bluebird bio, Inc.
Form DEF 14A
April 27, 2018

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

bluebird bio, Inc.

(Name of Registrant as Specified In Its Charter)

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

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No fee required.

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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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(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

April 27, 2018

Dear Stockholder:

You are cordially invited to attend the 2018 Annual Meeting of Stockholders of bluebird bio, Inc. The meeting will be held on June 20, 2018 at 8:30 a.m. EDT at the offices of the Company, located at 60 Binney Street, Cambridge, Massachusetts.

Details regarding admission to the meeting and the business to be conducted are more fully described in the accompanying Notice of Annual Meeting and Proxy Statement.

At this Annual Meeting, the agenda includes the election of three (3) Class II directors for three-year terms, the approval of executive compensation by a non-binding advisory vote, and the ratification of the appointment of Ernst & Young LLP as bluebird's independent registered public accounting firm for the fiscal year ending December 31, 2018.

Under Securities and Exchange Commission rules, the Company is providing access to the proxy materials for the Annual Meeting to shareholders via the Internet. Accordingly, you can access the proxy materials and vote at www.proxyvote.com. Instructions for accessing the proxy materials and voting are described below and in the Notice of Annual Meeting that you received in the mail. Your vote is very important. Whether or not you plan to attend the meeting, please carefully review the enclosed proxy statement and then cast your vote, regardless of the number of shares you hold. If you are a stockholder of record, you may vote over the Internet, by telephone, or, if you request to receive a printed set of the proxy materials, by completing, signing, dating and mailing the accompanying proxy card in the return envelope. Submitting your vote via the Internet or by telephone or proxy card will not affect your right to vote in person if you decide to attend the Annual Meeting. If your shares are held in street name (held for your account by a broker or other nominee), you will receive instructions from your broker or other nominee explaining how to vote your shares, and you will have the option to cast your vote by telephone or over the Internet if your voting instruction form from your broker or nominee includes instructions and a toll-free telephone number or Internet website to do so. In any event, to be sure that your vote will be received in time, please cast your vote by your choice of available means at your earliest convenience.

We hope that you will join us on June 20, 2018. Your continuing interest in bluebird is very much appreciated.

Sincerely,

Nick Leschly

President & Chief Executive Officer

NOTICE OF 2018 ANNUAL MEETING OF STOCKHOLDERS

Time	8:30 a.m., Eastern Time
Date	Wednesday, June 20, 2018
Place	The Company's offices at 60 Binney Street, Cambridge, Massachusetts 02142
Purpose	To elect John O. Agwunobi, Mary Lynne Hedley, and Daniel S. Lynch as Class II members of the Board of Directors, to serve until the Company's 2021 Annual Meeting of Stockholders and until their successors are duly elected and qualified; To hold a non-binding advisory vote on the compensation paid to the Company's named executive officers; To ratify the selection of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2018; and To transact any other business that may properly come before the meeting or any adjournment thereof.
Record Date	The Board of Directors has fixed the close of business on April 23, 2018 as the record date for determining stockholders entitled to notice of and to vote at the meeting.
Meeting Admission	All stockholders as of the record date, or their duly appointed proxies, may attend the meeting. If you attend, you will be asked to present valid picture identification such as a driver's license or passport. If your bluebird stock is held in a brokerage account or by a bank or other nominee, you are considered the beneficial owner of shares held in street name, and this proxy statement is being forwarded to you by your broker or nominee. As a result, your name does not appear on our list of stockholders. If your stock is held in street name, in addition to picture identification, you should bring with you a letter or account statement showing that you were the beneficial owner of the stock on the record date, in order to be admitted to the meeting.
Voting by Proxy	If you are a stockholder of record, please vote via the Internet or, for shares held in street name, please submit the voting instruction form you receive from your broker or nominee, as soon as possible so your shares can be voted at the meeting. You may submit your voting instruction form by mail. If you are a stockholder of record, you may also vote by telephone or by submitting a proxy card by mail. If your shares are held in street name, you will receive instructions from your broker or other nominee explaining how to vote your shares, and you may also have the choice of instructing the record holder as to the voting of your shares over the Internet or by telephone. Follow the instructions on the voting instruction form you received from your broker or nominee.

By order of the Board of Directors,

Jason F. Cole, Secretary

Cambridge, Massachusetts
April 27, 2018

Important Notice Regarding the Availability of Proxy Materials for the bluebird 2018 Annual Meeting of Stockholders to Be Held on June 20, 2018: The Notice of 2018 Annual Meeting of Stockholders, proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, are available at www.bluebirdbio.com by following the link for "Investors & Media." To obtain directions to our offices in order to attend the Annual Meeting in person, please visit the "Investors & Media – Calendar of Events" section of our website at www.bluebirdbio.com or contact Investor Relations at (339) 499-9300.

BLUEBIRD BIO, INC.

60 BINNEY STREET

CAMBRIDGE, MASSACHUSETTS 02142

PROXY STATEMENT

FOR THE 2018 ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD ON JUNE 20, 2018

AT 8:30 AM EDT

GENERAL INFORMATION

When are this proxy statement and the accompanying material scheduled to be sent to stockholders?

We have elected to provide access to our proxy materials to our stockholders via the Internet. Accordingly, on or about April 27, 2018, we will begin mailing a Notice of Internet Availability of Proxy Materials, or Notice of Internet Availability, and the proxy materials, including the Notice of 2018 Annual Meeting of Stockholders, this proxy statement and accompanying proxy card or, for shares held in street name (held for your account by a broker or other nominee), voting instruction form, and the Annual Report on Form 10-K for the year ended December 31, 2017 will be made available to stockholders on the Internet on the same date.

Why did I receive a Notice of Internet Availability of Proxy Materials instead of a full set of proxy materials?

Pursuant to rules adopted by the Securities and Exchange Commission, or the SEC, we are providing access to our proxy materials over the Internet rather than printing and mailing the proxy materials. We believe electronic delivery will expedite the receipt of materials and will help lower our costs and reduce the environmental impact of our annual meeting materials. Therefore, a Notice of Internet Availability will be mailed to holders of record and beneficial owners of our common stock starting on or around April 27, 2018. The Notice of Internet Availability will provide instructions as to how stockholders may access and review the proxy materials, including the Notice of Annual Meeting, proxy statement, proxy card and Annual Report on Form 10-K, on the website referred to in the Notice of Internet Availability or, alternatively, how to request that a copy of the proxy materials, including a proxy card, be sent to them by mail. The Notice of Internet Availability will also provide voting instructions. In addition, stockholders of record may request to receive the proxy materials in printed form by mail or electronically by e-mail on an ongoing basis for future stockholder meetings. Please note that, while our proxy materials are available at the website referenced in the Notice of Internet Availability, and our Notice of Annual Meeting, proxy statement and Annual Report on Form 10-K are available on our website, no other information contained on either website is incorporated by reference in or considered to be a part of this document.

Who is soliciting my vote?

The Board of Directors of bluebird bio, Inc. (the “Company” or “bluebird”) is soliciting your vote for the 2018 Annual Meeting of Stockholders.

When is the record date for the Annual Meeting?

The Board of Directors has fixed the record date for the Annual Meeting as of the close of business on April 23, 2018.

How many votes can be cast by all stockholders?

A total of 50,117,817 shares of common stock of the Company were outstanding on April 23, 2018, and entitled to be voted at the meeting. Each share of common stock is entitled to one vote on each matter.

How do I vote?

If you are a stockholder of record and your shares are registered directly in your name, you may vote:

- By Internet. Access the website of the Company's tabulator, Broadridge, at: www.proxyvote.com, using the voter control number printed on the furnished proxy card. Your shares will be voted in accordance with your instructions. You must specify how you want your shares voted or your Internet vote cannot be completed and you will receive an error message. If you vote on the Internet, you may also request electronic delivery of future proxy materials.
- By Telephone. Call 1-800-690-6903 toll-free from the U.S., U.S. territories and Canada, and follow the instructions on the enclosed proxy card. Your shares will be voted in accordance with your instructions. You must specify how you want your shares voted or your telephone vote cannot be completed.

- By Mail. Complete and mail a proxy card in the enclosed postage prepaid envelope to Broadridge. Your proxy will be voted in accordance with your instructions. If you sign and return the enclosed proxy but do not specify how you want your shares voted, they will be voted FOR the director nominees named herein to the Company's Board of Directors, FOR the non-binding advisory resolution approving the compensation of the named executive officers, and FOR the ratification of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2018 and will be voted according to the discretion of the proxy holder upon any other business that may properly be brought before the meeting and at all adjournments and postponements thereof. If you are mailed or otherwise receive or obtain a proxy card or voting instruction form, and you choose to vote by telephone or by Internet, you do not have to return your proxy card or voting instruction form.
- In Person at the Meeting. If you attend the meeting, be sure to bring a form of personal picture identification with you, and you may deliver your completed proxy card in person, or you may vote by completing a ballot, which will be available at the meeting.

If your shares of common stock are held in street name (held for your account by a broker or other nominee):

- By Internet or By Telephone. You will receive instructions from your broker or other nominee if you are permitted to vote by Internet or telephone.
- By Mail. You will receive instructions from your broker or other nominee explaining how to vote your shares.
- In Person at the Meeting. If you attend the meeting, in addition to picture identification you should both bring an account statement or a letter from the record holder indicating that you owned the shares as of the record date, and contact the broker or other nominee who holds your shares to obtain a broker's proxy card and bring it with you to the meeting.

What are the Board of Director's recommendations on how to vote my shares?

The Board of Directors recommends a vote:

Proposal 1: FOR election of the three Class II director nominees (page 5)

Proposal 2: FOR the non-binding advisory resolution approving the compensation of the Company's named executive officers (page 17)

Proposal 3: FOR ratification of the selection of Ernst & Young LLP as the Company's independent registered public accounting firm (page 50)

Who pays the cost for soliciting proxies?

bluebird will pay the cost for the solicitation of proxies by the Board of Directors. The solicitation of proxies will be made primarily by mail and through internet access to materials. Proxies may also be solicited personally, by telephone, fax or e-mail by employees of bluebird without any remuneration to such individuals other than their regular compensation. bluebird will also reimburse brokers, banks, custodians, other nominees and fiduciaries for forwarding these materials to their principals to obtain the authorization for the execution of proxies.

Will my shares be voted if I do not return my proxy?

If your shares are registered directly in your name, your shares will not be voted if you do not vote over the Internet, by telephone, by returning your proxy or by ballot at the Annual Meeting. If your shares are held in street name, your bank, broker or other nominee may under certain circumstances vote your shares if you do not timely return your proxy. Banks, brokers and other nominees can vote customers' unvoted shares on routine matters, but cannot vote such shares on non-routine matters. If you do not timely return a proxy to your bank, broker or other nominee to vote your shares, your bank, broker or other nominee may, on routine matters, either vote your shares or leave your shares unvoted. Your bank, broker or other nominee cannot vote your shares on any non-routine matter. The election of directors (Proposal 1) and the non-binding advisory vote on executive compensation (Proposal 2) are non-routine matters. The ratification of the appointment of our independent registered public accounting firm (Proposal 3) is a routine matter. We encourage you to provide voting instructions to your bank, broker or other nominee by giving your proxy to them. This ensures that your shares will be voted at the Annual Meeting according to your instructions. You should receive directions from your bank, broker or other nominee about how to submit your proxy to them at the time you receive this proxy statement.

Can I change my vote?

You may revoke your proxy at any time before it is voted by notifying the Secretary in writing, by returning a signed proxy with a later date, by transmitting a subsequent vote over the Internet or by telephone prior to the close of the Internet voting facility or the telephone voting facility, or by attending the meeting and voting in person. If your stock is held in street name, you must contact your broker or nominee for instructions as to how to change your vote.

How is a quorum reached?

The presence, in person or by proxy, of holders of at least a majority of the total number of outstanding shares entitled to vote is necessary to constitute a quorum for the transaction of business at the Annual Meeting. Shares held of record by stockholders or brokers, bankers or other nominees who do not return a signed and dated proxy or attend the Annual Meeting in person will not be considered present or represented at the Annual Meeting and will not be counted in determining the presence of a quorum. Abstentions and broker non-votes, if any, will be counted for purposes of determining whether a quorum is present for the transaction of business at the meeting.

What vote is required to approve each item and how are votes counted?

Votes cast by proxy or in person at the Annual Meeting will be counted by the persons appointed by bluebird to act as tabulators for the meeting. The tabulators will count all votes FOR and AGAINST, abstentions and broker non-votes, as applicable, for each matter to be voted on at the Annual Meeting. Abstentions and broker non-votes are not counted as votes cast and, therefore, do not have the effect of votes in opposition to such proposals. A broker non-vote occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item and has not received instructions from the beneficial owner.

