

BIOGEN INC.  
Form DEF 14A  
April 30, 2019  
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**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**

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

**BIOGEN INC.**

**(Name of Registrant as Specified In Its Charter)**

**(Name of Person(s) Filing Proxy Statement, if other than the Registrant)**

Payment of Filing Fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

- 1) Title of each class of securities to which transaction applies:
- 2) Aggregate number of securities to which transaction applies:
- 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):
- 4) Proposed maximum aggregate value of transaction:
- 5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

- 1) Amount Previously Paid:
- 2) Form, Schedule or Registration Statement No.:
- 3) Filing Party:
- 4) Date Filed:

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NOTICE OF  
2019 Annual Meeting of  
Stockholders and Proxy Statement

*Wednesday, June 19, 2019*

*9:00 a.m. Eastern Time*

**To be held at our offices located at 225 Binney Street,  
Cambridge, Massachusetts 02142 and  
online at [www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019)**

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Letter from our Chairman

April 30, 2019

*To My Fellow Stockholders:*

On behalf of the Board of Directors, I want to thank you for your investment in Biogen and for the confidence you put in this Board to oversee your interests in our company.

Our view is that neurological diseases are deeply connected and because the pathways of these diseases are interrelated, so are the potential approaches for treating them. While we made progress in a number of our core and emerging growth areas in 2018, we also know it is the nature of drug development that many studies fail before one succeeds. In March 2019, together with our collaboration partner Eisai Co. Ltd., we decided to discontinue the global Phase 3 aducanumab studies ENGAGE and EMERGE based on analysis performed by an independent data monitoring committee that concluded that aducanumab was unlikely to meet the pre-determined efficacy targets. While a decision to discontinue a program is always disappointing, most importantly for patients who need effective treatments, we remain focused on the learnings and priorities that we take away from every clinical study.

Our philosophy of Caring Deeply. Working Fearlessly. Changing Lives. informs our policies and business practices. We work to have an impact beyond our medicines as we strive to improve patient health outcomes, solve social and environmental challenges, cultivate a workplace that enables our employees to thrive, support local communities and inspire future generations of scientists.

2018 marked our 40<sup>th</sup> anniversary, a remarkable milestone honoring our legacy as one of the oldest independent biotechnology companies. Looking back, we have always been pioneers, having the courage to take new approaches to help people who suffer from devastating diseases. Thanks to our fearless mindset and groundbreaking research, thousands of patients today have access to life-changing treatments.

Our Board takes its role in protecting the interest of our fellow stockholders and overseeing our long-term business strategy very seriously. We believe that good corporate governance and high ethical standards are key to our success. We are accountable to you, our fellow stockholders, and remain committed to investing time with you to increase transparency and better understand your perspectives. During 2018 independent members of our Board met with several stockholders to discuss a variety of topics, including business strategy, capital allocation, corporate governance, executive compensation, sustainability and corporate social responsibility initiatives.

Our Board believes ensuring diverse perspectives, including a mix of skills, experience and backgrounds, are key to representing the interests of stockholders effectively. This year we have nominated three new candidates to stand for election as directors at our 2019 annual meeting of stockholders.

We are proud of our accomplishments in 2018, including:

Generating record revenues of \$13.5 billion for the year, demonstrating resilience in our multiple sclerosis business, continuing one of the most impressive launches in the history of the biopharmaceutical industry with SPINRAZA, the first approved treatment for spinal muscular atrophy, and continuing to make significant progress in our biosimilars business, including the October 2018 launch of IMRALDI, an adalimumab biosimilar referencing HUMIRA, in Europe.

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The addition of six clinical programs to our pipeline.

Being awarded the 2018 International Prix Galien as Best Biotechnology Product for SPINRAZA, our seventh Prix Galien for SPINRAZA, following country recognitions in the U.S., Germany, Italy, Belgium-Luxembourg, the Netherlands and the U.K.

Our perfect score of 100% on the Human Rights Campaign's Corporate Equality Index (a national benchmarking tool on corporate policies and practices pertinent to LGBTQ employees) for the fifth consecutive year.

Our continued commitment to operational carbon neutrality highlighted through the use of 100% renewable electricity globally.

Being named the Biotechnology Industry Leader on the Dow Jones Sustainability World Index and being recognized as a corporate sustainability leader with Gold Class and Industry Mover Sustainability Awards from RobecoSAM.

The dedication and commitment of the over 3,200 employees who volunteered from 28 countries during our annual Care Deeply Day.

The engagement of 50,000+ students in hands-on learning to inspire their passion for science since the inception of Biogen's Community Labs.

On behalf of the Board, I am pleased to invite you to attend our 2019 annual meeting of stockholders, which will be held at our offices located at 225 Binney Street, Cambridge, Massachusetts 02142 on Wednesday, June 19, 2019, beginning at 9:00 a.m. Eastern Time. For those who cannot attend in person, we are offering a virtual stockholder meeting in which you can view the meeting, submit questions and vote online at [www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019). You will need the 16-digit control number included with these proxy materials to attend the annual meeting virtually via the Internet. **Stockholders who attend the annual meeting virtually via the Internet will have the opportunity to participate fully in the meeting on an equal basis with those who attend in person.**

The following notice of our annual meeting of stockholders contains details of the business to be conducted at the meeting. Only stockholders of record at the close of business on April 22, 2019, will be entitled to notice of, and to vote at, the annual meeting.

On behalf of the Board of Directors, I thank you for your continued support and investment in Biogen.

**Very truly yours,**

STELIOS PAPADOPOULOS, Ph.D.

*Chairman of the Board*

On behalf of the Board of Directors of Biogen Inc.

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## Notice of 2019 Annual Meeting of Stockholders

**Date:** Wednesday, June 19, 2019

**Time:** 9:00 a.m. Eastern Time

**Place:** Biogen Inc.  
225 Binney Street  
Cambridge, Massachusetts 02142

**Record Date:** April 22, 2019. Only Biogen stockholders of record at the close of business on the record date are entitled to receive notice of, and vote at, the annual meeting.

**Items of Business:**

1. To elect the 14 nominees identified in the accompanying Proxy Statement to our Board of Directors to serve for a one-year term extending until the 2020 annual meeting of stockholders and their successors are duly elected and qualified.
2. To ratify the selection of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019.
3. To hold an advisory vote on executive compensation.
4. To transact such other business as may be properly brought before the annual meeting and any adjournments or postponements.

**Virtual Meeting:** To participate in the annual meeting virtually via the Internet, please visit [www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019). You will need the 16-digit control number included on your Notice of Internet Availability of Proxy Materials, your proxy card or the instructions that accompanied your proxy materials. **Stockholders who attend the annual meeting virtually via the Internet will have the opportunity to participate fully in the**



meeting on an equal basis with those who attend in person.

**Voting:**

**Your vote is extremely important regardless of the number of shares you own. Whether or not you expect to attend the annual meeting, we urge you to vote as promptly as possible by telephone or Internet or by signing, dating and returning a printed proxy card or voting instruction form, as applicable. If you attend the annual meeting, you may vote your shares during the annual meeting even if you previously voted your proxy. Please vote as soon as possible to ensure that your shares will be represented and counted at the annual meeting.**

**Important Notice Regarding the Availability of Proxy Materials for Annual Meeting of Stockholders**

**To Be Held on June 19, 2019:**

The Notice of 2019 Annual Meeting of Stockholders, Proxy Statement and 2018 Annual Report on Form 10-K

are available at the following website: [www.proxyvote.com](http://www.proxyvote.com).

**By Order of Our Board of Directors,**

SUSAN H. ALEXANDER,

*Secretary*

225 Binney Street

Cambridge, Massachusetts 02142

April 30, 2019

**This Notice and Proxy Statement are first being sent to stockholders on or about April 30, 2019.**

**Our 2018 Annual Report on Form 10-K is being sent with this Notice and Proxy Statement.**

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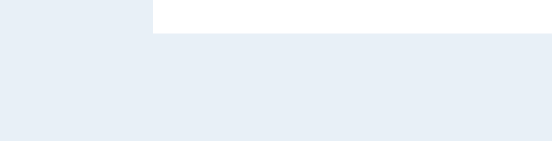
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[Proxy Statement Summary](#)

This summary highlights important information you will find in this Proxy Statement. As it is only a summary, please review the complete Proxy Statement before you vote.

Annual Meeting Information

**DATE:** Wednesday, June 19, 2019  
**TIME:** 9:00 a.m. Eastern Time  
**LOCATION:** Biogen Inc.  
 225 Binney Street  
 Cambridge, Massachusetts 02142  
**RECORD DATE:** April 22, 2019

Voting Matters and Vote Recommendation

Voting Matter	Board	Page Number
Item 1 Election of Directors	Recommendation FOR each nominee	11
Item 2 Ratification of the Selection of our Independent Registered Public Accounting Firm	FOR	27

Item 3 Advisory Vote on Executive Compensation

FOR

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How to Vote

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[Proxy Statement Summary \(continued\)](#)



## Highlights of 2018 Company Performance

We are focused on discovering, developing and delivering worldwide innovative therapies for people living with serious neurological and neurodegenerative diseases as well as related therapeutic adjacencies. Our core growth areas include multiple sclerosis (MS) and neuroimmunology, Alzheimer's disease and dementia, movement disorders, including Parkinson's disease, and neuromuscular disorders, including spinal muscular atrophy (SMA) and amyotrophic lateral sclerosis (ALS). We are also focused on discovering, developing and delivering worldwide innovative therapies in our emerging growth areas of acute neurology, neurocognitive disorders, pain and ophthalmology. In addition, we are employing innovative technologies to discover potential treatments for rare and genetic disorders, including new ways of treating diseases through gene therapy in our core and emerging growth areas. We also commercialize biosimilars of advanced biologics. For additional information, please see our 2018 Annual Report on Form 10-K.

### 2018 Operating Performance Highlights

Full year total revenues of \$13.5 billion, a 10% increase versus the prior year.

We continued the successful launch of SPINRAZA, the first approved treatment for SMA. As of December 31, 2018, there were over 6,600 patients on therapy across the post-marketing setting, the Expanded Access Program and clinical trials.

In October 2018 we and Samsung Bioepis Co., Ltd. (Samsung Bioepis), our joint venture with Samsung BioLogics Co., Ltd. (Samsung BioLogics), launched IMRALDI, an adalimumab biosimilar referencing HUMIRA, in Europe.

We completed six business development transactions and increased our ownership percentage in Samsung Bioepis from approximately 5% to approximately 49.9%.



We added six clinical programs to our pipeline in 2018, including BIIB078 (IONIS-C9<sub>Rx</sub>) for C9ORF72-associated ALS, BIIB110 (ActRIIA/B ligand trap) for muscle enhancement in diseases such as SMA, an option to acquire TMS-007 for acute ischemic stroke, BIIB104 (AMPA receptor potentiator) for cognitive impairment associated with schizophrenia (CIAS), BIIB074 (vixotrigine) for small fiber neuropathy and BIIB095 for neuropathic pain.

In December 2018 Alkermes Pharma Ireland Limited, a subsidiary of Alkermes plc (Alkermes), submitted a New Drug Application (NDA) to the U.S. Food and Drug Administration (FDA) for the review of BIIB098 (diroximel fumarate).

We were awarded the 2018 International Prix Galien as Best Biotechnology Product for SPINRAZA. The prestigious honor marks the seventh Prix Galien for SPINRAZA, following country recognitions in the U.S., Germany, Italy, Belgium-Luxembourg, the Netherlands and the U.K.

Throughout 2018 we repurchased approximately 14.8 million shares of our common stock at a total cost of approximately \$4.4 billion.

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### Proxy Statement Summary (continued)

## Our Values

### Biogen Elements

Much like the periodic table of elements documents the building blocks of the universe around us, the **Biogen Elements** give shape to our company's culture and are embedded into all our people processes, including performance management, goal setting and development programs and activities. The Biogen Elements drive the behaviors, actions and decisions required to achieve our strategy and promote a unified approach to our individual jobs—strengthening our mission, informing our leadership, expanding our impact and fueling our growth.

As we remain focused on discovering, developing and delivering worldwide innovative therapies, we remain **customer focused**. We keep patients, payers and physicians front and center in our daily work and collaborate to solve critical scientific and business challenges. In doing so, we foster an **inclusive** community, both internally and externally. We work in partnership to break down siloes and encourage diverse perspectives and backgrounds at all levels.

A **pioneering** spirit permeates our work. We challenge the status quo and experiment to create new possibilities. We are not afraid to take calculated risks and learn from failure. We are resilient and **agile**, adapting in response to internal changes and external disruptors, and developing solutions quickly to take advantage of emerging opportunities.

As pioneers and leaders, we hold ourselves **accountable** for our work and results. We honor our commitments and we never compromise our integrity. We sustain an **ethical** environment of trust, honesty and transparency while ensuring appropriate confidentiality.

### Environmental Sustainability

We are committed to solving environmental challenges. We work to improve our operational impact on the environment and have adopted strong sustainability policies. We aspire to be a catalyst for positive change by addressing environmental impacts resulting from our business, including carbon and water, and by increasing the environmental and social performance of our supply chain.

As part of this commitment, we utilize a science-based approach to reduce our environmental footprint, demonstrated by our Science Based Targets Initiative-approved 2030 absolute greenhouse gas reduction target of 35%. Our practice of using science to inform our targets when possible is part of our broader commitment to context-based sustainability. We embrace green chemistry as an opportunity to improve sustainability in our operations, and we work to find new and better ways to minimize waste and maintain zero waste to landfill in our manufacturing facilities.

Our 2018 accomplishments include:

Named the Biotechnology Industry Leader on the Dow Jones Sustainability World Index.

Recognized as a corporate sustainability leader with Gold Class and Industry Mover Sustainability Awards from RobecoSAM.

Continued commitment to operational carbon neutrality highlighted through the use of 100% renewable electricity globally.

Committed to reduce carbon emissions by a targeted amount approved by the Science Based Target Initiative, to align ourselves with the global goal of limiting global temperature rise to under two degrees Celsius.

Earned Carbon Disclosure Project (CDP) scores of A, A- and B in the areas of Supplier Engagement, Climate Change and Water, respectively.

### **Diversity and Inclusion**

We believe that diversity in all forms is a key to our success. Different perspectives make us stronger as a business. Our diversity and inclusion strategy touches every facet of our business, focusing on three key components: expanding workforce diversity, improving health outcomes for underserved global patient populations and developing a sustainable, diverse supplier base.

We are honored to be recognized as a company of choice. In 2018 Biogen was ranked #51 on the *Forbes* list of World's Best Employers, as well as one of the Best Employers for Women (at #38). We scored 100% on the 2018 Disability Equality Index, which measures our policies and practices related to disability inclusion. Additionally, for the fifth consecutive year, we were recognized as a Best Place to Work for LGBTQ Equality by the Human Rights Campaign, scoring 100% on their Corporate Equality Index.

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## Proxy Statement Summary (continued)

**Corporate Governance Matters**

We are committed to the highest standards of ethics, business integrity and corporate governance, which we believe will ensure that our company is managed for the long-term benefit of our stockholders. Our governance practices are designed to establish and preserve accountability of our Board of Directors and management, provide a structure that allows our Board to set objectives and monitor performance, ensure the efficient use and accountability of resources and enhance stockholder value. Please see Part 2 Corporate Governance at Biogen for more information.

**Corporate Governance Highlights**

Board and Board Committees	
Number of Independent Director Nominees/Total Number of Director Nominees	13/14
Number of Female Director Nominees/Total Number of Director Nominees	3/14
Number of Director Nominees of International Origin/Total Number of Director Nominees	3/14
Average Age of Directors Standing for Election (as of April 22, 2019)	63
All Board Committees Consist of Independent Directors	Yes
Risk Oversight by Full Board and Committees	Yes
Separate Risk Committee	Yes
Active Board Oversight of Enterprise Risk Management	Yes
Separate Independent Chairman and CEO	Yes
Regular Executive Sessions of Independent Directors	Yes
Annual Anonymous Board and Committee Self-Evaluations	Yes
Annual Independent Director Evaluation of CEO	Yes
Mandatory Retirement Age for Directors (75 years old)	Yes
Director Education and Orientation	Yes
Annual Equity Grant to Directors	Yes
Director Stockholder Engagement Initiative	Yes
Stockholder Rights, Accountability and Other Governance Practices	
Annual Election of All Directors	Yes
Majority Voting for Directors and Resignation Policy	Yes
One-Share, One-Vote Policy	Yes

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Proxy Access Bylaw (3% ownership, 3 years, nominees for up to 25% of our Board)	Yes
Annual Advisory Stockholder Vote on Executive Compensation	Yes
Stockholder Ability to Call Special Meetings (25% Threshold)	Yes
Stockholder Ability to Act by Written Consent	Yes
Anti-Overboarding Policy Limiting the Number of Other Public Company Boards on which our Directors May Serve (four for Non-Employee Directors and one for the CEO)	Yes
Stock Ownership Guidelines for Directors and Executives	Yes
Prohibition from Hedging and Pledging Securities or Otherwise Engaging in Derivative Transactions	Yes
Compensation Recovery in Equity and Annual Bonus Plans	Yes
Comprehensive Code of Conduct and Corporate Governance Principles	Yes
Related Person Transaction Policy and Conflicts of Interest and Outside Activities Policy with Oversight by the Corporate Governance Committee	Yes
Stock Ownership Guidelines for Directors and Executives	Yes
Active Board Engagement in Succession Planning of Executive Officers	Yes
Absence of a Stockholder Rights Plan (referred to as "Poison Pill")	Yes
Strong Commitment to Environmental and Sustainability Matters	Yes
Board Oversight and Expanded Disclosure on Website Related to Corporate Political Contributions and Expenditures	Yes

### **Director Stockholder Engagement Initiative**

We value the views of our stockholders and other stakeholders, and we solicit input throughout the year. During 2018 independent members of our Board of Directors met with several stockholders to discuss a variety of issues, including business strategy, capital allocation, corporate governance, executive compensation, sustainability and corporate social responsibility initiatives.

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## Our Director Nominees

**Proposal 1 Election of Directors**

You are being asked to vote on the election of the following 14 nominees for director. All directors are elected annually by the affirmative vote of a majority of votes cast. Detailed information about each director's background, skill sets and areas of expertise can be found beginning on page 11.

Name, Occupation and Experience	Age*	Independent	Committee Memberships*							Other
			AC	C&MDC	CGC	FC	RC	STC	Boards	Public
<b>John R. Chiminski*</b>										
Chair of the Board, President and Chief Executive Officer, Catalent, Inc.	55	Yes								1
<b>Alexander J. Denner, Ph.D.</b>										
Founding Partner and Chief Investment Officer, Sarissa Capital										
Management LP	49	Yes								1
<b>Caroline D. Dorsa</b>										
Retired Executive Vice President and Chief Financial Officer,										
Public Service Enterprise Group Incorporated	59	Yes								3
<b>William A. Hawkins*</b>										
Senior Advisor, EW Healthcare Partners	65	Yes								1

**Nancy L. Leaming**

Retired Chief Executive Officer and President, Tufts Health Plan	71	Yes	
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**Jesus B. Mantas\***

Managing Partner and General Manager, IBM Global Services	50	Yes	
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**Richard C. Mulligan, Ph.D.**

Mallinckrodt Professor of Genetics, Emeritus, Harvard Medical School and			
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Executive Vice Chairman, Sana Biotechnology	64	Yes	
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**Robert W. Pangia**

Retired Chief Executive Officer, Ivy Sports Medicine, LLC	67	Yes	
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**Stelios Papadopoulos, Ph.D.**

Chairman, Biogen Inc., Chairman, Exelixis, Inc. and Chairman,			
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Regulus Therapeutics Inc.	70	Yes	2
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**Brian S. Posner**

Private Investor and Founder and Managing Partner, Point Rider Group LLC	57	Yes	2
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**Eric K. Rowinsky, M.D.**

President and Executive Chairman, RGenix, Inc.	62	Yes	3
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**The Honorable Lynn Schenk, J.D.**

Attorney, Former Chief of Staff to the Governor of California and			
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Former U.S. Congresswoman	74	Yes	1
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**Stephen A. Sherwin, M.D.**

Clinical Professor of Medicine, University of California, San Francisco and			
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Advisor to Life Sciences Companies	70	Yes	3
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**Michel Vounatsos**

Chief Executive Officer, Biogen Inc.	57	No	
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\* Age and Committee memberships are as of April 22, 2019. Messrs. Chiminski, Hawkins and Mantas are each new director nominees standing for election to our Board of Directors at the Annual Meeting.

Committee	CGC:	Corporate Governance Committee	RC:	Risk Committee
Compensation and Management Development Committee	FC:	Finance Committee	STC:	Science and Technology

Chair:

Member:

Financial Expert:

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[Proxy Statement Summary \(continued\)](#)

**Our Auditors**

**Proposal 2 Ratification of Independent Registered Public Accounting Firm**

You are being asked to vote to ratify the selection of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2019. Detailed information about this proposal can be found beginning on page 27.

**Executive Compensation Matters**

**Proposal 3 Advisory Vote on Executive Compensation**

Our Board of Directors recommends that stockholders vote to approve, on an advisory basis, the compensation paid to the Company's named executive officers (NEOs) as described in this Proxy Statement (the "say-on-pay" vote). Detailed information about the compensation paid to our NEOs can be found beginning on page 30.

Our compensation programs embody a pay-for-performance philosophy that supports our business strategy and aligns executive interests with those of our stockholders. Highlights of our compensation programs for 2018 and our compensation best practices follow.

**Pay-for-Performance**

Short- and long-term incentive compensation rewards financial, strategic and operational performance and the accomplishment of pre-established goals that are set to support our long-range plans.

Approximately 91% of the target compensation for Michel Vounatsos, our CEO, was performance-based and at-risk in 2018.

Approximately 84% of the target compensation for our other NEOs was performance-based and at-risk in 2018 (excluding one-time transition equity awards).

#### Other Compensation Best Practices

We provide competitive total pay opportunities after consideration of many factors, including comparative data from a carefully selected peer group.

An independent compensation consultant assists the Compensation and Management Development Committee in setting executive and non-employee director compensation.

Our compensation programs do not encourage unnecessary and excessive risk taking, and risk assessments are conducted annually.

Payments under our annual bonus plan are performance-based and capped.

Long-term incentive awards are generally performance-based and subject to multi-year vesting and designed to reward long-term performance.

Stock option awards are granted at fair market value; we do not backdate or reprice stock option awards.

We maintain robust stock ownership guidelines for executive officers and directors.

Compensation may be recouped/clawed back under our equity and annual bonus plans.

A double-trigger is required for accelerated equity vesting upon change in control.

In June 2009 we adopted a policy to eliminate excise tax gross ups for newly-hired executives.

We do not offer additional special perquisites to our executive officers that are not offered to our broad employee base or senior management populations.

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[Proxy Statement Summary \(continued\)](#)

**Note about Forward-Looking Statements**

This Proxy Statement contains forward-looking statements, including statements relating to: our strategy and plans; potential of our commercial business and pipeline programs; capital allocation and investment strategy; clinical trials and data readouts and presentations; and the anticipated benefits and potential of investments, collaborations and business development activities. These forward-looking statements may be accompanied by such words as aim, anticipate, believe, could, estimate, expect, forecast, intend, may, plan, potential, possible, words and terms of similar meaning. You should not place undue reliance on these statements or the scientific data presented.

These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements, including the risks and uncertainties that are described in the Risk Factors section of our most recent annual or quarterly report and in other reports we have filed with the Securities and Exchange Commission (SEC). These statements are based on our current beliefs and expectations and speak only as of the date of this Proxy Statement. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of new information, future developments or otherwise, except as required by law.

**Note regarding Trademarks**

PLEGRIDY®, SPINRAZA®, TECFIDERA® and ZINBRYTA® are registered trademarks of Biogen. IMRALDI is a trademark of Biogen. HUMIRA® and other trademarks referenced in this Proxy Statement are the property of their respective owners.

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**General Information About the Meeting**

**Biogen Inc.**

**225 Binney Street**

**Cambridge, Massachusetts 02142**

The Board of Directors of Biogen Inc. is soliciting your proxy to vote at our 2019 annual meeting of stockholders (Annual Meeting) to be held at 9:00 a.m. Eastern Time on Wednesday, June 19, 2019, for the purposes summarized in the accompanying Notice of 2019 Annual Meeting of Stockholders. Our 2018 Annual Report on Form 10-K is also available with this Proxy Statement.

References in this Proxy Statement to Biogen or the Company, we, us and our refer to Biogen Inc.

***What is the purpose of the Annual Meeting?***

At the Annual Meeting, stockholders will vote upon the matters that are summarized in the formal meeting notice. This Proxy Statement contains important information for you to consider when deciding how to vote on the matters before the Annual Meeting.

***Can I attend the Annual Meeting?***

We will be hosting the Annual Meeting at our offices at 225 Binney Street, Cambridge, Massachusetts 02142. For those who cannot attend in person, we are offering a virtual stockholder meeting in which you can view the meeting, submit questions and vote online at [www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019). You will need the 16-digit control number included with these proxy materials to attend the Annual Meeting virtually via the Internet. **Stockholders who attend the Annual Meeting virtually via the Internet will have the opportunity to participate fully in the meeting on an equal basis with those who attend in person.**

*What do I need in order to be able to participate in the Annual Meeting virtually via the Internet?*

You will need the 16-digit control number included on your Notice of Internet Availability of Proxy Materials or your proxy card or voting instruction form in order to be able to vote your shares or submit questions via the Internet during the Annual Meeting. If you do not have your 16-digit control number and attend the meeting online, you will be able to listen to the meeting only – you will not be able to vote or submit questions during the meeting.

