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): May 21, 2015

bluebird bio, Inc.
(Exact name of registrant as specified in its charter)

DELAWARE	**001-35966**	**13-3680878**
(State or other jurisdiction of incorporation)	(Commission File Number)	(I.R.S. Employer Identification No.)

150 Second Street Cambridge, MA	**02141**
(Address of principal executive offices)	(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:

☐ 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

On May 21, 2015, bluebird bio, Inc. ("bluebird") issued a press release announcing its abstract and oral presentation at the 20th European Hematology Association Congress in Vienna, Austria on June 13, 2015. The full text of the press release regarding the announcement is filed as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

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Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press release issued by bluebird bio, Inc. on May 21, 2015, furnished herewith.

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: May 21, 2015

bluebird bio, Inc.

By:/s/ Jason F. Cole
Jason F. Cole
Senior Vice President, General Counsel

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press release issued by bluebird bio, Inc. on May 21, 2015, furnished herewith.

EXHIBIT 99.1

FINAL FOR IMMEDIATE RELEASE

bluebird bio to Present LentiGlobin Clinical Data at 20th Congress of European Hematology Association

Presenting new and updated data from HGB-205 study in beta-thalassemia major and severe sickle cell disease, including first patient with sickle cell disease ever treated with gene therapy

Company to host investor call on Monday, June 15, 2015 at 8:00 a.m. ET

CAMBRIDGE, Mass., May 21, 2015 – bluebird bio, Inc. (Nasdaq: BLUE), a clinical-stage company committed to developing potentially transformative gene therapies for severe genetic and rare diseases and T cell-based immunotherapies, today announced that data from the ongoing Phase 1/2 HGB-205 study of LentiGlobin BB305 Drug Product will be presented in an oral presentation on June 13, 2015 at the 20th Congress of the European Hematology Association (EHA) in Vienna, Austria.

"The early data included in our abstract provide further validation for our approach and important insights into the safety and mechanism of action of LentiGlobin in both beta-thalassemia and sickle cell disease," said David Davidson, chief medical officer, bluebird bio. "As noted in the abstract, we are pleased to report that the two patients with beta-thalassemia major, on whom we first reported last year at EHA, remained transfusion independent at 14 and 11 months post-transplant. In addition, it is very encouraging that the patient with sickle cell disease is increasing production of HbA^{T87Q}, which has anti-sickling properties, and has not had a post-treatment hospitalization for a sickle cell disease-related event. At EHA we will present further follow up data on all three subjects."

Abstract Highlights (Data as of February 2015):

- **Beta-thalassemia:** Beta-thalassemia major subjects (1201 and 1202) remained transfusion independent at 14 months and 11 months, respectively
- **Sickle Cell Disease:** This subject (1204) entered the trial receiving chronic transfusions and began the process of being weaned from transfusions after day 37, receiving the last transfusion on day 88

    - Increasing production of HbA^{T87Q}; the first-ever SCD patient treated with gene therapy (subject 1204) had a HbA^{T87Q} level of 24% at 4.5 months follow up, compared to an HbA^{T87Q} level of 9.6% at three months post-transplant
        - Note that this subject did not engraft until after month one, so their level of HbA^{T87Q} production at months three and 4.5 are actually months two and 3.5, after engraftment
    - At 4.5 months follow up, total anti-sickling hemoglobin (HbA^{T87Q} + HbF) was 31.6%
    - Subject 1204 has not had any hospitalizations for SCD-related complications post-transplant
- **Safety:** No subject has experienced a drug product-related adverse event, and integration site analyses demonstrate highly polyclonal reconstitution without clonal dominance

Based on historical clinical observations in patients with SCD, bluebird bio believes that individuals who achieve ≥ 30 percent of anti-sickling hemoglobin (HbA^{T87Q} + HbF) have the potential to reduce or eliminate the serious and life-threatening events associated with SCD.

The abstract is now available online on the EHA conference website. Information contained in the abstract reflects data available as of February 2015. Details of bluebird bio's presentation are as follows:

Title: Outcomes of Gene Therapy for B-Thalassemia Major and Severe Sickle Cell Disease via Transplantation of Autologous Hematopoietic Stem Cells Transduced Ex Vivo with a Lentiviral Beta Globin Vector
Abstract Code: S466
Session Name: Gene therapy, cellular immunotherapy and vaccination
Date: Saturday, June 13, 2015
Oral Presentation Time: 11:30 - 11:45 a.m. CET
Location: Reed Messe Vienna, Room Stolz 2

Investor Conference Call and Webcast Information
bluebird bio will host a conference call and webcast on June 15, 2015 at 8:00 a.m. ET to discuss the full data presented at EHA. The event will be webcast live and can be accessed under "Calendar of Events" in the Investors and Media section of the company's website at www.bluebirdbio.com. Alternatively, investors may listen to the call by dialing (844) 825-4408 from locations in the United States and (315) 625-3227 from outside the United States.

About bluebird bio, Inc.
With its lentiviral-based gene therapy and gene editing capabilities, bluebird bio has built an integrated product platform with broad potential application to severe genetic diseases and T cell-based immunotherapy. bluebird bio's clinical programs include Lenti-D™, currently in a Phase 2/3 study, called the Starbeam Study, for the treatment of childhood cerebral adrenoleukodystrophy, and LentiGlobin®, currently in three clinical studies: a global Phase 1/2 study, called the Northstar Study, for the treatment of beta-thalassemia major; a single-center Phase 1/2 study in France (HGB-205) for the treatment of beta-thalassemia major or severe

sickle cell disease; and a separate U.S. Phase 1 study for the treatment of sickle cell disease (HGB-206). bluebird bio also has a preclinical CAR T immuno-oncology program in collaboration with Celgene Corporation, as well as discovery research programs utilizing megaTALs/homing endonuclease gene editing technologies.

bluebird bio has operations in Cambridge, Massachusetts, Seattle, Washington, and Paris, France. For more information, please visit www.bluebirdbio.com.

Forward-Looking Statements

This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding the advancement of, and anticipated milestones related to the Company's product candidates, including LentiGlobin. Any forward-looking statements are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, the risk of cessation or delay of any of the ongoing or planned clinical studies and/or our development of our product candidates, the risk of a delay in the enrollment of patients in the Company's clinical studies, the risk that the results of previously conducted studies involving similar product candidates will not be repeated or observed in ongoing or future studies involving current product candidates, the risk that our collaboration with Celgene will not continue or will not be successful, and the risk that any one or more of our product candidates will not be successfully developed and commercialized. For a discussion of other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent annual report on Form 10-K, as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and bluebird bio undertakes no duty to update this information unless required by law.

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