- Proposal 1 – Election of three Class II director nominees

For the election of the three Class II director nominees, each director nominee presented must be elected by a majority of the votes cast in person or by proxy at the Annual Meeting. Director nominees are elected by a majority vote for non-contested director elections. Because the number of director nominees properly nominated for the Annual Meeting does not exceed the number of positions on the Board of Directors to be filled by election at the Annual Meeting, this election of directors is non-contested. To elect a director nominee to the Board of Directors, the votes cast FOR the director nominee must exceed the votes cast AGAINST. Only FOR and AGAINST votes will affect the outcome. Abstentions will have no effect on the voting of Proposal 1. Proposal 1 is a non-routine matter. Therefore, if your shares are held by your bank, broker or other nominee in street name and you do not vote your shares, your bank, broker or other nominee cannot vote your shares on Proposal 1. Shares held in street name by banks, brokers or nominees who indicate on their proxies that they do not have authority to vote the shares on Proposal 1 will not be counted as votes FOR or AGAINST any director nominee and will be treated as broker non-votes. As a result, broker non-votes will have no effect on the voting of Proposal 1.

- Proposal 2 – Non-binding advisory vote on executive compensation

For the non-binding advisory vote on executive compensation, the votes cast FOR must exceed the votes cast AGAINST to approve, on a non-binding advisory basis, the compensation of our named executive officers. Only FOR and AGAINST votes will affect the outcome. Abstentions will have no effect on the voting of Proposal 2. Proposal 2 is a non-routine matter. Therefore, if your shares are held by your bank, broker or other nominee in street name and you do not vote your shares, your bank, broker or other nominee cannot vote your shares on Proposal 2. Shares held in street name by banks, brokers or nominees who indicate on their proxies that they do not have authority to vote the shares on Proposal 2 will not be counted as votes FOR or AGAINST the proposal and will be treated as broker non-votes. As a result, broker non-votes will have no effect on the voting of Proposal 2.

• Proposal 3 – Ratification of selection of Ernst & Young LLP as our independent registered public accounting firm
For the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for our 2018 fiscal year, the votes cast FOR must exceed the votes cast AGAINST. Only FOR and AGAINST votes will affect the outcome. Abstentions will have no effect on the voting of Proposal 3. Proposal 3 is a routine matter. Therefore, if your shares are held by your bank, broker or other nominee in street name and you do not vote your shares, your bank, broker or other nominee may vote your shares on Proposal 3.

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If there are insufficient votes to approve Proposal(s) 1, 2, or 3, your proxy may be voted by the persons named in the proxy to adjourn the Annual Meeting in order to solicit additional proxies in favor of the approval of such proposal. If the Annual Meeting is adjourned or postponed for any purpose, at any subsequent reconvening of the meeting, your proxy will be voted in the same manner as it would have been voted at the original convening of the Annual Meeting unless you withdraw or revoke your proxy. Your proxy may be voted in this manner even though it may have been voted on the same or any other matter at a previous session of the Annual Meeting.

Could other matters be decided at the Annual Meeting?

bluebird does not know of any other matters that may be presented for action at the Annual Meeting. Should any other business come before the meeting, the persons named on the enclosed proxy will have discretionary authority to vote the shares represented by such proxies in accordance with their best judgment. If you hold shares through a broker, bank or other nominee as described above, they will not be able to vote your shares on any other business that comes before the Annual Meeting unless they receive instructions from you with respect to such matter.

What happens if the meeting is postponed or adjourned?

Your proxy may be voted at the postponed or adjourned meeting. You will still be able to change your proxy until it is voted.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. Final voting results will be published in a Current Report on Form 8-K, or Form 8-K, that we expect to file with the SEC within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the Annual Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

What does it mean if I receive more than one proxy card or voting instruction form?

It means that you have multiple accounts at the transfer agent or with brokers. Please complete and return all proxy cards or voting instruction forms to ensure that all of your shares are voted.

Who should I call if I have any additional questions?

If you hold your shares directly, please call Jason F. Cole, Secretary of the Company, at (339) 499-9300. If your shares are held in street name, please contact the telephone number provided on your voting instruction form or contact your broker or nominee holder directly.

PROPOSAL 1: ELECTION OF DIRECTORS

In accordance with Delaware law and our certificate of incorporation and By-laws, the Board of Directors is divided into three classes of approximately equal size. The members of each class are elected to serve a three-year term with the term of office of each class ending in successive years. John O. Agwunobi, Mary Lynne Hedley and Daniel S. Lynch are the directors whose terms expire at this Annual Meeting and each of John O. Agwunobi, Mary Lynne Hedley and Daniel S. Lynch has been nominated for and has agreed to stand for re-election to the Board of Directors to serve as a Class II director of the Company until the 2021 Annual Meeting and until his or her successor is duly elected.

Our By-laws provide for a majority voting standard for the election of directors in uncontested elections, which provides that to be elected, a director nominee must receive a greater number of votes FOR his or her election than votes AGAINST such election. The number of votes cast with respect to that director's election excludes abstentions and broker non-votes with respect to that director's election. In contested elections where the number of director nominees exceeds the number of directors to be elected, the voting standard will be a plurality of the shares present in person or by proxy and entitled to vote. If a director nominee who already serves as a director is not elected and no successor is elected, the resignation policy in our Corporate Governance Guidelines provides that such director will offer to tender his or her resignation to the Board of Directors. Our Nominating and Corporate Governance Committee will make a recommendation to the Board of Directors on whether to accept or reject the resignation, or whether to take some other action. The Board of Directors will act on the Nominating and Corporate Governance Committee's recommendation and publicly disclose its decision within 90 days from the date of the certification of the election results.

It is intended that, unless you give contrary instructions, shares represented by proxies solicited by the Board of Directors will be voted for the election of the three director nominees listed below. We have no reason to believe that any director nominee will be unavailable for election at the Annual Meeting. In the event that one or more director nominees is unexpectedly not available to serve, proxies may be voted for another person nominated as a substitute by the Board of Directors, or the Board of Directors may reduce the number of directors to be elected at the Annual Meeting. Information relating to each director nominee and for each continuing director, including his or her period of service as a director of bluebird, principal occupation and other biographical material is shown below. Pursuant to the By-laws, the Board of Directors has fixed the number of directors at nine as of the date of this year's Annual Meeting of Stockholders, with no positions on the Board of Directors vacant. Vacancies on the Board of Directors are filled exclusively by the affirmative vote of a majority of the remaining directors, even if less than a quorum is present, and not by the stockholders. Your proxy cannot be voted for a greater number of persons than the number of director nominees named in this proxy statement.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE

FOR

EACH OF THESE DIRECTOR NOMINEES FOR CLASS II DIRECTOR:

JOHN O. AGWUNOBI

MARY LYNNE HEDLEY

DANIEL S. LYNCH

(PROPOSAL 1 ON YOUR PROXY CARD)

DIRECTOR BIOGRAPHIES

The following table sets forth information concerning our directors as of April 23, 2018. The biographical description of each director includes the specific experience, qualifications, attributes and skills that the Board of Directors would expect to consider if it were making a conclusion currently as to whether such person should serve as a director.

CLASS II DIRECTOR NOMINEES	AGE	DIRECTOR SINCE
Daniel S. Lynch – Mr. Lynch is a Class II director who has served as Chairman of our Board of Directors since May 2011. Since October 2007, Mr. Lynch has advised and served as Executive Chair or member of the Board of Directors for a number of private biopharmaceutical companies, which include Stromedix, Inc. (until its acquisition by Biogen Idec in February 2012), Avila Therapeutics, Inc. (until its acquisition by Celgene Corporation in February 2012), Translate Bio, Inc. (formerly known as RaNA Therapeutics, Inc.), Nimbus Discovery, LLC, Edimer Pharmaceuticals, Ember Therapeutics, Inc., Proclara Biosciences, Inc., and Surface Oncology, Inc. He currently serves on the Board of Directors of Blueprint Medicines Corporation (NASDAQ: BPMC), and Eleven Biotherapeutics, Inc. (NASDAQ: EBIO), and formerly for BIND Biosciences, Inc. (NASDAQ: BIND). Mr. Lynch joined Third Rock Ventures, L.P., or Third Rock, as an entrepreneur-in-residence in May 2011, and became a Venture Partner in May 2013, and now he is a Senior Advisor. Previously, Mr. Lynch served as Chief Executive and Chief Financial Officer of ImClone Systems Corporation, or ImClone. As ImClone's Chief Executive Officer, he led ImClone through a significant turnaround, helping to restore the company's reputation and to secure FDA approval of ERBITUX (Cetuximab), a novel cancer treatment. As its Chief Financial Officer, Mr. Lynch led negotiations to form the major partnership between ImClone and Bristol-Myers Squibb. Earlier in his career, he served in various financial positions at Bristol-Myers Squibb over a 15-year tenure. He served on the Board of Directors and the Audit Committee of U.S. Oncology, Inc. for five years until December 2010, when it was acquired by McKesson. Mr. Lynch received his B.A. in mathematics from Wesleyan University and his M.B.A. from the Darden Graduate School of Business Administration at the University of Virginia. We believe that Mr. Lynch's experience as Chief Executive Officer and Chief Financial Officer of a public pharmaceutical company and as Executive Chairman and Director for many other life science companies, qualify him to serve as a member of our Board of Directors.	60	May 2011
John O. Agwunobi, M.D. – Dr. Agwunobi is a Class II director who has served as a member of our Board of Directors since June 2017. Since February 2016, Dr. Agwunobi has served as Chief Health and Nutrition Officer at Herbalife Nutrition Institute (NASDAQ: HLF), responsible for training, education, science strategy and product development. Prior to joining Herbalife, Dr. Agwunobi was an independent consultant, advising a number of privately-held health-related companies, including serving as an advisory board member of Shopko Stores Operating Co., LLC on behalf of the private equity firm Sun Capital Partners. From September 2007 to April 2014, Dr. Agwunobi served as Senior Vice President and President of Health and Wellness for Wal-Mart (NYSE: WMT) in the United States where he grew the business and provided insight and advice on the company's health reform position. From December 2005 to September	53	June 2017

2007, he served as the Assistant Secretary of Health for the U.S. Department of Health and Human Services, where he was responsible for disease prevention and health promotion. His responsibilities included the oversight of the Centers for Disease Control, National Institute of Health, the U.S. Food and Drug Administration, the office of the U.S. Surgeon General, and numerous other public health offices and programs. Dr. Agwunobi has served on numerous boards, including currently as a director at Magellan Health Inc. (NASDAQ: MGLN) and at the U.S. African Development Foundation. Dr. Agwunobi is a licensed physician in Florida, Maryland and Washington, D.C. He received his medical training at the University of Jos and completed his pediatric residency at Howard University. He also holds a Master's Degree in Public Health from Johns Hopkins University and Master's in Business Administration from Georgetown University. We believe that Dr. Agwunobi's experience as a senior executive and Board member of public companies in the health and wellness field, in addition to his prior service and experience with the US government, qualify him to serve as a member of our Board of Directors.

CLASS II DIRECTOR NOMINEES	AGE	DIRECTOR SINCE
Mary Lynne Hedley, Ph.D. – Dr. Hedley is a Class II director who has served as a member of our Board of Directors since September 2017. Since co-founding TESARO, Inc. (NASDAQ: TSRO) in 2010, Dr. Hedley has served as the company's president and as a member of its board of directors and is currently president and chief operating officer. Prior to founding TESARO, Dr. Hedley served as executive vice president of operations and chief scientific officer of Abraxis BioScience (NASDAQ: ABII). She previously served as executive vice president of Eisai Corporation of North America until July 2009, following the company's acquisition of MGI PHARMA in January 2008. Dr. Hedley served in various positions at MGI PHARMA from 2004 through its acquisition, most recently as executive vice president and chief scientific officer. Prior to that, she co-founded and served as the president and chief executive officer of ZYCOS, which was acquired by MGI PHARMA in 2004. Dr. Hedley currently mentors undergraduate science students at Harvard University and also serves on the board of directors of Millendo Therapeutics and Youville Place. She served on the Board of Directors of Receptos, Inc. (NASDAQ: RCPT) from April 2014 until August 2015, when Receptos, Inc. was acquired by Celgene Corporation. Dr. Hedley completed two consecutive postdoctoral fellowships at Harvard University and earned her doctoral degree in immunology from the University of Texas, Southwestern Medical Center and her bachelor of science degree in microbiology from Purdue University. We believe that Dr. Hedley's background in drug research and development and her experience as a senior executive and Board member of biopharmaceutical companies involved in research, development and commercialization qualify her to serve as a member of our Board of Directors.	55	September 2017

CURRENT DIRECTORS NOT STANDING FOR ELECTION AT THE ANNUAL MEETING	AGE	DIRECTOR SINCE
Nick Leschly – Mr. Leschly is a Class I director who has served as our President and Chief Executive Officer since September 2010. Previously, he served as our Interim Chief Executive Officer from March 2010 to September 2010. Formerly a partner of Third Rock Ventures, L.P. since its founding in 2007, Mr. Leschly played an integral role in the overall formation, development and business strategy of several of Third Rock's portfolio companies, including Agios Pharmaceuticals, Inc. and	45	March 2010

Edimer Pharmaceuticals, Inc. Prior to joining Third Rock, he worked at Millennium Pharmaceuticals, Inc. (now a subsidiary of Takeda), leading several early-stage drug development programs and served as the product and alliance leader for VELCADE. Mr. Leschly also founded and served as Chief Executive Officer of MedXtend Corporation. Mr. Leschly serves on the Board of Directors of Synlogic, Inc. (NASDAQ: SYBX) and Proclara Biosciences, Inc. He received his B.S. in molecular biology from Princeton University and his M.B.A. from Wharton Business School. We believe that Mr. Leschly's operating and historical experience with our Company gained from serving as our President, Chief Executive Officer and member of the Board of Directors, combined with his experience in the venture capital industry and drug research and development qualify him to serve as a member of our Board of Directors.		
Mark Vachon – Mr. Vachon is a Class I director who has served as a member of our Board of Directors since July 2014. Mr. Vachon served as an Executive Vice President Sales, Integration and Operations at Change Healthcare Holdings, Inc. from November 2016 to April 2018. For over 30 years, Mr. Vachon held a variety of leadership positions across the General Electric organization,	59	July 2014

and was a company officer beginning in 1999 and a member of GE's Corporate Executive Council. Mr. Vachon was President and CEO of GE Healthcare Americas from 2009 and 2010, and prior to that he was President and CEO of Global Diagnostics Imaging, GE Healthcare, between 2006 and 2009. Between 2003 and 2006, Mr. Vachon was Executive Vice President and CFO of GE Healthcare. Mr. Vachon serves on the board of trustees of Northeastern University and the Board of Directors of Numotion, and the Charitable Health and Retirement Trust. Mr. Vachon holds a B.S. in Finance from Northeastern University and an M.A. from Boston College. We believe that Mr. Vachon's experience in financial and executive operating roles and in the healthcare field on a global basis qualify him to serve as a member of our Board of Directors.

