short-term investment — related party	(1,579)	1,789	(3,368)
Other income, net	2,222	728	1,494
Total other income (expense), net	643	2,517	(1,874)
Net loss before income taxes	(50,816)	(29,138)	(21,678)
(Provision for) benefit from income taxes	108	(212)	320
Net loss	$ (50,708)	$ (29,350)	$ (21,358)

Operating Expenses

Research and Development Expenses

	Three Months Ended September 30,		
(in thousands)	2023	2022	Change
Research and development expenses:			
Lab supplies	$ 18,183	$ 9,390	$ 8,793
Personnel expenses	13,246	8,348	4,898
Facility related and other	6,160	4,821	1,339
Professional and consultant fees	1,868	543	1,325
License, intellectual property fees, and other	1,510	1,945	(435)
Total research and development expenses	$ 40,967	$ 25,047	$ 15,920

The $15.9 million increase in research and development expense for the three months ended September 30, 2023 as compared to the three months ended September 30, 2022 was primarily driven by:

- $8.8 million increase in lab supplies expense due to continued discovery efforts and expansion of our research and development activities, including ongoing IND-enabling activities, and increased personnel in our R&D function;

- $4.9 million increase in personnel expense, including an increase in stock-based compensation expense of $1.3 million, and $1.3 million increase in professional and consultant fees, both driven by our increased headcount as we continue to build out our research and development function; and
- $1.3 million increase in facility-related expense primarily due to the expansion and build out of our office and laboratory space.

General and Administrative Expenses

(in thousands, except share and per share amounts)	Three Months Ended September 30, 2023	2022	Change
General and administrative expenses:			
Personnel expenses	$ 4,908	$ 3,255	$ 1,653
Professional and consultant fees	3,659	2,518	1,141
Facility related and other	1,925	835	1,090
Total general and administrative expenses	$ 10,492	$ 6,608	$ 3,884

The $3.9 million increase in general and administrative expense for the three months ended September 30, 2023 as compared to the three months ended September 30, 2022 is primarily driven by:

- $1.7 million increase in personnel expenses and $1.1 million increase in professional and consultant fees, both driven by growth in personnel as we operate as a public company and to support our growing research and development function; and
- $1.1 million increase in facility related expenses primarily due to the expansion and build out of our office space.

Other Income (Expense)

(in thousands, except share and per share amounts)	Three Months Ended September 30, 2023	2022	Change
Other income (expense):			
Change in fair value of short-term investment — related party	$ (1,579)	$ 1,789	$ (3,368)
Other income, net	2,222	728	1,494
Total other income (expense), net	$ 643	$ 2,517	$ (1,874)

Change in Fair Value of Related Party Short-Term Investment

The change in fair value of related party short-term investment for each of the periods presented is a result of Beam's stock price movement.

Other Income, Net

Other income, net for the three months ended September 30, 2023 primarily consists of interest income from the Company's short-term investments.

Comparison of the Nine Months Ended September 30, 2023 and 2022

The following table summarizes our results of operations for the nine months ended September 30, 2023 and 2022:

(in thousands, except share and per share amounts)	Nine Months Ended September 30, 2023	2022	Change
Operating expenses:			
Research and development	$ 106,446	$ 57,664	$ 48,782
General and administrative	30,303	20,194	10,109
Total operating expenses	136,749	77,858	58,891
Loss from operations	(136,749)	(77,858)	(58,891)
Other income (expense):			
Change in fair value of short-term investment — related party	(3,017)	(6,419)	3,402
Other income, net	6,997	977	6,020
Total other income (expense), net	3,980	(5,442)	9,422
Net loss before income taxes	(132,769)	(83,300)	(49,469)
(Provision for) benefit from income taxes	279	762	(483)
Net loss	$ (132,490)	$ (82,538)	$ (49,952)

