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 10, 2016**

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:

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

Item 2.02 Results of Operations and Financial Condition.

On May 10, 2016, Blueprint Medicines Corporation (the "Company") announced its financial results for the quarter ended March 31, 2016. 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 10, 2016

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 10, 2016

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 10, 2016

Blueprint Medicines Reports First Quarter 2016 Financial Results

— Advancing Phase 1 clinical trials and expects to share preliminary data by end of 2016 —
— Entered into worldwide cancer immunotherapy collaboration with Roche in March 2016 —
—Maintained strong balance sheet and expects cash to be sufficient into late 2017 —

CAMBRIDGE, Mass., May 10, 2016 /PRNewswire/ – Blueprint Medicines Corporation (NASDAQ: BPMC), a leader in discovering and developing highly selective kinase medicines for patients with genomically defined diseases, today reported financial results and provided a business update for the first quarter ended March 31, 2016.

“The first quarter of 2016 was highlighted by substantial progress in all three of our clinical programs, as well as our continued commitment to pursuing new discovery programs and strategic collaboration opportunities that could maximize the value of our platform, as evidenced by our collaboration with Roche. Under this collaboration, we received a $45 million upfront payment and are eligible to receive up to an additional $965 million in potential payments related to the discovery and development of up to five small molecule therapeutics targeting immunokinases. This collaboration will enable us to expand and accelerate our discovery efforts in the field of cancer immunotherapy,” said Jeff Albers, Chief Executive Officer of Blueprint Medicines. “We are also on track with our plans to share preliminary data for our three Phase 1 clinical trials by the end of 2016. In addition, we remain committed to expanding our clinical pipeline and plan to file an IND for BLU-667, our novel RET inhibitor, by the end of the year. As we look forward to the remainder of the year, we are focused on potentially achieving several clinical development and discovery milestones and further characterizing the profiles and potential of our exciting new drug candidates.”

Corporate Highlights:

- **Initiated third Phase 1 clinical trial:** In March 2016, Blueprint Medicines enrolled the first patient in its Phase 1 clinical trial of BLU-285 for the treatment of advanced systemic mastocytosis (SM).
- **FDA granted orphan drug designation for BLU-285 for gastrointestinal stromal tumors (GIST) and SM:** In January 2016, the U.S. Food and Drug Administration (FDA) granted orphan drug designation to BLU-285 for the treatment of GIST and SM. Orphan drug designation may provide certain benefits, including a seven-year period of market exclusivity if the drug is approved, tax credits for qualified clinical trials and an exemption from FDA application fees.
- **Presented preclinical data highlighting the identification of potent and selective RET inhibitors, including BLU-667:** In April 2016, at the American Association for Cancer Research (AACR) Annual Meeting, Blueprint Medicines presented new preclinical data demonstrating that its RET inhibitors, including its drug candidate BLU-667, showed potent inhibition of RET activity and tumor regression in RET fusion or mutation positive lung adenocarcinoma, papillary and medullary thyroid cancer cell lines and *in vivo* models, at well tolerated doses. Blueprint Medicines plans to file an IND for BLU-667 by the end of 2016.
- **Entered into a worldwide collaboration with Roche:** In March 2016, Blueprint Medicines entered into a collaboration and exclusive license agreement with F. Hoffmann-La Roche Ltd and

Hoffmann-La Roche Inc. (collectively, Roche) for the discovery, development and commercialization of up to five small molecule therapeutics targeting kinases believed to be important in cancer immunotherapy. Under the terms of the agreement, Blueprint Medicines received an upfront cash payment of $45 million and will be eligible to receive up to an additional approximately $965 million in contingent option fees and milestone payments related to specified research, preclinical, clinical, regulatory and sales-based milestones across all five programs. Of the total contingent payments, up to approximately $215 million are for option fees and milestone payments for research, preclinical and clinical development events prior to licensing across all five potential programs.

- **Strengthened executive leadership team and board of directors:** In January 2016, Blueprint Medicines announced the appointment of Kate Haviland as Chief Business Officer and the promotion of Andy Boral, M.D., Ph.D., to Chief Medical Officer. In February and April 2016, respectively, Blueprint Medicines appointed Lonnel Coats and Dr. Lynn Seely to its board of directors.

Clinical Program Updates and Upcoming Milestones:

Blueprint Medicines' lead drug candidates are BLU-285, a selective inhibitor of both Exon 17 mutant KIT and D842V mutant PDGFRα, and BLU-554 a selective inhibitor of the FGFR4 receptor. Enrollment is progressing in the dose escalation portion of Blueprint Medicines' Phase 1 clinical trials for BLU-285 in unresectable, treatment-resistant GIST and advanced SM and BLU-554 in advanced hepatocellular carcinoma (HCC).

- The dose escalation portion of each Phase 1 clinical trial is designed to enroll three patients in each cohort with the goal of establishing a maximum tolerated dose (MTD) or a recommended dose if the MTD is not achieved. As of May 9, 2016, the Phase 1 clinical trials for BLU-285 in GIST and BLU-554 in HCC are each enrolling the fifth dose cohort, and the Phase 1 clinical trial for BLU-285 in SM is enrolling the second dose cohort.
- Blueprint Medicines expects to share preliminary data from the dose escalation portion of each of these Phase 1 clinical trials by the end of 2016. For each Phase 1 clinical trial, Blueprint Medicines anticipates that this preliminary data will include safety, pharmacokinetics and pharmacodynamic measures across a range of dose levels and any initial assessments of clinical activity that may be available.