CURRENT DIRECTORS NOT STANDING FOR ELECTION AT THE ANNUAL MEETING	AGE	DIRECTOR SINCE
Wendy L. Dixon, Ph.D. – Dr. Dixon is a Class III director who has served as a member of our Board of Directors since April 2013. In 2012, Dr. Dixon served as Senior Advisor at The Monitor Group. Dr. Dixon serves as a member of the board of directors for a number of biopharmaceutical companies, including Alkermes PLC (NASDAQ: ALKS), Incyte Corporation (NASDAQ: INCY), Eleven Biotherapeutics, Inc. (NASDAQ: EBIO) and Voyager Therapeutics, Inc. (NASDAQ: VYGR), and formerly for Orexigen Therapeutics Inc. (NASDAQ: OREX), Furiex Pharmaceuticals, Inc. (NASDAQ: FURX), which was sold to Forest Laboratories, LLC as a subsidiary of Allergan in 2014, Ardea Biosciences, Inc. (NASDAQ: RDEA), which was sold to AstraZeneca PLC in 2012, and Dentsply International Inc. (NASDAQ: XRAY), as well as a private company, Edimer Pharmaceuticals, Inc. Dr. Dixon also served as Chief Marketing Officer and President of Global Marketing for Bristol-Myers Squibb and as a member of the CEO’s Executive Committee from 2001 to 2009. She has had an over 30-year career in the pharmaceutical and biotechnology business, combining a technical background and experience in drug development and regulatory affairs with commercial responsibilities in building and leading organizations and launching and growing more than 20 pharmaceutical products including Tagamet, Fosamax, Singulair, Plavix, Abilify, Reyataz and Baraclude. From 1996 to 2001, she was Senior Vice President, Marketing at Merck and prior to that she held executive management positions at West Pharmaceuticals, Osteotech and Centocor, and various positions at SmithKline and French (now GlaxoSmithKline) in marketing, regulatory affairs, project management and as a biochemist. Dr. Dixon received her B.Sc., M.Sc. and Ph.D. from the University of Cambridge (UK). We believe that, among other experience, qualifications, attributes and skills, Dr. Dixon’s technical background in drug development, commercialization, marketing and regulatory affairs qualify her to serve as a member of our Board of Directors.	62	April 2013
James Mandell, M.D. – Dr. Mandell is a Class III director who has served as a member of our Board of Directors since January 2014. Dr. Mandell became Chief Executive Officer of Boston Children’s Hospital and Children’s Medical Center on October 1, 2000, retiring from the position in October 2013. During his tenure, Dr. Mandell was a member of the Board of Trustees and Professor of Surgery at Harvard Medical School. Prior to joining Children’s, he served as Dean of Albany Medical College and Professor of Surgery and Pediatrics. Dr. Mandell was promoted from Chief of Urology to Dean of Albany Medical College in l996. He also served as Executive Vice President for Health Affairs at Albany Medical Center and Executive Medical Director of Albany Medical Center Hospital. Prior to his tenure at Albany Medical College, he was a member of the medical staff at Children’s Hospital for nine years, advancing to an associate in surgery with an associate professor appointment at Harvard Medical School. Dr. Mandell serves on the Board of the Franciscan’s Hospital for Children, the Board of Beth Israel Deaconess Medical Center, and as Chair of the Board of the Harvard Risk Management Company. Dr. Mandell continues to practice Pediatric Urology at Children’s and is the Robert and Dana Smith Distinguished Professor at Harvard Medical School. In addition to a medical degree from the University of Florida College of Medicine, Dr. Mandell holds a Master’s in Health Systems Management from Union College, New York. We believe that, among other experience, qualifications, attributes and skills, Dr. Mandell’s background as a physician focused on pediatric diseases,	73	January 2014

and experience as the chief executive officer of a major hospital and medical center, including interactions with payers, qualifies him to serve as a member of our Board of Directors.

CURRENT DIRECTORS NOT STANDING FOR ELECTION AT THE ANNUAL MEETING	AGE	DIRECTOR SINCE
Douglas A. Melton, Ph.D. – Dr. Melton is a Class I director who has served as a member of our Board of Directors since June 2017. Dr. Melton is the Xander University Professor at Harvard University, where he has been a professor for over thirty years. He has served as the Co-Director of the Harvard Stem Cell Institute since 2004, and also as the Co-Chair of the Department of Stem Cell and Regenerative Biology since 2007. Since 1994, Dr. Melton has been an Investigator of the Howard Hughes Medical Institute. He is a scientific co-founder of Gilead Sciences, Inc., Curis, Inc. and Semma Therapeutics, Inc. Dr. Melton received a B.S. in Biology from the University of Illinois, a B.A. in History and Philosophy of Science at Cambridge University, and received his Ph.D. in molecular biology at Trinity College at Cambridge and the MRC Laboratory of Molecular Biology. We believe that Dr. Melton's extensive experience in stem cell research and early development and his experience as the founder of a number of biotechnology companies qualifies him to serve as a member of our Board of Directors.	64	June 2017
David P. Schenkein, M.D. – Dr. Schenkein is a Class III director who has served as a member of our Board of Directors since April 2013. Since August 2009, Dr. Schenkein has served as the Chief Executive Officer of Agios Pharmaceuticals, Inc. From April 2006 to July 2009, Dr. Schenkein served as Senior Vice President of oncology development of Genentech. Dr. Schenkein is also a Director at Agios Pharmaceuticals, Inc. (NASDAQ: AGIO), and Denali Therapeutics (NASDAQ: DNLI), and served on the Board of Directors of Foundation Medicine, Inc. (NASDAQ: FMI) from April 2010 to April 2017. Dr. Schenkein received his B.A. in chemistry from Wesleyan University and his M.D. from Upstate Medical School. We believe that Dr. Schenkein's experience as Chief Executive Officer of Agios Pharmaceuticals and his membership on the Board of Directors of a number of biopharmaceutical companies qualify him to serve as a member of our Board of Directors.	60	April 2013

The following table sets forth information regarding our executive officers, as of April 23, 2018:

Name	Age	Position(s)
Executive Officers:		
Nick Leschly(1)	45	President, Chief Executive Officer and Director
Jeffrey T. Walsh	52	Chief Financial and Strategy Officer (Principal Financial Officer)
David Davidson, M.D.	54	Chief Medical Officer
Alison C. Finger	54	Chief Commercial Officer
Philip Gregory, D. Phil.	47	Chief Scientific Officer
Susanna G. High	49	Chief Operating Officer
Jason F. Cole, Esq.	45	Chief Legal Officer and Secretary
Kory J. Wentworth	39	Vice President, Finance and Treasurer (Principal Accounting Officer)

(1) Nick Leschly is also a director of the Company and his biographical information appears on page 7.

Jeffrey T. Walsh – Mr. Walsh has served as our Chief Financial and Strategy Officer and Principal Financial Officer since March 2016. Prior to this role, he served as our Chief Operating Officer since May 2011, and also previously served as our Principal Financial Officer from June 2013 to November 2014. Mr. Walsh has over 25 years of experience in executive leadership positions with responsibility for finance, business development, commercial and business operations, strategic planning and legal functions with established and emerging public and private life sciences companies. From November 2008 to February 2011, Mr. Walsh served as chief business officer of Taligen Therapeutics, Inc. where he played a key role in the growth of the company and the ultimate sale of Taligen Therapeutics, Inc. to Alexion Pharmaceuticals, Inc. in January 2011. Mr. Walsh started his career at SmithKline Beecham Corporation in finance and worldwide business development roles. He subsequently held senior business development, finance and operations roles at PathoGenesis Corp. (acquired by Chiron Corporation), Allscripts Healthcare Solutions Inc., EXACT Sciences Corporation and Inotek Pharmaceuticals Corp. Mr. Walsh received his B.A. in sociology and economics from Yale University and his M.B.A. from the Kellogg Graduate School of Management at Northwestern University.

David Davidson, M.D. – Dr. Davidson has served as our Chief Medical Officer since February 2012. Prior to joining us, Dr. Davidson served as a senior medical director at Genzyme Corporation, where he led clinical research for programs in Phases I through IV across a wide range of therapeutic areas for more than a decade. Most recently, Dr. Davidson was the medical leader for Genzyme's gene therapy and Pompe disease enzyme replacement therapy programs. In addition to Dr. Davidson's translational medicine experience, he has also worked on a number of commercial products, including Fabrazyme and Myozyme/Lumizyme, and was integral in crafting the new drug application that resulted in the approval of Welchol. Prior to Genzyme, Dr. Davidson was a medical director at GelTex Pharmaceuticals Inc. Previously, he completed clinical and research fellowships in infectious diseases at the Harvard Longwood Combined Infectious Diseases Program. Dr. Davidson received his B.A. from Columbia University and his M.D. from New York University School of Medicine. In addition, he completed an internal medicine internship, residency training and an endocrinology research fellowship at the University of Chicago Hospitals.

Alison C. Finger – Ms. Finger has served as our Chief Commercial Officer since February 2018. Prior to this role, she served as our Senior Vice President, Marketing and Product Launch since August 2015. Prior to joining the Company, Ms. Finger served in roles with increasing responsibility at Bristol Meyers Squibb, Inc. ("BMS"), beginning her career in consumer medicines before progressing to global leadership roles where she was responsible for launching global, regional and national brands in hematology/oncology, neurodegenerative diseases, hepatitis, HIV/AIDS, diabetes, rheumatoid arthritis and migraine/pain. At BMS, she served as Vice President, Global Commercialization Virology from July 2004 to June 2007, Managing Director, Australia & New Zealand from July

2007 to May 2009, VP Global Commercialization, Alzheimer's/Neuroscience from May 2009 to December 2012, and VP Global Commercialization, Hematology from December 2012 to May 2014. Ms. Finger received her B.A. in English Writing from St. Lawrence University and her M.B.A. from the Fuqua School of Business at Duke University.

Philip Gregory, D. Phil. – Dr. Gregory has served as our Chief Scientific Officer since June 2015. Prior to joining us, Dr. Gregory was formerly with Sangamo BioSciences, where he held multiple leadership positions over a nearly fifteen-year tenure, most recently serving as Chief Scientific Officer and Senior Vice President, Research. In this role, he was responsible for the scientific direction and strategic research planning for the company. Dr. Gregory played an integral role in Sangamo's partnerships and drove early discovery and development for several product candidates in multiple therapeutic areas. Prior to joining Sangamo, he was a postdoctoral fellow at Ludwig-Maximilians-Universität in Munich, Germany. Dr. Gregory holds a D. Phil in biochemistry from Oxford University, Keble College and a B.Sc. in microbiology from Sheffield University.

Susanna G. High – Ms. High has served as our Chief Operating Officer since November 2016. Prior to joining us, Ms. High served in roles with increasing responsibility for strategy, business planning, portfolio and program management, alliance management, information technology and broader organizational growth initiatives at Alnylam Pharmaceuticals, Inc. At Alnylam, she served as Senior Vice President Strategy & Business Integration from June 2015 to September 2016, after serving as Vice President Business Planning & Program Management from June 2008 through June 2015, and as Senior Director from February 2007 through June 2008. Prior to her time at Alnylam, Ms. High worked at Millennium Pharmaceuticals, Inc. (now a subsidiary of Takeda) from 2001 to 2007, serving first as Director, Business Operations and then as Director, Corporate Strategy. From 1996 to 2001, Ms. High was a management consultant at Accenture in the Strategic Services Practice, where her clients included biopharmaceutical companies. Ms. High received her B.A. in Economics and Business Management, Financial Planning and Analysis from Università 'Luigi Bocconi' and her M.B.A. from the Massachusetts Institute of Technology – Sloan School of Management.