Operating Expenses

Research and Development Expenses

(in thousands)	Nine Months Ended September 30, 2023	2022	Change
Research and development expenses:			
Lab supplies	$ 42,095	$ 19,321	$ 22,774
Personnel expenses	37,036	21,383	15,653
Facility related and other	17,485	11,122	6,363
Professional and consultant fees	4,945	1,263	3,682
License, intellectual property fees, and other	4,885	4,575	310
Total research and development expenses	$ 106,446	$ 57,664	$ 48,782

The $48.8 million increase in research and development expense for the nine months ended September 30, 2023 as compared to the nine months ended September 30, 2022 was primarily driven by:

- $22.8 million increase in lab supplies expense due to continued discovery efforts and expansion of our research and development activities, including ongoing IND-enabling activities, and increased personnel in our R&D function;
- $15.7 million increase in personnel expense, including an increase in stock-based compensation expense of $3.0 million, and $3.7 million increase in professional and consultant fees, both driven by our increased headcount as we continue to build out our research and development function; and
- $6.4 million increase in facility-related expense primarily due to the expansion and build out of our office and laboratory space.

General and Administrative Expenses

(in thousands)	Nine Months Ended September 30, 2023	2022	Change
General and administrative expenses:			
Professional and consultant fees	$ 11,869	$ 8,219	$ 3,650
Personnel expenses	12,117	8,711	3,406
Facility related and other	6,317	3,264	3,053
Total general and administrative expenses	$ 30,303	$ 20,194	$ 10,109

The $10.1 million increase in general and administrative expense for the nine months ended September 30, 2023 as compared to the nine months ended September 30, 2022 is primarily driven by:

- $3.7 million increase in professional and consultant fees and $3.4 million increase in personnel expenses, which includes an increase in stock-based compensation expense of $2.6 million, both driven by growth in personnel as we operate as a public company and to support our growing research and development function; and
- $3.1 million increase in facility related expenses primarily due to the expansion and build out of our office space.

Other Income (Expense)

(in thousands)	Nine Months Ended September 30, 2023	2022	Change
Other income (expense):			
Change in fair value of short-term investment — related party	$ (3,017)	$ (6,419)	$ 3,402
Other income, net	6,997	977	6,020
Total other income (expense), net	$ 3,980	$ (5,442)	$ 9,422

Change in Fair Value of Related Party Short-Term Investment

The change in fair value of related party short-term investment for each of the periods presented is a result of Beam's stock price movement.

Other Income, Net

Other income, net for the nine months ended September 30, 2023 primarily consists of interest income from the Company's short-term investments.

Liquidity and Capital Resources

Since our inception, we have incurred significant operating losses. We expect to incur significant expenses and operating losses for the foreseeable future as we commence the clinical development of our programs and continue our platform development and early-stage research activities. We have not yet commercialized any products and we do not expect to generate revenue from sales of products for several years, if at all. To date, we have funded our operations primarily with proceeds from sales of preferred stock and from our initial public offering. As of September 30, 2023, we had cash, cash equivalents, and investments of $165.3 million, excluding our restricted cash, or $178.8 million, including restricted cash.

Cash Flows

The following table summarizes our sources and uses of cash for each of the periods presented:

	Nine Months Ended September 30,	
(in thousands)	**2023**	**2022**
Net change in cash, cash equivalents and restricted cash:		
Net cash used in operating activities	$ (121,548)	$ (101,114)
Net cash used in investing activities	(22,574)	(33,409)
Net cash provided by (used in) financing activities	461	(2,579)
Net change in cash, cash equivalents, and restricted cash	$ (143,661)	$ (137,102)

Operating Activities

Net cash used in operating activities for the nine months ended September 30, 2023 was driven primarily by the following uses of cash:

- $132.5 million net loss;
- $9.0 million change in prepaid and other current assets; and
- $8.9 million change in lease liabilities.

These were offset by:

- $22.7 million of non-cash amounts included in net loss, which primarily consisted of stock-based compensation expense, non-cash lease expense, depreciation and amortization expense, and change in fair value of short-term investment — related party; and
- $6.9 million change in accounts payable.

Net cash used in operating activities for the nine months ended September 30, 2022 was driven primarily by the following uses of cash:

- $82.5 million net loss;
- $30.0 million change in accrued expenses and other current liabilities;
- $7.6 million change in lease liabilities; and
- $1.1 million change in prepaid and other current assets.

