

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

SCHEDULE 14A

**Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934
(Amendment No.)**

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

BLUEPRINT MEDICINES CORPORATION

(Name of Registrant as Specified in Its certificate of incorporation)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies: _____
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 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined): _____
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- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
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 - (2) Form, Schedule or Registration Statement No.: _____
 - (3) Filing Party: _____
 - (4) Date Filed: _____



BLUEPRINT MEDICINES CORPORATION
38 Sidney Street, Suite 200
Cambridge, Massachusetts 02139

June 13, 2017

Supplement to Definitive Proxy Statement Relating to 2017 Annual Meeting of Stockholders

This proxy statement supplement, dated June 13, 2017, supplements the definitive proxy statement (the “Proxy Statement”) of Blueprint Medicines Corporation (the “Company”) filed with the Securities and Exchange Commission on April 28, 2017 relating to the annual meeting of stockholders of the Company to be held on June 20, 2017 beginning at 3:00 p.m., Eastern Daylight Time, at the Company’s offices located at 38 Sidney Street, Suite 200, Cambridge, Massachusetts 02139.

The purpose of this supplement is to correct an error in the table included at pages 28 through 29 of the Proxy Statement under “Participation in Follow-On Public Offerings—April 2017,” which inadvertently omitted shares of common stock purchased by entities affiliated with Wellington Management Group LLP in connection with the Company’s April 2017 follow-on public offering, and to correct an error in the beneficial ownership table included at pages 30 through 32 of the Proxy Statement under “Security Ownership of Certain Beneficial Owners and Management,” which inadvertently omitted shares of common stock beneficially owned as of March 31, 2017 by entities affiliated with Wellington Management Group LLP. The corrected tables are included below.

Except for the information regarding entities affiliated with Wellington Management Group LLP in the two tables included below, all information set forth in the Proxy Statement remains unchanged.

Participation in Follow-On Public Offerings

April 2017

In March 2017, we entered into an underwriting agreement with Goldman, Sachs & Co. and Morgan Stanley & Co. LLC, as representatives of the several underwriters, relating to a follow-on underwritten public offering of shares of our common stock. Pursuant to the underwriting agreement, we sold an aggregate of 5,750,000 shares of our common stock to the underwriters, including 750,000 shares of common stock sold by us pursuant to the exercise in full by the underwriters of their option to purchase additional shares in connection with the offering, at a price to the public of \$40.00 per share. The offering closed on April 4, 2017. Certain holders of more than 5% of our capital stock (including shares of common stock acquired in the offering) purchased shares of our common stock from the underwriters in the offering at the offering price of the shares to the public.

The following table sets forth the number of shares of our common stock purchased and the aggregate cash purchase price paid by each of these stockholders.

Purchaser	Shares of Common Stock	Purchase Price
Entities affiliated with Deerfield Mgmt, L.P.	525,000	\$ 21,000,000
Entities affiliated with Wellington Management Group LLP	500,000	\$ 20,000,000
Entities affiliated with Fidelity Management & Research	350,000	\$ 14,000,000
Entities affiliated with Biotechnology Value Fund, L.P.	25,000	\$ 1,000,000

Security Ownership of Certain Beneficial Owners and Management

Unless otherwise provided below, the following table sets forth information regarding beneficial ownership of our common stock as of March 31, 2017 by:

- each person, or group of affiliated persons, known to us to be the beneficial owner of 5% or more of the outstanding shares of our common stock;
- each of our current directors;
- our principal executive officer and our two other executive officers who served during the year ended December 31, 2016 named in the Summary Compensation table above, whom we collectively refer to as our named executive officers; and
- all of our executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock subject to options or restricted stock unit awards that are currently exercisable or will become exercisable within 60 days after March 31, 2017 are considered outstanding and beneficially owned by the person holding the options or restricted stock units for the purpose of calculating the percentage ownership of that person, but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, to our knowledge, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to applicable community property laws. The inclusion herein of any shares as beneficially owned does not constitute an admission of beneficial ownership.