Jason F. Cole, Esq. – Mr. Cole has served as our Chief Legal Officer and Secretary since March 2016. Prior to this role, he served as our Senior Vice President, General Counsel and Secretary since March 2014. Prior to joining us, Mr. Cole served as Executive Vice President, Corporate Development and General Counsel at Zalicus Inc. from September 2011 through March 2014, and as Senior Vice President, General Counsel of Zalicus and its predecessor company CombinatoRx, Incorporated from January 2006 to September 2011. From 1999 to 2006, Mr. Cole was a corporate and securities attorney at Ropes & Gray LLP. Mr. Cole received an A.B. in government from Dartmouth College and a J.D. from Columbia University School of Law.

Kory J. Wentworth – Mr. Wentworth has served as our Vice President, Finance and Principal Accounting Officer since December 2017 and our Treasurer since March 2018. Prior to joining us, Mr. Wentworth held positions of increasing responsibility overseeing finance and accounting teams from December 2008 to December 2017 at Alexion Pharmaceuticals, Inc. ("Alexion"), including Executive Director and Corporate Controller from November 2017 to December 2017, as Executive Director and Assistant Controller from September 2016 to October 2017, as Senior Director and Assistant Controller from January 2012 to August 2016, as Director, Assistant Controller from January 2010 to December 2011, and as Associate Director, Assistant Controller from December 2008 to December 2009. Prior to his time at Alexion, Mr. Wentworth held positions at PricewaterhouseCoopers LLP of increasing responsibility for audit engagements from October 2002 to December 2008. Mr. Wentworth received his B.S. in Accounting from Susquehanna University and is a Certified Public Accountant in the state of Connecticut.

THE BOARD OF DIRECTORS AND ITS COMMITTEES

Board Composition

We currently have nine directors and the terms of office of the directors are divided into three classes:

- Class I, whose term will expire at the Annual Meeting of Stockholders to be held in 2020;
- Class II, whose term will expire at the Annual Meeting of Stockholders to be held in 2018; and
- Class III, whose term will expire at the Annual Meeting of Stockholders to be held in 2019.

Class I consists of Mr. Leschly, Dr. Melton and Mr. Vachon, Class II consists of Dr. Agwunobi, Dr. Hedley, and Mr. Lynch, and Class III consists of Dr. Dixon, Dr. Mandell and Dr. Schenkein. At each Annual Meeting of Stockholders, the successors to directors whose terms will then expire shall serve from the time of election and qualification until the third Annual Meeting following election and until their successors are duly elected and qualified. A resolution of the Board of Directors may change the authorized number of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. This classification of the Board of Directors may have the effect of delaying or preventing changes in control or management of our company.

Board Independence

Our Board of Directors has determined, upon the recommendation of our Nominating and Corporate Governance Committee, that each of our directors, except for Nick Leschly, who serves as our President and Chief Executive Officer, has no relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and is independent within the meaning of the director independence standards of the Nasdaq Stock Market, or NASDAQ, rules and the SEC. At least annually, our Board of Directors will evaluate all relationships between us and each director in light of relevant facts and circumstances for the purposes of determining whether a material relationship exists that might signal a potential conflict of interest or otherwise interfere with such director's ability to satisfy his or her responsibilities as an independent director. Based on this evaluation, our Board of Directors will make an annual determination of whether each director is independent within the meaning of NASDAQ, and the SEC independence standards.

Board Meetings and Attendance

Our Board of Directors held eight meetings during the fiscal year ended December 31, 2017. Each of the directors with the exception of John M. Maraganore, who resigned from the Board of Directors on September 18, 2017, attended at least 75% of the meetings of the Board of Directors and the committees of the Board of Directors, on which he or she served during the fiscal year ended December 31, 2017 (in each case, which were held during the period for which he or she was a director and/or a member of the applicable committee). bluebird encourages its directors to attend the Annual Meeting of Stockholders.

Board Committees

Our Board of Directors has established three standing committees: the Audit Committee, the Compensation Committee and the Nominating and Corporate Governance Committee, each of which is comprised solely of independent directors, and is described more fully below. Each of the Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee operates pursuant to a written charter and each committee reviews and assesses the adequacy of its charter and submits its charter to the Board of Directors for approval. The charters for the Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee are all available on our website (www.bluebirdbio.com) under “Investors & Media” at “Corporate Governance.”

Audit Committee

Our Audit Committee is currently composed of Dr. Dixon, Mr. Lynch, and Mr. Vachon, with Mr. Vachon serving as chair of the committee. Our Board of Directors has determined that each member of the Audit Committee meets the independence requirements of Rule 10A-3 under the Exchange Act and the applicable listing standards of NASDAQ. Our Board of Directors has determined that Mr. Lynch and Mr. Vachon are "audit committee financial experts" within the meaning of the SEC regulations and applicable listing standards of NASDAQ. During the fiscal year ended December 31, 2017, the Audit Committee met four times. The report of the Audit Committee is included in this Proxy Statement under "Report of the Audit Committee." The Audit Committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- approving audit and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the audit plan with the independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and the independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending, based upon the Audit Committee's review and discussions with management and the independent registered public accounting firm, whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the Audit Committee report required by the rules of the SEC to be included in our annual proxy statement;
- reviewing all related party transactions for potential conflict of interest situations and approving all such transactions;
- monitoring compliance with our investment policy; and
- reviewing quarterly earnings releases and scripts.

Compensation Committee

Our Compensation Committee is currently composed of Dr. Dixon, Mr. Lynch and Dr. Schenkein, with Mr. Lynch serving as chair of the committee. Our Board of Directors has determined each member of the Compensation Committee is "independent" as defined under the applicable listing standards of NASDAQ. In addition, each member qualifies as an "outside director" within the meaning of Section 162(m) of the Internal Revenue Code of 1986, as amended, and as a non-employee director, as defined in Rule 16b-3 of the Exchange Act. During the fiscal year ended December 31, 2017, the Compensation Committee met six times. The Compensation Committee's responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and determining the compensation of our Chief Executive Officer;
- reviewing and approving the compensation of our other executive officers and certain other members of senior management;
- appointing, compensating and overseeing the work of any compensation consultant, legal counsel or other advisor retained by the Compensation Committee;
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conducting the independence assessment outlined in NASDAQ rules with respect to any compensation consultant, legal counsel or other advisor retained by the Compensation Committee;

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- annually reviewing and reassessing the adequacy of the committee charter in its compliance with the listing requirements of NASDAQ;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and making recommendations to the Board of Directors with respect to director compensation;
- reviewing and discussing with management the compensation discussion and analysis to be included in our annual proxy statement or Annual Report on Form 10-K; and
- reviewing and discussing with the Board of Directors corporate succession plans for our Chief Executive Officer and other key officers.

Historically, our Compensation Committee has made most of the significant adjustments to annual compensation, determined cash incentive and equity awards and established new performance objectives at one or more meetings held during the first and last quarters of the year. However, our Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of our compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than our Chief Executive Officer, our Compensation Committee solicits and considers evaluations and recommendations submitted to the Compensation Committee by our Chief Executive Officer. In the case of our Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives and directors as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current Company-wide compensation levels and recommendations of our Chief People Officer, including analyses of executive and director compensation paid at a peer group of other companies approved by our Compensation Committee. The Compensation Committee may delegate its authority to grant certain equity awards to certain individuals to our Chief Executive Officer and in 2017, has delegated such authority to Mr. Leschly. For more information, see "Compensation Discussion and Analysis-Stock Option Grant Practices-Delegation to Our Chief Executive Officer" below.

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee is composed of Dr. Agwunobi, Dr. Mandell, Dr. Melton, and Dr. Schenkein, with Dr. Schenkein serving as chair of the committee. Our Board of Directors has determined that each member of the Nominating and Corporate Governance Committee is "independent" as defined under the applicable listing standards of NASDAQ. During fiscal year ended December 31, 2017, the Nominating and Corporate Governance Committee met three times. The Nominating and Corporate Governance Committee's responsibilities include:

- developing and recommending to the Board of Directors criteria for membership of the Board of Directors and committees;
- establishing procedures for identifying and evaluating Board of Directors candidates, including candidates recommended by stockholders;
- identifying individuals qualified to become members of the Board of Directors;
- recommending to the Board of Directors the persons to be nominated for election as directors and to each of the committees of the Board of Directors;
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- developing and recommending to the Board of Directors a set of corporate governance guidelines; and
- overseeing the evaluation of the Board of Directors and management. Our Board of Directors may establish other committees from time to time.

Identifying and Evaluating Director Nominees

Our Board of Directors is responsible for selecting its own members. The Board of Directors delegates the selection and nomination process to the Nominating and Corporate Governance Committee, with the expectation that other members of the Board of Directors, and of management, will be requested to take part in the process as appropriate.

Generally, our Nominating and Corporate Governance Committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisors, through the recommendations submitted by stockholders or through such other methods as the Nominating and Corporate Governance Committee deems to be helpful to identify candidates. Once candidates have been identified, our Nominating and Corporate Governance Committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the Nominating and Corporate Governance Committee. The Nominating and Corporate Governance Committee may gather information about the candidates through interviews, detailed questionnaires, background checks or any other means that the Nominating and Corporate Governance Committee deems to be appropriate in the evaluation process. The Nominating and Corporate Governance Committee then meets as a group to discuss and evaluate the qualities and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of our Board of Directors. Based on the results of the evaluation process, the Nominating and Corporate Governance Committee recommends candidates for the Board of Directors' approval as director nominees for election to the Board of Directors.

Minimum Qualifications

Our Nominating and Corporate Governance Committee will consider, among other things, the following qualifications, skills and attributes when recommending candidates for the Board's selection as director nominees for the Board and as candidates for appointment to the Board's committees. A director nominee shall have the highest personal and professional integrity, shall have demonstrated exceptional ability and judgment, and shall be most effective, in conjunction with the other director nominees to the Board, in collectively serving the long-term interests of the stockholders.

In evaluating proposed director candidates, our Nominating and Corporate Governance Committee may consider, in addition to the minimum qualifications and other criteria for board membership approved by the Board from time to time, all facts and circumstances that it deems appropriate or advisable, including, among other things, diversity and is not limited to race, gender or national origin, the skills of the proposed director candidate, his or her depth and breadth of professional experience or other background characteristics, his or her independence and the needs of the Board. We have no formal policy regarding board diversity. Our Nominating and Corporate Governance Committee's priority in selecting board members is identification of persons who will further the interests of our company through his or her established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, and professional and personal experiences and expertise relevant to our growth strategy. The Nominating and Corporate Governance Committee will consider candidates recommended by stockholders. The policy adopted by the Nominating and Corporate Governance Committee provides that candidates recommended by stockholders are given appropriate consideration in the same manner as other candidates.

Non-Management Director Meetings

In addition to the meetings of the committees of the Board of Directors described above, in connection with the Board of Directors meetings, the non-management directors met four times in executive session during the fiscal year ended December 31, 2017. The Chairman of the Board of Directors presides at these executive sessions. The Audit Committee and the Board of Directors have established a procedure whereby interested parties may make their concerns known to non-management directors, which is described on our website.

Leadership structure and risk oversight

Our Board of Directors is currently chaired by Mr. Lynch. As a general policy, our Board of Directors believes that separation of the positions of chairman and chief executive officer reinforces the independence of the Board of Directors from management, creates an environment that encourages objective oversight of management's performance and enhances the effectiveness of the Board of Directors as a whole. As such, Mr. Leschly serves as our president and chief executive officer while Mr. Lynch serves as our chairman of the Board of Directors but is not an officer.

Our Board of Directors oversees the management of risks inherent in the operation of our business and the implementation of our business strategies. Our Board of Directors performs this oversight role by using several different levels of review. In connection with its reviews of the operations and corporate functions of our company, our Board of Directors addresses the primary risks associated with those operations and corporate functions. In addition, our Board of Directors reviews the risks associated with our company's business strategies periodically throughout the year as part of its consideration of undertaking any such business strategies.

Each of the committees of our Board of Directors also oversees the management of our company's risk that falls within the committee's areas of responsibility. In performing this function, each committee has full access to management, as well as the ability to engage advisors. Our Chief Financial and Strategy Officer, our Chief Legal Officer and our Principal Accounting Officer all periodically provide reports to the Audit Committee and are responsible for identifying, evaluating and implementing risk management controls and methodologies to address any identified risks. In connection with its risk management role, our Audit Committee meets privately with representatives from our independent registered public accounting firm. The Audit Committee oversees the operation of our risk management program, including the identification of the primary risks associated with our business and periodic updates to such risks, and reports to our Board of Directors regarding these activities.

Compensation Committee interlocks and insider participation

Dr. Dixon, Dr. Maraganore, Mr. Lynch, and Dr. Schenkein served as members of our Compensation Committee during the year ended December 31, 2017. None of the members of our Compensation Committee has at any time been one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our Board of Directors or Compensation Committee. For a description of transactions between us and members of our Compensation Committee and affiliates of such members, please see "Certain relationships and related party transactions."

PROPOSAL 2: NON-BINDING ADVISORY VOTE ON EXECUTIVE COMPENSATION

Our Board of Directors is committed to excellence in governance. As part of that commitment, and as required by Section 14A(a)(1) of the Exchange Act, our Board of Directors is providing the stockholders with an opportunity approve, on a non-binding, advisory basis, the compensation of the Company’s named executive officers.