*Who can vote?*

Each share of our common stock that you own as of the close of business on the record date of April 22, 2019 (Record Date) entitles you to one vote on each matter to be voted upon at the Annual Meeting. As of the Record Date, 193,893,397 shares of our common stock were outstanding and entitled to vote. We are making this Proxy Statement and other Annual Meeting materials available on the Internet at [www.proxyvote.com](http://www.proxyvote.com) or, upon request, by sending printed versions of these materials on or about April 30, 2019, to all stockholders of record as of the Record Date. For ten days before the Annual Meeting, a list of stockholders entitled to vote will be available for inspection at our offices located at 225 Binney Street, Cambridge, Massachusetts 02142 and will also be available for examination during the Annual Meeting at [www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019). If you would like to review the list, please call our Investor Relations department at (781) 464-2442.

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General Information About the Meeting (continued)

***What am I voting on at the Annual Meeting?***

Stockholders will be asked to vote on the following items at the Annual Meeting:

The election to our Board of Directors of the 14 director nominees (Proposal 1);

The ratification of the selection of PricewaterhouseCoopers LLP (PwC) as our independent registered public accounting firm for the fiscal year ending December 31, 2019 (Proposal 2);

The advisory vote on executive compensation (Proposal 3); and

The transaction of such other business as may be properly brought before the meeting and any adjournments or postponements.

***What is the recommendation of our Board of Directors on each of the matters scheduled to be voted on at the***

Our Board of Directors recommends that you vote:

*Annual Meeting?*

**FOR** each of the director nominees (Proposal 1);

**FOR** the ratification of the selection of PwC as our independent registered public accounting firm for the fiscal year ending December 31, 2019 (Proposal 2); and

On an advisory basis, **FOR** the approval of our executive compensation (Proposal 3).

*How do proxies work?*

Our Board of Directors is asking for your proxy authorizing the individuals named as proxies to vote your shares at the Annual Meeting in the manner you direct. You may abstain from voting on any matter. If you submit your proxy without specifying your voting instructions, we will vote your shares on the matters scheduled to be voted on at the Annual Meeting in accordance with our Board of Directors' recommendations described above. As to any other matter that may properly come before the Annual Meeting or any adjournment or postponement, the individuals named as proxies will vote your shares at the Annual Meeting in accordance with their best judgment.

Shares represented by valid proxies received in time for the Annual Meeting and not revoked before the Annual Meeting will be voted at the Annual Meeting. You can revoke your proxy and change your vote in the manner described below (under the heading "Can I revoke or change my vote after I submit my proxy?"). If your shares are held through a bank, broker or other nominee, please follow the instructions that you were provided by your bank, broker or other nominee.



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General Information About the Meeting (continued)

*How do I vote and what are the  
voting deadlines?*

**Stockholders of Record.** If you are a stockholder of record, there are several ways for you to vote your shares.

**By Internet.** You may vote at [www.proxyvote.com](http://www.proxyvote.com), 24 hours a day, seven days a week. You will need the 16-digit control number included on your Notice of Internet Availability of Proxy Materials or, if you received a printed copy of the proxy materials, on your proxy card. Votes submitted through [www.proxyvote.com](http://www.proxyvote.com) must be received by 11:59 p.m. Eastern Time on June 18, 2019.

**By Telephone.** You may vote using a touch-tone telephone by calling 1-800-690-6903, 24 hours a day, seven days a week. You will need the 16-digit control number included on your Notice of Internet Availability of Proxy Materials or, if you received a printed copy of the proxy materials, on your proxy card. Votes submitted by telephone must be received by 11:59 p.m. Eastern Time on June 18, 2019.

**By Mail.** If you received printed proxy materials, you may submit your vote by completing, signing and dating each proxy card received and returning it in the prepaid envelope. Sign your name exactly as it appears on the proxy card. Proxy cards submitted by mail must be received no later than June 18, 2019, to be voted at the Annual Meeting.

**During the Annual Meeting.** You may vote during the Annual Meeting by submitting a written ballot in person at the Annual Meeting. To obtain directions to attend the Annual Meeting, please contact our Investor Relations department at (781) 464-2442. We will pass out ballots at the Annual Meeting to anyone who wishes to vote in person.

You may also vote during the Annual Meeting via the Internet by going to [www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019). You will need the 16-digit control number included on your Notice of Internet Availability of Proxy Materials or, if you received a printed copy of the proxy materials, on your proxy card to be able to vote during the Annual Meeting via the Internet.

If you vote via the Internet or by telephone before the Annual Meeting, your electronic vote authorizes the named proxies in the same manner as if you signed, dated and returned your proxy card. **If you vote via the Internet or by telephone before the Annual Meeting, do not return your proxy card.**

**Beneficial Owners.** *If your shares are held in a brokerage account in your broker's name, then you are the beneficial owner of shares held in street name.* If you are a beneficial owner of your shares, you should have received a Notice of Internet Availability of Proxy Materials or voting instructions from the bank, broker or other nominee holding your shares. You should follow the instructions in the Notice of Internet Availability of Proxy Materials or voting instructions provided by your bank, broker or other nominee in order to instruct your bank, broker or other nominee on how to vote your shares. The availability of telephone and Internet voting will depend on the voting process of the bank, broker or other nominee. **Shares held beneficially may not be voted during the Annual Meeting; instead a beneficial holder must instruct their bank, broker or other nominee in advance of the Annual Meeting.**

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General Information About the Meeting (continued)

***Can I revoke or change my vote after I submit my proxy?***

**Stockholders of Record.** If you are a stockholder of record, you may revoke or change your vote at any time before the final vote at the Annual Meeting by:

signing and returning a new proxy card with a later date, to be received no later than June 18, 2019;

submitting a later-dated vote by telephone or via the Internet only your latest telephone or Internet proxy received by 11:59 p.m. Eastern Time on June 18, 2019, will be counted;

attending the Annual Meeting in person and voting in person or participating in the Annual Meeting virtually via the Internet and voting again; or

delivering a written revocation to our Secretary at Biogen Inc., 225 Binney Street, Cambridge, Massachusetts 02142, to be received no later than June 18, 2019.

Only your latest vote, in whatever form, will be counted.

**Beneficial Owners.** If you are a beneficial owner of your shares, you must contact the bank, broker or other nominee holding your shares and follow their instructions for revoking or changing your vote.

*Will my shares be counted if I do not vote?*

**Stockholders of Record.** If you are the stockholder of record and you do not vote before the Annual Meeting by proxy card, telephone or via the Internet, or during the Annual Meeting either in person or virtually via the Internet, your shares will not be voted at the Annual Meeting.

**Beneficial Owners.** If you are the beneficial owner of shares, your bank, broker or other nominee, as the record holder of the shares, is required to vote those shares in accordance with your instructions. If no voting instructions are provided, these record holders can vote your shares only on discretionary, or routine, matters and not on non-discretionary, or non-routine, matters. Uninstructed shares whose votes cannot be counted on non-routine matters result in what are commonly referred to as broker non-votes.

The proposal to ratify the selection of our independent registered public accounting firm is a routine matter and the other proposals are non-routine matters. If you do not give your broker voting instructions, your broker (1) will be entitled to vote your shares on the proposal to ratify the selection of our independent registered public accounting firm and (2) will not be entitled to vote your shares on the other proposals. We urge you to provide instructions to your bank, broker or other nominee so that your votes may be counted on all of these important matters.

You should vote your shares by telephone or by Internet according to the instructions provided by your bank, broker or other nominee or by signing, dating and returning a printed voting instruction form to your bank, broker or other nominee to ensure that your shares are voted on your behalf.

*How many shares must be present to hold the Annual Meeting?*

A majority of our issued and outstanding shares of common stock as of the Record Date must be present at the Annual Meeting to hold the Annual Meeting and conduct business. This is called a quorum. Shares voted in the manner described above (under the heading *How do I vote and what are the voting deadlines?* ) will be counted as present at the Annual Meeting. Shares that are present and entitled to vote on one or more of the matters to be voted upon are counted as present for establishing a quorum. If a quorum is not present, we expect that the Annual Meeting will be adjourned until we obtain a quorum.



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General Information About the Meeting (continued)

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

***Proposal 1: Election of Directors:*** Directors are elected by a majority vote of the votes cast in uncontested elections—that is, a director will be elected if more votes are cast for that director’s election than against that director—and by a plurality of votes cast in contested elections—that is, the directors receiving the highest number of For votes will be elected. Abstentions and broker non-votes, if any, are not counted for purposes of electing directors and will have no effect on the results of this vote.

***Proposal 2: Ratification of the Selection of our Independent Registered Public Accounting Firm:*** The affirmative vote of a majority of shares present in person or represented by proxy and having voting power at the Annual Meeting is required to ratify the selection of PwC as our independent registered public accounting firm for the fiscal year ending December 31, 2019. Abstentions will have the effect of votes against this proposal. Brokers generally have discretionary authority to vote on the ratification of the selection of our independent registered public accounting firm, thus we do not expect any broker non-votes on this proposal.

***Proposal 3: Advisory Vote on Executive Compensation:*** Because this proposal asks for a non-binding, advisory vote, there is no required vote—that would constitute approval. We value the opinions expressed by our stockholders in this advisory vote, and the Compensation and Management Development Committee of our Board of Directors (sometimes referred to in this Proxy Statement as our C&MD Committee), which is responsible for overseeing and administering our executive compensation programs, will consider the outcome of this vote when designing our compensation programs and making future compensation decisions for our named executive officers. Abstentions and broker non-votes, if any, will not have any effect on the results of those deliberations.

*Are there other matters to be voted on at the Annual Meeting?*

We do not know of any other matters that may come before the Annual Meeting. If any other matters are properly presented at the Annual Meeting, your proxy authorizes the individuals named as proxies to vote, or otherwise act, in accordance with their best judgment.

*Why did I receive a one-page notice in the mail regarding the Internet availability of proxy materials instead of a full set of proxy materials?*

We have elected to provide access to our proxy materials on the Internet, consistent with the rules of the SEC. Accordingly, in most instances we are mailing a Notice of Internet Availability of Proxy Materials to our stockholders. You can access our proxy materials on the website referred to in the Notice of Internet Availability of Proxy Materials or you may request printed versions of our proxy materials for the Annual Meeting. In addition, you may request to receive proxy materials in printed form by mail or electronically by email on an ongoing basis.

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General Information About the Meeting (continued)

*What does it mean if I receive more than one notice regarding the Internet availability of proxy materials or more than one set of printed proxy materials?*

If you hold your shares in more than one account, you may receive a separate Notice of Internet Availability of Proxy Materials or a separate set of printed proxy materials, including a separate proxy card or voting instruction form, for each account. To ensure that all of your shares are voted, please vote by telephone or by Internet or sign, date and return a proxy card or voting instruction form for each account.

*Where do I find the voting results of the Annual Meeting?*

We will publish the voting results of the Annual Meeting in a Current Report on Form 8-K filed with the SEC within four business days after the end of the Annual Meeting. You may request a copy of this Form 8-K by contacting Investor Relations, Biogen Inc., 225 Binney Street, Cambridge, Massachusetts 02142, (781) 464-2442. You will also be able to find a copy of this Form 8-K on the Internet through the SEC's electronic data system, called EDGAR, at [www.sec.gov](http://www.sec.gov) or under the Financials subsection of the Investors section of our website, [www.biogen.com](http://www.biogen.com).

*Who should I call if I have any questions?*

If you have any questions or require any assistance with voting your shares, please contact the bank, broker or other nominee holding your shares, or our Investor Relations department at (781) 464-2442.

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### Corporate Governance at Biogen

#### Corporate Governance Practices

We are committed to the highest standards of ethics, business integrity and corporate governance, which we believe will ensure that our company is managed for the long-term benefit of our stockholders. Our governance practices are designed to establish and preserve accountability of our Board of Directors and management, provide a structure that allows our Board to set objectives and monitor performance, ensure the efficient use and accountability of resources and enhance stockholder value. A description of our corporate governance highlights is set forth in the Proxy Statement Summary above.

We believe that our Board of Directors' primary functions are to appoint, evaluate and hold accountable management, oversee key strategic, operational and compliance risks and ensure optimal capital allocation such that long-term stockholder value is maximized.

We believe part of effective corporate governance includes active engagement with our stockholders. We value the views of our stockholders and other stakeholders, and we communicate with them regularly and solicit input on a number of topics such as business strategy, capital allocation, corporate governance, executive compensation, sustainability and corporate social responsibility initiatives.

*Director Stockholder Engagement Initiative.* Our Corporate Governance Committee leads our Board of Directors efforts on director stockholder engagement and directs discussions with stockholders to the appropriate Board and committee members. During 2018 independent members of our Board of Directors met with several stockholders to discuss a variety of issues, including business strategy, capital allocation, corporate governance, executive compensation, sustainability and corporate social responsibility initiatives. We remain committed to investing time with our stockholders to increase transparency and better understand our stockholder base and their perspectives.

*Corporate Responsibility.* Our passion for developing medicines that make a meaningful difference in patients lives is reflected in our commitment to our global impact: citizenship, environmental sustainability, diversity and inclusion and other key initiatives. Our Corporate Citizenship Report is posted on our website, [www.biogen.com](http://www.biogen.com), under the Corporate Responsibility subsection of the Corporate Social Responsibility section of the website. We believe these efforts reflect the best interests of our patients, stakeholders and the communities in which we operate and serve. Our citizenship and sustainability commitments and performance have been recognized over the years, including the most recent acknowledgements noted in the executive summary section under Compensation Discussion and Analysis below.

## Director Independence

### *Board of Directors*

All of our directors and nominees for director, other than Michel Vounatsos, our Chief Executive Officer, satisfy the independence requirements of The Nasdaq Stock Market (Nasdaq).

### *Committees*

All members of the committees of our Board of Directors are independent directors, as defined by Nasdaq rules.

All members of our Audit Committee meet the additional SEC and Nasdaq independence and experience requirements applicable specifically to audit committee members.

All members of our C&MD Committee are non-employee directors within the meaning of the rules under Section 16 of the Securities Exchange Act of 1934, as amended (Exchange Act), and our Board of Directors has affirmatively determined that the members of our C&MD Committee satisfy the additional Nasdaq independence requirements specifically applicable to compensation committee members.

### *Leadership Structure*

We separate the roles of Chairman of the Board of Directors and Chief Executive Officer. Stelios Papadopoulos, an independent director, is the Chairman of our Board. Among other responsibilities, our Chairman:

presides at meetings of our Board of Directors, executive sessions of our independent directors and our annual meetings of stockholders;

reviews and assists in setting the agenda and schedule for our Board of Directors meetings in collaboration with our Chief Executive Officer;

advises the committee chairs in fulfilling their responsibilities to our Board of Directors;

recommends to our Board of Directors the retention of any advisors who report directly to our Board of Directors;

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### **Corporate Governance at Biogen (continued)**

serves as a liaison for stockholder communications with our Board of Directors;

leads the process of evaluating our Chief Executive Officer; and

discharges such other responsibilities as our Board of Directors may assign from time to time.

We believe that having an independent Chairman promotes a greater role for the independent directors in the oversight of the Company, including oversight of material risks facing the Company, encourages active participation by the independent directors in the work of our Board of Directors, enhances our Board of Directors' role of representing stockholders' interests and improves our Board of Directors' ability to supervise and evaluate our Chief Executive Officer and other executive officers. Further, separation of the Chairman and CEO roles allows our CEO to focus on operating and managing Biogen while leveraging our independent Chairman's experience and perspectives.

### **Nominating Processes**

Our Corporate Governance Committee is responsible for identifying individuals qualified to become members of our Board of Directors and reviewing candidates recommended by stockholders. Stockholders may recommend nominees for consideration by our Corporate Governance Committee by submitting the names and supporting information to our Secretary, Biogen Inc., 225 Binney Street, Cambridge, Massachusetts 02142. Any such recommendation should include at a minimum the name(s) and address(es) of the stockholder(s) making the recommendation and appropriate biographical information for the proposed nominee(s). Candidates who are recommended by stockholders will be considered in the same manner as candidates from other sources. For all potential candidates, our Corporate Governance Committee will consider all factors it deems relevant, including at a minimum those listed below in the subsection entitled Director Qualifications, Standards and Diversity. Director nominations are recommended by our Corporate Governance Committee to our Board of Directors and must be approved by a majority of independent directors.

In addition, our Fourth Amended and Restated Bylaws (Bylaws) contain provisions that address the process by which a stockholder may nominate an individual to stand for election to our Board of Directors at an annual meeting of stockholders.

*Stockholder Nominations Not for Inclusion in Company's Proxy Statement.* Our Bylaws permit stockholders to nominate directors for consideration at an annual meeting. To nominate a director for consideration at an annual meeting, a nominating stockholder must provide the information required by our Bylaws and give timely notice of the nomination to our Secretary in accordance with our Bylaws, and each nominee must meet the qualifications required by our Bylaws. To nominate a director for

consideration at next year's annual meeting, stockholders must provide the notice required by our Bylaws no later than March 21, 2020, and no earlier than February 20, 2020. However, if the date of the 2020 annual meeting of stockholders is more than 30 days before or more than 60 days after the anniversary of the Annual Meeting, stockholders must provide the notice required by our Bylaws not earlier than the close of business on the 120<sup>th</sup> day before the 2020 annual meeting of stockholders and not later than the close of business on the later of (1) the 90<sup>th</sup> day prior to the 2020 annual meeting of stockholders and (2) the 10<sup>th</sup> day following the day on which public announcement of the date of the 2020 annual meeting of stockholders is first made.

*Stockholder Nominations Under Proxy Access Bylaw.* In addition, our Bylaws provide that under certain circumstances, a stockholder or group of stockholders may include director candidates that they have nominated in our annual meeting proxy statement. These proxy access provisions of our Bylaws provide, among other things, that a stockholder or group of up to 20 stockholders seeking to include director candidates in our annual meeting proxy statement must own 3% or more of our outstanding common stock continuously for at least the previous 3 years.

The number of stockholder-nominated candidates appearing in any annual meeting proxy statement can equal up to 25% of the number of directors then serving on our Board of Directors. If 25% is not a whole number, the maximum number of stockholder-nominated candidates would be the closest whole number below 25%, subject to a minimum of one. A nominee will be counted in determining whether the 25% maximum has been reached if the nominee was included in the proxy materials as a Board-nominated candidate, if we have received notice that such nominee has been nominated by a stockholder pursuant to our Bylaws, the nominee was submitted under the proxy access procedures and later withdrawn or the nominee was nominated in any of our three preceding annual meetings and is being recommended by our Board of Directors for reelection.

The nominating stockholder or group of stockholders also must deliver the information required by our Bylaws,

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### Corporate Governance at Biogen (continued)

and each nominee must meet the qualifications required by our Bylaws.

Requests to include stockholder-nominated candidates in our proxy materials for next year's annual meeting must be received by our Secretary no earlier than December 2, 2019, and no later than January 1, 2020. However, if the 2020 annual meeting of stockholders is called for more than 30 days earlier or later than the anniversary of the Annual Meeting, requests to include stockholder-nominated candidates in our proxy materials for the 2020 annual meeting of stockholders must be received not later than (1) the 10<sup>th</sup> day after public announcement of the date of the 2020 annual meeting of stockholders or (2) the 60<sup>th</sup> day prior to the date we file our proxy statement in connection with the 2020 annual meeting of stockholders.

### Annual Elections and Majority Voting

Our directors are elected annually to serve until the next annual meeting of stockholders and until their successors are duly elected and qualified. Our directors must be elected by a majority of votes cast in uncontested elections (meaning any election for which the number of directors nominated does not exceed the number of directors to be elected at such meeting), and by a plurality of votes cast in contested elections (meaning any election for which the number of directors nominated exceeds the number of directors to be elected at such meeting, regardless of whether such nominees were proposed by the Company or by stockholders). In addition, following their appointment or election by stockholders to our Board of Directors, directors must submit an irrevocable resignation that will be effective upon (1) the failure to receive the required number of votes for reelection at the next annual meeting of stockholders at which they face reelection and (2) acceptance of such resignation by our Board of Directors. If an incumbent director fails to receive the number of votes required for reelection, our Board of Directors (excluding the director in question) will, within 90 days after certification of the election results, decide whether to accept the director's resignation taking into account such factors as it deems relevant. Such factors may include the stated reasons why stockholders voted against such director's reelection, the qualifications of the director and whether accepting the resignation would cause us to fail to meet any applicable listing standards or would violate state law. Our Board of Directors will promptly disclose its decision in a filing with the SEC.

### Director Qualifications, Standards and Diversity

*Board Composition.* Our Board of Directors is committed to ensuring that it is well-equipped to oversee the Company's business and effectively represent the interests of stockholders. Our Board of Directors regularly reviews its composition to ensure it includes directors with the experience, skills and diversity necessary for effective, independent Board oversight. Towards this end, our Board of Directors initiated a process to add new directors with capabilities that would be beneficial to the Company and stockholders. As a result of this process, we have nominated three new director candidates to stand for election at the Annual Meeting. Our Board of Directors will continue to seek to add new directors to our Board, focusing on skills, experience and diversity.

*General Qualifications and Standards.* Our Corporate Governance Principles provide that directors should possess the highest personal and professional ethics and integrity, understand and be aligned with our core values and be committed to representing the long-term interests of our stockholders. Our directors must also be inquisitive and objective and have practical wisdom and mature judgment.

*Diversity.* In accordance with our Corporate Governance Principles, we endeavor to have a Board of Directors that collectively represents diversity of thought and diverse experience at strategic and policy-making levels in business, government, education, healthcare, science and technology and the international arena, and collectively has knowledge and expertise in the functional areas of accounting and finance, risk management and compliance, strategic and business planning, corporate governance, human resources, marketing and commercial and research and development. Consistent with our Corporate Governance Principles, in selecting nominees to our Board of Directors, our Corporate Governance Committee considers the diversity of skills and experience that a potential nominee possesses and the extent to which such diversity would enhance the perspective, background, knowledge and experience of our Board of Directors as a whole. Our Board of Directors considers personal diversity, including gender, national origin, ethnic and racial diversity, as an additional benefit to our Board of Directors as a whole.

*Director Term and Resignation.* Our Board of Directors does not believe that arbitrary term limits on directors service are appropriate, nor does it believe that directors should expect to be re-nominated. Our Corporate Governance Principles provide that directors should offer

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Corporate Governance at Biogen (continued)

their resignation in the event of any significant change in personal circumstances, including a significant change in principal job responsibilities or any circumstances that may adversely affect their ability to effectively carry out their duties and responsibilities or in the case of a significant conflict of interest that cannot otherwise be resolved. Our directors are also expected to offer their resignation to our Board of Directors effective at the annual meeting of stockholders in the year of their 75<sup>th</sup> birthday.

*Board and Committee Evaluations.* Regular evaluations are an important determinant for continued tenure, and, to that end, our Board of Directors and its committees perform a self-evaluation on an annual basis that is intended to determine whether our Board, its committees and each member of our Board of Directors are functioning effectively, and to provide our Board with an opportunity to reflect upon and improve processes and effectiveness. Our Corporate Governance Committee oversees the evaluations and reports the results to our Board of Directors, which considers the results and ways in which Board processes and effectiveness may be enhanced.

*Director Orientation and Continuing Education.* We provide orientation for new directors and provide directors with materials or briefing sessions on subjects that we believe will assist them in discharging their duties. We also make director education program information available to directors on a regular basis and encourage directors to attend director education programs and reimburse the costs of attending such programs.

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### Board of Directors

#### Proposal 1 Election of Directors

We are asking our stockholders to elect the 14 director nominees listed below to serve a one-year term extending until the 2020 annual meeting of stockholders and until their successors are duly elected and qualified, unless they resign or are removed:

John R. Chiminski  
Alexander J. Denner  
Caroline D. Dorsa  
William A. Hawkins  
Nancy L. Leaming

Jesus B. Mantas  
Richard C. Mulligan  
Robert W. Pangia  
Stelios Papadopoulos  
Brian S. Posner

Eric K. Rowinsky  
Lynn Schenk  
Stephen A. Sherwin  
Michel Vounatsos

Our Board of Directors has nominated these 14 individuals based on its carefully considered judgment that the experience, qualifications, attributes and skills of our nominees qualify them to serve on our Board of Directors. As described in detail below, our nominees have considerable professional and business expertise. We know of no reason why any nominee would be unable to accept nomination or election.

If any nominee is unable to serve on our Board of Directors, the shares represented by your proxy will be voted for the election of such other person as may be nominated by our Board of Directors. In addition, in compliance with all applicable state and federal laws and regulations, we will file an amended proxy statement and proxy card that, as applicable, (1) identifies the alternate nominee(s), (2) discloses that such nominees have consented to being named in the revised proxy statement and to serve if elected and (3) includes the disclosure required by Item 7 of Schedule 14A with respect to such nominees. All nominees have consented to be named in this Proxy Statement and to serve if elected.

