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): **April 28, 2020**

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.)

45 Sidney Street **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))

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. ☐

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common stock, par value $0.001 per share	BPMC	Nasdaq Global Select Market

Item 8.01 Other Events.

On April 28, 2020, Blueprint Medicines Corporation issued a press release announcing that its Phase 3 VOYAGER clinical trial of avapritinib versus regorafenib in patients with locally advanced unresectable or metastatic gastrointestinal stromal tumor did not meet the primary endpoint of an improvement in progression-free survival for avapritinib versus regorafenib. A copy of the press release is filed herewith as Exhibit 99.1 to this Current Report on Form 8-K and incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Press release issued by Blueprint Medicines Corporation on April 28, 2020
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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: April 28, 2020

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

Blueprint Medicines Announces Top-line Results from Phase 3 VOYAGER Trial of Avapritinib versus Regorafenib in Patients with Advanced Gastrointestinal Stromal Tumor

-- VOYAGER did not meet the primary endpoint of an improvement in progression-free survival for avapritinib versus regorafenib in patients with third- or fourth-line GIST --

-- Plan to continue to prioritize portfolio opportunities in systemic mastocytosis and RET-altered cancers, with multiple regulatory submissions anticipated in 2020 --

-- Continue to expect existing cash balance to fund operations into the second half of 2022 --

-- Blueprint Medicines to host investor conference call and webcast today at 8:00 a.m. ET --

CAMBRIDGE, Mass., April 28, 2020 – Blueprint Medicines Corporation (NASDAQ: BPMC), a precision therapy company focused on genomically defined cancers, rare diseases and cancer immunotherapy, today announced top-line results from the Phase 3 VOYAGER clinical trial of avapritinib versus regorafenib in patients with locally advanced unresectable or metastatic gastrointestinal stromal tumor (GIST). The VOYAGER trial did not meet the primary endpoint of an improvement in progression-free survival (PFS) for avapritinib versus regorafenib. Top-line safety data for avapritinib were consistent with those previously reported.

Blueprint Medicines plans to continue to commercialize AYVAKIT™ (avapritinib) in the United States for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations, and seek marketing approval for avapritinib for the treatment of this patient population in additional geographies. Blueprint Medicines continues to anticipate a decision from the European Commission on its marketing authorization application for the treatment of adults with PDGFRA D842V mutant GIST in the third quarter of 2020. Based on the top-line VOYAGER data, the company plans to discontinue further development of avapritinib in GIST beyond PDGFRA exon 18 mutant GIST.

“While we are disappointed by the outcome of the VOYAGER trial, we are deeply grateful to the patients, investigators and clinical site staff who contributed to the completion of this global study. We hope these data will reveal important insights to improve the scientific understanding of the disease and inform future innovations in GIST, and we are committed to sharing the results at a future medical meeting,” said Jeff Albers, Chief Executive Officer of Blueprint Medicines. “At Blueprint Medicines, we strive to advance science, building on successes and learning from setbacks, to create new medicines for patients with difficult-to-treat cancers and rare diseases. With a deep portfolio of precision therapies and a strong financial position, we will continue to advance our pipeline with clear near-term priorities in systemic mastocytosis and RET-altered cancers.”

Top-line Data from Phase 3 VOYAGER Trial

The VOYAGER trial evaluated the efficacy and safety of avapritinib (N=240) versus regorafenib (N=236) in patients with third- or fourth-line GIST.

Avapritinib showed a median PFS of 4.2 months compared to 5.6 months for regorafenib. The difference in median PFS between the avapritinib and regorafenib groups was not statistically significant. The overall response rate was 17 percent for the avapritinib group and 7 percent for the regorafenib group.

Avapritinib was generally well-tolerated with most adverse events reported as Grade 1 or 2. Top-line safety results were consistent with previously reported data, and no new safety signals were observed.

Additional analyses of the VOYAGER trial results are ongoing, and Blueprint Medicines plans to present the data at a future medical meeting.

Financial Guidance

Based on its current operating plans, Blueprint Medicines continues to expect that its existing cash, cash equivalents and investments together with anticipated product revenues but excluding any additional potential option fees, milestone payments or other payments under its collaboration or license agreements, will be sufficient to enable it to fund its operating expenses and capital expenditure requirements into the second half of 2022. Anticipated savings from the discontinuation of further development of avapritinib in non-PDGFRA exon 18 mutant GIST indications is expected to offset any previously forecast revenues from those indications through 2022.

As of December 31, 2019, Blueprint Medicines had cash, cash equivalents and investments of $548.0 million. In addition, Blueprint Medicines received $308.4 million in estimated net proceeds from its January 2020 follow-on public offering.

