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): September 30, 2016

bluebird bio, Inc.

(Exact name of registrant as specified in its charter)

DELAWARE

001-35966 (Commission File Number)

(State or other jurisdiction of incorporation)

13-3680878 (I.R.S. Employer Identification No.)

150 Second Street Cambridge, MA

(Address of principal executive offices)

02141

(Zip Code)

Registrant's telephone number, including area code (339) 499-9300

Not Applicable

(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:

U 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 8.01 Other Events

In connection with bluebird bio, Inc.'s ("bluebird") planned relocation of its corporate headquarters to new leased premises at 60 Binney Street in Cambridge, Massachusetts in mid-2017, on September 30, 2016, bluebird and Foundation Medicine, Inc. ("FMI") entered into an Assignment and Assumption of Lease pertaining to bluebird's Lease Agreement with ARE-MA Region No. 50, LLC ("ARE") dated as of June 3, 2013, as amended to date, relating to leased office and laboratory premises at 150 Second Street, Cambridge, Massachusetts. Under the Assignment and Assumption of Lease, bluebird shall assign all of its rights, interests, obligations and responsibilities under the Lease Agreement to FMI, to be effective as of the later of May 1, 2017, or the first day following bluebird's surrender of the leased premises in accordance with the Lease Agreement. FMI shall have the right to terminate the Assignment and Assumption of Lease if bluebird has not surrendered the leased premises by January 31, 2018, subject to force majeure terms.

Concurrently with the execution of the Assignment and Assumption of Lease, bluebird, FMI and ARE entered into a Consent to Assignment on September 30, 2016, which provides that in the event bluebird has not surrendered the leased premises in accordance with the Lease Agreement by July 31, 2017, bluebird shall pay to FMI an overstay charge equal to 100% of bluebird's monthly base rent under the Lease Agreement, for the period from August 1, 2017 through the earlier of the date of bluebird's surrender of the leased premises, or FMI's termination of the Assignment and Assumption of Lease.

The foregoing descriptions of the Assignment and Assumption of Lease and Consent to Assignment do not purport to be a complete statement of the parties' rights under such agreements, and are qualified in their entirety by reference to the full text of such agreements, a copy of each such agreement will be filed as an exhibit to bluebird's quarterly report on Form 10-Q for the quarter ending September 30, 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.

Date: October 5, 2016

bluebird bio, Inc.

By:/s/ Jason F. Cole Jason F. Cole Chief Legal Officer