UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): **May 3, 2017**

Blueprint Medicines Corporation

(Exact name of registrant as specified in its charter)

Delaware	**001-37359**	**26-3632015**
(State or other jurisdiction of incorporation)	(Commission File Number)	(I.R.S. Employer Identification No.)

38 Sidney Street, Suite 200 **Cambridge, Massachusetts**	**02139**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(617) 374-7580**

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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. ☑

Item 2.02 Results of Operations and Financial Condition.

On May 3, 2017, Blueprint Medicines Corporation (the "Company") announced its financial results for the quarter ended March 31, 2017. The full text of the press release issued in connection with the announcement is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated by reference herein.

The information in this Current Report on Form 8-K, including Exhibit 99.1 attached hereto, is intended to be furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

The following exhibit relating to Item 2.02 of this Current Report on Form 8-K shall be deemed to be furnished and not filed:

Exhibit No.	Description
99.1	Press release issued by Blueprint Medicines Corporation on May 3, 2017

SIGNATURES

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

BLUEPRINT MEDICINES CORPORATION

Date: May 3, 2017

By: /s/ Jeffrey W. Albers
Jeffrey W. Albers
Chief Executive Officer

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press release issued by Blueprint Medicines Corporation on May 3, 2017

Blueprint Medicines Reports First Quarter 2017 Financial Results

– Dosed first patient in Phase 1 clinical trial of BLU-667 in RET-altered cancers –
– Updated BLU-285 data in gastrointestinal stromal tumors (GIST) to be presented at ASCO Annual Meeting –
– Completed successful follow-on offering in April 2017 and raised approximately $215 million –
– Expect cash to be sufficient into second half of 2019 –

CAMBRIDGE, Mass., May 3, 2017 – Blueprint Medicines Corporation (NASDAQ: BPMC), a leader in discovering and developing targeted kinase medicines for patients with genomically defined diseases, today reported financial results and provided a business update for the first quarter ended March 31, 2017.

"In the first quarter of 2017, we expanded our clinical-stage portfolio of drug candidates with the dosing of the first patient in our Phase 1 trial of BLU-667, a selective RET inhibitor that addresses both primary and predicted resistance mutations, while also progressing our ongoing Phase 1 trials of BLU-554 and BLU-285," said Jeff Albers, Chief Executive Officer of Blueprint Medicines. "Our recent financing in April further strengthened our balance sheet, and we believe that we are well positioned to continue advancing our robust pipeline, including three clinical-stage drug candidates and multiple discovery programs, through important milestones. We look forward to presenting updated Phase 1 data for BLU-285 in GIST and systemic mastocytosis and BLU-554 in hepatocellular carcinoma later this year, which will help inform and guide our future development efforts for these programs."

Clinical Programs:

BLU-285: Gastrointestinal Stromal Tumors

- Blueprint Medicines continues to enroll patients in the dose expansion stage of its ongoing Phase 1 clinical trial for BLU-285 in patients with advanced GIST and will present updated data from this clinical trial in an oral presentation, "Clinical activity of BLU-285 in advanced gastrointestinal stromal tumor (GIST)," at the 2017 ASCO Annual Meeting on Monday, June 5, 2017 in Chicago, Illinois.

BLU-285: Systemic Mastocytosis

- Blueprint Medicines recently completed enrollment in the dose escalation stage of its ongoing Phase 1 clinical trial for BLU-285 in patients with advanced systemic mastocytosis. Blueprint Medicines anticipates initiating the dose expansion stage of this clinical trial by the middle of 2017.

BLU-285: Recent Scientific Presentations

- In April 2017 at the Annual Meeting of the American Association for Cancer Research (AACR), Blueprint Medicines presented preclinical data demonstrating the ability of BLU-285 to potently and selectively inhibit KIT and PDGFRα activation loop mutants, which are key disease drivers for

GIST and systemic mastocytosis. BLU-285 also showed dose-dependent tumor regression in multiple *in vivo* disease models.