As described below under “Executive Compensation—Compensation Discussion and Analysis,” we have developed a compensation policy that is designed to attract and retain key executives responsible for our success and motivate management to enhance long-term stockholder value. We believe our compensation policy strikes an appropriate balance between the implementation of responsible, measured compensation practices and the effective provision of incentives for our named executive officers to exert their best efforts for our success.

For the reasons discussed above, the Board of Directors unanimously recommends that stockholders vote in favor of the following resolution:

“RESOLVED, that the Company’s stockholders hereby approve, on a non-binding advisory basis, the compensation of the named executive officers, as disclosed in the Company’s proxy statement for the 2018 Annual Meeting of Stockholders pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, Summary Compensation Table and the other compensation related tables and disclosure.”

The resolution will be approved, on a non-binding advisory basis, if the votes cast FOR exceed the votes cast AGAINST the proposal. Abstentions and broker non-votes will have no effect on the voting of this proposal. As this vote is advisory, it will not be binding upon the Board of Directors or the Compensation Committee and neither our Board of Directors nor the Compensation Committee will be required to take any action as a result of the outcome of this vote. However, our Board of Directors and the Compensation Committee value the opinions of our stockholders, and the Compensation Committee will carefully consider the outcome of this vote when considering future executive compensation policies. We will hold a non-binding advisory vote to approve the compensation of our named executive officers annually until the next vote on the non-binding advisory frequency of such non-binding advisory votes, which will occur at our 2021 Annual Meeting of Stockholders.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE

FOR

THE NON-BINDING ADVISORY RESOLUTION APPROVING THE COMPANY’S EXECUTIVE COMPENSATION

(PROPOSAL 2 ON YOUR PROXY CARD)

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Compensation Discussion and Analysis

Our Compensation Committee is responsible for overseeing the total compensation of our senior management team, which is comprised of our executive officers and certain other senior managers. In this capacity, our Compensation Committee designs, implements, reviews and approves all compensation for our Chief Executive Officer and our other named executive officers. This section discusses the principles underlying our policies and decisions with respect to the compensation of certain of our named executive officers, and all material factors relevant to an analysis of these policies and decisions. Our named executive officers for the fiscal year ended on December 31, 2017, were:

- Nick Leschly, our Chief Executive Officer and Principal Executive Officer;
- Jeffrey T. Walsh, our Chief Financial and Strategy Officer and Principal Financial Officer;
- David Davidson, M.D., our Chief Medical Officer;
- Philip Gregory, D. Phil., our Chief Scientific Officer; and
- Jason F. Cole, Esq., our Chief Legal Officer.

Stockholder engagement

At our 2017 Annual Meeting of Stockholders, we conducted our annual non-binding advisory vote on the compensation of our named executive officers, commonly referred to as a “say-on-pay” vote, in accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, or the Dodd-Frank Act. Over 90% of the votes cast by stockholders on this proposal were cast in support of the compensation paid to our named executive officers. While this vote is considered to be a non-binding advisory vote, our Compensation Committee and Board of Directors value the opinions of our stockholders and seriously consider the voting results when making future executive compensation decisions. Given the strong level of support evidenced by last year’s say-on-pay vote, our Compensation Committee determined that our stockholders were supportive of our current executive compensation philosophy and program. As a result, our Compensation Committee decided to maintain our general approach to executive compensation and made no significant changes to our executive compensation program. Nevertheless, our Compensation Committee and Board of Directors will continue to monitor the executive compensation program to ensure it aligns the interests of our executive officers with the interests of our stockholders and adequately addresses any stockholder concerns that may be expressed in future votes.

Consistent with the recommendation of our Board of Directors and the preference of our stockholders as reflected in the non-binding advisory vote on the frequency of future “say-on-pay” votes conducted at our 2015 Annual Meeting of Stockholders, we intend to provide for annual non-binding advisory votes on the compensation of our named executive officers.

Executive Summary and Company Background

We are a clinical-stage biotechnology company committed to developing potentially transformative gene therapies for severe genetic diseases and cancer. With our lentiviral-based gene therapy and gene editing capabilities, we have built an integrated product platform with broad potential application in these areas.

The goal of our Compensation Committee is to ensure that our compensation programs are aligned with the interests of our stockholders and our business goals and that the total compensation paid to each of our named executive officers is fair, reasonable and competitive. Key elements of our compensation programs include the following:

Compensation Element	Purpose	Features
Base salary	To attract and retain highly skilled executives.	Fixed component of pay to provide financial stability, based on responsibilities, experience, individual contributions and peer company data.
Annual cash incentive program	To promote and reward the achievement of key short-term strategic and business goals of the company as well as individual performance; to motivate and attract executives.	Variable component of pay based on annual quantitative and qualitative company and individual goals.
Equity incentive compensation	To encourage executives and other employees to focus on long-term company performance; to promote retention; to reward outstanding company and individual performance.	Typically subject to multi-year vesting based on continued service and are primarily in the form of stock options and restricted stock units, the value of which depends on the performance of our common stock price, in order to align employee interests with those of our stockholders over the longer-term.

In addition to our direct compensation elements, the following features of our compensation program are designed to align our executive team with stockholder interests and with market best practices:

What We Do	What We Don’t Do
Maintain an industry-specific peer group for benchmarking pay	× Allow hedging or pledging of equity
Target pay based on market norms	× Re-price stock options
Deliver executive compensation primarily through performance-based pay	× Provide excessive perquisites
Have a clawback policy covering cash and equity incentive compensation paid to our Chief Executive Officer and other executive officers	× Provide supplemental executive retirement plans
Set challenging short-term incentive program goals	× Provide tax gross-up payments for any change-of-control payments

Offer market-competitive benefits for executives that are consistent with the rest of our employees

Stock ownership guidelines applicable to our senior executive officers and non-employee directors

Consult with an independent compensation advisor on compensation levels and practices

As described below, during 2017, we made significant progress on our product candidate development and business goals, including the following achievements that impacted executive compensation:

Our bb2121 product candidate to treat relapsed/refractory multiple myeloma:

- Advanced our CRB-401 Phase I/II clinical study of bb2121 in relapsed/refractory multiple myeloma;
- Reported positive interim clinical data from the CRB-401 study of bb2121 at two major medical meetings;
- Secured Breakthrough designation from the FDA and PRIME designation from the EMA for bb2121; and
- Enabled the commencement of late stage global clinical development and regulatory approval plans by Celgene for bb2121 in multiple lines of multiple myeloma treatment.

Our LentiGlobin product candidate to treat Transfusion Dependent Beta Thalassemia (TDT):

- Completed enrollment in our Phase I/II Northstar and HGB-205 clinical studies of LentiGlobin and reported positive interim clinical data from these studies at two major medical meetings;
- Advanced our Phase III Northstar 2 clinical study of LentiGlobin in patients with TDT and non-$^{0}/^{0}$ genotypes, using our updated manufacturing process, and reported positive interim clinical data from this study at a major medical meeting; and
- Initiated our Phase III Northstar-3 clinical study of LentiGlobin in patients with TDT and a $^{0}/^{0}$ genotype, using our updated manufacturing process.

Our LentiGlobin product candidate to treat Severe Sickle Cell Disease (SCD):

- Advanced our Phase I/II HGB-206 clinical study of LentiGlobin in SCD to incorporate our updated manufacturing process, expand enrollment and incorporate stem cell mobilization using plerixafor;
- Published a case study from the HGB-205 clinical study of LentiGlobin in SCD in the New England Journal of Medicine;
- Reported positive interim clinical data from our HGB-206 clinical study of LentiGlobin in SCD at a major medical meeting; and
- Secured Regenerative Medicines Advanced Therapy (RMAT) designation from the FDA for LentiGlobin to treat SCD.

Our Lenti-D product candidate to treat Cerebral Adrenoleukodystrophy (CALD):

- Advanced our expanded Phase II/III Starbeam Study of Lenti-D in the United States and Europe; and
- Published positive interim clinical data from our Starbeam clinical study of Lenti-D in the New England Journal of Medicine and presented such data at a major medical meeting.

Our bb21217 product candidate to treat relapsed/refractory multiple myeloma:

- Initiated our Phase I/II CRB-402 clinical study of bb21217 in relapsed/refractory multiple myeloma.

Commercial readiness:

- Acquired a future manufacturing facility in North Carolina and entered into multiple agreements with global contract manufacturers to commercially manufacture lentiviral vectors and drug product for all of our product candidates; and
- Built and expanded commercialization infrastructure and capabilities in the United States and Europe and finalized plans to launch our first product in 2019, with multiple potential product launches thereafter.

Platform improvements and research pipeline:

- Reported positive clinical data with improved manufacturing processes for LentiGlobin in TDT and SCD;
- Achieved substantial process improvements in both lentiviral vector and drug product manufacturing;
- In collaboration with Boston Children's Hospital, advanced a novel gene therapy approach for severe SCD into clinical development in early 2018; and
- Advanced and entered into multiple research and development collaborations to advance T cell receptor and CAR-T product candidates in oncology.

Finance and Operations:

- Hired and integrated approximately 172 new employees in 2017, across multiple functional areas and geographic locations, including Cambridge, Massachusetts, Seattle, Washington, Durham, North Carolina and in Europe;
- Completed two underwritten public equity offerings from which we raised a total of approximately $1.1 billion in net proceeds;

- Completed 2017 with a balance of approximately $1.6 billion in cash, cash equivalents and marketable securities; and
- Generated a One-Year Total Shareholder Return in 2017 of over 188% and the Three-Year Total Shareholder Return of over 94%, significantly exceeding our biotechnology and gene and cell therapy peers and relevant biotechnology stock indices.

As described in more detail below, under the heading "2017 Annual Incentive Program," based on our performance during 2017, our Compensation Committee and Board of Directors determined that we achieved 140% of our company goals for 2017, which allows us to focus our efforts and further advance our programs and business goals in 2018 and beyond.

Determining and Setting Executive Compensation

We develop our compensation programs after reviewing publicly available compensation data and subscription survey data for our peer group, provided by Radford Consulting, or Radford, a compensation consulting firm engaged by our Compensation Committee. For 2017, our Compensation Committee engaged Radford, as its independent compensation consultant, to advise on executive compensation matters including: overall compensation program design, peer group development and updates, and benchmarking executive officer and Board of Director compensation programs. Radford reports directly to our Compensation Committee.

In addition to their services to the Compensation Committee described above, in 2017, Radford provided compensation consulting services to our management with respect to the compensation of employees outside the United States. For 2017, we paid Radford approximately $21,000 for advice and services that were not related to its engagement by the Compensation Committee. The decision to use Radford for advice and services not related to executive and director compensation was made by management. While the compensation committee does not pre-approve these non-executive compensation services. Our Compensation Committee has assessed the independence of Radford consistent with NASDAQ listing standards and has concluded that the engagement of Radford does not raise any conflict of interest.

Defining and Comparing Compensation to Market Benchmarks

In evaluating the total compensation of our named executive officers, our Compensation Committee, using information provided by Radford, establishes a peer group of publicly traded companies in the biopharmaceutical and biotechnology industries that is selected based on a balance of the following criteria:

- companies whose number of employees, stage of development and market capitalization are similar, though not necessarily identical, to ours;
- companies with similar executive positions to ours;
- companies against which we believe we compete for executive talent; and
- public companies based in the United States whose compensation and financial data are available in proxy statements or through widely available compensation surveys.

Based on these criteria, our peer group for 2017, referred to as our 2017 peer group, as approved by our Compensation Committee, was comprised of the following 18 companies:

ACADIA Pharmaceuticals, Inc.	Ionis Pharmaceuticals, Inc.	Ophthotech Corp.
Acceleron Pharma Inc.	Intercept Pharmaceuticals, Inc.	Portola Pharmaceuticals, Inc.
Agios Pharmaceuticals, Inc.	Juno Therapeutics, Inc.	Puma Biotechnology, Inc
Alnylam Pharmaceuticals, Inc.	MacroGenics, Inc.	Seattle Genetics, Inc.

Anacor Pharmaceuticals, Inc.	Neurocrine Biosciences, Inc.	Spark Therapeutics, Inc.
Clovis Oncology, Inc.	Novavax, Inc.	Tesaro, Inc.

We believe that the compensation practices of our 2017 peer group provided us with appropriate compensation benchmarks for evaluating the compensation of our named executive officers during 2017. Notwithstanding the similarities of the 2017 peer group to bluebird, due to the nature of our business, we compete for executive talent with many public companies that are larger and more established than we are or that possess greater resources than we do, and with smaller private companies that may be able to offer greater equity compensation potential. Accordingly, in 2017, our Compensation Committee generally targeted compensation for our executive officers as follows:

- base salaries at approximately the 35th percentile of the salaries in our 2017 peer group;
- annual target cash incentive award opportunities at approximately the 35th percentile of our 2017 peer group;
- total annual equity incentive awards at the 75th percentile of our 2017 peer group, provided in the form of stock options and restricted stock units; and
- total target compensation for our executives is targeted at the 50th percentile of total target compensation for similarly situated executives of the companies in our 2017 peer group.