These were offset by:

- $18.0 million of non-cash amounts included in net loss, which primarily consisted of change in fair value of short-term investment — related party, non-cash lease expense, and stock-based compensation expense; and
- $2.0 million change in accounts payable.

Investing Activities

Net cash provided by investing activities for the nine months ended September 30, 2023 was driven primarily by the following uses of cash:

- $15.5 million of purchases of marketable securities, net of maturities; offset by
- $6.9 million of purchases of property and equipment.

Net cash used in investing activities for the nine months ended September 30, 2022 was driven primarily by the following:

- $21.5 million of purchases of marketable securities, net of maturities; and
- $11.3 million of purchases of property and equipment.

Financing Activities

Net cash used in financing activities for the nine months ended September 30, 2022 was driven by payment of deferred financing costs related to our IPO.

Funding Requirements

To date, we have not generated any revenue from product sales. We do not expect to generate revenue from product sales unless and until we successfully complete preclinical and clinical development of, receive regulatory approval for, and commercialize a product candidate and we do not know when, or if at all, that will occur. We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we advance the preclinical activities and studies and initiate clinical trials. In addition, if we obtain regulatory approval for any product candidates, we expect to incur significant expenses related to product sales, marketing, and distribution to the extent that such sales, marketing and distribution are not the responsibility of potential collaborators. Further, we have incurred, and expect to continue to incur, costs associated with operating as a public company. The timing and amount of our operating expenditures will depend largely on the factors set out above. For more information, refer to the section titled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2022, and the "Risk Factors" section of subsequent Quarterly Reports on Form 10-Q.

We believe our existing cash, cash equivalents, and investments will be sufficient to fund our operating expenses and capital expenditure requirements through the end of 2024. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. We expect that we will require additional funding to:

- continue our current research development activities;
- identify product candidates;
- initiate preclinical testing and clinical trials for our future product candidates we identify;
- develop, maintain, expand and protect our intellectual property portfolio;
- further develop our Prime Editing platform; and
- hire additional research, clinical and scientific personnel.

If we receive regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution, depending on where we choose to commercialize ourselves.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of private and public equity offerings, debt financings, additional collaborations, strategic alliances,

and marketing, distribution or licensing arrangements with third parties. To the extent that we raise additional capital through the sale of equity or convertible debt securities, ownership interest may be materially diluted, and the terms of such securities could include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specified actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaborations, strategic alliances or marketing, or distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, any future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, reduce or eliminate our product development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Contractual Obligations and Other Commitments

We enter into contracts in the normal course of business with contract organizations and other vendors to assist in the performance of our research and development activities, and other services and products for operating purposes. These contracts generally provide for termination on notice, and therefore are cancellable contracts and not included in the table of contractual obligations and commitments.

During the nine months ended September 30, 2023, except for the minimum rental commitments disclosed in Note 7,*Leases*, to the unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q, there were no significant changes to our contractual obligations and commitments described under Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended December 31, 2022.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosures of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenues and expenses incurred during the reporting periods. We base our estimates on historical experience, known trends and events, and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities recorded revenues and expenses that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Actual results may differ from these estimates.

During the nine months ended September 30, 2023, there were no material changes to our critical accounting policies and significant judgements described under Management's Discussion and Analysis of Critical Accounting Policies and Significant Judgments and Estimates which are included in our Annual Report on Form 10-K for the year ended December 31, 2022.

Recently Issued and Adopted Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 2,*Summary of Significant Accounting Policies*, to our audited financial statements for the year ended December 31, 2022, and notes thereto, included in the Company's Annual Report on Form 10-K.