The column entitled “Percentage of Shares Beneficially Owned” is based on a total of 33,249,614 shares of our common stock outstanding as of March 31, 2017. Except as otherwise set forth below, the address of the beneficial owner is c/o Blueprint Medicines Corporation, 38 Sidney Street, Suite 200, Cambridge, Massachusetts 02139. Beneficial ownership representing less than one percent of our outstanding common stock is denoted with an “*.”

Name and address of beneficial owner	Number of shares beneficially owned	Percentage of Shares Beneficially Owned
5% stockholders		
Entities affiliated with Fidelity Management & Research (1)	3,878,140	11.66 %
Entities affiliated with Wellington Management Group LLP (2)	3,821,584	11.49 %
Entities affiliated with Third Rock Ventures II, L.P. (3)	3,453,753	10.39 %
Entities affiliated with Biotechnology Value Fund, L.P. (4)	3,255,280	9.79 %
Entities affiliated with Deerfield Mgmt, L.P. (5)	1,842,415	5.54 %
Entities affiliated with BlackRock, Inc. (6)	1,693,725	5.09 %
Named executive officers and directors		
Jeffrey W. Albers (7)	434,279	1.29 %
Alexis Borisy (8)	47,390	*
Lonnell Coats (9)	9,090	*
George D. Demetri (10)	47,573	*
Marion Dorsch, Ph.D.	—	*
Mark Goldberg (11)	13,939	*
Nicholas Lydon (12)	202,727	*
Daniel S. Lynch (13)	250,119	*
Tracey L. McCain (14)	312	*
Charles A. Rowland, Jr. (15)	15,757	*
Lynn Seely, M.D. (16)	7,878	*
All executive officers and directors as a group (14 persons) (17)	1,149,267	3.40 %