### **Director Skills and Qualifications**

The Corporate Governance Committee believes that the 14 director nominees collectively have the skills, experience, diversity and character to execute the Board's responsibilities. The following is a summary of those qualifications:



## Attributes, Experience and Skills

General Management  
Experience

Financial Experience

Audit Committee Financial  
Expertise

Mergers & Acquisitions  
Experience

Scientific Research  
Experience

Drug Development  
Experience

Commercial Experience

International Business  
Experience

Public Policy Experience

Operations Experience

Other Public Company Board  
Service

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Board of Directors

## **Our Nominees for Director**

(Information is as of April 22, 2019)

**John R. Chiminski**

**Director Since:** New Nominee

**Age:** 55

**Biogen Board Committees:**

New Nominee

## **Experience**

Mr. Chiminski has served as the Chief Executive Officer of Catalent, Inc., a global provider of advanced delivery technologies and development solutions for drugs, biologics, and consumer and animal health products, since March 2009, as a director since February 2009 and as Chair of the Board since October 2016. Prior to that, Mr. Chiminski spent more than 20 years at GE Healthcare in engineering, operations and senior leadership roles. From 2007 to 2009 Mr. Chiminski was President and Chief Executive Officer of GE Medical Diagnostics, a global business with sales of \$1.9 billion. From 2005 to 2007 he served as Vice President and General Manager of GE Healthcare's Global Magnetic Resonance Business and from 2001 to 2005 as Vice President and General Manager of Global Healthcare Services. Earlier at GE, he held a series of cross-functional leadership positions in both manufacturing and engineering, including a GE Medical Systems assignment in France. Mr. Chiminski holds a B.S. from Michigan State University and an M.S. from Purdue University, both in electrical engineering, as well as a Master's Degree in Management from the Kellogg School of Management at Northwestern University.

## **Qualifications**

Mr. Chiminski has significant experience in advising and managing companies in various segments of the healthcare industry and overseeing the day-to-day business operations of a healthcare company. He also possesses broad healthcare industry knowledge.

## Other Current Public Company Boards

Catalent, Inc. (Chair)

## Former Public Company Directorships Held in the Past Five Years

None

Alexander J. Denner, Ph.D.

**Director Since:** 2009

**Age:** 49

### Biogen Board Committees:

Corporate Governance (Chair)

Finance

## Experience

Dr. Denner is a founding partner and Chief Investment Officer of Sarissa Capital Management LP, a registered investment advisor, which he founded in 2012. Sarissa Capital focuses on improving the strategies of companies to enhance stockholder value. From 2006 to 2011 Dr. Denner served as a Senior Managing Director at Icahn Capital L.P. Prior to that, he served as a portfolio manager at Viking Global Investors, a private investment fund, and Morgan Stanley Investment Management, a global asset management firm. Dr. Denner also serves as a director of The Medicines Company, a biopharmaceutical company, where he is Chairman of the Board.

## Qualifications

Dr. Denner has significant experience overseeing the operations and research and development of healthcare companies and evaluating corporate governance matters. He also has extensive experience as an investor, particularly with respect to healthcare companies, and possesses broad healthcare industry knowledge.

## Other Current Public Company Boards

The Medicines Company (Chair)

## Former Public Company Directorships Held in the Past Five Years

Ariad Pharmaceuticals, Inc. (Chair)

Bioverativ Inc.

Vivus, Inc.



## **Table of Contents**

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Board of Directors (continued)

**Caroline D. Dorsa**

**Director Since:** 2010

**Age:** 59

**Biogen Board Committees:**

Audit (Chair)

Risk

## **Experience**

Ms. Dorsa served as the Executive Vice President and Chief Financial Officer of Public Service Enterprise Group Incorporated, a diversified energy company, from April 2009 until her retirement in October 2015, and served on its Board of Directors from February 2003 to April 2009. From February 2008 to April 2009 she served as Senior Vice President, Global Human Health, Strategy and Integration at Merck & Co., Inc., a pharmaceutical company. From November 2007 to January 2008 Ms. Dorsa served as Senior Vice President and Chief Financial Officer of Gilead Sciences, Inc., a life sciences company. From February 2007 to November 2007 she served as Senior Vice President and Chief Financial Officer of Avaya, Inc., a telecommunications company. From 1987 to January 2007 Ms. Dorsa held various financial and operational positions at Merck & Co., Inc., including Vice President and Treasurer, Executive Director of U.S. Customer Marketing and Executive Director of U.S. Pricing and Strategic Planning. Ms. Dorsa also serves as a director of Illumina, Inc., a life sciences company, and Intellia Therapeutics, Inc., a biotechnology company, and as a Trustee of the Goldman Sachs ETF Trust, the Goldman Sachs MLP and Energy Renaissance Fund and the Goldman Sachs MLP Income Opportunities Fund, investment funds within the Goldman Sachs Asset Management fund complex.

## **Qualifications**

Ms. Dorsa has significant financial and accounting expertise and a deep knowledge of the pharmaceutical industry. Her strategic perspective on the industry is particularly valuable to our Board of Directors as it oversees our growth initiatives and reviews both internal development projects and external opportunities.

## **Other Current Public Company Boards**

Illumina, Inc.

Intellia Therapeutics, Inc.

Goldman Sachs Investment Funds

### Former Public Company Directorships Held in the Past Five Years

None

**William A. Hawkins**

**Director Since:** New Nominee

**Age:** 65

**Biogen Board Committees:**

New Nominee

### Experience

Mr. Hawkins serves as a Senior Advisor to EW Healthcare Partners, a life sciences private equity firm. Mr. Hawkins is the former Chairman and CEO of Medtronic, Inc., a global leader in medical technology. He was at Medtronic from 2002 until 2011. After retiring from Medtronic he served as President and Chief Executive Officer of Immucor, a private equity backed global leader in transfusion and transplant medicine from October 2011 to July 2015. From 1998 to 2001 Mr. Hawkins served as President and Chief Executive Officer of Novoste Corporation, an interventional cardiology company. Prior to that, Mr. Hawkins served in a variety of senior roles at American Home Products, a consumer, pharma and medical device company, Johnson & Johnson, a healthcare company, Guidant Corporation, a medical products company, and Eli Lilly and Company, a global pharmaceutical company. Mr. Hawkins also serves as a director of Avanos Medical, Inc., a medical technology company, as Chairman of Bioventus, LLC and Chairman of 4 Tech and as a director of Trice Medical, Inc., AsKBio; Virtue labs, Cerius, Keratin Biosciences and Baebies, Inc., all of which are medical products companies. Mr. Hawkins is Vice Chair of the Duke University Board of Trustees and is Chair of the Duke University Health System. Mr. Hawkins was elected as a member of the AIMBE College of Fellows and the National Academy of Engineering. He has a dual degree in Electrical and Biomedical Engineering from Duke University and a M.B.A. from the University of Virginia's Darden School of Business.

### Qualifications

Mr. Hawkins has significant leadership experience as a chief executive officer, significant knowledge of, and experience in, the healthcare industry and significant international experience. He also has extensive governance and public company board experience.

### Other Current Public Company Boards

Avanos Medical, Inc.

**Former Public Company Directorships Held in the Past Five Years**

Thoratec Corporation

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Board of Directors (continued)

**Nancy L. Leaming**

**Director Since:** 2008

**Age:** 71

**Biogen Board Committees:**

Audit

Risk

**Experience**

Ms. Leaming has been an independent consultant since 2005. From 2003 to 2005 she served as the Chief Executive Officer and President of Tufts Health Plan, a provider of healthcare insurance. From 1986 to 2003 Ms. Leaming served in several executive positions at Tufts Health Plan, including President, Chief Operating Officer and Chief Financial Officer.

**Qualifications**

Ms. Leaming has well-developed leadership skills and financial acumen and provides insights into the healthcare reimbursement and payor market, where she served for 20 years in senior operational, financial and managerial roles.

**Other Current Public Company Boards**

None

**Former Public Company Directorships Held in the Past Five Years**

Edgewater Technology, Inc.

Hologic, Inc.

**Jesus B. Mantas**

**Director Since:** New Nominee

**Age:** 50

**Biogen Board Committees:**

New Nominee

**Experience**

Mr. Mantas serves as Managing Partner and General Manager responsible for worldwide strategy, offerings, digital platforms and innovation for IBM Global Services, a \$17 billion unit of IBM. From January 2011 to October 2014 Mr. Mantas served as a Managing Partner and General Manager, IBM Global Business Services in Latin America after he held multiple leadership positions as Vice President in North America. Prior to that, Mr. Mantas was a Partner at PricewaterhouseCoopers Consulting and an officer in the Air Force of Spain. He also serves in the World Economic Forum Global Artificial Intelligence Council.

**Qualifications**

Mr. Mantas has significant global operating and business leadership experience, including Europe, North America and Latin America. He has demonstrated leadership translating strategy into execution, applying technology to improve business performance and brings over 25 years of experience in information technology, data science and artificial intelligence.

**Other Current Public Company Boards**

None

**Former Public Company Directorships Held in the Past Five Years**

None

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Board of Directors (continued)

**Richard C. Mulligan, Ph.D.**

**Director Since:** 2009

**Age:** 64

**Biogen Board Committees:**

Science and Technology (Chair)

Compensation and Management Development

## **Experience**

Dr. Mulligan is currently the Mallinckrodt Professor of Genetics, Emeritus, at Harvard Medical School, after serving as the Mallinckrodt Professor of Genetics and Director of the Harvard Gene Therapy Initiative from 1996 to 2013. He also currently serves as Executive Vice Chairman of the Board of Sana Biotechnology, a private biotechnology company. From March 2017 to October 2018 Dr. Mulligan served as a Portfolio Manager at Icahn Capital LP. Prior to that, Dr. Mulligan was a founding partner of Sarissa Capital Management LP, a registered investment advisor, from 2013 to 2016. Prior to Harvard, Dr. Mulligan was a Professor of Molecular Biology at the Massachusetts Institute of Technology, a member of the Whitehead Institute for Biomedical Research and the Chief Scientific Officer of Somatix Therapy Corporation, a drug discovery and development company that he founded. Dr. Mulligan was named a MacArthur Foundation Fellow in 1981.

## **Qualifications**

Dr. Mulligan has scientific expertise in the areas of molecular biology, genetics, gene therapy and biotechnology, as well as extensive experience within the healthcare industry, including overseeing the operations and research and development of healthcare companies.

## **Other Current Public Company Boards**

None

## **Former Public Company Directorships Held in the Past Five Years**

None

**Robert W. Pangia**

**Director Since:** 1997

**Age:** 67

**Biogen Board Committees:**

Compensation and Management Development (Chair)

Finance

## Experience

Mr. Pangia served as a director of the Company from 1997 to 2003 during the period the Company was operated as IDEC Pharmaceuticals, and has served as a director since 2003 following IDEC's merger with Biogen, Inc. Mr. Pangia has been a partner in Ivy Capital Partners, LLC, the general partner of Ivy Healthcare Capital, L.P., a private equity fund specializing in healthcare investments, since 2003. From 2011 to 2016 he was also the Chief Executive Officer of Ivy Sports Medicine, LLC, a medical device company. From October 2007 to October 2009 he also served as the Chief Executive Officer of Highlands Acquisition Corp., a special purpose acquisition company. From 1996 to 2003 Mr. Pangia was self-employed as an investment banker. From 1987 to 1996 he held various senior management positions at PaineWebber, a financial services company, including Executive Vice President and Director of Investment Banking for PaineWebber Incorporated of New York, a member of the Board of Directors of PaineWebber, Inc., Chairman of PaineWebber Properties, Inc. and a member of several of PaineWebber's executive and operating committees.

## Qualifications

Mr. Pangia has significant financial acumen and breadth of expertise within the healthcare industry.

## Other Current Public Company Boards

None

## Former Public Company Directorships Held in the Past Five Years

None

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Board of Directors (continued)

**Stelios Papadopoulos, Ph.D.**

**Director Since:** 2008

**Independent Chairman Since:** 2014 **Age:** 70

**Biogen Board Committees:**

Audit

Finance

Science & Technology

## **Experience**

Dr. Papadopoulos serves as the Chairman of Exelixis, Inc., a drug discovery and development company that he co-founded in 1994, and Regulus Therapeutics Inc., a biopharmaceutical company. Previously, he was an investment banker with Cowen & Co., LLC, a financial services company, focusing on the biotechnology and pharmaceutical sectors, from 2000 until his retirement as Vice Chairman in August 2006. Prior to joining Cowen & Co., Dr. Papadopoulos served for 13 years as an investment banker at PaineWebber, Inc., a financial services company, where he was most recently Chairman of PaineWebber Development Corp., a PaineWebber subsidiary focusing on biotechnology.

## **Qualifications**

Having founded multiple life sciences companies and worked as an investment banker focused on the life sciences industry, Dr. Papadopoulos brings to our Board of Directors a first-hand understanding of the demands of establishing, growing and running life sciences businesses.

## **Other Current Public Company Boards**

Exelixis, Inc. (Chair)

Regulus Therapeutics Inc. (Chair)

## Former Public Company Directorships Held in the Past Five Years

BG Medicine, Inc.

**Brian S. Posner**

**Director Since:** 2008

**Age:** 57

### **Biogen Board Committees:**

Finance (Chair)

Audit

Corporate Governance

## **Experience**

Mr. Posner has been a private investor since March 2008 and is the founder and Managing Partner of Point Rider Group LLC, a boutique consulting and advisory services firm that provides customized solutions to senior executives and boards of financial, bio-pharmaceutical and other services-related companies, as well as strategic investors that make, direct and control investments in those sectors. From 2005 to March 2008 Mr. Posner served as the President, Chief Executive Officer and co-Chief Investment Officer of ClearBridge Advisors LLC, an asset management company and a wholly-owned subsidiary of Legg Mason. Prior to that, Mr. Posner co-founded Hygrove Partners LLC, a private investment fund, in 2000 and served as its Managing Partner for five years. He served as a portfolio manager and an analyst at Fidelity Investments, a financial services company, from 1987 to 1996 and, from 1997 to 1999, at Warburg Pincus Asset Management/Credit Suisse Asset Management where he also served as co-Chief Investment Officer and Director of Research. Mr. Posner also serves as a director of AQR Funds, an investment fund, and Arch Capital Group Ltd., a specialty insurance and reinsurance provider.

## **Qualifications**

With more than 30 years of experience as a senior corporate executive, leading investment professional and director on public company and not-for-profit boards, Mr. Posner brings significant management and financial expertise, a professional investor's perspective and extensive experience in areas of corporate governance to our Board of Directors.

## **Other Current Public Company Boards**

AQR Funds

Arch Capital Group Ltd.

## Former Public Company Directorships Held in the Past Five Years

BG Medicine, Inc.

Bioverativ Inc. (Chair)

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Board of Directors (continued)

**Eric K. Rowinsky, M.D.**

**Director Since:** 2010

**Age:** 62

**Biogen Board Committees:**

Compensation and Management Development

Corporate Governance

Science and Technology

**Experience**

Dr. Rowinsky has served as President of RGenix, Inc., a privately-held life sciences company, since November 2015 and as its Executive Chairman since December 2016. Since June 2016 Dr. Rowinsky has also been the Chief Scientific Officer of Clearpath Development Co., which rapidly advances development stage therapeutic assets to pre-defined human proof-of-concept milestones. From January 2012 to November 2015 Dr. Rowinsky was the Head of Research and Development and Chief Medical Officer of Stemline Therapeutics, Inc., a biotechnology company focusing on the discovery and development of therapeutics targeting cancer stem cells. Dr. Rowinsky is an Adjunct Professor of Medicine at New York University and has been an independent consultant since January 2010. Prior to that, he was the Chief Executive Officer of Primrose Therapeutics, Inc., a start-up biotechnology company focusing on the development of therapeutics for polycystic kidney disease, from August 2010 until its acquisition in September 2011. From 2005 to December 2009 he served as the Chief Medical Officer and Executive Vice President of ImClone Systems Incorporated, a life sciences company. From 1996 to 2004 Dr. Rowinsky held several positions at the Cancer Therapy & Research Center's Institute for Drug Development, including Director of the Institute and Director of Clinical Research. During that time, he held the SBC Endowed Chair for Early Drug Development and Clinical Professor of Medicine at the University of Texas Health Science Center



at San Antonio. From 1988 to 1996 Dr. Rowinsky was an Associate Professor of Oncology at the Johns Hopkins School of Medicine and on the staff of the Johns Hopkins Hospital. Dr. Rowinsky also serves as a director of Biophytis, a biotechnology company, and Fortress Biotech Inc. and Verastem, Inc., both biopharmaceutical companies.

### **Qualifications**

Dr. Rowinsky has extensive research and drug development experience and broad scientific and medical knowledge.

### **Other Current Public Company Boards**

Biophytis

Fortress Biotech Inc.

Verastem, Inc.

### **Former Public Company Directorships Held in the Past Five Years**

BIND Therapeutics, Inc.

Navidea Biopharmaceuticals, Inc.

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Board of Directors (continued)

**Lynn Schenk, J.D.**

**Director Since:** 1995

**Age:** 74

**Biogen Board Committees:**

Risk (Chair)

Compensation and Management Development

**Experience**

Ms. Schenk served as a director of the Company from 1995 to 2003 during the period the Company was operated as IDEC Pharmaceuticals, and has served as a director since 2003 following IDEC's merger with Biogen, Inc. Ms. Schenk is an attorney in private practice with extensive public policy and business experience. She is also a member of the Board of Overseers of the Scripps Research Institute, a director of the California High Speed Rail Authority Board and a trustee of the University of California San Diego Foundation. From 1999 to 2003 she served as Chief of Staff to the Governor of California, during which time she led the effort to create the Institutes for Science and Innovation at the University of California. She headed the State's Executive Branch risk management team post 9/11 and during the California energy crisis. From 1993 to 1995 Ms. Schenk was a Member of the United States House of Representatives, representing San Diego, California and served on the House Energy & Commerce Committee with a special emphasis on biotechnology. From 1980 to 1983 she was the California Secretary of Business, Transportation and Housing, during which time she formed the California Commission on Industrial Innovation. Ms. Schenk is a member of the Board of Directors of Sempra Energy, an energy services and development company, and serves on the Corporate Governance Committee, the Executive Committee and is the Chair of the Environmental Health, Safety and Technology Committee. Ms. Schenk is also a

National Association of Corporate Directors (NACD) Board Leadership Fellow, a member of the NACD Advisory Council on Risk Oversight and a Fellow of the UCLA Luskin School of Public Affairs. In 2017 Ms. Schenk was selected as an NACD Directorship 100 honoree.

## Qualifications

Ms. Schenk's strong public policy, government, legal and private sector experience provides vital insights to our Board of Directors about significant issues affecting the highly regulated life sciences industry. She brings public sector operations and management expertise to our Board of Directors. She has demonstrated her commitment to boardroom excellence by completing the NACD's comprehensive program of study for corporate directors. She completed the NACD Cyber Risk Certificate course and earned the CERT Certificate in Cybersecurity Oversight, issued by the CERT Division of the Software Engineering Institute at Carnegie Mellon University. She supplements her skill sets through ongoing engagement with the director community and access to leading practices.

## Other Current Public Company Boards

Sempra Energy

## Former Public Company Directorships Held in the Past Five Years

None

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Board of Directors (continued)

**Stephen A. Sherwin, M.D.**

**Director Since:** 2010

**Age:** 70

**Biogen Board Committees:**

Finance

Risk

Science and Technology

## **Experience**

Dr. Sherwin currently divides his time between advisory work in the life sciences industry and patient care and teaching in his specialty of medical oncology. He is a Clinical Professor of Medicine at the University of California, San Francisco and a volunteer Attending Physician in Hematology-Oncology at the Zuckerberg San Francisco General Hospital. Dr. Sherwin also currently serves as a venture partner with Third Rock Ventures, LLC. He previously served as the Chairman of Ceregene, Inc., a life sciences company that he co-founded, from 2001 until its acquisition by Sangamo Biosciences, Inc. in 2013. He was also a co-founder and chairman of Abgenix, Inc., an antibody company which was acquired by Amgen Inc. in 2006. From 1990 to October 2009 he served as the Chief Executive Officer of Cell Genesys, Inc., a life sciences company, and was its Chairman from 1994 until the company's merger with BioSante Pharmaceuticals, Inc. (now ANI Pharmaceuticals, Inc.) in October 2009. Prior to that, he held various positions at Genentech, Inc., a life sciences company, most recently as Vice President, Clinical Research. In addition, Dr. Sherwin previously served on the board of directors of the Biotechnology Industry Organization from 2001 to 2014 and as its chairman from 2009 to 2011. Dr. Sherwin currently serves as a director of Aduro Biotech, Inc., Neon Therapeutics Inc. and Neurocrine Biosciences, Inc., all of which are life sciences companies.

## **Qualifications**

Dr. Sherwin has extensive knowledge of the life sciences industry and brings more than 30 years of experience in senior leadership positions at large and small publicly traded life sciences companies to our Board of Directors.

## Other Current Public Company Boards

Aduro Biotech, Inc.

Neon Therapeutics, Inc.

Neurocrine Biosciences, Inc.

## Former Public Company Directorships Held in the Past Five Years

Rigel Pharmaceuticals, Inc.

Verastem, Inc.

Vical, Inc.

## Michel Vounatsos

**Director Since:** 2017

**Age:** 57

**Biogen Board Committees:**

None

## Experience

Mr. Vounatsos has served as our Chief Executive Officer and one of our directors since January 2017. Prior to that, from April 2016 until his appointment as our Chief Executive Officer, he served as our Executive Vice President, Chief Commercial Officer. Prior to joining Biogen, Mr. Vounatsos spent 20 years at Merck & Co., Inc., a pharmaceutical company, where he most recently served as President, Primary Care, Customer Business Line and Merck Customer Centricity. In this role, he led Merck's global primary care business unit, a role which encompassed Merck's cardiology-metabolic, general medicine, women's health and biosimilars groups and developed and instituted a strategic framework for enhancing the company's relationships with key constituents, including the most significant providers, payers and retailers and the world's largest governments. Mr. Vounatsos previously held leadership positions across Europe and in China for Merck. Prior to that, Mr. Vounatsos held management positions at Ciba-Geigy, a pharmaceutical company. Mr. Vounatsos currently serves on the advisory board of Tsinghua University School of Pharmaceutical Sciences and as a member of the MIT Presidential CEO Advisory Board. Mr. Vounatsos received his C.S.C.T. certificate in Medicine from the Universite Victor Segalen, Bordeaux II, France, and his M.B.A. from the HEC School of Management in Paris.

## Qualifications

Mr. Vounatsos has significant knowledge and experience with respect to the biotechnology, healthcare and pharmaceutical industries, a comprehensive global leadership background resulting from service as an executive in the pharmaceutical industry and studied medicine and business as part of his educational background.

**Other Current Public Company Boards**

None

**Former Public Company Directorships Held in the Past Five Years**

None

***OUR BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE **FOR** THE ELECTION OF  
EACH  
DIRECTOR NOMINEE NAMED ABOVE.***

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Board of Directors (continued)

**Committees and Meetings**

Our Board of Directors met 12 times in 2018. Our Board of Directors also has six standing committees. The principal functions of each committee, the committee composition in 2018 and number of meetings held in 2018 are described in the table below. The Chair of each committee periodically reports to our Board of Directors on committee deliberations and decisions. Each committee's charter is posted on our website, [www.biogen.com](http://www.biogen.com), under the Corporate Governance subsection of the Investors section of the website. Also posted there are our Corporate Governance Principles, which, together with our committee charters, comprise our governance framework.

Committee	Function	2018 Members	Meetings in 2018
Audit	<p>Assists our Board of Directors in its oversight of:</p> <ul style="list-style-type: none"> <li>the integrity of our financial statements;</li> <li>our accounting and financial reporting processes;</li> <li>the independence, qualifications and performance of our independent registered public accounting firm;</li> <li>our global tax compliance and tax audit processes; and</li> <li>our internal audit and corporate compliance functions.</li> </ul> <p>Our Audit Committee has the sole authority and direct responsibility for the appointment, compensation, retention, evaluation and oversight of the work of our independent registered public accounting firm.</p>	<p>Caroline D. Dorsa (Chair)</p> <p>Nancy L. Leaming</p> <p>Stelios Papadopoulos</p> <p>Brian S. Posner</p>	9

Compensation and Management Development	Assists our Board of Directors with oversight of executive compensation and management development, including:  recommending to our Board of Directors the compensation for our Chief Executive Officer and approving the compensation for our other executive officers;  administration of our short- and long-term incentive plans;  reviewing executive and senior management development programs; and  recommending to our Board of Directors the compensation of our non-employee directors.	Robert W. Pangia (Chair)  Richard C. Mulligan  Eric K. Rowinsky  Lynn Schenk	9
Corporate Governance	Assists our Board of Directors in assuring sound corporate governance practices and identifying qualified nominees to our Board of Directors and its committees.	Alexander J. Denner (Chair)  Brian S. Posner  Eric K. Rowinsky	11
Finance	Assists our Board of Directors with oversight of our financial strategy, policies and practices.	Brian S. Posner (Chair)  Alexander J. Denner  Robert W. Pangia  Stelios Papadopoulos  Stephen A. Sherwin	8
Risk	Assists our Board of Directors with oversight of management's exercise of its responsibility to assess and manage risks associated with our business and operations.	Lynn Schenk (Chair)  Caroline D. Dorsa  Nancy L. Leaming  Stephen A. Sherwin	5



For more information on our Board oversight of risks, please see Board Risk Oversight below.

Science and Technology	Assists our Board of Directors with oversight of our key strategic decisions involving research and development matters and our intellectual property portfolio.	Richard C. Mulligan (Chair)  Stelios Papadopoulos  Eric K. Rowinsky  Stephen A. Sherwin	8
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Determined by our Board of Directors to be an audit committee financial expert.

*Attendance at Board and Committee Meetings.* No director attended fewer than 75% of the total number of meetings of our Board of Directors and the committees on which he or she served during 2018.

*Executive Sessions.* Under our Corporate Governance Principles, the independent directors of our full Board of Directors are required to meet without management present at least four times each year and may also meet without management present at such other times as determined by our Chairman or if requested by at least two other directors. In 2018 the independent directors of our full Board of Directors met without management present four times. Each committee of our Board of Directors also had numerous executive sessions throughout the year.