Emerging Growth Company Status

The Jumpstart Our Business Startups Act of 2012 permits an "emerging growth company" such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected not to "opt out" of

such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either (i) irrevocably elect to "opt out" of such extended transition period or (ii) no longer qualify as an emerging growth company. As a result of this election, our condensed consolidated financial statements may not be comparable to 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.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

We are exposed to market risk related to changes in interest rates of our investment portfolio of cash equivalents and investments. As of September 30, 2023, we held cash, cash equivalents, investments, and restricted cash of $178.8 million, which consisted of cash, money market funds, equity securities, and U.S. Treasuries. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. The fair value of our cash equivalents, consisted of our money market funds, and U.S. Treasuries are subject to change as a result of potential changes in market interest rates. Due to the short-term maturities of our cash equivalents and U.S. Treasuries and the low risk profile of our investments, an immediate 10 percent change in interest rates would not have a material effect on the fair market value of our cash equivalents or U.S. Treasuries.

Effects of Inflation

Inflation generally affects us by increasing our cost of labor and research and development costs. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, we may experience some effect in the near future (especially if inflation rates continue to rise) due to an impact on the costs to conduct research and development, labor costs we incur to attract and retain qualified personnel, and other operational costs. Inflationary costs could adversely affect our business, financial condition and results of operations.

Item 4. Controls and Procedures

We have established disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act) designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to management, including the principal executive officer (our Chief Executive Officer) and principal financial officer (our interim Chief Financial and Chief Accounting Officer), to allow timely decisions regarding required disclosure. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Internal Control over Financial Reporting

Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated, as of the end of the period covered by this Quarterly Report on Form 10-Q, the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures have been designed to provide reasonable assurance of achieving their objectives.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, that occurred during the fiscal quarter ended September 30, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Part II - Other Information

Item 1. Legal Proceedings

We are currently engaged in arbitration proceedings with Myeloid Therapeutics, Inc. ("Myeloid") regarding the former research collaboration, option and license agreement (the "Agreement") between the parties, under which we collaborated with Myeloid on the research and development of LINE-1 retrotransposon technology. We terminated the Agreement effective on September 7, 2023.

On September 21, 2023, Myeloid filed an arbitration claim with the American Arbitration Association alleging that we breached our obligations under the Agreement by failing to pay a $17.5 million milestone payment and seeking, among other things, damages in the amount of $17.5 million. On October 10, 2023, we filed an answer, stating that the milestone payment is not due because Myeloid failed to meet the requirements of the milestone and that Myeloid breached the Agreement, and seeking, among other things, a finding that Myeloid is not entitled to the milestone payment.

In addition, on October 16, 2023, we filed an arbitration claim with the American Arbitration Association alleging that Myeloid breached numerous obligations under the Agreement and seeking, among other things, a declaration that Myeloid breached the Agreement, rescission of the Agreement and damages in the amount of $43.5 million.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. For a detailed discussion of the risks and uncertainties related to our business, please refer to the section titled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2022, and the "Risk Factors" section of subsequent Quarterly Reports on Form 10-Q. There have been no material changes from the risk factors set forth in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Set forth below is information regarding shares of equity securities sold, and options granted, by us during the three months ended September 30, 2023 that were not registered under the Securities Act.

Recent Sales of Unregistered Equity Securities

None.

Use of Proceeds From Registered Securities

In October 2022, we completed our IPO. In connection with our IPO, we issued and sold 11,721,456 shares of our common stock, including 1,427,338 shares pursuant to the exercise of the underwriters' option to purchase additional shares, at a price to the public of $17.00 per share. As a result of the IPO, the Company received $180.2 million in net proceeds, after deducting underwriting discounts, commissions and offering costs of $19.1 million. All of the shares issued and sold in the IPO were registered under the Securities Act pursuant to a Registration Statement on Form S-1 (File No. 333-267579), which was declared effective by the SEC on October 19, 2022 and a Registration Statement on Form S-1 MEF (File No. 333-267954) filed pursuant to Rule 462(b) of the Securities Act.

No offering expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning 10.0% or more of any class of our equity securities or to any other affiliates. There has been no material change in our planned use of the net proceeds from our IPO as described in our final prospectus filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act on October 21, 2022.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not Applicable.

Item 5. Other Information

None.

Item 6. Exhibits

(a) Exhibits.