- In April 2017, Blueprint Medicines presented on the discovery and development of BLU-285 at the 253rd American Chemical Society National Meeting and Exposition (ACS). The presentation included an in-depth mechanistic overview of kinase activation loop mutants, and a discussion of kinome-wide selectivity structure-activity relationship (SAR) and the optimization of overall drug properties.

BLU-554: Hepatocellular Carcinoma

- In April 2017, Blueprint Medicines presented on the discovery and development of BLU-554 at ACS. The presentation detailed the discovery of BLU-554 using structure-based drug design and SAR development towards the optimization of overall drug properties for BLU-554.

BLU-667: Non-Small Cell Lung Cancer (NSCLC), Medullary Thyroid Carcinoma (MTC) and other advanced solid tumors with RET alterations

- In March 2017, Blueprint Medicines dosed the first patient in its Phase 1 clinical trial for BLU-667. This clinical trial is designed to evaluate the safety and tolerability of BLU-667 in multiple ascending doses in patients with NSCLC, MTC and other advanced solid tumors with the goal of establishing a maximum tolerated dose or a recommended dose. Following the identification of a dose and schedule for BLU-667, Blueprint Medicines plans to open expansion cohorts for patients with NSCLC, MTC and other advanced solid tumors with RET alterations.

Corporate Highlights:

- **Closed Public Offering:** In April 2017, Blueprint Medicines announced the closing of an underwritten public offering of 5,750,000 shares of its common stock at a public offering price of $40.00 per share, including the exercise in full by the underwriters of their option to purchase additional shares of common stock. Blueprint Medicines received net proceeds from the offering of $215.6 million, after deducting underwriting discounts and commissions and offering expenses.

First Quarter 2017 Financial Results:

- **Cash Position:** As of March 31, 2017, cash, cash equivalents and investments were $236.3 million, as compared to $268.2 million as of December 31, 2016. This decrease was primarily related to cash used in operating activities.
- **Collaboration Revenue:** Collaboration revenues were $5.8 million for the first quarter of 2017, as compared to $6.8 million for the first quarter of 2016. This decrease was primarily due to the recognition of a milestone under Blueprint Medicines' collaboration with Alexion in the first quarter of 2016 as well as lower reimbursable research and development expenses under the Alexion collaboration due to the timing of certain research and development activities.
- **R&D Expenses:** Research and development expenses were $28.5 million for the first quarter of 2017, as compared to $17.6 million for the first quarter of 2016. This increase was primarily attributable to increased clinical and manufacturing expenses associated with advancing BLU-285, BLU-554 and BLU-667 into clinical trials and increased personnel-related expenses, including stock-based compensation expenses.

- **G&A Expenses:** General and administrative expenses were $5.6 million for the first quarter of 2017, as compared to $4.6 million for the first quarter of 2016. This increase was primarily attributable to increased personnel-related expenses, including stock-based compensation expense.
- **Net Loss:** Net loss was $28.0 million for the first quarter of 2017, or a net loss per share of $0.84, as compared to a net loss of $15.5 million for the first quarter of 2016, or a net loss per share of $0.57.

Financial Guidance:

Based on its current plans, Blueprint Medicines expects its existing cash, cash equivalents and investments, including the net proceeds from its April 2017 offering, but excluding any potential option fees and milestone payments under its existing collaborations, will be sufficient to enable it to fund its operating expenses and capital expenditure requirements into the second half of 2019.

Conference Call Information

Blueprint Medicines will host a live conference call and webcast today at 8:30 a.m. ET. The conference call may be accessed by dialing 855-728-4793 (domestic) or 503-343-6666 (international) and referring to conference ID 5771361. A webcast of the conference call will also be available in the Investors section of Blueprint Medicines' website at http://ir.blueprintmedicines.com. The archived webcast will be available on Blueprint Medicines' website approximately two hours after the conference call and will be available for 30 days following the call.