*Attendance at Stockholder Meeting.* We expect all of our directors and director nominees to attend our annual meetings of stockholders. All of our directors attended our 2018 annual meeting of stockholders.

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## Board of Directors (continued)

## Director Compensation

This section describes our compensation program for our non-employee directors and shows the compensation paid to or earned by our non-employee directors during 2018. Mr. Vounatsos, our Chief Executive Officer, receives no compensation for his service on our Board of Directors.

## Retainers, Meeting Fees and Expenses

The following table presents the annual retainers and meeting fees for all non-employee members of our Board of Directors in effect in 2018, which were unchanged from 2017:

Retainers		Meeting Fees	
Annual Board Retainer	\$ 65,000	Board of Directors Meetings (per meeting day):	
Annual Retainers (in addition to Annual Board Retainer):		In-person attendance	\$ 2,500
		Telephonic attendance	\$ 1,500
Independent Chairman of the Board	\$ 75,000		\$ 1,500

Committee Meetings (per meeting attended by each such committee member in person or telephonically)

Audit Committee Chair	\$ 25,000	Attendance at Annual Science and Technology Committee Portfolio Review (per day)	
			\$ 1,500
Compensation and Management Development Committee Chair	\$ 20,000		
Corporate Governance Committee Chair	\$ 15,000		
Finance Committee Chair	\$ 15,000		
Risk Committee Chair	\$ 15,000		
Science and Technology Committee Chair	\$ 15,000		
Audit Committee Member (other than Chair)	\$ 5,000		

Our non-employee directors are also eligible to be paid a fee of \$1,000 for each full day of service to the Company other than in connection with meetings of our Board of Directors or one of its committees.

Our non-employee directors may defer all or part of their cash compensation under our Voluntary Board of Directors Savings Plan, which is similar to our Supplemental Savings Plan described in the narrative preceding the 2018 Non-Qualified Deferred Compensation Table in Part 5 Executive Compensation Matters of this Proxy Statement, but without any Company matching contributions. If a non-employee director chooses to defer compensation under our Voluntary Board of Directors Savings Plan, his or her notional account under the plan will periodically be credited with amounts of deemed investment earnings as if the deferred compensation was actually invested in the notional investment(s) selected by the director or in a default investment if the director does not make a selection. These

notional investment options include the mutual funds available under our 401(k) plan as well as a fixed rate option which earns a rate of return determined each year by the Company's retirement committee. For 2018 non-employee

director deferrals notionally invested in the fixed rate option, this rate of return was set at 5%. Deferrals notionally invested in the fixed rate option continue to be credited with the rate of return that was in effect during the year of deferral.

Non-employee directors are also reimbursed for actual expenses incurred in attending meetings of our Board of Directors and any of its committees, as well as service to our Board of Directors or any of its committees that is unrelated to such meetings.

## Equity Awards

### *Awards Under Our Non-Employee Directors Equity Plan*

Our non-employee directors receive awards under our 2006 Non-Employee Directors Equity Plan (the Non-Employee Directors Equity Plan). The Non-Employee Directors Equity Plan was initially approved by our stockholders at our 2006 annual meeting of stockholders. In 2015 our stockholders approved an amendment to extend the term of the plan until June 10, 2025.

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Board of Directors (continued)

*General Provisions of the Non-Employee Directors Equity Plan*

Non-employee directors receive an annual award under the Non-Employee Directors Equity Plan effective on the date of each annual meeting of stockholders (or a pro rata award upon election other than at an annual meeting of stockholders). Under the Non-Employee Directors Equity Plan, a maximum of 17,500 shares of our common stock (or 30,000 shares for the independent Chairman of the Board) may be granted to a non-employee director pursuant to such annual awards each calendar year. Annual awards vest on the one-year anniversary of the date of grant or over a longer period determined in the discretion of Board of Directors.

Awards to non-employee directors are recommended by our C&MD Committee and approved by our Board of Directors, with the independent Chairman recused from discussion and voting upon his own awards.

Awards granted under the Non-Employee Directors Equity Plan are subject to accelerated vesting upon termination of a director's service by reason of death, disability or retirement and upon a change in control (as such terms are defined in the Non-Employee Directors Equity Plan). In addition, non-employee director awards will become fully vested upon an involuntary termination of a director's service within two years following certain mergers or other corporate transactions, as described in the Non-Employee Directors Equity Plan.

*Awards During 2018*

In June 2018 our C&MD Committee recommended, and our Board of Directors approved, annual awards with a grant date fair value of approximately \$270,000 for each non-employee director and an additional annual award with a grant date fair value of approximately \$175,000 for the independent Chairman. These annual awards were below the limits set forth in the Non-Employee Directors Equity Plan described above and were consistent with the awards made in 2017. The June 2018 annual awards were made in the form of restricted stock units (RSUs) vesting in full on the first anniversary of the grant date, generally subject to the director's continued service.

Periodically we review our compensation program for our non-employee directors in relation to those of the peer group used for executive compensation purposes (as described below in our Compensation Discussion and Analysis) to assess its competitiveness and appropriateness. While the grant date fair values of the equity awards granted in 2018 were above the median of our peer group, the annual retainer for our non-employee directors was below the 25<sup>th</sup> percentile of that same peer group. Overall, the total compensation levels were market competitive. Our C&MD Committee and our Board of Directors believe that a somewhat heavier weighting towards equity awards than the weighting of equity awards of our peer group companies is appropriate because it further aligns the interests of our non-employee directors with those of our stockholders.

**10b5-1 Trading Plans**

Our non-employee directors must use pre-established trading plans to sell shares of our common stock from their personal accounts. Trading plans may only be entered into during an open trading window and when the director is not in possession of material non-public information about the Company. We require a waiting period following the establishment of a trading plan before any trades may be executed. Our policy is designed to provide safeguards while allowing our non-employee directors to have an opportunity to realize the value intended by the Company in granting equity-based awards.

### Non-Employee Director Stock Ownership Guidelines

We maintain the following stock ownership guidelines for our non-employee directors:

Position	Stock Ownership Requirement <sup>(1)</sup>
Independent Chairman	Number of shares equal in value to 5x the total annual cash retainer for (i) the independent Chairman position and (ii) other non-employee Board members
Non-Employee Directors (excluding Chairman)	Number of shares equal in value to 5x the annual cash retainer for non-employee Board members

(1) Each non-employee director has five years from the date of initial election or appointment to meet the stock ownership requirement. All of our current non-employee directors meet the stock ownership requirement.

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Board of Directors (continued)

**2018 Director Compensation**

Name	Fees		Change in Pension		Total
	Earned or Paid in Cash <sup>(1)</sup>	Stock Awards <sup>(2)</sup>	Value and Nonqualified Deferred Compensation Earnings <sup>(3)</sup>	All Other Compensation <sup>(4)</sup>	
(a)	(b)	(c)	(d)	(e)	(f)
Alexander J. Denner	\$ 139,000	\$ 269,447		\$5,000	\$ 413,447
Caroline D. Dorsa	\$ 143,000	\$ 269,447			\$ 412,447
Nancy L. Leaming	\$ 120,500	\$ 269,447		\$10,280	\$ 400,227
Richard C. Mulligan	\$ 138,500	\$ 269,447			\$ 407,947
Robert W. Pangia	\$ 140,500	\$ 269,447	\$72,763		\$ 482,710

Stelios Papadopoulos	\$ 144,500	\$ 443,976	\$25,000	\$ 613,476
Brian S. Posner	\$ 158,000	\$ 269,447	\$25,000	\$ 452,447
Eric K. Rowinsky	\$ 138,500	\$ 269,447		\$ 407,947
Lynn Schenk	\$ 134,000	\$ 269,447	\$25,000	\$ 428,447
Stephen A. Sherwin	\$ 124,500	\$ 269,447	\$25,000	\$ 418,947

*Notes to the 2018 Director Compensation Table*

- (1) Includes \$1,500 of fees received by each director in 2018 for fees earned in 2017 and \$3,000 of fees earned by each of Dr. Denner, Mr. Posner and Dr. Rowinsky in 2018 but which were paid in 2019.
- (2) The amounts in column (c) represent the grant date fair value of RSU awards made in 2018 to non-employee directors under the Non-Employee Directors Equity Plan, as described in the narrative preceding this table. These RSUs are scheduled to vest in full and be settled in shares on the first anniversary of the grant date, generally subject to continued service. Grant date fair values were computed in accordance with Accounting Standards Codification (ASC) 718 and determined by multiplying the number of RSUs awarded by the fair market value of the Company's common stock on the relevant grant date.
- (3) The amounts in column (d) represent earnings under the Voluntary Board of Directors Savings Plan that are in excess of 120% of the average applicable federal long-term rate. The federal long-term rate for 2018 applied in this calculation is 3.06%, which was the federal long-term rate effective in January 2018 when the Fixed Rate Option (FRO) under this plan was established for 2018. Only Mr. Pangia has deferred compensation notionally invested in the FRO.
- (4) The amounts in column (e) represent the amount of matching contributions made in 2018 by the Biogen Foundation on behalf of the director pursuant to the terms of a matching gift program offered by the Biogen Foundation to all U.S. employees and non-employee directors of Biogen. Under the matching gift program, the Biogen Foundation matches gifts to eligible U.S.-based non-profit organizations, in accordance with the Biogen Foundation's guidelines, up to an annual maximum per donor amount of \$25,000 per calendar year and up to a program total of \$1.5 million per calendar year. The matching contributions made by the Biogen Foundation are not taxable income to the director, and the director may not take any tax deductions for such matching contributions.



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Board of Directors (continued)

**Director Equity Outstanding at 2018 Fiscal Year-End**

The following table summarizes the equity awards that were outstanding as of December 31, 2018, for each of the non-employee directors serving during 2018.

Name	Option Awards <sup>(1)</sup>	Stock Awards <sup>(2)</sup>
	Number of Securities Underlying Unexercised Options	Number of Shares or Units of Stock That Have Not Vested
Alexander J. Denner		880
Caroline D. Dorsa		880
Nancy L. Leaming		880

Richard C. Mulligan		880
Robert W. Pangia	6,114	880
Stelios Papadopoulos		1,450
Brian S. Posner		880
Eric K. Rowinsky		880
Lynn Schenk		880
Stephen A. Sherwin	12,278	880

*Notes to the Director Equity Outstanding at 2018 Fiscal Year-End Table*

- (1) All stock option awards were granted to our non-employee directors with a ten-year term and vested in full on the first anniversary of the grant date. All outstanding stock options granted to non-employee directors were fully vested and exercisable as of December 31, 2018.
- (2) Represents the number of RSUs awarded to non-employee directors in 2018 under the Non-Employee Directors Equity Plan, as described in the narrative preceding the 2018 Director Compensation table above. These RSU awards are scheduled to vest in full and be settled in shares on the first anniversary of the grant date, generally subject to continued service.

## Board Risk Oversight

Our Board of Directors believes that a fundamental part of risk management is understanding the risks that we face, monitoring these risks and adopting appropriate control and mitigation of these risks. As stated in our Corporate Governance Principles, our Board of Directors and its committees are responsible for reviewing the Company's significant risk exposures and steps taken by management to monitor and mitigate such exposure. We also have a separate Risk Committee of our Board of Directors that assists our Board in its oversight of management's exercise of

its responsibility to assess and manage risk associated with the Company's business and operations.

Our Board of Directors oversees the management of material risks facing the Company. Biogen is committed to fostering a company culture of risk-adjusted decision-making without constraining reasonable risk-taking and innovation. Our Board of Directors and its committees oversee our efforts to foster this culture. Our Board of Directors regularly receives information about our material strategic, operational, financial and compliance risks and management's response to, and mitigation of, such risks. In addition, our risk management systems, including our risk assessment processes, internal control over financial reporting, compliance programs and internal and external auditing procedures, are designed to inform management and our Board of Directors about our material risks. As part of its risk oversight function, our Board of Directors and its committees review this framework, its operation and our strategies for generating long-term value for our stockholders to ensure that such strategies will not motivate management to take excessive risks.

Our Board of Directors also reviews enterprise risks and discusses them with our management, including issues relevant to our business, reputation and strategy, including intellectual property risk, pipeline and business development, pricing and patient access, legal and regulatory matters and manufacturing. In addition, our Board of Directors and its committees oversee elements of our culture. Management updates our C&MD Committee on our compensation practices and progress against strategies and objectives in the areas of management and leadership development and diversity as well as steps taken to address matters such as inappropriate workplace behavior, including harassment and retaliation. In addition, our Audit Committee is responsible for the oversight of our compliance program.

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## Board of Directors (continued)

In determining the allocation of risk oversight responsibilities, our Board of Directors and its committees generally oversee material risks within their identified areas of concern. Our Board of Directors and each of its committees meet regularly with management to ensure that management is exercising its responsibility to identify relevant risks and is adequately assessing, monitoring and taking appropriate action to mitigate risk. In the event a committee receives a report from members of management on areas of material risk to the Company, the Chair of the relevant committee reports on the discussion to the full Board of Directors at the next Board of Directors meeting. This enables our Board of Directors and its committees to coordinate their oversight of risk and identify risk interrelationships.

Our independent Chairman of the Board promotes effective communication and consideration of matters presenting significant risks to the Company through his role in developing our Board of Directors meeting agendas, advising committee chairs, chairing meetings of the independent directors and facilitating communications between independent directors and our Chief Executive Officer.

A summary of the key areas of risk oversight responsibility of our Board of Directors and each of its committees is set forth below:

Board or Committee	Area of Risk Oversight
Board	Corporate and commercial strategy and execution, pricing and reimbursement, competition and other material risks
Audit	Financial, accounting, disclosure, corporate compliance, distributors, insurance, anti-bribery and anti-corruption matters and other risks reviewed in its oversight of the internal audit and corporate compliance functions
Compensation and Management	Workforce matters, including harassment

Development	Compensation policies and practices, including whether such policies and practices balance risk-taking and rewards in an appropriate manner as discussed further below
Corporate Governance	Corporate governance and board succession, director independence, potential conflicts of interest and related party transactions involving directors and executive officers
Finance	Financial, capital and credit risks
Risk	<p>Risk governance framework and infrastructure designed to identify, assess, manage and monitor the Company's material risks</p> <p>Risk management policies, guidelines and practices implemented by Company management</p> <p>Allocation of risk oversight responsibilities to our Board of Directors and its committees</p> <p>Information technology, cybersecurity, environmental, health and sustainability and other material risks not allocated to our Board of Directors or another committee</p> <p>Material government and other investigations and litigation</p>
Science and Technology	Research and development activities, clinical development and drug safety and intellectual property

#### Compensation Risk Assessment

The Compensation Discussion and Analysis (CD&A) section of this Proxy Statement describes our compensation policies, programs and practices for our named executive officers. Our goal-setting, performance assessment and compensation decision-making processes described in the CD&A generally apply to all employees. We offer a limited number of short-term cash incentive plans, with employees eligible for either our annual bonus plan or a sales incentive compensation plan. No employee is eligible to participate in more than one cash incentive plan at any time. Our annual bonus plan is consistently maintained for all participants globally, with the same Company performance goals, payout levels (as a percentage of target) and administrative provisions regardless of the participant's job level, location or function in the Company. We also have a long-term incentive program that provides different forms of awards depending upon an employee's level but is otherwise consistent throughout the Company.



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Board of Directors (continued)

In the CD&A, we describe the risk-mitigation controls for our compensation programs. These controls include C&MD Committee review and approval of the design, goals and payouts under our annual bonus plan and long-term incentive program and each executive officer's compensation (or, in the case of our Chief Executive Officer's compensation, a recommendation of that compensation to our Board of Directors for its approval). In addition, we review the processes, controls and design of our sales incentive compensation plans.

The C&MD Committee, working with the independent compensation consultant, also conducts an annual assessment of potential risks related to our compensation policies, programs and practices. Among other factors, this risk assessment considers the form of compensation (i.e., award type, fixed versus variable and short-term versus long-term), pay alignment, performance measures and goals, payout maximums, vesting periods and C&MD Committee oversight and independence. This assessment is focused on (1) having an appropriate balance in our program structure to mitigate compensation-related risk with cash versus stock, short-term versus long-term measurement and financial versus non-financial goals; and (2) policies and practices to mitigate compensation-related risk including recoupment of compensation, stock ownership guidelines, equity administration rules and insider-trading and hedging prohibitions.

Based on our assessment, we believe that, through a combination of risk-mitigating features and incentives guided by relevant market practices and Company-wide goals, our compensation policies, programs and practices do not create risks that are reasonably likely to have a material adverse effect on the Company.

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Audit Committee Matters

Proposal 2 Ratification of the Selection of Our Independent Registered Public Accounting Firm

Our Audit Committee is directly responsible for the appointment, compensation, retention and oversight of the independent registered public accounting firm retained to audit our consolidated financial statements. Our Audit Committee has selected PwC as our independent registered public accounting firm for the fiscal year ending December 31, 2019. PwC has served as our independent registered public accounting firm since 2003.

In order to assure continuing auditor independence, our Audit Committee periodically considers whether there should be a rotation of the independent registered public accounting firm. Further, in conjunction with the rotation of the auditing firm's lead engagement partner required by applicable SEC rules, our Audit Committee and its Chair has in the past been, and in the future will be, directly involved in the selection of PwC's new lead engagement partner.

Our Audit Committee believes at this time that the continued retention of PwC to serve as our independent registered public accounting firm is in the best interest of Biogen and its stockholders.

Although stockholder approval of our Audit Committee's selection of PwC is not required, our Board of Directors believes that it is a matter of good corporate practice to solicit stockholder ratification of this selection. If our stockholders do not ratify the selection of PwC as our independent registered public accounting firm, our Audit Committee will reconsider its selection. Even if the selection is ratified, our Audit Committee always has the ability to change the engagement of PwC if it considers that a change is in Biogen's best interest. Representatives of PwC will participate in the Annual Meeting, have the opportunity to make a statement if they so desire and be available to respond to appropriate questions.

***OUR BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE [FOR](#) THE RATIFICATION  
OF***

***THE SELECTION OF PRICEWATERHOUSECOOPERS LLP AS OUR INDEPENDENT REGISTERED  
PUBLIC***



***ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2019.***

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**Audit Committee Matters (continued)**

**Audit Committee Report**

The Audit Committee's role is to act on behalf of our Board of Directors in the oversight of Biogen's financial reporting, internal control and audit functions. The roles and responsibilities of the Audit Committee are set forth in the written charter adopted by our Board of Directors, which is posted on our website, [www.biogen.com](http://www.biogen.com), under the Corporate Governance subsection of the Investors section of the website. Management has primary responsibility for the financial statements and the reporting process, including the systems of internal control.

In fulfilling its oversight responsibilities, the Audit Committee, among other things:

- reviewed and discussed with management the audited consolidated financial statements contained in Biogen's 2018 Annual Report on Form 10-K;
- discussed with PwC, Biogen's independent registered public accounting firm, the overall scope and plans for the audit;
- met with PwC, with and without management present, to discuss the results of its examination, management's response to any significant findings, its observations of Biogen's internal control, the overall quality of Biogen's financial reporting, the selection, application and disclosure of critical accounting policies, new accounting developments and accounting-related disclosures, the key accounting judgments and assumptions made in preparing the financial statements and whether the financial statements would have materially changed had different judgments and assumptions been made and other pertinent items related to Biogen's accounting, internal control and financial reporting;
- discussed with representatives of Biogen's corporate internal audit staff their purpose, authority, audit plan and reports;
- reviewed and discussed with PwC the matters required to be discussed with the Audit Committee under generally accepted auditing standards (including Public Company Accounting Oversight Board Auditing Standard No. 1301);
- discussed with PwC its independence from management and Biogen, including the written disclosures and letter concerning independence received from PwC under applicable requirements of the Public Company Accounting Oversight Board. The Audit Committee has determined that the provision of non-audit services to Biogen by PwC is compatible with its independence;
- provided oversight and advice to management in connection with Biogen's system of internal control over financial reporting in response to the requirements set forth in Section 404 of the Sarbanes-Oxley Act of 2002 and related regulations. In connection with this oversight, the Audit Committee reviewed a report by management on the

effectiveness of Biogen's internal control over financial reporting; and reviewed PwC's Report of Independent Registered Public Accounting Firm included in Biogen's Annual Report on Form 10-K for the fiscal year ended December 31, 2018, related to its audit of the effectiveness of internal control over financial reporting.

In reliance on these reviews and discussions, the Audit Committee recommended to our Board of Directors that the audited consolidated financial statements be included in Biogen's Annual Report on Form 10-K for the fiscal year ended December 31, 2018, for filing with the SEC.

[The Audit Committee of our Board of Directors:](#)

Caroline D. Dorsa (Chair)

Nancy L. Leaming

Stelios Papadopoulos

Brian S. Posner

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## Audit Committee Matters (continued)

## Audit and Other Fees

The following table shows fees for professional audit services billed to us by PwC for the audit of our annual consolidated financial statements for the years ended December 31, 2018, and December 31, 2017, and fees billed to us by PwC for other services provided during 2018 and 2017:

Fees		
<i>(amounts in thousands)</i>	2018	2017
Audit fees	\$ 5,177.6	\$ 5,036.3
Audit-related fees	302.0	281.2
Tax fees*	609.0	381.0
All other fees	322.1	7.1
<b>Total</b>	<b>\$ 6,410.7</b>	<b>\$ 5,705.6</b>

\* Includes tax compliance fees of approximately \$0.1 million in 2018 and 2017.

*Audit fees* are fees for the audit of our 2018 and 2017 consolidated financial statements included in our Annual Reports on Form 10-K, reviews of our condensed consolidated financial statements included in our Quarterly Reports on Form 10-Q, review of the consolidated financial

statements incorporated by reference into our outstanding registration statements and statutory audit fees in overseas jurisdictions.

*Audit-related fees* are fees that principally relate to assurance and related services that are also performed by our independent registered public accounting firm. More specifically, these services include audits of employee benefit plan information, accounting consultations, due diligence and audits in connection with business development activity, internal control reviews and attest services related to financial reporting that are not required by statute or regulation.

*Tax fees* are fees for tax compliance and planning services. The increase in fees incurred in 2018 is driven by incremental support for international tax matters.

*All other fees* in 2018 include \$0.3 million related to consultation services with respect to supply chain optimization strategies for the development of new products and services. All other fees in 2018 and 2017 also include license fees

for a web-based accounting research tool.

### Policy on Pre-Approval of Audit and Non-Audit Services

Our Audit Committee has the sole authority to approve the scope of the audit and any audit-related services as well as all audit fees and terms. Our Audit Committee must pre-approve any audit and non-audit services provided by our independent registered public accounting firm. Our Audit Committee will not approve the engagement of the independent registered public accounting firm to perform any services that the independent registered public accounting firm would be prohibited from providing under applicable securities laws, Nasdaq requirements or Public Company Accounting Oversight Board rules. In assessing whether to approve the use of our independent registered public accounting firm to provide permitted non-audit services, our Audit Committee tries to minimize relationships that could appear to impair the objectivity of our independent registered public accounting firm. Our Audit Committee will approve permitted non-audit services by our independent registered public accounting firm only when it will be more effective or economical to have such services provided by our independent registered public accounting firm than by another firm.

Our Audit Committee annually reviews and pre-approves the audit, audit-related, tax and other permissible non-audit services that can be provided by the independent registered public accounting firm. After the annual review, any proposed services exceeding pre-set levels or amounts, or additional services not previously approved requires separate pre-approval by our Audit Committee or the Chair of our Audit Committee. Any pre-approval decision made by the Chair of our Audit Committee is reported to our Audit Committee at the next regularly scheduled Audit Committee meeting. Our Chief Financial Officer and our Chief Accounting Officer can approve up to an additional \$50,000 in the aggregate per calendar year for categories of services that our Audit Committee (or the Chair through its delegated authority) has pre-approved.

All of the services provided by PwC during 2018 and 2017 were pre-approved in accordance with this policy.

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Executive Compensation Matters

Proposal 3 Advisory Vote on Executive Compensation

Our Compensation Discussion and Analysis, which appears below, describes our executive compensation programs and the compensation decisions that our C&MD Committee and our Board of Directors made with respect to the 2018 compensation of our named executive officers. As required pursuant to Section 14A of the Exchange Act, our Board of Directors is asking that stockholders cast a non-binding, advisory vote FOR the following resolution:

RESOLVED, that the compensation paid to the Company's named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, including the Compensation Discussion and Analysis, compensation tables and narrative discussion, is hereby APPROVED.

Our Board of Directors is asking that our stockholders support this proposal. Although the vote you are being asked to cast is non-binding, we value the views of our stockholders, and our C&MD Committee and our Board of Directors will consider the outcome of the vote when making future compensation decisions for our named executive officers.

As we describe in our Compensation Discussion and Analysis, our executive compensation programs embody a pay-for-performance philosophy that supports our business strategy and aligns the interests of our executives with those of our stockholders. In particular, our compensation programs reward financial, strategic and operational performance and the goals set under our plans support our short- and long-range plans. In addition, to discourage excessive risk taking, we maintain policies for stock ownership and our equity and annual bonus incentive plans have provisions providing for the recoupment of compensation. We also cap payments under our annual bonus plan and we generally require multi-year vesting periods for long-term incentive awards.

We will hold a non-binding, advisory vote of our stockholders on the compensation of our named executive officers every year until the next required stockholder vote on the frequency of such advisory vote. The next stockholder vote on the frequency of such advisory vote is expected to be held at the 2023 annual meeting of stockholders.