Conference Call Information

Blueprint Medicines will host a live webcast today beginning at 8:00 a.m. ET to discuss the top-line data from the VOYAGER trial. To access the live call, please dial (855) 728-4793 (domestic) or (503) 343-6666 (international), and refer to conference ID 2207088. A webcast of the conference call will be available in the Investors & Media 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 the VOYAGER Trial

VOYAGER was a global, open-label, randomized, Phase 3 trial designed to evaluate the efficacy and safety of avapritinib versus regorafenib in patients with third- or fourth-line GIST. Patients were randomized 1:1 to receive either avapritinib (300 mg once daily dosing) or regorafenib (160 mg once daily dosing for three out of every four weeks) at multiple sites in the United States, Canada, European Union, Australia and Asia. The primary efficacy endpoint was PFS by blinded, independent central radiology review, based on modified Response Evaluation Criteria in Solid Tumors version 1.1 (mRECIST 1.1 criteria) for GIST. For more information about the VOYAGER trial, please visit www.clinicaltrials.gov (ClinicalTrials.gov Identifier: NCT03465722).

About AYVAKIT (avapritinib)

AYVAKIT (avapritinib) is a kinase inhibitor approved by the U.S. Food and Drug Administration (FDA) for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations. AYVAKIT is the first precision therapy approved to treat a genomically defined population of patients with GIST and the only highly active treatment for PDGFRA exon 18 mutant GIST. The FDA granted Breakthrough Therapy Designation to avapritinib for the treatment of unresectable or metastatic GIST harboring the PDGFRA D842V mutation. For more information, visit AYVAKIT.com .

Avapritinib is not approved for the treatment of any other indication in the U.S. or any other jurisdiction by the FDA or any other health authority.

Blueprint Medicines is developing avapritinib globally for the treatment of advanced, smoldering and indolent systemic mastocytosis (SM). The FDA granted Breakthrough Therapy Designation to avapritinib for the treatment of advanced SM, including the subtypes of aggressive SM, SM with an associated hematologic neoplasm and mast cell leukemia.

Blueprint Medicines has an exclusive collaboration and license agreement with CStone Pharmaceuticals for the development and commercialization of avapritinib and certain other drug candidates in Mainland China, Hong

Kong, Macau and Taiwan. Blueprint Medicines retains development and commercial rights for avapritinib in the rest of the world.

About Blueprint Medicines

Blueprint Medicines is a precision therapy company striving to improve human health. With a focus on genomically defined cancers, rare diseases and cancer immunotherapy, we are developing transformational medicines rooted in our leading expertise in protein kinases, which are proven drivers of disease. Our uniquely targeted, scalable approach empowers the rapid design and development of new treatments and increases the likelihood of clinical success. We have one FDA-approved precision therapy and are currently advancing multiple investigational medicines in clinical development, along with a number of research programs. For more information, visit www.BlueprintMedicines.com and follow us on Twitter (@BlueprintMeds) and LinkedIn .

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 to continue to commercialize AYVAKIT in the United States for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations, and plans to seek marketing approval for avapritinib for the treatment of this patient population in additional geographies; expectations and timing for a decision from the European Commission on the marketing authorization application for the treatment of adults with PDGFRA D842V mutant GIST; plans and timing for presenting VOYAGER trial results; plans to discontinue further development of avapritinib for GIST indications other than PDGFRA exon 18 mutant GIST; expectations regarding anticipated savings from the discontinuation of further development of avapritinib in non-PDGFRA exon 18 mutant GIST indications; expectations regarding Blueprint Medicines' existing cash, cash equivalents and investments; the potential benefits of Blueprint Medicines' current and future drug candidates in treating patients; and Blueprint Medicines' strategy, goals and anticipated milestones, business plans and focus. The words "aim," "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 impact of the COVID-19 pandemic to Blueprint Medicines' business, operations, strategy, goals and anticipated milestones, including Blueprint Medicines' ongoing and planned research and discovery activities, ability to conduct ongoing and planned clinical trials, clinical supply of current or future drug candidates, commercial supply of current or future approved products, and launching, marketing and selling current or future approved products; Blueprint Medicines' ability and plan in establishing a commercial infrastructure, and successfully launching, marketing and selling its approved product; Blueprint Medicines' ability to successfully expand the approved indications for AYVAKIT, including Blueprint Medicines' ability to obtain FDA approval for its pending new drug application for avapritinib for the treatment of fourth-line GIST, or obtain marketing approval for AYVAKIT in additional geographies in the future; the delay of any current or planned clinical trials or the development of Blueprint Medicines' drug candidates or licensed product candidate; Blueprint Medicines' advancement of multiple early-stage efforts; Blueprint Medicines' ability to successfully demonstrate the efficacy and safety of its drug candidates and gain approval of its drug candidates on a timely basis, if at all; the preclinical and clinical results for Blueprint Medicines' drug candidates, which may not support further development of such drug candidates; 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; and the success of Blueprint Medicines' current and future collaborations or licensing arrangements. These and other risks and uncertainties are described in greater detail in the section entitled "Risk Factors" in Blueprint Medicines' filings with the Securities and Exchange Commission (SEC), including Blueprint Medicines' most recent Annual Report on Form 10-K, as supplemented by

its most recent Quarterly Report on Form 10-Q and any other filings that Blueprint Medicines has made or 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. Except as required by law, Blueprint Medicines explicitly disclaims any obligation to update any forward-looking statements.

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