First Quarter 2016 Financial Results:

- **Cash Position**: As of March 31, 2016, cash, cash equivalents, and investments were $191.5 million, as compared to $162.7 million as of December 31, 2015. This increase was primarily due to the $45.0 million upfront payment received in March 2016 under the Roche collaboration, offset by cash used in operating activities.
- **Collaboration Revenue**: Collaboration revenues were $6.9 million for the first quarter of 2016, as compared to $0.7 million for the first quarter of 2015. This increase was due to Blueprint Medicines entering into a rare genetic disease collaboration with Alexion Pharma Holding (Alexion) in March 2015 and a cancer immunotherapy collaboration with Roche in March 2016. Collaboration revenues for the first quarter of 2016 reflected reimbursement from Alexion for work conducted by Blueprint Medicines in the first quarter under the parties' collaboration and a $0.8 million milestone payment from Alexion, which was recognized upon achievement in the first quarter. In addition, collaboration revenues for the first quarter of 2016 reflected a portion

of the $15.0 million upfront payment under the Alexion collaboration, a portion of a $1.8 million milestone payment previously received under the Alexion collaboration and a portion of the $45.0 million upfront payment under the Roche collaboration, all of which will be amortized over the period of the applicable research term.

- **R&D Expenses**: Research and development expenses were $17.6 million for the first quarter of 2016, as compared to $9.2 million for the same period in 2015. This increase was primarily attributable to approximately $2.6 million in increased expenses associated with clinical manufacturing activities, approximately $2.4 million in increased expenses associated with continuing to build Blueprint Medicines' platform and advance its discovery pipeline, approximately $1.7 million in increased personnel expense and approximately $1.4 million in increased expenses for external clinical activities associated with advancing Blueprint Medicines' two lead programs into clinical trials.
- **G&A Expenses**: General and administrative expenses were $4.6 million for the first quarter of 2016, as compared to $2.8 million for the same period in 2015. This increase was primarily attributable to approximately $0.8 million in increased personnel costs and approximately $0.7 million in increased professional fees.
- **Net Loss**: Net loss was $15.5 million for the first quarter of 2016, or a basic and diluted net loss per share available to common stockholders of $0.57, as compared to a net loss of $11.6 million for the same period in 2015, or a basic and diluted net loss per share available to common stockholders of $8.23.

Financial Guidance

Blueprint Medicines expects that its cash, cash equivalents and investments balance will be at least $120 million at December 31, 2016. In addition, Blueprint Medicines expects that its existing cash, cash equivalents and investments will be sufficient to enable it to fund its operating expenses and capital expenditure requirements into late 2017.

Conference Call Information

Blueprint Medicines will host a live conference call and audio webcast today at 8:00 a.m. EDT. The conference call may be accessed by dialing 1-855-728-4793 (domestic) or 1-503-343-6666 (international) and referring to conference ID 92012739. An audio 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 highly selective and potent kinase medicines to improve the lives of patients with genomically defined diseases. The Company's 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 three programs in clinical development for subsets of patients with gastrointestinal stromal tumors, hepatocellular carcinoma and systemic mastocytosis, 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 statements about plans and timelines for the clinical development of BLU-285 and BLU-554; the timing of clinical data or proof of concept for preclinical and clinical programs, including, without limitation, the timing and type of preliminary clinical data for Blueprint Medicines' Phase 1 clinical trials for BLU-285 and BLU-554; the timing of regulatory submissions or filings, including, without limitation, an investigational new drug application for BLU-667; potential benefits of orphan drug designation for BLU-285 for GIST and SM; the potential benefits of Blueprint Medicines' rare genetic disease collaboration with Alexion Pharma Holding (Alexion) and its cancer immunotherapy collaboration with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. (collectively, Roche); 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 product candidates, including BLU-285 and BLU-554; 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 diagnostics for its current and future drug candidates, including a companion diagnostic for BLU-554 with Ventana Medical Systems, Inc.; and the success of Blueprint Medicines' rare genetic disease collaboration with Alexion and its cancer immunotherapy collaboration with Roche. 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, 2015, as filed with the Securities and Exchange Commission (SEC) on March 11, 2016, 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, 2016	December 31, 2015
Cash, cash equivalents and investments	$ 191,507	$ 162,707
Unbilled accounts receivable	4,232	3,414
Working capital (1)	173,885	151,776
Total assets	206,010	178,898
Deferred revenue	56,767	13,640
Term loan payable	6,518	7,338
Lease incentive obligation	3,804	3,948
Total stockholders' equity	129,659	143,979

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

Blueprint Medicines Corporation

Condensed Statements of Operations Data

(in thousands, except per share data)

(unaudited)

	Three Months Ended March 31,	
	2016	**2015**
Collaboration revenue	$ 6,856	$ 652
Operating expenses:		
Research and development	17,635	9,232
General and administrative	4,646	2,770
Total operating expenses	22,281	12,002
Other income (expense):		
Other income (expense), net	61	(37)
Interest expense	(140)	(185)
Total other expense	(79)	(222)
Net loss	$ (15,504)	$ (11,572)
Convertible preferred stock dividends	—	(2,270)
Net loss applicable to common stockholders	$ (15,504)	$ (13,842)
Net loss per share applicable to common stockholders — basic and diluted	$ (0.57)	$ (8.23)
Weighted-average number of common shares used in net loss per share applicable to common stockholders — basic and diluted	27,088	1,681

Contact:

Investor Relations:
Kristin Williams
Blueprint Medicines Corporation
617-714-6674
KWilliams@blueprintmedicines.com

Media Relations:
Dan Quinn
Ten Bridge Communications, Inc.
781-475-7974
dan@tenbridgecommunications.com