***OUR BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE  
FOR THE APPROVAL OF THE RESOLUTION SET FORTH ABOVE.***

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Executive Compensation Matters (continued)

## COMPENSATION DISCUSSION AND ANALYSIS

This Compensation Discussion and Analysis (CD&A) describes our compensation strategy, philosophy, policies and practices underlying our executive compensation programs for 2018. It also provides information regarding the manner and context in which compensation was earned by and awarded to our 2018 named executive officers listed below, whom we refer to collectively as “named executive officers” or “NEOs.”

**Michel Vounatsos**

Chief Executive Officer

**Susan H. Alexander**

Executive Vice President,

Chief Legal Officer and Secretary

**Jeffrey D. Capello**

Executive Vice President and

Chief Financial Officer

**Paul F. McKenzie, Ph.D.**

Executive Vice President,

Pharmaceutical Operations &  
Technology

**Michael Ehlers, M.D., Ph.D.**

Executive Vice President,

Research and Development

## Executive Summary 2018 Highlights



We had a productive and successful 2018. We generated record revenues of \$13.5 billion for the year, demonstrated resilience in our MS business, continued a strong global launch for SPINRAZA, the first approved treatment for SMA, and made significant progress in our biosimilars business.

We added six clinical programs across our strategic core and emerging growth areas and had a strong year for business development.

We provided value to our stockholders through the return of approximately \$4.4 billion in capital through share repurchases and we continued our leading efforts in environmental, sustainability and diversity matters.

Our executive compensation programs for 2018 were aligned with stockholder interests as compensation earned under these programs was closely-linked to the achievement of our corporate performance goals.

We achieved or exceeded the vast majority of the corporate performance goals that we set at the beginning of the year under our incentive compensation plans and, accordingly, the payouts under these plans for 2018 were above target payout levels.

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**Executive Compensation Matters (continued)**

A brief summary of our 2018 business, financial and executive compensation highlights are as follows:

***Financial Performance***

The following chart provides a summary of our financial performance for 2018 compared to 2017:

A reconciliation of our GAAP to Non-GAAP financial measures is provided in Appendix A to this Proxy Statement.

***Total Stockholder Return***

Our one-, three- and five-year total stockholder return (TSR)\* compared to our peer group and the Standard & Poor's 500 (S&P 500) is set forth below.

\* TSR is a measure of performance over time that combines changes in share price and dividends paid to show the total return to the stockholder expressed as an annualized percentage.

***Product and Pipeline Developments***

The following provides a summary of our product and pipeline developments for 2018:

**Product Developments**

In March 2018 we and AbbVie Inc. announced the voluntary worldwide withdrawal of ZINBRYTA for relapsing MS (RMS).

In October 2018 we and Samsung Bioepis launched IMRALDI, an adalimumab biosimilar referencing HUMIRA, in Europe.

#### Applications for Marketing and Agency Actions

In October 2018 the FDA granted BIIB092, an anti-tau mAb, fast track designation for progressive supranuclear palsy (PSP).

In December 2018 Alkermes submitted a NDA to the FDA for the review of BIIB098 (diroximel fumarate).

Alkermes is seeking approval of diroximel fumarate under the 505(b)(2) regulatory pathway. If approved, we intend to market diroximel fumarate under the brand name VUMERITY. This name has been conditionally accepted by the FDA and will be confirmed upon approval.

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### Executive Compensation Matters (continued)

## Clinical Trials

### *MS and Neuroimmunology*

In September 2018 we completed enrollment of the Phase 2b AFFINITY study evaluating opicinumab, anti-LINGO, as an add-on therapy in MS patients who are adequately controlled on their anti-inflammatory disease-modifying therapy (DMT), versus the DMT alone.

In November 2018 we initiated the Phase 3b NOVA study evaluating the efficacy and safety of extended interval dosing (every six weeks) for natalizumab compared to standard interval dosing in patients with RMS and enrolled the first patient in December 2018.

In December 2018 we dosed the first patient in a bioequivalence study to test whether exposure levels of PLEGRIDY are maintained with intramuscular administration.

### *Neuromuscular Disorders*

In September 2018 we enrolled the first patient in the Phase 1 study evaluating BIIB078 (IONIS-C9<sub>RX</sub>), an antisense oligonucleotide (ASO) drug candidate, in adults with C9ORF72-associated ALS.

In December 2018 we and our collaboration partner Ionis Pharmaceuticals, Inc. (Ionis) announced results from a positive interim analysis of the ongoing Phase 1 study of BIIB067 (IONIS-SOD1<sub>RX</sub>), an investigational treatment for ALS with superoxide dismutase 1 (SOD1) mutations. The interim analysis showed that, over a three-month period, BIIB067 resulted in a statistically significant lowering of SOD1 protein levels in the cerebrospinal fluid and a numerical trend towards slowing of clinical decline as measured by the ALS Functional Rating Scale Revised, both compared to placebo.

### *Alzheimer's Disease and Dementia*

In May 2018 we initiated a Phase 2 study of BIIB092 for Alzheimer's disease.

In June 2018 we and our collaboration partner Eisai Co., Ltd. (Eisai) announced that elenbecestat, the oral BACE (beta amyloid cleaving enzyme) inhibitor, demonstrated an acceptable safety and tolerability profile in the Phase 2 study, and the results demonstrated a statistically significant difference in amyloid-beta levels in the brain measured by amyloid-PET (positron emission tomography). A numerical slowing of decline in functional clinical scales of a potentially clinically important difference was also observed, although this effect was not statistically significant.

In December 2017 we and our collaboration partner Eisai announced that the Phase 2 study of BAN2401, a monoclonal antibody that targets amyloid beta aggregates, an Eisai product candidate for the treatment of Alzheimer's disease, did not meet the criteria for success based on a Bayesian analysis at 12 months as the primary

endpoint in an 856-patient Phase 2 clinical study, an endpoint that was designed to enable a potentially more rapid entry into Phase 3 development. In July 2018, based upon the final analysis of the data at 18 months, we and Eisai announced that the topline results from the Phase 2 study demonstrated a statistically significant slowing in clinical decline and reduction of amyloid beta accumulated in the brain. The study achieved statistical significance on key predefined endpoints evaluating efficacy at 18 months on slowing progression in Alzheimer's Disease Composite Score (ADCOMS) and on reduction of amyloid accumulated in the brain as measured using amyloid-PET.

In July 2018 we completed enrollment of ENGAGE and EMERGE, the Phase 3 studies of aducanumab. In March 2019 we and our collaboration partner Eisai announced that we were discontinuing the EMERGE and ENGAGE Phase 3 studies.

#### *Movement Disorders*

In January 2018 we dosed the first patient in the Phase 2 SPARK study of BIIB054, a-synuclein antibody, in Parkinson's disease.

In September 2018 we completed enrollment of the Phase 2 PASSPORT study of BIIB092 for PSP.

#### *Acute Neurology*

In March 2018 we dosed the first patient in the Phase 2 OPUS study of natalizumab in drug-resistant focal epilepsy. In September 2018 we enrolled the first patient in the Phase 3 CHARM study of BIIB093, glibenclamide IV, in large hemispheric infarction, a severe form of ischemic stroke.

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**Executive Compensation Matters (continued)**

*Neurocognitive Disorders*

In December 2018 we dosed the first patient in our Phase 2b study of BIIB104 (AMPA) in CIAS.  
*Pain*

In March 2018 we initiated a Phase 1 study of BIIB095, a Nav 1.7 inhibitor for neuropathic pain.  
In May 2018 we initiated a Phase 2 study of vixotrigine (BIIB074) in small fiber neuropathy.  
*Other*

In September 2018 we dosed the first patient in the Phase 2b study of BG00011 (STX-100) in idiopathic pulmonary fibrosis, a chronic irreversible and ultimately fatal disease characterized by a progressive decline in lung function.  
*Discontinued Programs*

In February 2018 we announced that the Phase 2b dose-ranging ACTION study investigating natalizumab in individuals with acute ischemic stroke (AIS) did not meet its primary endpoint. Based on these results, we discontinued development of natalizumab in AIS. The results of the Phase 2b ACTION study do not impact the benefit-risk profile of natalizumab in approved indications, including MS.

In October 2018 we announced that we completed the Phase 2b study of vixotrigine (BIIB074) for the treatment of painful lumbosacral radiculopathy (PLSR). The study did not meet its primary or secondary efficacy endpoints and we discontinued development of vixotrigine for the treatment of PLSR. The safety data were consistent with the safety profile reported in previous studies.

***Business Development***

In January 2018 we acquired BIIB100 from Karyopharm Therapeutics Inc. BIIB100 is a Phase 1 ready investigational oral compound for the treatment of certain neurological and neurodegenerative diseases, primarily in ALS. BIIB100 is a novel therapeutic candidate that works by inhibiting a protein known as XP01, with the goal of reducing inflammation and neurotoxicity, along with increasing neuroprotective responses.

In April 2018 we acquired BIIB104 from Pfizer Inc. BIIB104 is a first-in-class, Phase 2b ready AMPA receptor potentiator for CIAS, representing our first program in neurocognitive disorders. AMPA receptors mediate fast

excitatory synaptic transmission in the central nervous system, a process which can be disrupted in a number of neurological and psychiatric diseases, including schizophrenia.

In June 2018 we closed a 10-year exclusive agreement with Ionis to develop novel ASO drug candidates for a broad range of neurological diseases (the 2018 Ionis Agreement). We have the option to license therapies arising out of the 2018 Ionis Agreement and will be responsible for the development and potential commercialization of such therapies.

In June 2018 we entered into an exclusive option agreement with TMS Co., Ltd. granting us the option to acquire TMS-007, a plasminogen activator with a novel mechanism of action associated with breaking down blood clots, which is in Phase 2 development in Japan, and backup compounds for the treatment of stroke.

In June 2018 we exercised our option under our joint venture agreement with Samsung BioLogics to increase our ownership percentage in Samsung Bioepis from approximately 5% to approximately 49.9%. The share purchase transaction was completed in November 2018.

In July 2018 we acquired BIIB110 (Phase 1a) and ALG-802 (preclinical) from AliveGen Inc. BIIB110 and ALG-802 represent novel ways of targeting the myostatin pathway. We initially plan to study BIIB110 in multiple neuromuscular indications, including SMA and ALS.

In December 2018 we exercised our option with Ionis and obtained a worldwide, exclusive, royalty-bearing license to develop and commercialize BIIB067, an investigational treatment for ALS with SOD1 mutations.

In December 2018 we entered into a collaborative research and license agreement with C4 Therapeutics (C4T) to investigate the use of C4T's novel protein degradation platform to discover and develop potential new treatments for neurological diseases, such as Alzheimer's disease and Parkinson's disease. We will be responsible for the development and potential commercialization of any therapies resulting from this collaboration.

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### **Executive Compensation Matters (continued)**

### ***Share Repurchase Activity***

In August 2018 our Board of Directors authorized a program to repurchase up to \$3.5 billion of our common stock (2018 Share Repurchase Program). Our 2018 Share Repurchase Program does not have an expiration date. All share repurchases under our 2018 Share Repurchase Program will be retired.

We returned approximately \$4.4 billion to stockholders in 2018 through share repurchases under our 2018 Share Repurchase Program and our 2016 Share Repurchase Program, which was a program authorized by our Board of Directors in July 2016 to repurchase up to \$5.0 billion of our common stock and which was completed as of June 30, 2018.

### ***Other Notable Achievements in the Workplace and Community***

Awarded the 2018 International Prix Galien as Best Biotechnology Product for SPINRAZA. The prestigious honor marks the seventh Prix Galien for SPINRAZA, following country recognitions in the U.S., Germany, Italy, Belgium-Luxembourg, the Netherlands and the U.K. The International Prix Galien is given every two years by Prix Galien International Committee members in recognition of excellence in scientific innovation to improve human health.

Named the Biotechnology Industry Leader on the Dow Jones Sustainability World Index.

Recognized as a corporate sustainability leader with Gold Class and Industry Mover Sustainability Awards from RobecoSAM.

Continued commitment to operational carbon neutrality highlighted through the use of 100% renewable electricity globally.

Committed to reduce carbon emissions by a targeted amount approved by the Science Based Target Initiative, to align ourselves with the global goal of limiting global temperature rise to under two degrees Celsius.

Earned CDP scores of A, A- and B in the areas of Supplier Engagement, Climate Change and Water, respectively.

Earned a perfect score of 100% on the Human Rights Campaign's Corporate Equality Index (a national benchmarking tool on corporate policies and practices pertinent to LGBTQ employees) for the fifth consecutive year.

Continued commitment to diversity and inclusion. As of December 31, 2018, 44% of Director-level positions and above were held by women.

Over 3,200 employees volunteered from 28 countries during our annual Care Deeply Day.

Engaged 50,000+ students in hands-on learning to inspire their passion for science since the inception of Biogen's Community Labs.

### **2018 Executive Compensation Programs and Pay-for-Performance Alignment**



We believe our executive compensation programs are effectively designed and have worked well to implement a pay-for-performance culture that is aligned with the interests of our stockholders. In 2018 our executive compensation programs consisted of base salary, short- and long-term incentives and other benefits.

*91% of our CEO s and 84% of our other NEOs 2018 target compensation was performance-based ~~and~~ risk.*

- \* Reflects annual salary, target bonus and target grant value of the 2018 annual long-term incentive awards. The NEO compensation mix excludes the one-time transition awards of RSUs granted to Dr. Ehlers, Ms. Alexander and Dr. McKenzie, as described in further detail below.

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Executive Compensation Matters (continued)

*100% of our NEOs' 2018 annual long-term incentive (LTI) grants were performance-based and at-risk.*

60% earned based on achievement of three-year adjusted Non-GAAP diluted earnings per share (EPS) and pipeline milestone performance goals

40% earned based on achievement of adjusted Non-GAAP free cash flows and revenues over three one-year performance periods

PSUs were introduced in 2018. For more information on our PSUs, please see "Long-Term Incentives" 2018 PSUs below.

Earned based on stock price performance over one, two and three year periods

*Our 2018 performance-based compensation payouts align with our commitment to strong performance.*

In 2018 we exceeded the vast majority of the corporate performance goals that we set at the beginning of the year for our incentive compensation plans. As a result, the payouts, as a percentage of target, for our 2018 annual bonus plan and the portions of our PSUs and MSUs that were eligible to be earned based on 2018 performance were above target payout amounts, as described in further detail below.

***2018 Advisory Vote on Executive Compensation***

At our 2018 annual meeting of stockholders, we continued to receive strong support for our executive compensation programs with approximately 95% of the votes cast for approval of our annual "say-on-pay" proposal. Our C&MD Committee viewed this as positive support for our executive compensation programs and their alignment with long-term stockholder value creation and determined that the Company's executive compensation programs have been effective in implementing the Company's stated compensation philosophy and objectives.

Our C&MD Committee is committed to continually reviewing our executive compensation programs on a proactive basis to ensure the ongoing alignment of such programs with the interests of our stockholders.

In 2018 our C&MD Committee reviewed the external landscape, the results from our say-on-pay proposal at last year's annual meeting of stockholders and the Company's performance against the current compensation programs. Our C&MD Committee was satisfied that our existing compensation programs further our pay-for-performance philosophy, but made certain enhancements to the design of our LTI program in 2018 to strengthen its focus on long-term performance and alignment with our stockholders' interests. Specifically, under our 2018 LTI program, grants of PSUs replaced grants of cash-settled performance units (CSPUs), which we had granted in previous years. The key changes are as follows:

PSU awards are subject to three-year cliff vesting as compared to annual ratable vesting over three years (1/3 per year) for CSPU awards;

60% of PSU awards are earned over a three-year performance period based on the achievement of three-year cumulative performance goals for stock-settled PSU awards and 40% of PSU awards are earned over three annual performance periods based on the achievement of three sets of annual performance goals for cash-settled PSU awards as compared to 100% of CSPUs awards earned based upon one annual performance period for CSPU awards; and

60% of the PSU awards will be settled in stock and 40% of the PSU awards will be settled in cash as compared to 100% cash settlement for CSPU awards.

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**Executive Compensation Matters (continued)**

For additional information on our PSU awards, please see Long-Term Incentives 2018 PSUs below.

**Roles and Responsibilities**

***Role of our C&MD Committee***

Our C&MD Committee, which is composed of four independent directors, oversees and administers our executive compensation programs. In making executive compensation decisions, our C&MD Committee reviews a variety of factors and data, most importantly our performance and individual executives' performance, and considers the totality of compensation that may be paid. In addition, our C&MD Committee administers our annual bonus plan and our equity plans, reviews business achievements relevant to payouts under our compensation plans, makes recommendations to our Board of Directors with respect to compensation policies and practices as well as the compensation of our CEO and seeks to ensure that total compensation paid to our executive officers is fair, competitive and aligned with stockholder interests. Our C&MD Committee retains the right to hire outside advisors as needed to assist it in reviewing and revising our executive compensation programs.

The duties and responsibilities of our C&MD Committee are described on page 20 and can be found in our C&MD Committee's written charter adopted by our Board of Directors, which can be found on our website, [www.biogen.com](http://www.biogen.com), under the Corporate Governance subsection of the Investors section of the website.

***Role of the Independent Compensation Consultant***

Our C&MD Committee believes that independent advice is important in developing and overseeing our executive compensation programs. Frederic W. Cook & Co., Inc. (FW Cook) served as our C&MD Committee's independent compensation consultant until June 2018 and advised our C&MD Committee regarding compensation decisions in 2018. FW Cook did not provide any other services to Biogen. Pearl Meyer & Partners LLC (Pearl Meyer) has served as our C&MD Committee's independent compensation consultant since June 2018 and has advised our C&MD Committee regarding compensation decisions since that time. Pearl Meyer does not provide any other services to Biogen and engages in other matters as needed and as directed solely by our C&MD Committee. References in this CD&A to our independent compensation consultant refer to FW Cook for the period during which it was engaged and to Pearl Meyer thereafter.

Reporting directly to our C&MD Committee, our independent compensation consultant provides guidance on trends in CEO, executive and non-employee director compensation, the development of specific executive compensation programs and the composition of the Company's compensation peer group. Additionally, our independent compensation consultant prepares a report on CEO pay that compares each element of compensation to that of CEOs in comparable positions at companies in our peer group. Using this and other similar information, our C&MD

Committee recommends, and our Board of Directors approves, the elements and target levels of our CEO's compensation.

During 2018 the Company paid FW Cook and Pearl Meyer \$123,275 and \$47,666, respectively, in consulting fees directly related to these services. Our C&MD Committee assessed FW Cook's independence annually and, in accordance with applicable SEC and Nasdaq rules, confirmed in December 2017 that FW Cook's work did not raise any conflicts of interest and that FW Cook remained independent under applicable rules. Our C&MD Committee assessed Pearl Meyer's independence in connection with its engagement in June 2018 and, in accordance with applicable SEC and Nasdaq rules, confirmed in December 2018 that Pearl Meyer's work did not raise any conflicts of interest and that Pearl Meyer remains independent under applicable rules.

### *Role of our CEO*

Each year our CEO provides an assessment of the performance of each executive officer, other than himself, during the prior year and recommends to our C&MD Committee the compensation to be paid or awarded to each executive. Our CEO's recommendations are based on numerous factors, including:

- Company, team and individual performance;
- potential for future contributions;
- leadership competencies;
- external market competitiveness;
- internal pay comparisons; and
- other factors deemed relevant.

To understand the external market competitiveness of the compensation for our executive officers, our CEO and our C&MD Committee review a report analyzing publicly-available information and surveys prepared by our internal

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**Executive Compensation Matters (continued)**

compensation group and reviewed by our independent compensation consultant. The report compares the compensation of each executive officer, other than our CEO, to data for comparable positions at companies in our peer group, by compensation element (please see External Market Competitiveness and Peer Group below for further details). Our C&MD Committee considers all of the information presented, discusses the recommendations with our CEO and with our independent compensation consultant and applies its judgment to determine the elements of compensation and target compensation levels for each executive officer other than the CEO.

Our CEO also provides a self-assessment of his achievements for the prior year. Our C&MD Committee reviews and considers this in analyzing the CEO's performance, and in recommending for approval by our Board of Directors, the compensation of our CEO. Our CEO does not participate in any deliberations regarding his own compensation.

**Executive Compensation Philosophy and Objectives**

Our executive compensation programs are designed to drive the creation of long-term stockholder value by delivering performance-based compensation that is competitive with our peer group in order to attract and retain extraordinary leaders who can perform at high levels and succeed in a demanding business environment. We aim to achieve this by designing programs that are:

*Mission Focused and Business Driven.* Our executive compensation programs support the relentless pursuit of delivering meaningful and innovative therapies to patients by providing our executives with incentives to achieve the near- and long-term objectives of our business. Substantially all of our executive incentive compensation programs are tied directly, and meaningfully, to Company performance. Our objective is to emphasize the importance of achieving short-term goals while building and sustaining a foundation for long-term success.

*Competitively Advantageous.* We benchmark our executive compensation programs against a peer group of biotechnology and pharmaceutical companies that we believe are representative of the companies we primarily compete with for talent, balanced with factors such as business scope and size, including revenues and market capitalization, business focus and geographic scope of operations. Peer group practices are among the many factors we take into account in developing compensation programs that we believe are most effective, and which enable us to recruit, retain and motivate our leadership team to achieve their best for Biogen and our stockholders.

*Performance Differentiated.* We believe strongly in pay-for-performance and endeavor to significantly differentiate rewards by delivering the highest rewards to our best performers and lesser rewards to those who do not meet our performance expectations.

*Ownership Aligned.* At Biogen, we believe every employee contributes to the success of the Company and, as such, every employee has a vested interest in the Company's success. To reinforce this alignment with our stockholders, we strongly encourage stock ownership through our equity-based compensation programs. For members of our executive team, including our NEOs, who set and lead the future strategic direction of our Company, we ensure that a significant portion of their total pay opportunities are equity-based to maintain

alignment between the interests of our executive officers and our stockholders.

*Flexible.* We are committed to providing flexible benefits designed to allow our diverse global workforce to have reward opportunities that meet their varied needs so that they are inspired to perform their very best on behalf of patients and stockholders each day.

#### **External Market Competitiveness and Peer Group**

We consider market practices and trends when determining executive compensation levels and compensation program designs at Biogen. We do not target a specific market percentile or simply replicate the market practice. Instead, we review external market practices as a reference point to assist us in providing programs designed to attract, retain and inspire extraordinary talent. Our C&MD Committee also uses a peer group to provide context for its executive compensation decision-making. Each year our independent compensation consultant reviews the external market landscape and evaluates the composition of our peer group for appropriateness.

Our C&MD Committee reviews the information provided from internal sources as well as the information provided by our independent compensation consultant to select our peer group based on comparable companies that approximate (1) our scope of business, including revenues and market capitalization, (2) our global geographical reach, (3) our research-based business with multiple marketed products and (4) a comparable pool of talent for which we compete.

The peer group for determining our 2018 compensation decisions consisted of biotechnology and pharmaceutical

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**Executive Compensation Matters (continued)**

companies, as we compete with companies in both of these sectors for executive talent.

**Biotechnology Peers**

Alexion Pharmaceuticals, Inc.

Amgen Inc.

Celgene Corporation

Gilead Sciences Inc.

Vertex Pharmaceuticals International, Inc.

**Pharmaceutical Peers**

AbbVie Inc.

Allergan plc

Bristol-Myers Squibb Company

Eli Lilly and Company

Merck & Co, Inc.

Mylan N.V.

Bausch Health Companies (f/k/a Valeant Pharmaceuticals Incorporated)

For each of the companies in our peer group, where available, we analyze the company's Compensation Discussion and Analysis and other data publicly filed during the prior year to identify the executives at such companies whose positions are comparable to those held by our executive officers. We then compile and analyze the data for each comparable position. Our competitive analysis includes the structure and design of the compensation programs as well as the targeted value of the compensation under these programs.

For our executive officers other than our CEO, we may supplement the data from our peer group with published compensation surveys where appropriate. For 2018, consistent with past years, we used the *Willis Towers Watson U.S. CDB Pharmaceutical and Health Sciences Executive Compensation Database* survey (which we refer to as the Willis



Towers Watson survey). We chose the Willis Towers Watson survey because of the number of companies in our peer group that participate in it, the number of positions reported by the survey that continue to be comparable to our executive positions and the high standards under which we understand the survey is conducted (including data collection and analysis methodologies). All of the companies in our peer group are represented in a special cross-section of the Willis Towers Watson survey focused on our peer group, other than Bausch Health Companies (formally known as Valeant Pharmaceuticals Incorporated), which did not participate in the survey.

### Compensation Elements

Our C&MD Committee determines the elements of compensation we provide to our executive officers. The elements of

our executive compensation programs and their objectives are as follows:

Element	Objective(s)
Base Salary	Provides a fixed level of compensation that is competitive with the external market and reflects each executive's contributions, experience, responsibilities and potential to contribute to our future success.
Annual Bonus	Aligns short-term compensation with the annual goals of the Company.
Plan	Motivates and rewards the achievement of annual Company and individual performance goals that support short- and long-term value creation.
Long-term Incentives	Aligns executives' interests with the long-term interests of our stockholders by linking the value of awards to increases in our stock price.  Motivates and rewards the achievement of stock price growth and pre-established corporate performance goals, including those with a longer-term focus.  Promotes executive retention and stock ownership and focuses executives on enhancing long-term stockholder value.
Benefits	Promotes health and wellness.
	Provides financial protection in the event of disability or death.
	Provides tax-beneficial ways for executives to save towards their retirement and encourages savings through competitive matches to executives' retirement savings.

