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): **March 11, 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 March 11, 2016, Blueprint Medicines Corporation (the "Company") announced its financial results for the quarter and year ended December 31, 2015. 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 March 11, 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: March 11, 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 March 11, 2016

Blueprint Medicines Reports Fourth Quarter and Full Year 2015 Financial Results

— Enrolling patients in three Phase 1 clinical trials for BLU-285 and BLU-554 —

— Selected BLU-667 as a development candidate for its RET program —

— Ended year with $162.7 million in cash and cash equivalents —

CAMBRIDGE, Mass., March 11, 2016 – 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 fourth quarter and year ended December 31, 2015.

"Our evolution into a multi-program clinical-stage company in 2015 has provided an important validation of our platform and generated multiple opportunities for corporate and clinical milestones for this year and beyond," said Jeff Albers, Chief Executive Officer of Blueprint Medicines. "In addition to completing our initial public offering, we successfully began enrolling patients in two Phase 1 clinical trials and recently enrolled our first patient in our third Phase 1 clinical trial. We also entered into a strategic collaboration with Alexion to advance drug candidates for an undisclosed kinase target that is the driver of a rare genetic disease, and in December, we selected BLU-667 as a development candidate for our RET program. Looking forward, we anticipate several significant milestones this year. By the end of 2016, we expect preliminary data for each of our three Phase 1 clinical trials to be available, we plan to file an investigational new drug (IND) application for BLU-667 and we plan to nominate two more pre-clinical programs, including at least one program focused on kinases as therapeutic targets in cancer immunotherapy."

Recent Business Highlights

Platform and Pipeline:

- **Initiated third Phase 1 clinical trial:** In March 2016, Blueprint Medicines enrolled its 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 demonstrating anti-tumor activity of BLU-285 in models of acute myeloid leukemia (AML):** In December 2015, at the 2015 American Society of Hematology (ASH) Annual Meeting, Blueprint Medicines presented new preclinical data demonstrating the potential utility of BLU-285 in a subset of patients with AML containing a mutation in KIT Exon 17. BLU-285 administration in a systemic model of AML driven by a KIT Exon 17 mutation resulted in tumor regression and reduced disease burden compared to cytarabine-treated animals. In addition, several mice treated with BLU-285 had undetectable disease after 24 days.
- **Selected BLU-667 as development candidate for RET program:** In December 2015, Blueprint Medicines selected BLU-667 as a development candidate for its RET program. RET is a receptor tyrosine kinase that can become abnormally activated by mutations or fusions. RET is a driver of

disease in non-small cell lung cancer and cancers of the thyroid, and Blueprint Medicines' research suggests that RET may be a driver of disease in subsets of colon and breast cancer. BLU-667 is an orally available, potent and selective inhibitor of RET and RET resistance mutations that Blueprint Medicines predicts will be found in patients. Blueprint Medicines plans to initiate 28-day Good Laboratory Practice toxicology studies for BLU-667 in the first half of 2016 with the goal of identifying the dose limiting toxicity and anticipated first-in-human dose for BLU-667. Blueprint Medicines plans to file an IND for BLU-667 by the end of 2016.

Corporate:

- **Strengthened executive leadership team and board of directors:** In January 2016, Blueprint Medicines announced the appointment of Kathryn (Kate) Haviland as Chief Business Officer and the promotion of Anthony (Andy) Boral, M.D., Ph.D., to Chief Medical Officer. In February 2016, Blueprint Medicines appointed Lonnel Coats to its board of directors.
- **Launched Mast Cell Connect with PatientCrossroads:** In December 2015, Blueprint Medicines and PatientCrossroads launched Mast Cell Connect, a patient registry sponsored by Blueprint Medicines to advance the understanding of mastocytosis and help speed the development of new therapies. Mast Cell Connect, the first-ever open-model registry for patients with mastocytosis, is designed to bring the medical community greater insights about the needs of people living with the disease and to enable patients to sign up to receive notifications of clinical trials and other research studies. In addition, Blueprint Medicines launched a systemic mastocytosis awareness website, "Together with Systemic Mastocytosis" at www.systemicmastocytosis.com.