In addition, our Compensation Committee may consider other criteria, including market factors, the experience level of the executive and the executive's performance against established company goals, in determining variations to this general target range.

For purposes of compensation for 2018, our Compensation Committee, with the advice of Radford, examined our 2017 peer group in light of our continued growth throughout 2017, which is anticipated to continue in 2018 and beyond, the stage of development of our clinical programs and our plans to seek regulatory approval of and to commercialize our programs, and changes in our market capitalization. With reference to these and other key business metrics, companies whose market capitalization and/or whose number of employees that were at the low end, below, or significantly above our targeted range were removed and new companies were added to the peer group for 2018. Our peer group for 2018, was approved by our Compensation Committee, is comprised of the following 17 companies:

ACADIA Pharmaceuticals, Inc.	Ionis Pharmaceuticals, Inc.	Puma Biotechnology, Inc.
Agios Pharmaceuticals, Inc.	Juno Therapeutics, Inc.	Sage Therapeutics, Inc.
Alnylam Pharmaceuticals, Inc.	Kite Pharma, Inc.	Seattle Genetics, Inc.
Clovis Oncology, Inc.	Nektar Therapeutics, Inc.	Spark Therapeutics, Inc.
Exelixis, Inc.	Neurocrine Biosciences, Inc.	Tesaro, Inc.
Intercept Pharmaceuticals, Inc.	Portola Pharmaceuticals, Inc.	

Other Key Performance Factors in Determining Executive Compensation

As the biopharmaceutical industry is characterized by a very long product development cycle, including a lengthy research and development period and a rigorous approval phase involving clinical studies and governmental regulatory approval, many of the traditional benchmarking metrics, such as product sales, revenues and profits are inappropriate for a development-stage biopharmaceutical company such as bluebird. Instead, the specific performance factors our Compensation Committee considers when determining the compensation of our named executive officers include:

- key research and development achievements, including advances in our gene therapy platforms in the fields of genetic diseases and cancer, and in our gene editing technology;
- initiation and progress of clinical studies for our product candidates;
- expansion of our manufacturing and operational capabilities, including our commercial readiness, on a global basis;
- achievement of regulatory milestones;
- establishment and maintenance of key strategic relationships and new business initiatives, including financings; and

- development of organizational capabilities and managing our growth.

These performance factors are considered by our Compensation Committee in connection with our annual performance reviews described below and are a critical component in the determination of annual cash and equity incentive awards for our executives.

Annual Performance Reviews

Our Compensation Committee conducts an annual performance review of our named executive officers and approves the compensation of each member of our senior management team. By the end of the first quarter of each year, annual company goals and individual performance objectives applicable to cash incentive compensation are determined and set forth in writing. After the end of each year, our Compensation Committee determines executive compensation levels after carefully reviewing overall company performance and performing an evaluation of each named executive officer's annual performance against established company goals, as well as each individual executive officer's contributions to achievement of the company goals and, in the case of executive officers other than our Chief Executive Officer, the achievement of individual performance objectives. In addition, our Compensation Committee may apply its discretion, as it deems appropriate, in determining executive compensation.

Annual company goals are proposed by our senior management team and approved by our Board of Directors and Compensation Committee. For 2017, our Chief Executive Officer's cash incentive award was entirely on performance relative to company goals (to drive maximal stockholder value) and the cash incentive awards of our other named executive officers were based 80% on company goals and 20% on individual objectives. Individual objectives for 2017 for our senior management team other than our Chief Executive Officer focused on leadership development objectives as well as individual contributions that were intended to drive achievement of the Company goals and were proposed by each member of senior management, with review and input from our Chief Executive Officer. Any merit increases in base salary and any annual equity awards or cash awards made under our 2017 annual cash incentive program were based on the achievement of these company and individual, as applicable, performance goals and objectives. In 2017, our Compensation Committee established the target cash incentive award opportunity for each member of our senior management team under the 2017 annual cash incentive program, representing a percentage of each individual's base salary.

During the last quarter of each year, our senior management team evaluates our company performance and each executive officer's individual performance, as compared to the company goals and, as applicable, the individual objectives for that year. Based on this evaluation, our Chief Executive Officer recommends to our Compensation Committee any increases in base salary and any annual equity awards and/or cash awards under our annual cash incentive program. Our Compensation Committee, with input from the Board of Directors, evaluates our Chief Executive Officer's individual performance and determines whether to change his base salary, grant him an annual equity award and/or change his target percentage cash award under our annual cash incentive program. Our Compensation Committee typically grants annual equity awards, and determines changes in base salary and the amount of any cash incentive payments, at its first regularly scheduled meeting of the new year. Our Compensation Committee may also review the compensation of our executive officers throughout the course of the year. With respect to year-end reviews, any changes in base salary are effective at the beginning of the following year. The cash incentive payments awarded under our 2017 annual cash incentive program were paid in February 2018.

Compensation Objectives and Philosophy

Our compensation programs are designed to attract, motivate and retain qualified and talented executives, motivating them to achieve our business goals and rewarding them for superior short- and long-term performance. In particular, our compensation programs are intended to reward the achievement of specified pre-determined quantitative and qualitative individual and company performance goals and objectives and to align the interests of our senior management team with those of our stockholders in order to attain our ultimate objective of increasing stockholder value.

We may award annual merit-based increases in base salary based upon an assessment of each executive's performance and the scope of his or her responsibilities. Our 2017 annual cash incentive program was designed to reward annual achievements as measured against pre-determined quantitative and qualitative company performance goals, and, with respect to members of our senior management team other than our Chief Executive Officer, individual objectives. We awarded cash incentive payments to our named executive officers and the other members of our senior management team under our 2017 annual cash incentive program, which is described in more detail below. We typically make equity grants to our executive officers upon commencement of their employment, annually following a review of their individual performance, and in connection with a promotion.

With the exception of our 2017 annual cash incentive program, we do not have any pre-established targets for allocations or apportionment by type of compensation. The mix of compensation components is designed to reward annual results as well as drive long-term company performance and create stockholder value.

Base Salary for Our Named Executive Officers in 2017

We provide base salaries to our named executive officers to compensate them with a fair and competitive base level of compensation for services rendered during the year. Our Compensation Committee typically determines the base salary for each executive based on the executive's responsibilities, experience and, if applicable, the base salary level of the executive prior to joining bluebird. In addition, our Compensation Committee reviews and considers the level of base salary paid by companies in our peer group for similar positions. Generally, our Compensation Committee believes our executives' base salaries should be targeted at approximately the 35^{th} percentile of the salaries in our peer group. Prior to 2018, the base salaries of our executives have been below the 35^{th} percentile of salaries in our peer group.

Any merit-based increases in base salary for all of our executive officers, other than our Chief Executive Officer, are determined by our Compensation Committee based upon a summary of the executive officer's performance and a recommendation from our Chief Executive Officer. Any merit-based increase in base salary for our Chief Executive Officer is based upon an assessment of his performance by our Compensation Committee, input from the Board of Directors and a review by our Compensation Committee of the base salary of chief executive officers in our peer group.

With respect to Mr. Leschly, our Chief Executive Officer, at the beginning of 2017, our Compensation Committee reviewed Mr. Leschly's overall compensation and determined, based on his accomplishments during 2016 and comparison of his base salary to the base salary of chief executive officers in our peer group, to increase his annual base salary to $560,000 from $500,000.

At the beginning of 2017, our Compensation Committee approved merit increases in base salary for each of our other named executive officers serving at that time, based upon the Company's performance against the 2016 company goals, as well as each executive officer's achievement of individual goals in 2016, and the other factors described above. The table below sets forth the adjustments to base salary, in dollars and as a percentage, for each of our named executive officers:

Name	2016 Base Salary ($)	2017 Base Salary ($)	Increase (%)
Nick Leschly	$500,000	$560,000	12.0%
Jeffrey T. Walsh	$375,000	$425,000	13.3%
David Davidson, M.D.	$380,000	$410,000	7.9%
Philip Gregory, D. Phil.	$375,000	$405,000	8.0%
Jason F. Cole, Esq.	$340,000	$365,000	7.4%

Base Salary for Our Named Executive Officers in 2018

With respect to Mr. Leschly, at the beginning of 2018, our Compensation Committee reviewed Mr. Leschly's overall compensation and determined, based on his accomplishments during 2017 and comparison to the base salaries of chief executive officers in our 2018 peer group, to increase his annual base salary to $610,000 from $560,000.

At the beginning of 2018, our Compensation Committee approved merit increases in base salary for each of our remaining named executive officers serving at that time, based upon the Company's performance against the 2017 company goals, each executive officer's achievement of individual objectives and the comparison to the base salary of similar executive officers in our 2018 peer group. The table below sets forth the adjustments to base salary, in dollars and as a percentage, for each of our named executive officers serving at the beginning of 2018:

Name	2017 Base Salary ($)	2018 Base Salary ($)	Increase (%)
Nick Leschly	$560,000	$610,000	8.9%
Jeffrey T. Walsh	$425,000	$450,000	5.9%
David Davidson, M.D.	$410,000	$442,500	7.9%
Philip Gregory, D. Phil.	$405,000	$425,000	4.9%
Jason F. Cole, Esq.	$365,000	$390,000	6.8%

2017 Annual Cash Incentive Program

Our Compensation Committee aims to provide an appropriate mix of cash payments and equity incentive awards to meet our short- and long-term goals and objectives. In January 2017, our Compensation Committee approved the annual cash incentive program for 2017, including the opportunity for eligible participants to earn cash incentive awards above established bonus targets based on the Company's performance against 2017 company goals.

The table below shows each named executive officer's target cash incentive award under the 2017 annual cash incentive program as a percentage of the named executive officer's annual base salary in 2017, the target cash incentive award opportunity in dollars for 2017 and the actual cash incentive award payments to our named executive officers for 2017 performance, which were paid in February 2018, as well as the actual 2017 cash incentive award payment as a percentage of the 2017 target cash incentive award opportunity. The details regarding the determination of these cash incentive awards are discussed below.

Name	2017 Target Cash Incentive Award (% of 2017 Base Salary)	2017 Target Cash Incentive Award Opportunity ($)	2017 Cash Incentive Award Payment ($)	2017 Actual Cash Incentive Award Payment (% of 2017 Target Cash Incentive Award Opportunity)
Nick Leschly	55%	$ 308,000	$431,200	140.0%
Jeffrey T. Walsh	45%	$ 191,250	$250,600	131.0%
David Davidson, M.D.	40%	$ 164,000	$223,100	136.0%
Philip Gregory, D. Phil.	40%	$ 162,000	$212,300	131.0%
Jason F. Cole, Esq.	40%	$ 146,000	$195,700	134.0%

Under the 2017 annual cash incentive program, cash incentive awards were determined by first establishing a bonus pool. The bonus pool was calculated by aggregating the target cash incentive awards for all eligible plan participants and then multiplying that sum by a modifier established by our Compensation Committee based on our performance as measured against the 2017 company goals. The bonus pool was then allocated among all of the plan participants in accordance with the terms of the 2017 annual cash incentive program. For 2017, our Chief Executive Officer's cash incentive award was entirely based on performance relative to company goals and the cash incentive awards of our other named executive officers were based 80% on company goals and 20% on individual objectives. In addition, our Compensation Committee had the discretion under the 2017 annual cash incentive program to adjust upward or downward any cash incentive award and/or the bonus pool as it deemed appropriate. In making its determination regarding awards under the 2017 annual cash incentive program, our Compensation Committee considered our success against our 2017 company goals and also used their discretion based on other company achievements and external factors to increase the overall bonus award pool. The 2017 company goals approved by our Board of Directors and Compensation Committee, the relative weightings assigned to each goal at the beginning of the year, and senior management's assessment regarding our actual achievement during the performance period as a percentage of our target company goals and the weighted performance against these company goals for 2017, were as follows:

2017 Company Goals	Relative Weighting	Management Assessment	Weighted Performance

		of Actual Achievement for 2017 (as a % of target)	
Path to Patients (Clinical and Regulatory) Objectives	35%	145%	50.7%
• Achieve regulatory and product development milestones for our LentiGlobin product candidate in patients with TDT and our bb2121 product candidate for relapsed/refractory multiple myeloma • Meet enrollment and patient treatment targets in our Northstar 2 and Northstar 3 Studies, Starbeam Study, our HGB-206 Study and CRB-401 and CRB-402 clinical studies			
Path to Market Commercial Readiness Objectives	25%	125%	31.3%
• On track to enable first regulatory approval filings in 2018 and first commercial launches in 2019 • Execute plan for commercial launch readiness, including manufacturing, commercial operations, European commercial team and market access			
Platform Improvement Objectives	15%	103%	15.5%
• Achieve milestones for advancement of scalable vector manufacturing process for our LentiGlobin and bb2121 product candidates • Meet target vector inventory levels across all product candidates			
Pipeline Objectives	15%	100%	15.0%
• Execute on key pipeline objectives, including in oncology			
Business and Culture Objectives	10%	125%	12.5%
• Conclude 2017 with at least two years of cash, cash equivalents and marketable securities • Maintain culture and achieve leadership development objectives			
2017 Company Performance Management Assessment	100%		125.0%

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Following this management assessment of the pre-defined Company goals for 2017, our Chief Executive Officer provides a recommendation to the Compensation Committee based on a broader evaluation of our performance, including various unanticipated performance outcomes during 2017. Specifically, during 2017, we made significant progress on our clinical development and business goals, including the following that impacted executive compensation:

Our bb2121 product candidate to treat relapsed/refractory multiple myeloma:

- Advanced our CRB-401 Phase I/II clinical study of bb2121 in relapsed/refractory multiple myeloma;
- Reported positive interim clinical data from the CRB-401 study of bb2121 at two major medical meetings;
- Secured Breakthrough designation from the FDA and PRIME designation from the EMA for bb2121; and
- Enabled the commencement of late stage global clinical development and regulatory approval plans by Celgene for bb2121 in multiple lines of multiple myeloma treatment.