## Compensation Mix

Our C&MD Committee determines the general mix of the elements of our executive compensation programs. It does not target a specific mix of value for the compensation elements within these programs in either the program design or pay decisions. Rather, our C&MD Committee reviews the mix of compensation elements to ensure an appropriate level of performance-based compensation is apportioned to the short-term and even more to the long-term to ensure alignment with our business goals and performance.

Additionally, our C&MD Committee believes the greater the leadership responsibilities, the greater the potential impact an individual will have on Biogen's future strategic direction. Therefore, for our executive officers, including our NEOs, additional emphasis is placed on performance-based compensation, with a particular emphasis on LTI.

The 2018 compensation mix for Mr. Vounatsos and our other NEOs was highly performance-based and at-risk; 91% of 2018 compensation was performance-based for Mr. Vounatsos and 84% of 2018 compensation was

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**Executive Compensation Matters (continued)**

performance-based for our other NEOs, assuming target level achievement of applicable corporate performance goals and with LTI awards measured at target grant date

values, and excluding the one-time transition awards of RSUs granted to Dr. Ehlers, Ms. Alexander and Dr. McKenzie, as described in further detail below.

**Performance Goals and Target Setting Process**

Early each year, our C&MD Committee reviews and establishes the pay levels of each element of total compensation for our executive officers. Total compensation is comprised of base salary, annual bonus and LTI awards.

As part of this process, our C&MD Committee reviews the mix of compensation elements to ensure our performance-based compensation is apportioned appropriately and aligns with our business goals and performance. Our C&MD Committee also ensures that the performance metrics and goals are aligned with the annual business plan approved by our Board of Directors so there is full alignment of executive incentive goals with the goals that have been established for the year. Executive officers are also evaluated based on qualitative factors, such as individual, strategic and leadership achievements. The use of both quantitative and qualitative metrics, as well as the weighting of such metrics, effectively mitigates the impact of a single risk, such as dependence on drug pricing, pipeline performance or market share, on overall compensation.

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**Executive Compensation Matters (continued)**

A summary of the process our C&MD Committee follows in setting compensation is described below:

**Target Setting**

Our C&MD Committee and our CEO discuss potential goals for the upcoming year that are tied to the short- and longer-term strategic goals of the Company as well as individual goals for our executive officers.

The annual business plan for the year is approved by our Board of Directors. As part of the approval process, our Board considers many factors relevant to our business, reputation and strategy, including pipeline and business development, pricing and patient access, market expectations and intellectual property risk.

Our C&MD Committee ensures that the performance goals and targets under our compensation plans are aligned with the approved annual business plan.

**Monitoring & Tracking**

Our C&MD Committee closely monitors progress against the performance goals throughout the year and engages in dialogue with management on such progress.

**Results & Awards:  
C&MD Committee Actions**

Reviews and discusses the performance of our executive officers against their respective performance goals.

Reviews and discusses the Company, team and individual performance of each executive officer, other than our CEO, as assessed by our CEO.

Reviews and discusses our CEO's recommended compensation levels for each executive officer, other than himself, in the context of such executive officer's contributions to the Company and the other factors described above.

Payout levels for each performance goal are established by management and approved by our C&MD Committee.

Approves the final compensation for each executive officer other than our CEO, including base salary, annual bonus and LTI awards.

The performance goals are then applied to the compensation opportunities for our executive officers, including NEOs, so that there is full alignment of executive incentive goals with the goals that have been established for the year.

Reviews CEO compensation and recommends to our Board of Directors for approval the compensation of our CEO, including base salary, annual bonus and LTI awards.

Our C&MD Committee also reviews base salaries, bonus and LTI planning ranges, plan designs, benefits and peer group data.

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**Executive Compensation Matters (continued)****2018 Base Salary**

Our Board of Directors reviewed the base salaries of chief executive officers in our peer group and considered Mr. Vounatsos' compensation mix, capabilities, performance and future expected contributions. Mr. Vounatsos' base salary was set at \$1,300,000, which positioned him below the market median when compared to the chief executive officers of our peer group.

Our C&MD Committee undertook a similar review when approving the base salaries for our other NEOs, which positioned them, on average, slightly below the market median compared to persons with comparable jobs within our peer group.

The annual base salary of each of our NEOs in 2018, compared to 2017, was as follows:

Name	2018 Salary	2017 Salary	% Increase <sup>(1)</sup>
M. Vounatsos	\$ 1,300,000	\$ 1,100,000	18.2%
J. Capello <sup>(2)</sup>	\$ 750,000	\$ 750,000	n/a
M. Ehlers	\$ 834,094	\$ 794,375	5.0%
S. Alexander	\$ 749,177	\$ 723,842	3.5%
P. McKenzie	\$ 633,938	\$ 603,750	5.0%

(1) Percentage increase reflects the annual merit increase and, in the case of Mr. Vounatsos, also includes a market adjustment.

(2) Mr. Capello was hired in November 2017. The initial determination of his base salary took into account the Company's peer group data.

**2018 Performance-Based Plans and Goal Setting**

Our executive compensation programs place a heavy emphasis on performance-based compensation.

We maintain a short-term incentive plan, known as our annual bonus plan, as well as an LTI plan.

Awards to our NEOs under our annual bonus plan have been made under our 2008 Performance-Based Management Incentive Plan, and awards under our LTI plan are granted under our 2017 Omnibus Equity Plan.

Awards made under our annual bonus plan are directly tied to the achievement of our corporate performance goals, which are aligned with the Company's short- and long-term strategic plans, as well as individual performance goals.

Awards made under our LTI plan are directly tied to the performance of the price of our common stock, which aligns our executives' long-term interests with the interests of our stockholders. A portion of our LTI awards are also tied to the Company's financial performance, as described below under Long-Term Incentives 2018 PSUs.

In setting our annual goals under our short- and long-term incentive plans, in addition to our internal forecasts, we consider analysts' projections for our performance and the performance of companies in our peer group, as well as broad economic and industry trends. We strive to establish challenging targets that result in payouts at or above target levels only when Company performance warrants it. Our C&MD Committee is responsible for reviewing and approving our annual goals, targets and levels of payout (e.g., threshold, target and maximum) for our executive incentive compensation plans and for reviewing and determining actual performance results at the end of the applicable performance period.

In setting and approving the corporate performance goals for our executive officers and for the Company under both the short- and long-term incentive plans, our C&MD Committee also considers the alignment of such goals to our business plan, the degree of difficulty of attainment and the potential for the goals to encourage inappropriate risk-taking. Our C&MD Committee has determined that the structures of our executive compensation programs do not put our patients, investors or the Company at any material risk.

#### *Annual Bonus Plan*

Our annual bonus plan is a cash incentive plan that rewards near-term financial, strategic and operational performance. Our C&MD Committee reviews the annual target bonus opportunities for each executive officer by position each year to ensure such opportunities remain competitive.

No significant changes were made in 2018 to the target annual bonus opportunities, as a percentage of year-end annual base salary, for any of our NEOs other than Mr. Vounatsos, whose target annual bonus opportunity was market adjusted and increased from 125% of base salary in 2017 to 140% of base salary in 2018. In accordance with our policy, target annual bonus opportunities for all of our other NEOs in 2018 were determined based on their positions as Executive Vice Presidents.

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**Executive Compensation Matters (continued)**

The target annual bonus opportunity as a percentage of year-end annual base salary each of our NEOs in 2018 compared to 2017 was as follows:

Name	2018 Target	2017 Target
M. Vounatsos	140%	125%
J. Capello	70%	70%
M. Ehlers	70%	70%
S. Alexander	70%	70%
P. McKenzie	70%	70%

*2018 Annual Bonus Plan Design*

Awards for our NEOs under our 2018 annual bonus plan were based on the achievement of Company performance goals and individual performance goals.

At the beginning of 2018, our C&MD Committee set multiple Company performance goals for our 2018 annual bonus plan and provided for a payout multiplier, which we refer to as the Company Multiplier, ranging from 0% to 150%, for each Company goal based on the determination of the level of achievement of each goal and application of the weighting assigned to each goal, which determined the Company Multiplier applied to the bonus calculation.

The Company Multiplier ranged from 0% to 150% as follows:

Performance	Below			
Multipliers	Threshold	Threshold	Target	Max
Company	0%	50%	100%	150%

In addition, our 2018 annual bonus plan payouts were also based on an assessment of each NEO's individual performance, taking into account his or her achievement of individual performance goals. Evaluating individual performance allows our C&MD Committee the discretion to increase or decrease each NEO's bonus amount based on the NEO's performance by applying an individual performance multiplier, ranging from 0% to 150%, which we refer to as the Individual Multiplier.

We determined the individual annual bonus payments for 2018 using the following calculation:



Our 2018 annual bonus plan provided that if the Company Multiplier was less than 50%, there would be no payout, regardless of individual performance, further strengthening our pay-for-performance philosophy. Further, because the Individual Multiplier and the Company Multiplier each have a maximum of 150%, the combined multiplier result for each NEO could not exceed 225%.

### *2018 Company Performance Goals and Results*

Company performance goals were established at the start of 2018 with assigned weightings that reflected the Company's focus on attaining both financial and strategic goals (pipeline performance, MS leadership, continued SMA launch excellence and enhancing our strategic alliances).

The goals and weightings we selected reflect the importance of linking reward opportunities to both near-term results and our progress in achieving longer-term goals.

The strategic goals we selected in 2018 were designed to measure the achievement of our annual strategic priorities relating to our commercial opportunities and pipeline progress. Our financial performance goals were based on the Company's annual operating plan and long-range plan approved by our Board of Directors and with reference to analyst consensus for Biogen revenues and Non-GAAP diluted EPS based on the most current analyst reports at the time we set our targets.

The following table presents our financial targets relative to analysts' consensus for 2018:

- (1) Please see 2018 Annual Bonus Plan Company Performance Targets and Results Table below for more details.
- (2) Wall Street figures reflect estimates made in January 2018 for the Biogen fiscal year ending December 31, 2018.
- (3) Reflects Non-GAAP diluted EPS.

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## Executive Compensation Matters (continued)

**2018 Annual Bonus Plan Company Performance Targets and Results Table**

Set forth below is a summary of the Company performance goals and weightings that our C&MD Committee established for our 2018 annual bonus plan and the degree to which we attained these Company performance goals. As described below, the Company Multiplier for the 2018 Annual Bonus Plan was 131%, reflecting the strong performance relative to our pre-established goals.

Company Goals	Performance Range					Company
	Weight	Threshold	Target	Max	Results	Multiplier
FINANCIAL PERFORMANCE						
Revenues	20%	\$ 12,310M	\$ 12,780M	\$ 13,250M	\$ 13,363M <sup>(1)</sup>	150.0%
Non-GAAP diluted EPS	20%	\$ 23.47	\$ 24.74	\$ 26.01	\$ 26.89 <sup>(1)</sup>	150.0%
MARKET PERFORMANCE						
		Specific market goals				
Achieve Global MS Market Share	15%	are not disclosed for competitive reasons			Below Goal <sup>(2)</sup>	91.8%
MS Leader in Customer Trust and Value Survey	10%	are not disclosed for competitive reasons			Above Goal <sup>(2)</sup>	125.0%
Achieve Global SMA Market Share	10%	are not disclosed for competitive reasons			Above Goal <sup>(2)</sup>	134.9%
PIPELINE DEVELOPMENT						
Build and Advance Total Pipeline	10%	Specific pipeline goals			Above	110.0%

		are not disclosed for	Goal <sup>(3)</sup>	
		competitive reasons		
		Specific enrollment goals		
Achieve Aducanumab Phase 3 Enrollment	5%	are not disclosed for	Above	
		competitive reasons	Goal <sup>(4)</sup>	105.0%
<b>COLLABORATION</b>				
Improve and Expand Key Strategic Alliances	10%	Specific strategic alliance goals are not disclosed for competitive reasons	Above	150.0%
			Goal <sup>(5)</sup>	
<b>Company Multiplier</b>				<b>131.0%*</b>

\* Numbers may not recalculate due to rounding.

*Notes to 2018 Annual Bonus Plan Company Performance Targets and Results Table*

- (1) These financial measures were based on our publicly reported revenues of \$13,453 million and our publicly announced Non-GAAP diluted EPS of \$26.20, as adjusted as follows: for purposes of our 2018 annual bonus plan, revenues and Non-GAAP diluted EPS were adjusted to neutralize the effects of foreign exchange rate fluctuations. Non-GAAP diluted EPS was further adjusted to add back \$1.21 to reflect the impact of additional research and development expense recognized in 2018 resulting from the 2018 Ionis Agreement and \$0.07 to neutralize the unfavorable impact of the worldwide withdrawal of ZINBRYTA, partially offset by the subtraction of \$0.59 related to higher than originally contemplated stock repurchases in 2018, as these charges were not originally contemplated at the time the Company performance goals were determined.
- (2) Achievement of market goals for MS was below goal and achievement of MS leader and market goals for SMA were above goals. Specific details are not disclosed for competitive reasons.
- (3) The Company continued to expand and re-shape its pipeline of pre-clinical and clinical stage programs through the advancement of internal programs, external business development activities and exceeding expectations with respect to the level of confidence in and momentum of its clinical stage portfolio. Specific details are not disclosed for competitive reasons.
- (4) Aducanumab Phase 3 clinical trial patient enrollment was above goal. Specific details are not disclosed for competitive reasons.
- (5) Key strategic alliance and acquisition activities were above goal. Specific details are not disclosed for competitive reasons.

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### Executive Compensation Matters (continued)

#### *2018 Individual Performance Goals and Results*

The Individual Multiplier reflects each named executive officer's overall individual performance rating as part of our performance assessment process. Unlike our formulaic calculation of corporate performance against Company performance goals in determining the Company Multiplier, each named executive officer's Individual Multiplier is based on a subjective evaluation of his or her overall performance and consideration of the achievement of individual goals established at the beginning of the year. Goals may be both quantitative and qualitative. For 2018 Mr. Vounatsos recommended to our C&MD Committee an Individual Multiplier for each named executive officer other than himself based on his assessment of their individual contributions for the full year. Our C&MD Committee considered all of the information presented, discussed our CEO's recommendations with him and its independent compensation consultant and applied its judgment to determine the Individual Multiplier for each named executive officer. Our Board of Directors determined Mr. Vounatsos' Individual Multiplier based on its assessment of his performance.

In its evaluation, our C&MD Committee assigned Individual Multipliers to our named executive officers of between 115% and 140% based on the following accomplishments during 2018:

#### *Michel Vounatsos*

- Contributed to the achievement of record revenues of \$13,453 million and \$26.20 Non-GAAP diluted EPS for the year ended December 31, 2018, versus targets of \$12,780 million and \$24.74, respectively.
- Excelled in leading the Company in achieving its financial and business development goals.
- Added substantial value to our business development activities and the diversification of our pipeline.
- Contributed significantly to the demonstrated resilience in our MS business, the continued successful launch of SPINRAZA worldwide and the significant progress made in our biosimilars business.
- Drove our ongoing improvements in our core processes to improve operating efficiencies, capital allocation and asset optimization while adhering to our core values.

#### *Jeffrey D. Capello*

- Contributed to the achievement of record revenues of \$13,453 million and \$26.20 Non-GAAP diluted EPS for the year ended December 31, 2018, versus targets of \$12,780 million and \$24.74, respectively.
- Significantly improved our Finance organization structure and key processes, including improved financial forecasting and planning and tax and treasury planning.
- Added substantial value to our business development activities and the diversification of our pipeline.
- Contributed to the return of approximately \$4.4 billion to stockholders in 2018 through share repurchases under our 2018 Share Repurchase Program and 2016 Share Repurchase Program.

Contributed to excellent interactions with investors leading to transparent and trusted dialogue.  
Contributed to improvements in our core processes to improve operating efficiencies, capital allocation and asset optimization while adhering to our core values.  
Supported our Board of Directors, the CEO and executive team.

Michael Ehlers

Exceeded portfolio value and clinical development goals.  
Significantly progressed and developed our pipeline.  
Significantly improved our Research and Development organization structure, key processes and productivity.  
Added new capabilities and talent to our Research and Development organization.  
Excelled in leadership of our Research and Development organization.  
Added substantial value to our business development activities.  
Contributed to excellent interactions with investors leading to transparent and trusted dialogue.

Susan H. Alexander

Supported our Board of Directors, the CEO and executive team and SEC disclosure requirements.  
Strengthened the intellectual property rights of our key assets, including our intellectual property related to TECFIDERA.  
Excelled in leadership of our Legal and Compliance teams.  
Contributed significantly on strategy and the resolution of general business issues affecting the Company, including our expansion into Asia Pacific and Latin America.  
Supported the effective transition of the corporate services functions, including IT, to Mr. Capello.

Paul F. McKenzie

Excelled in management of our large and complex manufacturing organization.  
Maintained excellence in manufacturing plant quality.

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**Executive Compensation Matters (continued)**

Excelled in leadership of our Pharmaceutical Operations and Technology organization.

Contributed significantly on strategy and the resolution of general business issues affecting the Company.

Contributed to the significant progress in our biosimilars business.

Exhibited outstanding leadership, fostering a culture of continuous improvement and cost-consciousness.

In addition, our C&MD Committee reviews on a qualitative basis each named executive officer's other contributions to the Company and our business, leadership competencies and relative performance among our named executive officers.

***2018 Annual Bonus Plan Awards***

Our C&MD Committee determined that the final bonus awards under our 2018 annual bonus plan were as follows:

	Year-end	Target	Company	Individual	Bonus
	Salary	Bonus%	Multiplier	Multiplier	Award
Name	(A) x	(B) x	(C) x	(D) =	(E)
M. Vounatsos	\$ 1,300,000	140%	131%	140%	\$ 3,337,880
J. Capello	\$ 750,000	70%	131%	115%	\$ 790,913
M. Ehlers	\$ 834,094	70%	131%	120%	\$ 917,837
S. Alexander	\$ 749,177	70%	131%	125%	\$ 858,744
P. McKenzie	\$ 633,938	70%	131%	135%	\$ 784,784

**Long-Term Incentives**

Terms	Performance Stock Units (PSUs)	Market Share Units (MSUs)
Proportion of	50%	50%

Annual Target Value			
Settlement	60% stock settled	40% cash settled	100% stock settled
Performance Period(s)	3 years (2018-2020)	1 year (each of 2018, 2019, 2020)	1 year, 2 years, 3 years (from grant date)
Metrics and Weighting	Adjusted Non-GAAP diluted EPS: 30%	Adjusted Free Cash Flow: 28%	Stock Price: 100%
	Pipeline Milestone Performance: 30%	Revenues: 12%	
Threshold / Maximum Payout (% of Target Award)	50% / 200%	50% / 200%	50% / 200%
Vesting	3-year Cliff Vesting	3-year Cliff Vesting	Annual Ratable Vesting over 3 years (1/3 per year)

All annual LTI awards granted to our executives are performance-based and designed to reward long-term Company performance.

Our executive annual LTI program for 2018 consisted of PSUs and MSUs, with the annual LTI total target grant value of awards being split evenly between PSUs and MSUs. The PSUs we awarded to executive officers are performance-based RSUs that are settled, as applicable, in cash and shares of our common stock. The MSUs we awarded to executive officers are performance-based RSUs that are settled in shares of our common stock. The performance conditions applicable to these PSUs and MSUs are described in further detail below.

Our annual LTI target grant values are differentiated based on an executive's individual performance, potential future contributions and market competitiveness, as well as other factors. In determining the annual LTI target grant value, our C&MD Committee reviews LTI awards of our peer group and also reviews the total compensation of our executive officers against our peer group. In general, we have a heavier weighting in executive compensation mix towards LTI awards. On average, annual LTI target grant values for our NEOs position their total compensation at or around the median values of our peer group in cases where there are comparable positions at the peer companies.

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## Executive Compensation Matters (continued)

We have an established annual LTI grant practice where LTI grants are made following the completion of our internal performance reviews of our executive officers as well as our external market review of equity practices of our peer group, including the data from the Willis Towers Watson survey described above. Since 2004 we have made our annual LTI grants in February of each year following our annual earnings release.

We generally grant time-based RSUs in lieu of PSUs at the time an executive is hired if employment commences after June 30<sup>th</sup>. These grants are generally granted on the first trading day of the month following the date of hire. From time to time, we also grant time-based RSUs to recognize extraordinary contributions to the Company or for transition or retention purposes.

In 2018 the annual LTI target grant values for our NEOs were as follows:

Name	Annual LTI Target Grant Value
M. Vounatsos	\$11,500,000
J. Capello <sup>(1)</sup>	n/a
M. Ehlers <sup>(2)</sup>	\$ 3,750,000
S. Alexander <sup>(2)</sup>	\$ 3,200,000
P. McKenzie <sup>(2)</sup>	\$ 3,000,000

*Notes to the 2018 Annual LTI Awards Table*

(1) In lieu of a 2018 annual LTI award, Mr. Capello received a new hire grant in January 2018, which consisted of PSUs and MSUs with an aggregate grant date target value of \$3.0 million. The initial determination of these awards took into account the Company's peer group data.

(2) In addition to the annual LTI award, Dr. Ehlers, Ms. Alexander and Dr. McKenzie each received a one-time transition award of RSUs, as described in further detail below.



The actual value that will be realized from PSU awards depends on the degree of achievement of performance goals, with 60% of the PSUs (based on the grant date target value) settled in shares of our common stock based upon achievement of cumulative three-year financial and pipeline metrics and the remaining 40% of the PSUs settled in cash based upon the achievement of two annual financial metrics that are determined at the beginning of each relevant year. The actual value that will be realized from PSU awards depends on our 30-day average common stock price growth between the grant date and each of the dates such awards vest. Our common stock price is influenced by the Company's performance as well as external market factors.

### *2018 PSUs*

PSUs comprised 50% of our executives' target LTI for 2018. PSUs are performance-based RSUs that have three-year cliff vesting in furtherance of the Company's long-term pay-for-performance philosophy and to encourage employee retention. PSUs align executive compensation to Company goals through performance against a combination of financial and pipeline milestone performance metrics. The actual value (if any) of PSUs will not be realized by the NEOs until the three-year period ends and then only if the applicable performance goals are achieved.

For our 2018 PSU awards, 60% of the PSUs (based on the grant date target value) will be settled in shares of our common stock based on achievement of financial and pipeline performance goals over a three-year performance period (the 2018 Stock-Settled PSUs). The remaining 40% of the PSUs will be settled in cash based on the achievement of three sets of one-year financial goals (the 2018 Cash-Settled PSUs) and continued employment through the vesting date. Our 2018 PSU awards are scheduled to vest in February 2021.

For our 2018 PSU awards, the number of PSUs earned at the end of the three-year performance period will be determined as follows:

In designing our 2018 PSU LTI program, our C&MD Committee acknowledged the need to balance driving long-term performance and investing for the future with achieving key milestones along the way. Cash payments are primarily aligned with and reward more recent performance, while equity awards encourage our executives to continue to deliver results over a longer period of time and also serve as a retention tool. Accordingly, our C&MD Committee determined that moving compensation for our executive officers further away from cash and towards equity awards with longer-term goals would further align their interests with those of Biogen's stockholders in creating long-term stockholder value.

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## Executive Compensation Matters (continued)

**2018 PSU Awards Table**

Set forth below is a summary of the performance metrics and weightings that our C&MD Committee established for our 2018 PSU awards and the degree to which we achieved the performance goals for the 2018 tranche of the 2018 Cash-Settled PSUs. Based on the results outlined in the table below, the multiplier for the 2018 tranche of the 2018 Cash-Settled PSUs was 192%.

Percentage of PSU Award	Percentage of PSU Target Value / Total LTI Target Value	Performance Metrics	Performance Metrics Performance		Target	Actual
			Weight	Period	Performance	Performance
Stock- Settled: 60%	60% / 30%	Adjusted Non-GAAP diluted EPS	30%	2018-2020	Specific goals are not disclosed for competitive reasons	
		Pipeline Milestone Performance	30%	2018-2020		
Cash- Settled: 40%	40% / 20%	Adjusted Free Cash Flows	28%	2018	\$ 2.9B	\$ 4.0B <sup>(1)</sup> TBD
				2019	Target set at beginning of 2019	TBD
		Revenues	12%	2020	Target set at beginning of 2020	TBD
					\$ 12.8B	
				2018	Target set at	\$ 13.4B <sup>(2)</sup> TBD
				2019	beginning of 2019 Target set at	TBD
				2020	beginning of 2020	

Notes to the 2018 PSU Awards Table

- (1) This financial measure was based on our Non-GAAP free cash flows, as adjusted to add back \$256 million to reflect the cash impact of additional research and development expense recognized in 2018 resulting from the 2018 Ionis Agreement, \$16 million to neutralize the unfavorable cash impact of the worldwide withdrawal of ZINBRYTA and \$33 million related to higher than originally contemplated stock repurchases in 2018, partially offset by the subtraction of \$235 million to reflect tax payments made in connection with tax reform, as these charges were not originally contemplated at the time these performance goals were determined.
- (2) This financial measure was based on our publicly reported revenues of \$13.5 billion, as adjusted to neutralize the effects of foreign exchange rate fluctuations.

The 2018 Stock-Settled PSUs metrics were approved by our C&MD Committee with equal weighting assigned to each metric. The two metrics selected were the achievement of a cumulative three-year adjusted Non-GAAP diluted EPS and pipeline milestone performance, in each case, for the three-year period of 2018 through 2020.

Adjusted Non-GAAP diluted EPS measured at the end of three-year performance period was selected to reinforce the importance of achieving long-term financial and operational performance. Our C&MD Committee believes that adjusted Non-GAAP diluted EPS is a transparent, operations-based measure.