About Blueprint Medicines

Blueprint Medicines is developing a new generation of targeted and potent kinase medicines to improve the lives of patients with genomically defined diseases. Its approach is rooted in a deep understanding of the genetic blueprint of cancer and other diseases driven by the abnormal activation of kinases. Blueprint Medicines is advancing four programs in clinical development for subsets of patients with gastrointestinal stromal tumors, hepatocellular carcinoma, systemic mastocytosis, non-small cell lung cancer, medullary thyroid cancer and other advanced solid tumors, as well as multiple programs in research and preclinical development. For more information, please visit www.blueprintmedicines.com.

Cautionary Note Regarding Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, statements regarding plans and timelines for the clinical development of BLU-285, BLU-554 and BLU-667; the timing of updated clinical data for Blueprint Medicines' Phase 1 clinical trials for BLU-285 and BLU-554; expectations regarding Blueprint Medicines' existing cash, cash equivalents and investments; and Blueprint Medicines' strategy, business plans and focus. The words "may," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "believe," "estimate," "predict," "project," "potential," "continue," "target" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forward-looking statements in this press release are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this press release, including, without limitation, risks and uncertainties related to the delay of any current or planned clinical trials or the development of

Blueprint Medicines' drug candidates, including BLU-285, BLU-554 and BLU-667; Blueprint Medicines' advancement of multiple early-stage efforts; Blueprint Medicines' ability to successfully demonstrate the efficacy and safety of its drug product candidates; the preclinical and clinical results for Blueprint Medicines' drug product candidates, which may not support further development of such drug product candidates; and actions of regulatory agencies, which may affect the initiation, timing and progress of clinical trials; Blueprint Medicines' ability to develop and commercialize companion diagnostic tests for its current and future drug candidates, including companion diagnostic tests for BLU-554 with Ventana Medical Systems, Inc. and for BLU-285 with QIAGEN Manchester Limited; and the success of Blueprint Medicines' rare genetic disease collaboration with Alexion Pharma Holding and its cancer immunotherapy collaboration with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. These and other risks and uncertainties are described in greater detail in the section entitled "Risk Factors" in Blueprint Medicines' Annual Report on Form 10-K for the year ended December 31, 2016, as filed with the Securities and Exchange Commission (SEC) on March 9, 2017, and other filings that Blueprint Medicines may make with the SEC in the future. Any forward-looking statements contained in this press release represent Blueprint Medicines' views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date. Blueprint Medicines explicitly disclaims any obligation to update any forward-looking statements.

Blueprint Medicines Corporation
Selected Condensed Consolidated Balance Sheet Data
(in thousands)
(unaudited)

	March 31, 2017	December 31, 2016
Cash, cash equivalents and investments	$ 236,325	$ 268,218
Unbilled accounts receivable	2,826	3,577
Working capital (1)	188,199	191,913
Total assets	252,648	282,795
Deferred revenue	44,220	47,235
Term loan payable	3,246	4,069
Lease incentive obligation	3,226	3,370
Total stockholders' equity	188,222	213,078

(1) Blueprint Medicines defines working capital as current assets less current liabilities.

Blueprint Medicines Corporation
Condensed Consolidated Statements of Operations Data
(in thousands, except per share data)
(unaudited)

	Three Months Ended March 31,	
	2017	2016
Collaboration revenue	$ 5,840	$ 6,856
Operating expenses:		
Research and development	28,487	17,635
General and administrative	5,683	4,646
Total operating expenses	34,170	22,281
Other income (expense):		
Other income (expense), net	425	61
Interest expense	(72)	(140)
Total other income (expense)	353	(79)
Net loss	$ (27,977)	$ (15,504)
Net loss per share applicable to common stockholders — basic and diluted	$ (0.84)	$ (0.57)
Weighted-average number of common shares used in net loss per share applicable to common stockholders — basic and diluted	33,190	27,088

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