Fourth Quarter and Full Year 2015 Financial Results

- **Cash Position**: As of December 31, 2015, cash and cash equivalents were $162.7 million, as compared to $47.2 million as of December 31, 2014. This increase was primarily due to net proceeds of $154.8 million received upon the closing of Blueprint Medicines' initial public offering in May 2015. Blueprint Medicines expects that its existing cash and cash equivalents will be sufficient to enable it to fund its operating expenses and capital expenditure requirements into at least the third quarter of 2017.
- **Collaboration Revenue**: Collaboration revenues were $4.6 million for the fourth quarter of 2015 and $11.4 million for the year ended December 31, 2015. Blueprint Medicines did not record any collaboration revenue during the same periods for 2014. The increase was due to Blueprint Medicines entering into a research, development and commercialization agreement with Alexion Pharma Holding (Alexion) in March 2015 to research, develop and commercialize drug candidates for an undisclosed activated kinase target, which is the cause of a rare genetic disease. Collaboration revenues for the fourth quarter of 2015 and the year ended December 31, 2015 reflected reimbursement from Alexion for work conducted by Blueprint Medicines under the parties' collaboration, as well as a portion of the $15.0 million upfront payment and a $1.8 million milestone payment, each of which will be amortized over the period of the research term, and a $0.3 million milestone payment, which was recognized upon achievement in December 2015.
- **R&D Expenses**: Research and development expenses were $16.4 million for the fourth quarter of 2015, as compared to $11.3 million for the same period in 2014. This increase was primarily attributable to approximately $1.8 million associated with building Blueprint Medicines' platform and advancing its discovery pipeline forward, approximately $1.7 million in external clinical activities associated with advancing Blueprint Medicines' two lead programs into clinical trials and approximately $1.5 million in increased personnel expense. Research and development expenses

were $48.6 million for the year ended December 31, 2015, as compared to $31.8 million for the year ended December 31, 2014. This increase was primarily attributable to approximately $6.0 million in increased personnel expense, approximately $6.0 million in external clinical activities associated with advancing Blueprint Medicines' two lead programs into clinical trials, and approximately $5.4 million associated with building Blueprint Medicines' platform and advancing its discovery pipeline forward. These increases were partially offset by $0.7 million of lower expenses associated with external IND-enabling pre-clinical and toxicology studies as well as manufacturing activities.

- **G&A Expenses**: General and administrative expenses were $3.6 million for the fourth quarter of 2015, as compared to $3.0 million for the same period in 2014. This increase was primarily attributable to approximately $0.2 million in increased personnel costs and stock-based compensation expense and approximately $0.2 million in increased professional fees. General and administrative expenses were $14.5 million for the year ended December 31, 2015, as compared to $7.9 million for the year ended December 31, 2014. This increase was primarily attributable to approximately $3.5 million in increased personnel costs and stock-based compensation expense and approximately $2.5 million in increased professional fees and fees paid to members of Blueprint Medicines' board of directors.
- **Net Loss**: Net loss was $15.6 million for the fourth quarter of 2015, or a basic and diluted net loss per share available to common stockholders of $0.58, as compared to a net loss of $14.5 million for the same period in 2014, or a basic and diluted net loss per share available to common stockholders of $10.44. Net loss was $52.8 million for the year ended December 31, 2015, or a basic and diluted net loss per share available to common stockholders of $3.07, as compared to a net loss of $40.3 million for the year ended December 31, 2014, or a basic and diluted net loss per share available to common stockholders of $32.41.

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-554 and BLU-285; the timing of clinical data or proof of concept for preclinical and clinical programs; 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, expectations regarding Blueprint Medicines' existing cash and cash equivalents 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. These and other risks and uncertainties are described in greater detail in the section entitled "Risk Factors" in Blueprint Medicines' Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, as filed with the Securities and Exchange Commission (SEC) on November 9, 2015, 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)

	December 31, 2015	December 31, 2014
Cash and cash equivalents	$ 162,707	$ 47,240
Unbilled accounts receivable	3,414	—
Working capital (1)	151,776	41,510
Total assets	178,898	49,925
Deferred revenue	13,640	—
Term loan payable	7,338	9,042
Lease incentive obligation	3,948	—
Warrant liability	—	365
Convertible preferred stock	—	114,811
Total stockholders' equity (deficit)	143,979	(79,382)

(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 December 31,		Years Ended December 31,	
	2015	**2014**	**2015**	**2014**
Collaboration revenue	$ 4,635	$ —	$ 11,400	$ —
Operating expenses:				
Research and development	16,432	11,332	48,588	31,844
General and administrative	3,624	2,961	14,456	7,890
Total operating expenses	20,056	14,293	63,044	39,734
Other income (expense):				
Other income (expense), net	6	(24)	(429)	(98)
Interest expense	(160)	(151)	(696)	(453)
Total other expense	(154)	(175)	(1,125)	(551)
Net loss	$ (15,575)	$ (14,468)	$ (52,769)	$ (40,285)
Convertible preferred stock dividends	—	(1,905)	(3,153)	(5,765)
Net loss applicable to common stockholders	$ (15,575)	$ (16,373)	$ (55,922)	$ (46,050)
Net loss per share applicable to common stockholders — basic and diluted	$ (0.58)	$ (10.44)	$ (3.07)	$ (32.41)
Weighted-average number of common shares used in net loss per share applicable to common stockholders — basic and diluted	26,962	1,568	18,236	1,421

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