Pipeline milestone performance over the three-year period of 2018 through 2020 was selected to drive our long-term strategic direction and stockholder value creation through our pipeline progress.

The 2018 Cash-Settled PSUs financial metrics are adjusted free cash flows and revenues. At the beginning of each year during the performance period for our 2018 PSU awards,

our C&MD Committee will approve the targets for each of these financial metrics for such year. Our C&MD Committee decided that because of the nature of our business, in which operating metrics can potentially be impacted positively or negatively by events outside of the control of executives, the design of the PSU program would be based, in part, on the use of three one-year financial goals.

Our C&MD Committee views free cash flow as a critical measure to align the interests of management with those of our stockholders as it reflects the net cash flows available to the Company to pursue opportunities that enhance stockholder value. As such, a cash flow performance goal encourages management to optimize capital expenditures, invest prudently in high return projects and optimize working capital.

We selected revenues as a performance measure to reinforce the importance of achieving and exceeding our revenue goal and to provide further incentive to achieve such goal.



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**Executive Compensation Matters (continued)**

In order to further motivate our executives to drive the organization toward the achievement of these goals, we provide for a maximum payout of 200% for our 2018 PSU awards. Participants may ultimately earn between 0% and 200% of the target number of PSUs granted based on the degree of actual performance goal achievement, generally subject to continued service with the Company.

**2018 MSUs**

MSUs comprised 50% of our executives' target LTI for 2018. MSUs are performance-based RSUs that are earned based on our common stock price performance from the date of grant to each of the three annual vesting dates. On each vesting date, the performance multiplier is derived based on the stock price growth measured from the grant date to such vesting date using the average closing stock price for the 30 calendar days following and including the grant date and 30 calendar days prior to and including such vesting date for MSUs granted in 2018.

Participants may ultimately earn between 0% and 200% of the target number of MSUs awarded based on actual stock performance. The maximum payout percentage of MSUs granted in 2018 is consistent with those granted in 2017 (200%). Once the performance multiplier is determined, it is applied to the target number of MSUs granted to each executive and can increase or decrease the overall number of MSUs earned based on stock price performance.

**MSU Illustration**

The three-year service vesting period ties executive compensation directly to our common stock price performance, as both the MSUs earned and the value actually received in respect of MSUs are dependent on the performance of our common stock over the vesting period. On each vesting date, the earned MSUs are settled in shares of our common stock.

The following table shows the vesting date, performance period and performance multiplier applied for MSUs vesting in 2018 and 2019:

Grant Date	Vesting Performance Performance		
	Date	Period	Multiplier
2/2018	2/2019	1 year	114%

2/2017	2/2019	2 years	124%
	2/2018	1 year	126%
2/2016	2/2019	3 years	134%
	2/2018	2 years	132%

### *2018 One-Time Transition Awards*

As part of our 2018 LTI program change and transition plan, our C&MD Committee decided to grant one-time transition awards in the form of time-based RSUs in February 2018 to certain executive officers, excluding Messrs. Vounatsos and Capello, which vest over a two-year period, with 33% vesting on the first anniversary of the grant date and 67% vesting on the second anniversary of the grant date. These awards were intended to help mitigate the impact on executives' compensation and cash flow disruption due to the program changes, including the change to the three-year cliff vesting schedule applied to the PSU awards discussed above compared to the annual installment vesting over three years that applied to the CSPUs that we previously granted.

In 2018 the one-time transition awards of RSUs for our NEOs were as follows:

Name	Grant	
	Date	Value
M. Vounatsos		n/a
J. Capello		n/a
M. Ehlers		\$ 1,500,000
S. Alexander		\$ 1,280,000
P. McKenzie		\$ 1,200,000

### **Retirement Plans**

We maintain a Supplemental Savings Plan (SSP), which is a non-qualified deferred compensation plan covering our executive officers and other eligible employees in the U.S. We offer the SSP as part of the retirement savings component of our benefits program. We designed the SSP to be competitive with the non-qualified deferred compensation plans offered by companies in our peer group at that time. Details of the SSP are discussed under the heading 2018 Non-Qualified Deferred Compensation below.

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**Executive Compensation Matters (continued)**

**Other Benefits**

In addition to eligibility for the benefit programs generally provided to all employees, such as our employee stock purchase plan, 401(k) plan and medical, dental, vision, life and disability insurance, we provide certain supplemental benefits to our executives. These benefits include:

***Life Insurance***

All of our U.S. executives, including our NEOs, receive Company-paid term life insurance equal to three times their annual base salary, up to a maximum benefit amount. In 2018 the maximum benefit amount for the CEO was \$1.5 million and was \$2.25 million for the other NEOs. Employees who are not executives receive Company-paid term life insurance equal to two times their annual base salary. The additional value of Company-provided life insurance for our executive officers reflects competitive practices and is consistent with our philosophy to provide appropriate levels of financial security for our employees based on their positions within the Company. The cost of Company-paid life insurance in excess of a \$50,000 insurance level is taxable income to U.S. employees and is not grossed up by the Company.

***Executive Physicals, Tax Preparation, Financial and Estate Planning***

Our executive officers, other than our CEO, are eligible for reimbursement of expenses incurred for tax preparation and financial and estate planning services, as well as the purchase of tax preparation and financial planning software, subject to annual expense limits of \$7,500 for Executive Vice Presidents. Such reimbursements are taxable income to our executives and are not grossed up.

All of our executive officers, including our CEO, are eligible for reimbursement for the cost of their executive physicals, subject to the annual expense limits noted above of \$7,500 for our Executive Vice Presidents and CEO. This benefit provides our executives with additional flexibility to proactively manage their health and wellness.

***Relocation Expenses***

Under our Executive Relocation Policy, we will, in certain circumstances, provide relocation benefits when employees first join us.

**Post-Termination Compensation and Benefits**

We provide severance benefits to all of our executive officers if they are terminated without cause or in certain other circumstances. The terms of these arrangements and the amounts payable under them are described below for each NEO under the heading **Potential Payments Upon Termination or Change in Control**. We provide these benefits

because we believe that severance protection is necessary to help our executives maintain their focus on the best interests of the Company when providing advice to the Company and when making strategic decisions about a potential corporate transaction or change in control, and further encourages effective leadership in the closing and integration of significant transactions affecting the Company.

### Stock Ownership Guidelines

We maintain stock ownership guidelines for our executive officers to strengthen and reinforce the link our compensation programs create between our executives and our stockholders. A summary of our stock ownership guidelines is set forth below.

	Number of Shares
Level	Equal in Value to:
CEO	6x base salary
Executive Vice Presidents	3x base salary

Executive officers have five years from their initial appointment to meet the requirement. In the event the requirement is not met within that time, 100% of vested shares received in respect of LTI awards are required to be held until the requirement is satisfied. Only stock owned outright or otherwise vested or earned performance-based shares is credited toward the stock ownership requirement. Shares underlying unvested or unearned performance-based shares are not included in the calculation. All of our executive officers currently meet the stock ownership requirement or are still within the five-year period to meet such requirement.

### Recoupment of Compensation

We may recover compensation from our employees, including our executive officers, who engage in detrimental or competitive activity. Detrimental activity includes any action or failure to act that constitutes financial malfeasance that is materially injurious to the Company, violates our Code of Conduct (Values in Action), results in a restatement of our earnings or financial results or results in a violation or breach of law or contract. Competitive activity includes any action or failure to act that violates non-disclosure, non-competition and/or non-solicitation agreements. Our 2008 Performance-Based Management Incentive Plan



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**5 Executive Compensation Matters (continued)**

allows for the forfeiture and/or repayment of cash-based awards and our 2008 Omnibus Equity Plan and our 2017 Omnibus Equity Plan each allow for the cancellation of LTI awards in these circumstances as well as the forfeiture of stock or cash acquired upon vesting or sale of LTI awards. In addition, cash sign-on bonuses paid to our NEOs may be subject to repayment if the NEO voluntarily resigns from the Company or if his or her employment is terminated by the Company in certain circumstances.

**Insider Trading, Hedging and Pledging Policy Prohibitions**

We maintain a Global Insider Trading and Information Policy that prohibits our employees and directors from, among other things, engaging in hedging or derivative transactions with respect to the Company's equity securities, purchasing Company stock on margin, pledging Company securities as collateral for a loan or engaging in short sales of the Company's securities.

**Tax-Deductibility of Compensation**

Section 162(m) of the Internal Revenue Code generally limits the amount a company may deduct for compensation in excess of \$1 million paid to certain covered employees, subject to certain transition relief applicable to certain arrangements in place as of November 2, 2017, and not materially modified after such date.

Our C&MD Committee regularly reviews the provisions of our plans and programs, works with its independent compensation consultant and reviews and considers,

among other things, the tax deductibility of compensation payments. Our C&MD Committee, however, believes that compensation programs that attract, retain and reward executive talent and achievement are necessary for our success and, therefore, are in the best interests of the Company and our stockholders and that, in establishing the cash and equity incentive compensation programs for the Company's executive officers, the potential deductibility of the compensation payable under such programs should only be one of a number of relevant factors taken into consideration. Consequently, our C&MD Committee may pay or provide, and has paid or provided, compensation that is not tax deductible in whole or in part.

**Compensation Committee Report**

The Compensation and Management Development Committee furnishes the following report:

The Compensation and Management Development Committee has reviewed and discussed the Compensation Discussion and Analysis with Biogen management. Based on this review and discussion, the Compensation and Management Development Committee recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this Proxy Statement.

**Submitted by,**

Robert W. Pangia (Chair)

Richard C. Mulligan

Eric K. Rowinsky

Lynn Schenk

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## Executive Compensation Matters (continued)

**Summary Compensation Table**

The following table shows the compensation paid to or earned by our NEOs during the years ended December 31, 2018, December 31, 2017, and December 31, 2016, for the year(s) in which they were a named executive officer.

Name and Principal Position	Year	Salary	Bonus <sup>(1)</sup>	Awards <sup>(2)</sup>	Stock Compensation <sup>(3)</sup>	Incentive Plan Compensation <sup>(4)</sup>	Nonqualified Deferred Compensation <sup>(5)</sup>	Change in Pension Value and Nonqualified Deferred Compensation <sup>(6)</sup>	All Other Compensation <sup>(7)</sup>	Total
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)		
<b>Michel Vounatsos<sup>(6)</sup></b> Chief Executive Officer	2018	\$ 1,276,923		\$ 11,064,897	\$ 3,337,880	\$ 80,663	\$ 408,283	\$ 16,168,646		
	2017	\$ 1,087,885		\$ 9,868,540	\$ 2,502,500	\$ 18,881	\$ 186,567	\$ 13,664,373		
	2016	\$ 519,231	\$ 1,500,000	\$ 3,151,199	\$ 447,799	\$ 1,598	\$ 181,568	\$ 5,801,395		
<b>Jeffrey D. Capello<sup>(7)</sup></b> Executive Vice President and Chief Financial Officer	2018	\$ 750,000		\$ 2,889,224	\$ 790,913		\$ 46,582	\$ 4,476,719		
	2017	\$ 28,846	\$ 520,000				\$ 132	\$ 548,978		
<b>Michael D. Ehlers</b> Executive Vice President, Research & Development	2018	\$ 829,511		\$ 5,107,535	\$ 917,837	\$ 5,258	\$ 186,510	\$ 7,046,651		
	2017	\$ 792,139		\$ 3,157,338	\$ 1,012,034	\$ 1,799	\$ 101,671	\$ 5,064,981		
	2016	\$ 491,827	\$ 1,170,177	\$ 3,410,650	\$ 425,062	\$ 155	\$ 14,665	\$ 5,512,536		

<b>Susan H. Alexander</b>	2018	\$ 746,254	\$ 4,359,590	\$ 858,744	\$188,056	\$201,140	\$ 6,353,784
Executive Vice President,	2017	\$ 720,630	\$ 3,157,338	\$ 856,305	\$148,961	\$178,008	\$ 5,061,242
Chief Legal Officer	2016	\$ 693,663	\$ 2,337,051	\$ 589,514	\$133,726	\$171,114	\$ 3,925,068
and Secretary							
<b>Paul F. McKenzie</b>	2018	\$ 630,455	\$ 4,083,884	\$ 784,784	\$ 12,367	\$154,406	\$ 5,665,896
Executive Vice President,	2017	\$ 600,433	\$ 3,514,451	\$ 796,648	\$ 2,471	\$101,254	\$ 5,015,257
Pharmaceutical							
Operations & Technology							

*Notes to the Summary Compensation Table*

- (1) The amounts in column (d) reflect sign-on bonuses paid to Messrs. Vounatsos and Capello and Dr. Ehlers at the time of hire. All other cash bonuses, which were based on achievement of performance goals under our annual bonus plan, are disclosed in column (f).
- (2) The amounts in column (e) reflect the grant date fair value computed in accordance with ASC 718 for RSUs, MSUs, PSUs and CSPUs granted during 2018, 2017 and 2016, as applicable, excluding the effect of estimated forfeitures. The cash portion of PSUs are included in the year when goals are set and fair value is determinable. The 2018 amounts include one-third of the 2018 Cash-Settled PSUs, which is the tranche of the award for which goals had been set in 2018 relating to the 2018 performance period. The 2018 amounts also include one-time transition awards of RSUs granted to each of the NEOs, except Messrs. Vounatsos and Capello, as described under 2018 One-Time Transition Awards above. The 2017 amounts for Dr. McKenzie represent grants of MSUs, CSPUs and RSUs, as described in Executive Compensation Matters Compensation Discussion and Analysis 2017 and 2018 Hiring- and Transition-Related Compensation Decisions Arrangement with Dr. McKenzie in our 2018 proxy statement. The 2016 amounts for Dr. Ehlers represent grants of MSUs, CSPUs and RSUs as described in Executive Compensation Matters Compensation Discussion and Analysis 2016 and 2017 Hiring- and Transition-Related Compensation Decisions Arrangements with Mr. Vounatsos and Dr. Ehlers in our 2017 proxy statement. The awards granted before February 1, 2017, were subsequently adjusted pursuant to the anti-dilution provisions of such awards in connection with the spin-off of our hemophilia business on February 1, 2017. The amounts reported in this column were not impacted by such anti-dilution adjustments. The grant date fair value for MSU awards are estimated as of the date of grant using a lattice model with a Monte Carlo simulation, based on the probable outcome of applicable performance conditions. The grant date fair value for PSU, CSPU and RSU awards was determined by multiplying the number of shares subject to the award (assuming target performance for PSUs and CSPUs) by the closing price of the Company's common stock on the grant date. The assumptions used to calculate the grant date fair value of stock awards are included in footnote 16 of our 2018 Annual Report on Form 10-K. The table below shows the target and maximum payouts possible for the 2018, 2017 and 2016 MSU, PSU and CSPU awards based on the value at the date of grant and the target and maximum payout levels.

	2018		2017		2016	
	Target	Maximum	Target	Maximum	Target	Maximum
Executive Officer	Payout	Payout	Payout	Payout	Payout	Payout
Mr. Vounatsos	\$11,064,897	\$22,129,794	\$9,868,540	\$19,737,080	\$3,151,199	\$6,302,398
Mr. Capello	\$ 2,889,224	\$ 5,778,448				
Dr. Ehlers	\$ 3,608,292	\$ 7,216,584	\$3,157,338	\$ 6,314,676	\$2,540,438	\$5,080,876
Ms. Alexander	\$ 3,078,822	\$ 6,157,644	\$3,157,338	\$ 6,314,676	\$2,337,051	\$4,674,102
Dr. McKenzie	\$ 2,883,856	\$ 5,767,712	\$2,713,851	\$ 5,427,702		



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**Executive Compensation Matters (continued)**

- (3) The amounts in column (f) reflect actual bonuses paid under our annual bonus plan for the applicable year.
- (4) The amounts in column (g) reflect earnings in the SSP that are in excess of 120% of the applicable federal long-term rate. The federal long-term rates applied in this calculation are 3.06%, 3.26% and 3.14% for 2018, 2017 and 2016, respectively. The SSP is described under the heading 2018 Non-Qualified Deferred Compensation below.
- (5) The amounts in column (h) for 2018 reflect the following:

Executive Officer	Company		Value of		Relocation <sup>(9)</sup>
	Matching	Contribution	Company	Personal	
	to 401(k) Plan	to SSP	Health and Financial	Paid Life Insurance	
	Account	Account	Planning <sup>(8)</sup>	Premium	
Mr. Vounatsos	\$ 16,500	\$ 387,134	\$ 3,594	\$ 1,055	
Mr. Capello	\$ 16,500	\$ 28,500		\$ 1,582	
Dr. Ehlers	\$ 16,500	\$ 168,428		\$ 1,582	
Ms. Alexander	\$ 16,500	\$ 176,553	\$ 6,560	\$ 1,527	
Dr. McKenzie	\$ 16,500	\$ 118,612	\$ 5,179	\$ 1,274	\$ 12,841

- (6) Mr. Vounatsos joined Biogen as our Executive Vice President, Chief Commercial Officer effective April 18, 2016. Mr. Vounatsos was appointed our Chief Executive Officer and a member of our Board of Directors effective January 6, 2017. His base salary for 2017 was \$1,100,000, of which he received a pro rata share from January 6, 2017 to December 31, 2017. From January 1, 2017 to January 5, 2017, he was paid at his prior rate of base salary (\$750,000).
- (7) Mr. Capello was appointed as our Executive Vice President and Chief Financial Officer effective December 11, 2017. His base salary for 2017 was \$750,000, of which he received a pro rata share from December 11, 2017 to December 31, 2017. Mr. Capello was not eligible to participate in our 2017 annual bonus plan and was not granted any stock awards in 2017.
- (8) Represents reimbursements of expenses relating to tax, financial and estate planning and executive physicals as described under the heading Executive Physicals, Tax Preparation, Financial and Estate Planning above.
- (9) The amount for Dr. McKenzie reflects relocation benefits under the Company's Executive Relocation Policy and includes a tax gross-up of \$1,518.



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## Executive Compensation Matters (continued)

**2018 Grants of Plan-Based Awards**

The following table shows additional information regarding all grants of plan-based awards made to our NEOs for the year ended December 31, 2018.

Name	Grant Date	Notes	Estimated Future Payouts Under Non-Equity Incentive Plan Awards <sup>(1)</sup>			Estimated Future Payouts Under Equity Incentive Plan Awards(#) <sup>(1)</sup>			All Other Stock Awards: Grant Date Number Fair Value of Shares of Stock Awards <sup>(2)</sup>	
			Threshold	Target	Maximum	Threshold	Target	Maximum	of Shares or Units (#) (i)	(j)
			(c)	(d)	(e)	(f)	(g)	(h)	(#) (i)	(j)
			(c)	(d)	(e)	(f)	(g)	(h)	(#) (i)	(j)
Michel Vounatsos	02/12/2018	(3)				9,080	18,160	36,320		\$ 6,856,251
	02/12/2018	(4)				6,646	13,292	26,584		\$ 4,208,646
	02/12/2018	(5)	\$ 455,000	\$ 1,820,000	\$ 4,095,000					
Jeffrey D. Capello	01/02/2018	(3)				2,245	4,490	8,980		\$ 1,789,136
	01/02/2018	(4)				1,646	3,292	6,584		\$ 1,100,088
	02/12/2018	(5)	\$ 131,250	\$ 525,000	\$ 1,181,250					
Michael D. Ehlers	02/12/2018	(3)				2,960	5,920	11,840		\$ 2,235,068
	02/12/2018	(4)				2,169	4,337	8,674		\$ 1,373,224
	02/12/2018	(5)	\$ 145,966	\$ 583,866	\$ 1,313,698					
	02/12/2018	(6)							4,735	\$ 1,499,243
Susan H. Alexander	02/12/2018	(3)				2,528	5,055	10,110		\$ 1,908,558
	02/12/2018	(4)				1,848	3,696	7,392		\$ 1,170,264
	02/12/2018	(5)	\$ 131,106	\$ 524,424	\$ 1,179,954					
	02/12/2018	(6)							4,045	\$ 1,280,768



Paul F.									
McKenzie	02/12/2018	(3)				2,368	4,735	9,470	\$ 1,787,683
	02/12/2018	(4)				1,731	3,462	6,924	\$ 1,096,173
	02/12/2018	(5)	\$ 110,939	\$ 443,757	\$ 998,452				
	02/12/2018	(6)						3,790	\$ 1,200,028

*Notes to the 2018 Grants of Plan-Based Awards Table*

- (1) Reflects the potential future payouts of awards granted in 2018 under our 2018 annual bonus plan and our LTI program for each NEO as of the respective grant dates.
- (2) Represents the grant date fair value of PSUs, MSUs and RSUs, computed in accordance with ASC 718, excluding the effect of estimated forfeitures. The grant date fair value for MSU awards is estimated as of the date of grant using a lattice model with a Monte Carlo simulation based on the probable outcome of applicable performance conditions. The grant date fair value for both PSU and RSU awards is determined by multiplying the number of shares subject to the award (assuming target performance for PSUs) by the closing price of our common stock on the grant date. For the 2018 Cash-Settled PSUs, the grant date value of one-third of the award is included, which is the tranche of the award for which goals had been set relating to the 2018 performance period and fair value was determinable in 2018. The remaining tranches of the 2018 Cash-Settled PSUs will be included in compensation tables for 2019 and 2020, the years when goals will be set with respect to such performance periods and fair value is determinable. The assumptions used to calculate the grant date fair value of stock awards are included in footnote 16 of our 2018 Annual Report on Form 10-K. The maximum payouts for these awards are included in the footnotes following the Summary Compensation Table above.
- (3) These amounts relate to the annual grant of MSUs. MSU grants represent 50% of the annual LTI grant date target value (excluding one-time RSU grants). These are performance-based RSUs tied to the growth in our stock price between the grant date and each of three annual vesting dates. The number of MSUs earned is determined on each vesting date. Columns (f), (g) and (h) represent the number of MSUs that can be earned based on performance at the threshold level of 50%, target level of 100% and the maximum level of 200%, respectively. To the extent earned, the award becomes eligible to vest ratably over three years, generally subject to continued service, as described in further detail under the heading *Long-Term Incentives* above.
- (4) These amounts relate to the annual grant of PSUs. PSU grants represent 50% of the annual LTI grant date target value (excluding one-time RSU grants). The PSUs have three-year cliff vesting. The amounts shown include the 2018 Stock-Settled PSUs and one-third of the 2018 Cash-Settled PSUs, which is the tranche of the award for which goals had been set in 2018 relating to the 2018 performance period and fair value was determinable in 2018. The remaining tranches of the 2018 Cash-Settled PSUs will be included in compensation tables for 2019 and 2020, the years when goals will be set with respect to such performance periods and fair value is determinable. Columns (f), (g) and (h) represent the number of 2018 Stock-Settled PSUs and the 2018 tranche of the 2018 Cash-Settled PSUs that can be earned if the Company Multiplier were 50%, 100% and 200%, respectively. For additional information on our PSU awards, please see *Long-Term Incentives 2018 PSUs* above.
- (5) These amounts relate to our 2018 annual bonus plan. The amounts shown in column (d) represent the 2018 target payout amount based on the target percentage applied to each NEO's base salary as of December 31, 2018. For 2018 the bonus targets were 140% of base salary for Mr. Vounatsos and 70% of base salary for all other NEOs. The amounts in column (c), (d) and (e) represent a payment if the Company Multiplier and the Individual Multiplier were each 50%, 100% and 150%, respectively. Actual amounts paid to each NEO

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## Executive Compensation Matters (continued)

under our 2018 annual bonus plan are included in the Non-Equity Incentive Plan Compensation column of the Summary Compensation Table above.

(6) These amounts relate to one-time transition awards of RSUs granted to each of the NEOs, except Messrs. Vounatsos and Capello, as described under 2018 One-Time Transition Awards above.

**Outstanding Equity Awards at 2018 Fiscal Year-End**

The following table summarizes the equity awards that were outstanding as of December 31, 2018, for each of our NEOs.

