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): **August 2, 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 August 2, 2017, Blueprint Medicines Corporation (the "Company") announced its financial results for the quarter ended June 30, 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 August 2, 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: August 2, 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 August 2, 2017

Blueprint Medicines Reports Second Quarter 2017 Financial Results

– BLU-285 granted Breakthrough Therapy Designation for the treatment of patients with unresectable or metastatic gastrointestinal stromal tumors (GIST) harboring a PDGFRα D842V mutation –
– Announced plans to expedite development of BLU-285 in patients with a PDGFRa D842V mutation and to initiate a Phase 3 trial to support registration in a broader GIST population –
– Presented updated clinical data from ongoing Phase 1 trial of BLU-285 in advanced GIST at ASCO Annual Meeting –
– Updated BLU-554 data in advanced hepatocellular carcinoma (HCC) to be presented at ESMO 2017 Congress –

CAMBRIDGE, Mass., August 2, 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 second quarter ended June 30, 2017.

"Our vision of growing Blueprint Medicines from a research organization into a fully-integrated commercial-stage biopharmaceutical company is coming into clearer focus, and our second quarter achievements represent continued progress toward this goal," said Jeff Albers, Chief Executive Officer of Blueprint Medicines. "Compelling clinical data for BLU-285 in patients with advanced GIST, along with receipt of Breakthrough Therapy Designation, give us confidence in the path forward for this program. We plan to expedite development in patients with PDGFRα D842V-driven GIST, a subset with no effective treatments, and to initiate a randomized Phase 3 trial to evaluate the potential of BLU-285 to treat a broader population of patients in the third-line setting. In addition, we continue to advance our other clinical trial programs toward key data disclosures and remain on track to present updated trial results for BLU-554 in advanced hepatocellular carcinoma and BLU-285 in advanced systemic mastocytosis later this year."

Clinical Programs

BLU-285: Gastrointestinal Stromal Tumors

- In June 2017, Blueprint Medicines presented updated data from its ongoing Phase 1 clinical trial for BLU-285 in advanced GIST in an oral presentation at the 2017 ASCO Annual Meeting. BLU-285 is a potent and highly selective PDGFRα and KIT inhibitor in development as a potential treatment for patients with PDGFRα-driven GIST and KIT-driven GIST. In evaluable patients with PDGFRα-driven GIST harboring a D842 mutation, the data showed an objective response rate (ORR) of 60 percent by Response Evaluation Criteria in Solid Tumors (RECIST) version 1.1. In addition, median PFS was not reached for the evaluable PDGFRα-driven GIST patients, and 9-month progression free survival (PFS) was estimated to be 87 percent. In contrast, historical data showed a zero percent ORR and a median PFS of about three months in patients with PDGFRα D842V-driven GIST treated with imatinib. Among patients with treatment-resistant KIT-driven GIST treated at higher dose levels, key observations included tumor reduction in eight of 14 evaluable patients and prolonged progression free survival. The data also showed that BLU-285 was well-tolerated, and most adverse events reported by investigators were Grade 1 or 2. Read the full data here.
- Also in June 2017, Blueprint Medicines announced that the U.S. Food and Drug Administration (FDA) granted Breakthrough Therapy Designation to BLU-285 for the treatment of patients with

unresectable or metastatic GIST harboring the PDGFRα D842V mutation. Based on feedback from the FDA at the End-of-Phase 1 meeting, Blueprint Medicines believes that additional data from the expansion portion of its ongoing Phase 1 clinical trial of BLU-285 in advanced GIST may be sufficient to support a New Drug Application for BLU-285 for the treatment of patients with PDGFRα D842V-driven GIST. Blueprint Medicines currently estimates it will complete enrollment of the PDGFRα D842V expansion cohort, which is expected to include approximately 50 patients, by the middle of 2018. In the first half of 2018, Blueprint Medicines also plans to initiate a global, pivotal Phase 3 clinical trial of BLU-285 in third line patients with KIT-driven GIST, with the goal of supporting the registration of BLU-285 in a broader GIST patient population.

BLU-285: Systemic Mastocytosis

- Blueprint Medicines completed enrollment in the dose escalation portion of its ongoing Phase 1 clinical trial of BLU-285 in patients with advanced systemic mastocytosis and recently began enrolling patients in the dose expansion portion of this clinical trial at the recommended dose of 300 mg once daily. Blueprint Medicines anticipates providing updated data from this clinical trial by the end of 2017.