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- (1) Based solely on a schedule 13G/A filed with the SEC on February 14, 2017 by Fidelity Management and Research LLC (“FMR LLC”). Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders’ voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders’ voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by the various investment companies registered under the Investment Company Act (“Fidelity Funds”) advised by Fidelity Management & Research Company (“FMR Co”), a wholly owned subsidiary of FMR LLC, which power resides with the Fidelity Funds’ Boards of Trustees. Fidelity Management & Research Company carries out the voting of the shares under written guidelines established by the Fidelity Funds’ Boards of Trustees. Fidelity Management & Research Company carries out the voting of the shares under written guidelines established by the Fidelity Funds’ Boards of Trustees. The address of FMR LLC is 245 Summer Street, Boston, MA 02210.
 - (2) Based solely on a schedule 13G filed with the SEC on April 10, 2017 by Wellington Management Group LLP. Wellington Group Holdings LLP, Wellington Investment Advisors Holdings LLP and Wellington Management Company LLP. Wellington Investment Advisors Holdings LLP is owned by Wellington Group Holdings LLP. Wellington Group Holdings LLP is owned by Wellington Management Group LLP. The shares are owned of record by clients of the following investment advisers (the “Wellington Investment Advisers”): Wellington Management Company LLP, Wellington Management Canada LLC, Wellington Management Singapore Pte Ltd, Wellington Management Hong Kong Ltd, Wellington Management International Ltd, Wellington Management Japan Pte Ltd and Wellington Management Australia Pty Ltd. Wellington Investment Advisors Holdings LLP controls directly, or indirectly through Wellington Management Global Holdings, Ltd., the Wellington Investment Advisers. The address of Wellington Management Group LLP, Wellington Group Holdings LLP, Wellington Investment Advisors Holdings LLP and Wellington Management Company LLP is c/o Wellington Management Company LLP, 280 Congress Street, Boston, MA 02210.
 - (3) Based solely on a Form 4 filed with the SEC on February 27, 2017 by Third Rock Ventures II, L.P. (“TRV LP”). TRV LP directly owns 3,453,753 shares of common stock. Each of Third Rock Ventures II GP, LP (“TRV GP”), the general partner of TRV LP, and Third Rock Ventures GP, LLC (“TRV LLC”), the general partner of TRV GP, and Mark Levin, Kevin Starr and Robert Tepper, the managers of TRV LLC, may be deemed to share voting and investment power over the shares held of record by TRV LP. The address for TRV LP, TRV GP, TRV LLC and Messrs. Levin, Starr and Tepper is c/o Third Rock Ventures, LLC, 29 Newbury Street, 3rd Floor, Boston, MA 02116.
 - (4) Based solely on a schedule 13G/A filed with the SEC on February 14, 2017 by Biotechnology Value Fund, L.P. (“BVF”). As of December 31, 2016, BVF beneficially owned 1,564,734 shares of common stock, Biotechnology Value Fund II, L.P. (“BVF II”) beneficially owned 959,457 shares of common stock and Biotechnology Value Trading Fund OS LP (“Trading Fund OS”) beneficially owned 238,070 shares of common stock. BVF Partners OS Ltd. (“Partners OS”), as the general partner of Trading Fund OS, may be deemed to beneficially own 238,070 shares of common stock beneficially owned by Trading Fund OS. BVF Partners L.P. (“Partners”), as the general partner of BVF, BVF II, the investment manager of Trading Fund OS, and the sole member of Partners OS, may be deemed to beneficially own 3,255,280 shares of common stock beneficially owned in the aggregate by BVF, BVF II, Trading Fund OS, and certain Partners managed accounts (the “Partners Managed Accounts”), including 493,019 shares of common stock held in the Partners Managed Accounts. BVF Inc. (“BVF, Inc.”), as the general partner of Partners, may be deemed to beneficially own 3,255,280 shares of common stock beneficially owned by Partners. Mark N. Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own 3,255,280 shares of common stock beneficially owned by BVF, Inc. Partners OS disclaims beneficial ownership of the shares of common stock beneficially owned by Trading Fund OS. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the shares of Common Stock beneficially owned by BVF, BVF II, Trading Fund OS and the Partners Managed Accounts. The address for BVF, BVF II, Partners, BVF Inc. and Mr. Lampert is 1 Sansome Street, 30th Floor, San Francisco, CA 94104. The address for Trading Fund OS and Partners OS is PO Box 309, Uglund House, Grand Cayman, KY1-1104, Cayman Islands.
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- (5) Based solely on a schedule 13G/A filed with the SEC on February 14, 2017. As of December 31, 2016, Deerfield Mgmt, L.P. beneficially owned 1,842,415 shares of common stock, Deerfield Management Company, L.P. beneficially owned 1,842,415 shares of common stock, Deerfield Partners, L.P. beneficially owned 806,977 shares of common stock, Deerfield International Master Fund, L.P. beneficially owned 1,035,438 shares of common stock and James E. Flynn beneficially owned 1,842,415 shares of common stock. The address for James E. Flynn, Deerfield Mgmt, L.P., Deerfield Management Company, L.P., Deerfield Partners, L.P., Deerfield International Master Fund, L.P. is 780 Third Avenue, 37th Floor, New York, NY 10017.
 - (6) Based solely on a schedule 13G filed with the SEC on January 30, 2017 by BlackRock Inc. ("BlackRock"). The address for BlackRock is 55 East 52nd Street, New York, NY 10055.
 - (7) Consists of (i) 55,486 shares of common stock and (ii) 378,793 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
 - (8) Consists of 47,390 shares of common stock.
 - (9) Consists of 9,090 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
 - (10) Consists of (i) 18,181 shares of common stock and (ii) 29,392 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
 - (11) Consists of 13,939 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
 - (12) Consists of 202,727 shares of common stock.
 - (13) Consists of 250,119 shares of common stock.
 - (14) Consists of 312 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
 - (15) Consists of 15,757 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
 - (16) Consists of 7,878 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
 - (17) Consists of (i) 573,903 shares of common stock and (ii) 575,364 options to purchase shares of common stock that are exercisable as of March 31, 2017 or will become exercisable within 60 days after such date.
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