Our LentiGlobin product candidate to treat Transfusion Dependent Beta Thalassemia (TDT):

- Completed enrollment in our Phase I/II Northstar and HGB-205 clinical studies of LentiGlobin and reported positive interim clinical data from these studies at two major medical meetings;
- Advanced our Phase III Northstar 2 clinical study of LentiGlobin in patients with TDT and non-$^{0}/^{0}$ genotypes, using our updated manufacturing process, and reported positive interim clinical data from this study at a major medical meeting; and
- Initiated our Phase III Northstar-3 clinical study of LentiGlobin in patients with TDT and a $^{0}/^{0}$ genotype, using our updated manufacturing process.

Our LentiGlobin product candidate to treat Severe Sickle Cell Disease (SCD):

- Advanced our Phase I/II HGB-206 clinical study of LentiGlobin in SCD to incorporate our updated manufacturing process, expand enrollment and incorporate stem cell mobilization using plerixafor;
- Published a case study from the HGB-205 clinical study of LentiGlobin in SCD in the New England Journal of Medicine;
- Reported positive interim clinical data from our HGB-206 clinical study of LentiGlobin in SCD at a major medical meeting; and
- Secured Regenerative Medicines Advanced Therapy (RMAT) designation from the FDA for LentiGlobin to treat SCD.

Our Lenti-D product candidate to treat Cerebral Adrenoleukodystrophy (CALD):

- Advanced our expanded Phase II/III Starbeam Study of Lenti-D in the United States and Europe; and
- Published positive interim clinical data from our Starbeam clinical study of Lenti-D in the New England Journal of Medicine and presented such data at a major medical meeting.

Our bb21217 product candidate to treat relapsed/refractory multiple myeloma:

- Initiated our Phase I/II CRB-402 clinical study of bb21217 in relapsed/refractory multiple myeloma.

Commercial readiness:

- Acquired a future manufacturing facility in North Carolina and entered into multiple agreements with global contract manufacturers to commercially manufacture lentiviral vectors and drug product for all of our product candidates; and
- Built and expanded commercialization infrastructure and capabilities in the United States and Europe and finalized plans to launch our first product in 2019, with multiple potential product launches thereafter.

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Platform improvements and research pipeline:

- Reported positive clinical data with improved manufacturing processes for LentiGlobin in TDT and SCD;
- Achieved substantial process improvements in both lentiviral vector and drug product manufacturing;
- In collaboration with Boston Children's Hospital, advanced a novel gene therapy approach for severe SCD into clinical development in early 2018; and
- Advanced and entered into multiple research and development collaborations to advance T cell receptor and CAR-T product candidates in oncology.

Finance and Operations:

- Hired and integrated approximately 172 new employees in 2017, across multiple functional areas and geographic locations, including Cambridge, Massachusetts, Seattle, Washington, Durham, North Carolina and in Europe;
- Completed two underwritten public equity offerings from which we raised a total of approximately $1.1 billion in net proceeds;
- Completed 2017 with a balance of approximately $1.6 billion in cash, cash equivalents and marketable securities; and
- Generated a One-Year Total Shareholder Return in 2017 of over 188% and the Three-Year Total Shareholder Return of over 94%, significantly exceeding our biotechnology and gene and cell therapy peers and relevant biotechnology stock indices.

Based on our overall performance during 2017, our Chief Executive Officer provided a recommendation to the Compensation Committee that we achieved approximately 132% of our company goals for 2017, and using the methodology described above and taking into account other external success factors, our Compensation Committee utilized their discretion and determined that we achieved 140% of our company goals for 2017.

The individual objectives in 2017 assigned to our named executive officers other than our Chief Executive Officer were as follows:

Jeffrey T. Walsh. Mr. Walsh was assigned objectives related to (1) providing leadership for the Company, (2) increasing operational capacity and efficiency, and (3) identifying and executing strategic transactions intended to enhance stockholder value, and fund the Company's operations, including business development. The Compensation Committee determined that Mr. Walsh achieved 95% of his individual objectives in 2017.

David Davidson, M.D. Dr. Davidson was assigned objectives related to (1) providing leadership for the Company, (2) achieving clinical milestones relating to development and potential FDA and EMA approval of our product candidates, (3) supporting various regulatory objectives, and (4) expanding the Company's medical affairs. The Compensation Committee determined that Dr. Davidson achieved 120% of his individual objectives in 2017.

Philip Gregory, D. Phil. Dr. Gregory was assigned objectives related to (1) executing a strategic plan for pipeline development, and (2) directing preclinical development and advancing identified product candidates. The Compensation Committee determined that Dr. Gregory achieved 95% of his individual objectives in 2017.

Jason F. Cole, Esq. Mr. Cole was assigned objectives related to (1) providing leadership for the Company, (2) providing outstanding legal and policy advice and counsel to the Company and (3) increasing operational capacity in areas under his supervision. The Compensation Committee determined that Mr. Cole achieved 110% of his individual objectives in 2017.

2018 Annual Cash Incentive Program

In January 2018, our Compensation Committee approved the annual cash incentive program for 2018. The terms of the 2018 annual cash incentive program are substantially the same as the 2017 annual cash incentive program.

The table below shows the target cash incentive award under the 2018 annual cash incentive program as a percentage of each named executive officer's annual base salary in 2018, as well as the target cash incentive award opportunity in dollars for 2018. The target cash incentive awards for Drs. Davidson and Gregory and Mr. Cole were adjusted to 45% to better align with target cash incentives for the Company's peer group.

Name	2018 Target Award (% of Base Salary)	2018 Target Award Opportunity ($)
Nick Leschly	55%	$ 335,500
Jeffrey T. Walsh	45%	$ 202,500
David Davidson, M.D.	45%	$ 199,125
Philip Gregory, D. Phil.	45%	$ 191,250
Jason F. Cole, Esq.	45%	$ 175,500

In determining the 2018 actual cash incentive compensation for our named executive officers under the 2018 annual cash incentive program, our Compensation Committee will review the performance of the Company during 2018. Our Compensation Committee retains the discretion under the 2018 annual cash incentive program to adjust upward or downward any bonus award or the bonus pool as it deems appropriate. We expect to pay any cash incentive awards made under our 2018 annual cash incentive program in the first quarter of 2019.

Chief Executive Officer Compensation

Mr. Leschly's total 2017 compensation reported in the Summary Compensation Table below increased significantly from his total 2016 compensation because of the price of our stock when annual equity grants were made in the first half of 2017, which contributed to higher reported grant date fair values for stock options and restricted stock units granted in 2017. The Compensation Committee set Mr. Leschly's base salary and annual target cash incentive opportunity near the 35^{th} percentile of our applicable peer group, and approved increases to his base salary in 2016 and 2017. The Compensation Committee set Mr. Leschly's equity compensation near the 75^{th} percentile of our applicable peer group, because the Compensation Committee believed that a meaningful grant of equity awards was necessary and appropriate to reward Mr. Leschly for performance in 2017, to enhance retention and to further incent and align Mr. Leschly's interests with stockholders. Over 50% of Mr. Leschly's 2017 total compensation as reported in the Summary Compensation Table below relates to stock options which vest over a four-year period, and only realize value if our stock price increases after the date of grant. Over 20% of his total 2017 compensation as reported in the Summary Compensation Table relates to restricted stock units that also vest over a four-year period, which promotes retention while using a fewer number of authorized shares to deliver equivalent value. Mr. Leschly's total target compensation was set near the 50^{th} percentile of compensation paid to similarly situated executives of companies in our peer group.

Equity Awards

Our equity awards program is designed to:

- reward demonstrated leadership and performance;
- align our executive officers' interests with those of our stockholders;
- retain our executive officers through the term of the awards;
- maintain competitive levels of executive compensation; and

- motivate our executive officers for outstanding future performance.

The market for qualified and talented executives in the biopharmaceutical industry is highly competitive and we compete for talent with many companies that have greater resources than we do. Accordingly, we believe equity compensation is a crucial component of any competitive executive compensation package we offer.

Historically, our equity awards have generally taken the form of stock options, and beginning in 2015, restricted stock units, which were aimed to deliver equivalent value while using fewer authorized shares. We typically make equity award grants to each of our executive officers upon commencement of employment, annually in conjunction with our review of individual performance, in connection with a promotion, or as a special incentive.

All equity awards to our executive officers are approved by our Compensation Committee and, other than equity awards to new hires, are typically granted at our Compensation Committee's regularly scheduled meeting at the beginning of the year. The size of equity awards vary among our executive officers based on their positions and annual performance assessments. In addition, our Compensation Committee reviews all components of the executive's compensation to ensure that his or her total compensation is aligned with our overall philosophy and objectives. All stock options granted to our executives have exercise prices equal to the fair market value of our common stock on the date of grant, so that the recipient will not realize any value from his or her options unless our share price increases above the exercise price on the date of grant. Accordingly, this portion of our executive officers' compensation is at risk and is directly aligned with stockholder value creation.

In addition, equity grants to our executive officers typically vest over four years, which we believe provides an incentive to our executives to add value to the Company over the long-term and to remain with bluebird. Typically, the stock options we grant to our executives have a ten-year term and vest as to 25% of the shares on the first anniversary of their hire date or the first business day of the year of grant and then in equal monthly installments thereafter until the fourth anniversary of such date. Vesting of option grants to employees ceases upon termination of employment and exercise rights typically cease three months following termination of employment, except in the case of death or disability. Prior to the exercise of an option, the stock option holder does not have any rights as a stockholder with respect to the shares subject to such option, including voting rights or the right to receive dividends or dividend equivalents. Historically, our equity awards have taken the form of stock options, and we began granting restricted stock units in addition to stock options in 2015. Restricted stock units we grant to our executives generally vest in equal annual installments beginning on the first anniversary of the first business day of the year of grant, until the fourth anniversary of such date. As part of the ongoing review of our compensation strategy and practices, the Compensation Committee determines the appropriate mix of the type of equity awards, based in part on recommendations from Radford. For 2017, the target mix for equity grants to our executive officers was split approximately two-thirds in stock options and one-third in restricted stock units based on value. The Compensation Committee believes that this deliberate mix of equity ensures that wealth creation remains tied to stock performance (via stock options), and promotes retention (through restricted stock units that vest over time to deliver equivalent value while using fewer authorized shares). The Compensation Committee may adjust the mix of award types or approve different award types as part of the overall compensation strategy. Awards made in connection with a new, extended or expanded employment relationship may involve a different mix of equity awards, depending on the Compensation Committee's assessment of the total compensation package being offered.

In connection with the annual review of each executive officer's individual performance and consistent with our compensation philosophy, in February 2017, our Compensation Committee approved annual equity incentive awards for our named executive officers serving at that time. The annual equity incentive awards granted to our named executive officers serving at that time are set forth in the table below:

Name	2017 Option Award (# Shares)	2017 RSU Award (# Shares)
Nick Leschly	110,000	27,500
Jeffrey T. Walsh	58,300	14,600
David Davidson, M.D.	34,100	8,500

Philip Gregory, D.Phil.	34,100	8,500
Jason F. Cole, Esq.	28,500	7,100

The named executive officers' total annual equity incentive awards were generally or above at the 75^{th} percentile of our peer group and their total target compensation (base salary, annual target cash incentive award and total annual equity incentive award) were at the 50^{th} percentile of our peer group.

The equity awards granted to our named executive officers during 2017, and the grant date fair value of those awards determined in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, are shown in the Summary Compensation Table and the 2017 Grants of Plan-Based Awards table below.

Benefits and Other Compensation

Other compensation to our executives consists primarily of the broad-based benefits we provide to all full-time employees in the United States, including medical, dental and vision insurance, group life and disability insurance, an employee stock purchase plan and a 401(k) plan. Pursuant to our employee stock purchase plan, employees, including our named executive officers, have an opportunity to purchase our common stock at a discount on a tax-qualified basis through payroll deductions. The employee stock purchase plan is designed to qualify as an “employee stock purchase plan” under Section 423 of the Internal Revenue Code. The purpose of the employee stock purchase plan is to encourage our employees, including our named executive officers, to become our stockholders and better align their interests with those of our other stockholders. Pursuant to our 401(k) plan, employees, including our named executive officers, may elect to defer a portion of their current compensation up to the statutorily prescribed annual limit (which was $18,000 in 2017), with additional salary deferrals not to exceed $24,000 available to those employees 50 years of age or older, and to have the amount of this deferral contributed to our 401(k) plan. We make discretionary matching contributions and other employer contributions on behalf of eligible employees under our 401(k) plan. For fiscal year 2017, we matched a portion of eligible employee contributions equal to 50% of the first 6% of eligible contributions pursuant to our 401(k) plan’s matching formula.