BLU-554: Hepatocellular Carcinoma

- Blueprint Medicines continues to enroll patients in the dose expansion stage of its ongoing Phase 1 clinical trial for BLU-554 in advanced HCC and will present updated data from this clinical trial in an oral presentation, “Phase 1 safety and clinical activity of BLU-554 in advanced hepatocellular carcinoma (HCC),” at the ESMO 2017 Congress on Sunday, September 10, 2017 in Madrid, Spain. The accepted abstract includes results as of the data cut-off date of April 20, 2017, and Blueprint Medicines expects to present clinical trial results updated since the abstract data cut-off date at the upcoming ESMO 2017 Congress.

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.
- **Discovery Program in Fibrodysplasia Ossificans Progressiva (FOP):** Blueprint Medicines is evaluating opportunities to advance its rare disease discovery program in FOP as a result of Alexion’s decision to discontinue the collaboration with Blueprint Medicines following a strategic review of Alexion’s business and research and development portfolio.

Second Quarter 2017 Financial Results

- **Cash Position:** As of June 30, 2017, cash, cash equivalents and investments were $421.0 million, as compared to $268.2 million as of December 31, 2016. This increase was primarily related to $215.6 million in net proceeds from the April 2017 follow-on underwritten public offering, partially offset by $58.6 million in cash used to fund operating activities.

- **Collaboration Revenue:** Collaboration revenues were $5.9 million for the second quarter of 2017, as compared to $7.1 million for the second quarter of 2016. This decrease was primarily due to lower revenue recognized under the Alexion collaboration.
- **R&D Expenses:** Research and development expenses were $33.3 million for the second quarter of 2017, including $1.5 million of stock-based compensation expense, as compared to $21.3 million for the second quarter of 2016, including $0.8 million of stock-based compensation expense. This increase was primarily attributable to increased clinical and manufacturing expenses associated with the ongoing clinical trials for BLU-285, BLU-554 and BLU-667 and increased personnel-related expenses.
- **G&A Expenses:** General and administrative expenses were $6.8 million for the second quarter of 2017, including $1.5 million of stock based compensation expense, as compared to $4.7 million for the second quarter of 2016, including $0.7 million of stock based compensation expense. This increase was primarily attributable to increased personnel-related expenses to support our growing operations.
- **Net Loss:** Net loss was $33.4 million for the second quarter of 2017, or a net loss per share of $0.86, as compared to a net loss of $18.9 million for the second quarter of 2016, or a net loss per share of $0.70.

Financial Guidance

Based on its current plans, Blueprint Medicines believes its existing cash, cash equivalents and investments, excluding any potential option fees and milestone payments under its existing collaboration with Roche, 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 50939515. 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.

Availability of Other Information About Blueprint Medicines

Investors and others should note that Blueprint Medicines communicates with its investors and the public using its company website (www.blueprintmedicines.com), including but not limited to investor

presentations and scientific presentations, Securities and Exchange Commission filings, press releases, public conference calls and webcasts. You can also connect with Blueprint Medicines on Twitter (@BlueprintMeds) or LinkedIn. The information that Blueprint Medicines posts on these channels and websites could be deemed to be material information. As a result, Blueprint Medicines encourages investors, the media and others interested in Blueprint Medicines to review the information that it posts on these channels, including Blueprint Medicines' investor relations website, on a regular basis. This list of channels may be updated from time to time on Blueprint Medicines' investor relations website and may include other social media channels than the ones described above. The contents of Blueprint Medicines' website or these channels, or any other website that may be accessed from its website or these channels, shall not be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended.

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 candidates; the preclinical and clinical results for Blueprint Medicines' drug candidates, which may not support further development of such drug 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' 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' Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, as filed with the Securities and Exchange Commission (SEC) on May 3, 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)

	June 30, 2017	December 31, 2016
Cash, cash equivalents and investments	$ 421,014	$ 268,218
Unbilled accounts receivable	3,075	3,577
Working capital (1)	398,336	191,913
Total assets	444,721	282,795
Deferred revenue	41,405	47,235
Term loan payable	2,671	4,069
Lease incentive obligation	4,719	3,370
Total stockholders' equity	374,089	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 June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Collaboration revenue	$ 5,890	$ 7,065	$ 11,730	$ 13,921
Operating expenses:				
Research and development	33,271	21,273	61,758	38,908
General and administrative	6,833	4,688	12,516	9,334
Total operating expenses	40,104	25,961	74,274	48,242
Other income (expense):				
Other income (expense), net	861	131	1,286	192
Interest expense	(59)	(129)	(131)	(269)
Total other income (expense)	802	2	1,155	(77)
Net loss	$(33,412)	$(18,894)	$ (61,389)	$ (34,398)
Net loss per share applicable to common stockholders — basic and diluted	$ (0.86)	$ (0.70)	$ (1.71)	$ (1.27)
Weighted-average number of common shares used in net loss per share applicable to common stockholders — basic and diluted	38,775	27,170	35,998	27,129

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