Exhibit number	Exhibit table
3.1	Third Amended and Restated Certificate of Incorporation of Prime Medicine, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on October 24, 2022).
3.2	Amended and Restated Bylaws of Prime Medicine, Inc. (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on October 24, 2022).
10.1*	Amendment No. 1 to the Amended and Restated Employment Agreement, dated July 6, 2023, between the Registrant and Keith Gottesdiener.
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2**	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith.

** The certifications furnished in Exhibit 32.1 and Exhibit 32.2 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference.

(b) Financial Statement Schedules.

None.

Signatures

Pursuant to the requirements of the Securities Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Prime Medicine, Inc.

Date: November 03, 2023

By: /s/ Keith Gottesdiener

Keith Gottesdiener

President and Chief Executive Officer
(Principal Executive Officer)

Date: November 03, 2023

By: /s/ Carman Alenson

Carman Alenson

Interim Chief Financial Officer and Chief Accounting Officer
(Principal Accounting Officer and Principal Financial Officer)

AMENDMENT NO. 1 TO
EMPLOYMENT AGREEMENT

THIS AMENDMENT NO. 1 (this "Amendment") to that certain Amended and Restated Employment Agreement dated July 7, 2022 (the "Employment Agreement"), by and between Prime Medicine, Inc., a Delaware corporation (the "Company"), and Keith Gottesdiener ("Executive"), is made as of July 6, 2023.

W I T N E S S E T H.

WHEREAS, the Company and the Executive desire to amend the Employment Agreement in order to modify Section 2(d) to extend the Executive's commuting benefits; and

WHEREAS, in connection with such change and effective as of the date hereof, the parties wish to amend the Employment Agreement as set forth below.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Section 2(d) of the Employment Agreement is hereby deleted in its entirety and replaced with the following:

   "Commuting Costs. For the Term of this Agreement, the Company shall pay for or reimburse the Executive for all reasonable and properly documented commuting expenses incurred by him in connection with his commute between Cambridge, Massachusetts and New York, New York. All required payments are subject to legally required tax withholdings."

2. Except as specifically set forth herein, the Employment Agreement and all of its terms and conditions remain in full force and effect, and the Employment Agreement is hereby ratified and confirmed in all respects, except that on or after the date of this Amendment all references in the Employment Agreement to "this Agreement," "hereto," "hereof," "hereunder," or words of like import shall mean the Employment Agreement as amended by this Amendment.

3. This Amendment may be executed in any number of counterparts, each of which shall be deemed an original and such counterpart together shall constitute one and the same instrument.

4. This Amendment, including the validity, interpretation, construction and performance of this Amendment, shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to such State's conflicts of law principles.

5. This Amendment shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto. The Employment Agreement, as amended by this Amendment, embodies the entire agreement and understanding between the parties hereto and supersedes all prior agreements and understandings relating to the subject matter hereof.

[remainder of page intentionally left blank; signature page follows]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first written above.

PRIME MEDICINE, INC.

By: /s/ Kaye Foster Name: Kaye Foster
Title: Director & Compensation Committee Chair

EXECUTIVE

By: /s/ Keith M. Gottesdiener

Keith M. Gottesdiener, M.D.

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Keith Gottesdiener, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Prime Medicine, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313)

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (e) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (f) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 3, 2023

By: /s/ Keith Gottesdiener

Keith Gottesdiener
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Carman Alenson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Prime Medicine, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313)

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (e) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (f) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 3, 2023

By: /s/ Carman Alenson

Carman Alenson
Interim Chief Financial Officer and Chief Accounting Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with this Quarterly Report of Prime Medicine, Inc. (the "Company") on Form 10-Q for the period ending September 30, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 3, 2023

By: /s/ Keith Gottesdiener

Keith Gottesdiener
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with this Quarterly Report of Prime Medicine, Inc. (the "Company") on Form 10-Q for the period ending September 30, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 3, 2023

By: /s/ Carman Alenson

Carman Alenson
Interim Chief Financial Officer and Chief Accounting Officer
(Principal Financial Officer and Principal Accounting Officer)