Currently, we do not view perquisites or other personal benefits as a significant component of our executive compensation program. Accordingly, we do not provide perquisites to our named executive officers, except in situations where we believe it is appropriate to assist an individual in the performance of his or her duties, to make him or her more efficient and effective, and for recruitment and retention purposes. None of our other named executive officers received perquisites or other personal benefits with an aggregate value of $10,000 or more 2017. In the future, we may provide perquisites or other personal benefits in limited circumstances, such as where we believe it is appropriate to assist an individual named executive officer in the performance of his or her duties, to make him or her more efficient and effective, and for recruitment, motivation or retention purposes. All future practices with respect to perquisites or other personal benefits will be approved and subject to periodic review by our Compensation Committee.

Certain executives, including our named executive officers, may be entitled to certain severance and/or change in control protections pursuant to their employment agreements.

We do not offer any defined benefit pension plans or nonqualified deferred compensation arrangements for our employees.

Insider Trading Policy

Our insider trading policy expressly prohibits short sales and derivative transactions of our stock by our named executive officers, directors and specified other employees, including short sales of our securities, including short sales “against the box”; purchases or sales of puts, calls or other derivative securities of the company or any derivative securities that provide the economic equivalent of ownership of any of our securities or an opportunity, direct or indirect, to profit from any change in the value of our securities; or other hedging or monetization transactions accomplished through the use of prepaid variable forwards, equity swaps, collars and exchange funds. In addition, our insider trading policy expressly prohibits our named executive officers, directors and specified other employees from purchasing our securities on margin, borrowing against company securities held in a margin account, or pledging our securities as collateral for a loan.

Clawback Policy

In 2017, our Compensation Committee and Board of Directors adopted a clawback policy that covers incentive compensation paid to our executive officers, including our Chief Executive Officer, Principal Financial Officer and our Principal Accounting Officer. The policy provides that if we are required to prepare an accounting restatement due to our material non-compliance with any financial reporting requirement and/or intentional misconduct by a covered executive, our Compensation Committee may require the covered executive to repay to us any excess compensation received by the covered executive during the covered period. For purposes of this policy, excess compensation means annual cash bonus and long term equity incentive compensation that is in excess of the amount such covered executive would have received, if the annual cash bonus and/or long term equity incentive compensation had been determined based on the financial results reported in the restated financial statement.

Share Ownership Guidelines

Also in 2017, our Compensation Committee and Board of Directors adopted share ownership guidelines applicable to our non-employee directors and our senior executive officers, including our Chief Executive Officer to further align the interests of the leadership of our Company with those of our stockholders. The equity ownership guidelines are as follows: our Chief Executive Officer must hold equity worth at least three times his base salary; each of our other senior executive officers must hold equity worth at least one times his or her base salary; and each of our non-employee directors must hold equity worth at least three times the annual cash retainer. Covered individuals and newly appointed or elected persons have five years to achieve the guideline. The following forms of equity will count toward the ownership guideline: shares owned outright, vested but unexercised “in-the-money” stock options, and fifty percent of unvested restricted stock units.

Tax and Accounting Considerations

Deductibility of Executive Compensation

Generally, Section 162(m) of the Code, or Section 162(m), disallows a federal income tax deduction for public corporations of remuneration in excess of $1 million paid in any fiscal year to certain specified executive officers. For taxable years beginning before January 1, 2018 (i) these executive officers consisted of a public corporation's chief executive officer and up to three other executive officers (other than the chief financial officer) whose compensation is required to be disclosed to stockholders under the Securities Exchange Act of 1934 because they are our most highly-compensated executive officers and (ii) qualifying "performance-based compensation" was not subject to this deduction limit if specified requirements are met.

Pursuant to the Tax Cuts and Jobs Act of 2017, or the Tax Act, which was signed into law on December 22, 2017, for taxable years beginning after December 31, 2017, the remuneration of a public corporation's chief financial officer is also subject to the deduction limit. In addition, subject to certain transition rules (which apply to remuneration provided pursuant to written binding contracts which were in effect on November 2, 2017 and which are not subsequently modified in any material respect), for taxable years beginning after December 31, 2017, the exemption from the deduction limit for "performance-based compensation" is no longer available. Consequently, for fiscal years beginning after December 31, 2017, all remuneration in excess of $1 million paid to a specified executive will not be deductible.

In designing our executive compensation program and determining the compensation of our executive officers, including our named executive officers, the Compensation Committee considers a variety of factors, including the potential impact of the Section 162(m) deduction limit. However, the Compensation Committee will not necessarily limit executive compensation to that which is or may be deductible under Section 162(m). The deductibility of some types of compensation depends upon the timing of an executive officer's vesting or exercise of previously granted rights. Further, interpretations of and changes in the tax laws, and other factors beyond the Compensation Committee's control also affect the deductibility of compensation. The Compensation Committee will consider various alternatives to preserving the deductibility of compensation payments and benefits to the extent consistent with its compensation goals.

To maintain flexibility to compensate our executive officers in a manner designed to promote our short-term and long-term corporate goals, the Compensation Committee has not adopted a policy that all compensation must be deductible. The Compensation Committee believes that our stockholders' interests are best served if its discretion and flexibility in awarding compensation is not restricted, even though some compensation awards may result in non-deductible compensation expense. From time to time, the Compensation Committee may approve compensation for our named executive officers that does not comply with an exemption from the deduction limit when it believes that such compensation is consistent with the goals of our executive compensation program and is in the best interests of the Company and our stockholders.

Taxation of "Parachute" Payments

Sections 280G and 4999 of the Code provide that executive officers and directors who hold significant equity interests and certain other service providers may be subject to significant additional taxes if they receive payments or benefits in connection with a change in control of the company that exceeds certain prescribed limits, and that the company (or a successor) may forfeit a deduction on the amounts subject to this additional tax. We have not agreed to provide any executive officer, including any named executive officers, with a "gross-up" or other reimbursement payment for any tax liability that the executive officer might owe as a result of the application of Sections 280G or 4999 of the Code.

Section 409A of the Internal Revenue Code

Section 409A of the Code imposes additional significant taxes in the event that an executive officer, director or service provider receives "deferred compensation" that does not satisfy the requirements of Section 409A of the Code. Although we do not maintain a traditional nonqualified deferred compensation plan, Section 409A of the Code may apply to certain severance arrangements, bonus arrangements and equity awards. We structure all our severance arrangements, bonus arrangements and equity awards in a manner to either avoid the application of Section 409A or, to the extent doing so is not possible, to comply with the applicable requirements of Section 409A of the Code.

Accounting for Stock-Based Compensation

We follow FASB ASC 718 for our stock-based compensation awards. FASB ASC Topic 718 requires us to measure the compensation expense for all share-based payment awards made to our employees and non-employee members of our Board of Directors, including options to purchase shares of our common stock and other stock awards, based on the grant date "fair value" of these awards. This calculation is performed for accounting purposes and reported in the executive compensation tables required by the federal securities laws, even though the recipient of the awards may never realize any value from their awards.

Stock Option Granting Practices

Delegation to Our Chief Executive Officer

Currently, all of our employees, including our named executive officers, are eligible to participate in our 2013 Stock Option and Incentive Plan, or the 2013 Plan. All new full-time employees are granted stock options and restricted stock units when they start employment and all continuing employees are eligible for stock option and restricted stock unit awards on an annual basis based on performance and upon promotions to positions of greater responsibility. Our Compensation Committee has delegated to Mr. Leschly, our Chief Executive Officer, the authority to make equity awards under our 2013 Plan to new hires (other than to executive officers), in connection with promotions and with our annual cash incentive program (other than to executive officers) and in connection with certain performance-based restricted stock units (other than to executive officers). The number of shares underlying stock options and the number of restricted stock units he may grant to any one individual must be within the range specifically set by our Compensation Committee for these awards, and the aggregate number of shares underlying stock options and the number of restricted stock units he may grant within a period must be within specified limits set by our Compensation Committee for these awards. The exercise price of stock options must be equal to the closing price of our common stock on the NASDAQ Global Market on the date of grant. With respect to stock option awards and restricted stock units to new hires other than executive officers, Mr. Leschly approves the awards in connection with such hires and provides that the awards are to be granted to the new hires on the first business day of the calendar month following the date of such new hires' first date of regular employment. With respect to stock option and restricted stock unit awards made in connection with promotions other than of executive officers, Mr. Leschly approves the awards in connection with such promotions and provides that the awards are to be granted on the first business day of the calendar month following the date of such promotions. Mr. Leschly is required to maintain a list of stock options and restricted stock units granted pursuant to such delegated authority and periodically report to our Compensation Committee regarding such awards.

Compensation Risk Assessment

We believe that our executive compensation program does not encourage excessive or unnecessary risk taking. As described more fully above, we structure our pay to consist of both fixed and variable compensation, particularly in connection with our pay-for-performance compensation philosophy. We believe this structure motivates our executives to produce superior short- and long-term results that are in the best interests of our Company and stockholders in order to attain our ultimate objective of increasing stockholder value, and we have established, and our Compensation Committee endorses, several controls to address and mitigate compensation related risk. These include the introduction of stock ownership guidelines for our senior executive officers and our directors, and a clawback policy that permits recovery of incentive compensation from our executive officers in the event that cash and equity incentive award amounts are based on financial results that are subsequently restated. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on us.

Report of the Compensation Committee on Executive Compensation

Our Compensation Committee has reviewed and discussed the "Compensation Discussion and Analysis" required by Item 402(b) of Regulation S-K with management. Based upon such review and discussions, our Compensation Committee recommended to our Board of Directors that such section be included in this proxy statement and incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2017, which was filed with the SEC on February 21, 2018.

By the Compensation Committee of the Board of Directors of bluebird bio, Inc.

Daniel S. Lynch, Chairperson

Wendy L. Dixon, Ph.D.

David Schenkein, M.D.

Executive Compensation

Summary Compensation Table

The following table sets forth the total compensation awarded to, earned by and paid during the fiscal years ended December 31, 2017, December 31, 2016 and December 31, 2015 for each of our named executive officers.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option awards ($)(1)	Stock awards ($)(1)	Non-equity incentive plan compensation ($)	All other compensation ($)	Total ($)
Nick Leschly	2017	560,000	—	5,683,090	2,079,000	431,200 (2)	9,000 (3)	8,762,290
Chief Executive Officer	2016	500,000	—	2,929,487	1,136,475	309,375 (4)	5,250 (3)	4,880,587
	2015	460,000	—	10,503,164	—	227,700 (5)	5,250 (3)	11,196,114
Jeffrey T. Walsh	2017	425,000	—	3,012,038	1,103,760	250,600 (2)	12,000 (3)	4,803,398
Chief Financial and Strategy Officer	2016	375,000	—	1,822,792	707,140	187,800 (4)	5,250 (3)	3,097,982
	2015	350,000	—	4,774,165	—	133,000 (5)	5,250 (3)	5,262,415
David Davidson, M.D.	2017	410,000	—	1,761,758	642,600	223,100 (2)	12,000 (3)	3,049,458
Chief Medical Officer	2016	380,000	—	1,249,915	484,896	169,100 (4)	5,250 (3)	2,289,161
	2015	360,000	—	3,819,332	—	117,200 (5)	5,250 (3)	4,301,782
Philip Gregory, D. Phil.	2017	405,000	—	1,761,758	642,600	212,300 (2)	9,000 (3)	3,030,658
Chief Scientific Officer	2016	375,000	75,000 (7)	1,041,596	404,080	166,900 (4)	5,250 (3)	2,067,826
	2015	203,558 (6)	225,000 (8)	5,276,327	4,482,500	67,900 (5)(6)	—	10,255,285
	2017	365,000	—	1,472,437	536,760	195,700 (2)	9,000 (3)	2,578,897

Jason F. Cole, Esq. Chief Legal Officer	2016	340,000	—	680,295	277,805	151,300	(4)	5,250	(3)	1,454,650
	2015	323,000	—	2,228,100	—	104,100	(5)	5,250	(3)	2,660,450

(1) The amounts reported in the "Option awards" and "Stock awards" columns above represent the aggregate grant date fair value of the stock options and restricted stock units granted to such named executive officers during 2015, 2016 and 2017 as computed in accordance with FASB ASC Topic 718, not including any estimates of forfeitures related to service-based vesting conditions. See note 12 of "Notes to Consolidated Financial Statements" in our Annual Report on Form 10-K filed with the SEC on February 21, 2018 for a discussion of assumptions made by the Company in determining the aggregate grant date fair value of our option and restricted stock unit awards. Note that the amounts reported in these columns reflect the accounting cost for these stock options and restricted stock units, and do not correspond to the actual economic value that may be received by the named executive officers from the stock options and restricted stock units.

(2) Amounts represent cash incentive payment under our annual cash incentive program earned in 2017, and paid during 2018, based on achievement of company and/or individual performance goals.

(3) Amounts represent the employer matching contribution to the executive's 401(k) plan contributions during the relevant year.