FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

| Washington, | D.C. | 20549 |
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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

| OMB APPROVAL | | | | | | | | | |
|--------------------|-----------|--|--|--|--|--|--|--|--|
| OMB Number: | 3235-0287 | | | | | | | | |
| Estimated average | burden | | | | | | | | |
| hours per response | 0.5 | | | | | | | | |

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934

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|---|---|--|---|------------|--|-------------------------|---|------------------|--|------|---|--|---|----------------------|---|---|--------------------------------------|--|--|--|
| 1. Name and Address of Reporting Person* <u>Haviland Kate</u> | | | | | 2. Issuer Name and Ticker or Trading Symbol Blueprint Medicines Corp [BPMC] | | | | | | | | | | k all appli Directo | tionship of Reporting Persor all applicable) Director Officer (give title | | | 10% Owner | |
| | , | MEDICINES CC | (Middle) ORPOR | ATION | | Date of /13/20 | | est Trans | saction (Month/Day/Year) | | | | | | below) | | Other (s below) rating Officer | | респу | |
| (Street) CAMBR (City) | IDGE M | IA (| 02139 (Zip) | | 4. 1 | f Amer | ndmer | nt, Date o | of Original Filed (Month/Day/Year) | | | | | 6. Indi ine) X | • | | | | | |
| (=:9) | | | | n-Deriv | /ative | Sec | uriti | ies Ac | nuired | Die | snosed o | of or Re | nefic | ially | Owner | <u> </u> | | | | |
| 1. Title of Security (Instr. 3) | | | 2. Transaction Date (Month/Day/Year) | | 2A. Deemed Execution Date, ear) if any | | 3. Transaction Code (Instr. 8) 4. Securities Disposed Of | | es Acquired | | 5. Amount of Securities Beneficially Owned Following | | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | | 7. Nature of Indirect Beneficial Ownership | | | | | |
| | | | | | | | | | Code | v | Amount | (A) or (D) | Price | | | nsaction(s) str. 3 and 4) | | | (Instr. 4) | |
| Common Stock 12/13/ | | | 2021 | 2021 | | M ⁽¹⁾ | | 1,000 | A | \$36 | \$36.05 5 | | 4,948 | | D | | | | | |
| Common Stock | | | 12/13/ | /13/2021 | | | | S ⁽¹⁾ | | 285 | D | \$99. | 65 ⁽²⁾ | 54 | 663 | | D | | | |
| Common Stock 1 | | | 12/13/ | 3/2021 | | | | S ⁽¹⁾ | | 210 | D | \$98 | .5 ⁽³⁾ | 54 | 453 | | D | | | |
| Common Stock | | | | 12/13/2021 | | | | S ⁽¹⁾ | | 411 | D | \$97 | .6(4) | 54 | 1,042 | | D | | | |
| Common Stock 12/13/2 | | | | 2021 | 2021 | | | S ⁽¹⁾ | | 94 | D | D \$96.78 ⁽⁵⁾ | | 53,948 | | | D | | | |
| | | T | able II | | | | | | | | oosed of converti | | | | wned | | | | | |
| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deem Execution if any (Month/D | on Date, | 4. Transa Code (8) | | on of | | 6. Date Exercis Expiration Dat (Month/Day/Ye | | te | 7. Title and Amount of Securities Underlying Derivative Sect (Instr. 3 and 4) | | D S (I | Price of erivative security estr. 5) | 9. Number derivative Securities Beneficial Owned Following Reported Transactio (Instr. 4) | E C F Illy C O (I | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | |
| | | | | | Code | v | (A) | | Date Exercisa | ble | Expiration Date | Title | Amou or Number of Shares | er | | | | | | |
| Stock Option (Right to | \$36.05 | 12/13/2021 | | | M ⁽¹⁾ | | | 1,000 | (6) | | 02/16/2027 | Common Stock | 1,00 | 0 | \$0 | 591 | | D | | |

Explanation of Responses:

- 1. Effected pursuant to a trading plan adopted on January 12, 2021 pursuant to Rule 10b5-1 under the Securities Exchange Act of 1934, as amended.
- 2. The price reported is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$99.00 to \$99.99 per share. The Reporting Person undertakes to provide to the Issuer, any security holder of the Issuer or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in footnotes (2) through (5) in this form 4.
- 3. The price reported is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$98.02 to \$98.98 per share.
- 4. The price reported is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$96.99 to \$97.98 per share.
- 5. The price reported is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$96.00 to \$96.98 per share.
- 6. This option was granted on February 16, 2017 and is fully vested as of the date hereof.

/s/ Ariel Hurley, Attorney-in-12/15/2021 Fact

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

- * If the form is filed by more than one reporting person, see Instruction 4 (b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.