Option Awards							Stock Awards Equity Incentive Plan Awards			
			Number of Securities Underlying Unexercised Options		Option Exercise Price	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested	Market Value of Shares or Units of Stock That Have Not Vested	Number of Unearned Shares or Units That Have Not Vested	Market Value of Unearned Shares or Units That Have Not Vested <sup>(1)</sup>
(a)	(b) Grant Date	(c) Notes	(d) Exercisable	(e) Unexercisable	(f) Price	(g) Date	(h) Vested	(i) Vested	(j) Vested	(k) Vested <sup>(1)</sup>
<b>Michel Vounatsos</b>										
	5/2/2016	(2)					2,320	\$ 698,134		
	5/2/2016	(3)							3,252	\$ 978,592
	2/15/2017	(2)					14,080	\$ 4,236,954		
	2/15/2017	(3)							17,002	\$ 5,116,242

	2/12/2018	(3)				36,320	\$ 10,929,414
	2/12/2018	(4)			4,602	\$ 1,384,834	15,763 \$ 4,743,402
<b>Jeffrey D. Capello</b>	1/2/2018	(3)				4,490	\$ 1,351,131
	1/2/2018	(4)			1,146	\$ 344,854	3,893 \$ 1,171,482
<b>Michael D. Ehlers</b>	6/1/2016	(2)			1,821	\$ 547,975	
	6/1/2016	(3)					2,502 \$ 752,902
	6/1/2016	(5)			1,036	\$ 311,753	
	2/15/2017	(2)			4,504	\$ 1,355,344	
	2/15/2017	(3)					5,442 \$ 1,637,607
	2/12/2018	(3)					11,840 \$ 3,562,893
	2/12/2018	(4)			1,501	\$ 451,681	5,143 \$ 1,547,632
	2/12/2018	(5)			4,735	\$ 1,424,856	
<b>Susan H. Alexander</b>	2/24/2009	(6)	6,395	\$48.52	2/23/2019		
	2/22/2016	(2)			1,806	\$ 543,462	
	2/22/2016	(3)					2,482 \$ 746,883
	2/15/2017	(2)			4,504	\$ 1,355,344	
	2/15/2017	(3)					5,442 \$ 1,637,607
	2/12/2018	(3)					10,110 \$ 3,042,301
	2/12/2018	(4)			1,279	\$ 384,877	4,384 \$ 1,319,233
	2/12/2018	(5)			4,045	\$ 1,217,221	
<b>Paul F. McKenzie</b>	3/1/2016	(2)			616	\$ 185,367	
	3/1/2016	(3)					848 \$ 255,180
	2/15/2017	(2)			3,875	\$ 1,166,065	
	2/15/2017	(3)					4,674 \$ 1,406,500
	3/1/2017	(5)			1,820	\$ 547,674	
	2/12/2018	(3)					9,470 \$ 2,849,712
	2/12/2018	(4)			1,194	\$ 359,298	4,108 \$ 1,236,179
	2/12/2018	(5)			3,790	\$ 1,140,487	

*Notes to the Outstanding Equity Awards at 2018 Fiscal Year End Table*

- (1) The market value of awards is based on the closing price of our stock on December 31, 2018 (\$300.92), as reported by Nasdaq.
- (2) CSPUs were granted in 2017 and 2016. The numbers in column (g) reflect the number of CSPUs that were earned based on our financial performance for each of 2017 and 2016, but that had not vested based on our service-based vesting requirement as of December 31, 2018. CSPUs that have been earned based on the satisfaction of the performance conditions vest ratably over three years from the grant date. The cash payout for these awards will be based on our 30-day average closing stock price at vesting. Grants made before February 1, 2017, were adjusted pursuant to the anti-dilution provisions of such awards in connection with the spin-off of our hemophilia business on February 1, 2017. The amounts listed above reflect adjusted share amounts.
- (3) MSUs were granted in 2018, 2017 and 2016. These are performance-based RSUs earned based on the growth in our stock price between the dates of grant and vesting. Earned MSUs are eligible to vest ratably over three years. The number and value shown in columns (i) and (j), respectively, reflects maximum performance results for MSUs granted in 2018, 2017 and 2016 based on the estimated performance at year-end in each case except for Mr. Capello's January 2, 2018, grant, for which columns (i) and (j) reflect target performance results based on the estimated performance at year-end. Grants made before February 1, 2017, were adjusted pursuant to the

anti-dilution provisions of such awards in connection with the spin-off of our hemophilia business on February 1, 2017. The amounts listed above reflect adjusted share amounts.

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**Executive Compensation Matters (continued)**

- (4) PSUs were granted in 2018. The PSUs are subject to three-year cliff vesting. In addition, 60% of the PSUs (based on the grant date target value) will be settled in shares of our common stock and performance will be based upon achievement of cumulative three-year financial and pipeline goals. The remaining 40% of the PSUs will be settled in cash and performance will be based upon the achievement of three annual financial goals determined at the beginning of each relevant year. The number and value shown in columns (g) and (h), respectively, reflect the number of 2018 Cash-Settled PSUs that were earned based on our achievement of the annual performance goals for the 2018 tranche, but that will not vest until February 12, 2021. The number and value shown in columns (i) and (j), respectively, reflect the remaining portion of the PSUs granted in 2018 (including the 2019 and 2020 tranches of the 2018 Cash-Settled PSUs) assuming target performance results. For additional information on our PSU awards, please see Long-Term Incentives 2018 PSUs above.
- (5) RSUs were granted in 2018, 2017 and 2016 for special circumstances. 2018 RSU awards relate to one-time transition awards granted to each of the NEOs, except Messrs. Vounatsos and Capello, as described under 2018 One-Time Transition Awards above. For Dr. Ehlers and Dr. McKenzie, the amounts in this column also reflect 3,104 RSUs granted to Dr. Ehlers on June 1, 2016, in connection with his hiring and 2,730 RSUs granted to Dr. McKenzie on March 1, 2017, under his one-time award, as described in more detail under the heading Executive Compensation Matters Compensation Discussion and Analysis 2017 and 2018 Hiring- and Transition-Related Compensation Decisions Arrangement with Dr. McKenzie in our 2018 proxy statement, in each case vesting ratably over three years from the grant date. Grants made before February 1, 2017, were adjusted pursuant to the anti-dilution provisions of such awards in connection with the spin-off of our hemophilia business on February 1, 2017. The amounts listed above reflect adjusted share amounts.
- (6) These stock options were granted with a ten-year term. Stock options vest 25% on each of the first four anniversaries of the grant date. These stock options were adjusted pursuant to the anti-dilution provisions of the award in connection with the spin-off of our hemophilia business on February 1, 2017. The amounts listed above reflect adjusted share and exercise price amounts.

**2018 Option Exercises and Stock Vested**

Our executive officers must use pre-established trading plans to sell shares of our common stock. Trading plans may only be entered into during an open trading window and when the executive is not in possession of material non-public information about the Company, and we require a waiting period following the establishment of a trading plan before any trades may be executed. Our policy is designed to provide safeguards while allowing our executives an opportunity to realize the value intended by the Company in granting equity-based LTI awards.

Our NEOs are also subject to the stock ownership guidelines described above under the heading Stock Ownership Guidelines.

The following table shows information regarding vesting of stock awards for each NEO during the year ended December 31, 2018. None of the NEOs exercised stock options during the year ended December 31, 2018.

Name	Stock Awards	
	Number of Shares Acquired on Vesting <sup>(1)</sup>	Value Realized on Vesting <sup>(2)(3)</sup>
Michel Vounatsos	16,294	\$ 5,013,149
Jeffrey D. Capello		
Michael D. Ehlers	8,115	\$ 2,471,489
Susan H. Alexander	9,111	\$ 2,844,100
Paul F. McKenzie	5,419	\$ 1,672,605

*Notes to the 2018 Option Exercises and Stock Vested Table*

(1) CSPUs were settled in cash for all of our NEOs. The number of actual shares of our common stock acquired on vesting with respect to MSUs and RSUs, as applicable, after shares were withheld to pay the minimum withholding of taxes was as follows:

	Net Shares
	Acquired <sup>(4)</sup>
Mr. Vounatsos	4,414
Mr. Capello	
Dr. Ehlers	2,545
Ms. Alexander	2,586
Dr. McKenzie	1,830

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**Executive Compensation Matters (continued)**

- (2) The value realized for MSUs and RSUs are calculated by multiplying the closing price of a share of our common stock on the vesting date by the total number of shares that vested on such date. The value realized for CSPUs is calculated using the 30-day average closing price of the common stock of the Company through the vesting date.
- (3) The value realized upon vesting for Dr. McKenzie includes CSPUs with a value of \$304,487, the receipt of which was deferred under the SSP, as described below. Terms of the non-qualified deferred compensation plan are described under the heading **2018 Non-Qualified Deferred Compensation** below.
- (4) MSUs and RSUs were settled in shares of our common stock. CSPUs were settled in cash.

**2018 Non-Qualified Deferred Compensation**

The SSP covers our executive officers and other eligible employees in the U.S. whose base salary and annual cash incentives for the year exceed a specified Internal Revenue Services limit (\$275,000 in 2018) receive a Company-paid restoration match on the portion of their base salary, annual bonus and cash payments in respect of CSPUs and PSUs, as applicable, that exceeds this limit; the restoration match equals 6% of this excess compensation. The restoration match feature is intended to provide the amount of matching employer contributions that the participant would otherwise have been eligible to receive under our 401(k) plan but for the \$275,000 limit imposed by Section 401(a)(17) of the Internal Revenue Code. In addition, eligible employees may make voluntary contributions of up to 80% of their base salary and 100% of their annual bonus and cash payments in respect of CSPUs and PSUs, as applicable, to the SSP, and thereby defer income taxes on such amounts until distribution is made from the SSP. The Company does not match participants' voluntary contributions to the SSP. The SSP provides for immediate vesting of the restoration match consistent with our immediate vesting of the Company match provided under our 401(k) plan.

Notional SSP accounts are maintained for each participant. Accounts include employee and employer contributions and reflect the performance of notional investments selected by the employee or a default investment if the employee does not make a selection. These notional investment options

include the mutual funds offered under our 401(k) plan as well as a fixed rate option which earns a rate of return determined each year by the Company's retirement committee. For contributions to the SSP fixed rate option in 2018, this rate of return was set at 5%. Contributions to the fixed rate option continue to earn interest at the rate of return that was in effect during the year of contribution. The excess of the interest rate paid on the fixed rate option above 120% of the applicable federal long-term rate (compounded quarterly) earned by our NEOs during 2018 is shown in the Summary Compensation Table. We fund the SSP liabilities through corporate-owned life insurance (COLI), which we purchase with the written consent of SSP participants, and investments in mutual funds. We believe that the COLI policies and mutual funds will be sufficient to cover plan liabilities through the projected payout date so the plan will not require direct funding by the Company. Upon enrollment in the SSP, a participant must elect when and how distributions will be made from the participant's account. Distributions can be made upon termination of the

participant's employment, either in a lump sum or up to 15 annual installments, or at a specified future date while the participant is still employed (an in-service distribution), either in a lump sum or up to 5 annual installments. Further, upon enrollment, a participant must also elect a distribution method upon death or a change in control of the Company, which can either be a lump sum payment or, if different, the method selected for payment upon termination of employment.

The following table shows a summary of all contributions to, earnings on and distributions received from the SSP for each of our NEOs for the year ended December 31, 2018. The account balances as of year-end include all contributions and interest amounts earned by our NEOs through the end of 2018 plus the SSP contributions that the Company made in early 2019 based on earnings in the last quarter of 2018.

Name	Executive Contributions in Last Fiscal Year <sup>(1)</sup>	Company Contributions in Last Fiscal Year <sup>(2)</sup>	Aggregate Earnings in Last Fiscal Year <sup>(3)</sup>	Aggregate Distributions in Last Fiscal Year	Aggregate Balance at Last Fiscal Year-End <sup>(4)</sup>
Michel Vounatsos	\$ 3,071,852	\$ 387,134	\$ 205,737		\$ 5,160,044
Jeffrey D. Capello		\$ 28,500	\$ 60		\$ 28,560
Michael D. Ehlers	\$ 552,463	\$ 168,428	\$ (80,992)		\$ 1,270,192
Susan H. Alexander	\$ 826,451	\$ 176,553	\$ 392,167		\$ 7,259,032
Paul F. McKenzie	\$ 860,425	\$ 118,612	\$ 2,629		\$ 1,320,342



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**Executive Compensation Matters (continued)***Notes to the 2018 Non-Qualified Deferred Compensation Table*

- (1) The amounts in this column are also included, in part, in columns (c), (e) and/or (f) of the Summary Compensation Table and represent deferral of salary, deferral of payments under our 2018 annual bonus plan and deferral of CSPU payments, respectively.
- (2) The amounts in this column are also included in column (h) of the Summary Compensation Table for 2018 as Company contributions to the SSP.
- (3) Earnings in excess of 120% of the applicable federal long-term rate are reported in column (g) of the Summary Compensation Table for 2018 for Mr. Vounatsos (\$80,663), Dr. Ehlers (\$5,258), Ms. Alexander (\$188,056) and Dr. McKenzie (\$12,367).
- (4) The following table lists the compensation deferrals during 2018 and 2017 by the NEOs, as reported, where applicable, in the proxy statement for our 2018 and 2017 Annual Meetings of Stockholders:

Name	Amounts Previously Reported as Deferred	
	2017	2016
Mr. Vounatsos	\$ 1,025,867	\$ 300,000
Mr. Capello		
Dr. Ehlers	\$ 365,160	\$ 116,250
Ms. Alexander	\$ 573,897	\$ 259,816
Dr. McKenzie	\$ 221,128	

This column also includes Company contributions and compensation earned and deferred in prior years, which was disclosed in our prior proxy statements where applicable, together with earnings on these amounts.

**Potential Payments Upon Termination or Change in Control*****Executive Severance Policy******Definition of Key Terms Relating to our Executive Severance Policy***

Our executive severance policy and benefits refer to certain key terms. These terms are defined in our 2017 Omnibus Equity Plan.

### *Executive Vice President Arrangements*

Each of our NEOs, other than Mr. Vounatsos, were covered by our executive severance policy in 2018 under which they were eligible to receive the following benefits if certain events occurred during 2018:

In the event of a termination of employment other than for cause and other than by reason of the executive's death or disability, the NEO would be entitled to receive a lump sum severance payment equal to a minimum of 12 months of such NEO's then base salary and target bonus, with an additional 2 months of base salary and target bonus for each full year of service to a maximum benefit of 21 months of base salary and target bonus. We refer to the number of months of severance a NEO is entitled to receive as the severance period.

If, within two years following a corporate transaction or a corporate change in control, the NEO experiences a termination of employment other than for cause and other than by reason of death or disability or experiences an involuntary employment action, the NEO would be entitled to a lump sum severance payment equal to two times the NEO's then-annual base salary plus target annual bonus. These payments are in lieu of any payment in the preceding paragraph.

The payment of these severance benefits is conditioned upon execution of an irrevocable release in favor of the Company.

The executive severance policy does not pay severance upon a termination for cause, voluntary resignation, retirement or death or disability.

In any case where severance is payable under our executive severance policy, our NEOs would also receive continuation of medical, dental and vision insurance benefits until the earlier of the last date of the severance period or the date the executive becomes eligible to participate in another employer's medical, dental and vision insurance plans. NEOs would also be provided up to 12 months of executive-level outplacement services at our cost.

### *Annual Bonus Plan*

Our annual bonus plan provides for a prorated target bonus payment upon a termination of employment due to the death or disability of the participant. As our annual bonus plan provides for payment of a full bonus to any participant remaining employed on the last day of the plan year, annual bonus amounts are not included in the Potential Post-Termination Payments Table below.

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**Executive Compensation Matters (continued)***Mr. Vounatsos Arrangements*

We entered into an employment agreement with Mr. Vounatsos effective January 6, 2017, with an initial term ending on December 31, 2019, at which time the term automatically extends for additional 12-month periods until the agreement is otherwise terminated in accordance with its terms.

Under Mr. Vounatsos' employment agreement, if his employment is terminated by the Company without cause or if he terminates his employment for good reason (referred to in his employment agreement as an involuntary employment action), then he would be entitled to a lump sum payment of cash severance in the amount of one and one-half times his annual base salary and target annual bonus. If, however, such termination of employment occurs within two years following a corporate transaction or a corporate change in control (CIC), then he would be entitled to a lump sum payment of cash severance in the amount of two times his annual base salary and target annual bonus. Mr. Vounatsos would also receive continuation of medical, dental and vision benefits until the earlier of 18 months (24 months if within 2 years of a CIC) following the date his employment terminates or the date upon which he becomes eligible to receive substantially comparable benefits through another employer. In addition, he would be entitled to receive a pro rata portion of his annual cash bonus for the year that such termination occurs based on actual performance or, in the event the termination occurs within two years following a CIC, his target annual bonus. Mr. Vounatsos would also be provided executive-level outplacement services for a 12-month period following the termination date at our cost. The payment of Mr. Vounatsos' severance benefits is conditioned upon execution of general release in favor of the Company.

*Excise Tax Provisions*

Before June 2009 we maintained an excise tax gross-up policy for all of our executives, including certain of our NEOs. Under this policy, if payments to these executive officers in the event of a corporate transaction or corporate change in control were subject to the excise tax under Internal Revenue Code Section 4999, we would pay the executive officer an additional amount that equals the amount of the excise tax, plus the income and other payroll taxes arising from our payment of the excise tax amount (280G tax gross-up), so that the executive officer realized the full intended benefit.

In June 2009 we changed our excise tax gross-up policy so that newly-hired executives are not eligible for any 280G tax gross-up but may elect to have severance payments reduced to an amount that will not be subject to excise tax. Consistent with this policy, as Ms. Alexander was already eligible for this benefit prior to June 2009, she remains eligible for a 280G tax gross up. No other NEO is eligible for this benefit.

*Awards Under Equity Plans*

Under the provisions of our 2008 Omnibus Equity Plan and our 2017 Omnibus Equity Plan, unless otherwise determined by our C&MD Committee at the time of grant, awards will vest or become exercisable in full immediately

prior to an involuntary employment action that occurs within two years following a corporate change in control (i.e., upon a double trigger ).

In the event of a corporate transaction, we can either cause the surviving corporation to assume all equity awards or accelerate their vesting and exercisability immediately before the corporate transaction. If the equity awards are assumed and an executive officer's employment is terminated in an involuntary employment action within two years following the corporate transaction, the equity awards that are assumed will become fully vested and, if applicable, exercisable. Under our equity plans, any assumed awards that become vested will remain exercisable through the earlier of 12 months from the termination date or the original option expiration date.

If the holder of an equity award retires, which is defined under our equity plans as leaving the employment of Biogen after reaching age 55 with 10 consecutive years of service, each then outstanding time-based equity award or earned performance-based equity award not yet vested or exercisable will become immediately vested or exercisable upon such termination at a rate of 50% of the shares unvested at the time of retirement plus an additional 10% of the shares for each full year of service beyond 10 years of service (and performance-based awards would remain eligible to vest based on actual performance). Options vested under these provisions remain exercisable for 36 months from retirement or until the original option expiration date, if sooner. Upon a termination of employment due to death or disability, all unvested time-based equity awards and earned performance-based equity awards vest in full and all unearned performance-based equity awards remain eligible to vest based on actual performance.

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## Executive Compensation Matters (continued)

***Potential Post-Termination Payments Table***

The following table summarizes the potential payments to each NEO under various termination events. The table assumes that the event occurred on December 31, 2018, for all NEOs. The calculations use the closing price of our common stock as reported by Nasdaq on December 31, 2018, which was \$300.92 per share.

Name and Payment Elements <sup>(1)</sup>	Retirement <sup>(2)</sup>	Qualifying Termination of Employment Not Following a Corporate Transaction or Change in Control	Qualifying Termination of Employment Following a Corporate Transaction or Change in Control
		(c) <sup>(3)</sup>	(d) <sup>(3)</sup>
<b>Michel Vounatsos<sup>(4)</sup></b>			
Severance		\$ 4,680,000	\$ 6,240,000
Performance-based RSUs			\$ 20,523,378
Medical, Dental and Vision Outplacement <sup>(5)</sup>		\$ 29,709 \$ 32,000	\$ 39,613 \$ 32,000
<b>Total</b>		<b>\$ 4,741,709</b>	<b>\$ 26,834,991</b>
<b>Jeffrey D. Capello</b>			
Severance		\$ 1,487,500	\$ 2,550,000
Performance-based RSUs			\$ 2,736,395
Medical, Dental and Vision Outplacement <sup>(5)</sup>		\$ 22,611 \$ 32,000	\$ 38,761 \$ 32,000
<b>Total</b>		<b>\$ 1,542,111</b>	<b>\$ 5,357,156</b>
<b>Michael D. Ehlers</b>			
Severance		\$ 1,890,613	\$ 2,835,920
Performance-based RSUs			\$ 7,240,328
Time-based RSUs			\$ 1,736,609

Medical, Dental and Vision		\$ 25,574	\$ 38,361
Outplacement <sup>(5)</sup>		\$ 32,000	\$ 32,000
<b>Total</b>		<b>\$ 1,948,187</b>	<b>\$ 11,883,218</b>
<b>Susan H. Alexander</b>			
Severance		\$ 2,228,802	\$ 2,547,202
Performance-based RSUs	\$ 4,671,689	\$ 4,671,689	\$ 6,673,841
Time-based RSUs	\$ 852,055	\$ 852,055	\$ 1,217,221
Medical, Dental and Vision		\$ 23,544	\$ 26,908
Outplacement <sup>(5)</sup>		\$ 32,000	\$ 32,000
280G Tax Gross-Up <sup>(6)</sup>			
<b>Total</b>	<b>\$ 5,523,744</b>	<b>\$ 7,808,090</b>	<b>\$ 10,497,172</b>
<b>Paul F. McKenzie</b>			
Severance		\$ 1,436,926	\$ 2,155,389
Performance-based RSUs			\$ 5,463,914
Time-based RSUs			\$ 1,688,161
Medical, Dental and Vision		\$ 26,183	\$ 39,274
Outplacement <sup>(5)</sup>		\$ 32,000	\$ 32,000
<b>Total</b>		<b>\$ 1,495,109</b>	<b>\$ 9,378,738</b>

*Notes to the Potential Post-Termination Payments Table*

- (1) In the event of an executive's death or disability, all outstanding time-based equity awards and earned performance-based equity awards under the Company's LTI program will vest in full and all unearned performance-based equity awards will remain outstanding and eligible to vest based on actual performance. The value of such accelerated awards for all NEOs would be the same amount as shown in column (d) for such NEO (based on actual performance estimated as of December 31, 2018).
- (2) Ms. Alexander was eligible for potential payments upon retirement at December 31, 2018. Upon retirement, 70% of any vested CSPU awards would be paid following, if applicable, the six-month delay required by Section 409A of the Internal Revenue Code, 70% of any unvested CSPU awards would vest immediately upon certification of the achievement of the applicable performance goals and would be paid following, if applicable, the six-month delay required by Section 409A of the Internal Revenue Code. Any unvested PSU and MSU awards would, subject to the achievement of any applicable performance goals, remain outstanding and vest in accordance with the terms of such awards based on actual performance as to 70% of the earned shares. The amount listed in column (b) is the estimated value of 70% of all unvested awards held by Ms. Alexander, based on actual performance estimated as of December 31, 2018, for unearned performance-based awards. Based on years of service, Ms. Alexander was eligible for accelerated vesting on 70% of her outstanding awards as of December 31, 2018.
- (3) The amounts listed in column (c) and column (d) for Performance-based RSUs for the applicable named executive officers includes the value of applicable unvested awards based on actual performance estimated as of December 31, 2018.
- (4) Pursuant to his employment agreement, upon an involuntary termination by the Company without cause or involuntary employment action not following a corporate transaction or CIC, Mr. Vounatsos is eligible to receive a lump sum payment within 60 days

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**Executive Compensation Matters (continued)**

consisting of the pro rata portion of the target bonus for the year of termination and an amount equal to the sum of the annual base salary rate and target bonus in effect at the time of termination multiplied by a factor of 1.5, continuation of medical, dental and vision insurance for up to 18 months and up to 12 months of executive outplacement services. Upon an involuntary termination by the Company without cause or an involuntary employment action following a corporate transaction or CIC, Mr. Vounatsos is eligible to receive a lump sum payment within 60 days consisting of the pro rata portion of the target bonus for the year of termination and an amount equal to the sum of the annual base salary rate and target bonus in effect at the time of termination multiplied by a factor of 2.0, continuation of medical, dental and vision insurance for up to 24 months and up to 12 months of outplacement services.

- (5) The named executive officers are provided outplacement services at a cost of up to \$32,000 for the Executive Vice President level.
- (6) The payments for Ms. Alexander upon a corporate transaction or a corporate change in control on December 31, 2018, would not have been subject to a Section 280G excise tax.

***CEO Pay Ratio***

We believe executive pay must be internally consistent and equitable to motivate our employees to create stockholder value and we are committed to internal pay equity. As discussed earlier in this Proxy Statement, our compensation programs are designed to drive the creation of long-term stockholder value by delivering performance-based compensation. We invest in our employees at all levels in the Company by rewarding performance that balances risk and reward, empowering professional growth and development and by offering affordable benefits and programs that meet the diverse needs of our employees.

We believe strongly in pay-for-performance and all of our employees are eligible to participate in our annual bonus plan, our LTI programs and our benefit plans. Our annual bonus plan is consistently maintained for all participants globally, with the same Company performance goals, payout levels (as a percentage of target) and administrative provisions regardless of the participant's job level, location or function in the Company. We also have a long-term incentive program that provides different forms of awards depending upon an employee's level but is otherwise consistent throughout the Company.

The following is a reasonable estimate, prepared under applicable SEC rules, of the ratio of the annual total compensation of our CEO to the median of the annual total compensation of our other employees. Under SEC rules, we used the same median employee as we used for our 2017 pay ratio because we reasonably believe there have been no changes to our employee population or compensation programs that would result in a significant change to our pay ratio disclosure. The methodology used to identify our median employee for our 2017 pay ratio is described in our 2018 proxy statement.

Our median employee is a full-time employee based in the U.S. In October 2017, when we determined the median employee, approximately 59% of our workforce was based in the U.S. with the remaining approximately 41% of our workforce based in the rest of the world. In addition, approximately 98% of our workforce was full-time.

For our median employee, annual total compensation was calculated in accordance with the SEC's rules for the Summary Compensation Table, including salary, bonus, LTI grant date fair value and value of certain benefits provided, including relocation benefits. For our CEO, annual total compensation is equal to the amount included in the Total column of the Summary Compensation Table, and our CEO's annual total compensation for 2018 was \$16,168,646. The annual total compensation of the median employee for 2018 was \$170,521, including base salary, annual bonus, LTI grant value, and certain benefits including one-time relocation benefit. Based on the foregoing, our estimate of the ratio of the annual total compensation of our CEO to the median of the annual total compensation of our other employees was 95 to 1. This pay ratio is a reasonable estimate calculated in a manner consistent with SEC rules based on our payroll and employment records and the methodology described above. Given the different methodologies, estimates, assumptions and exclusions that other public companies use to determine an estimate of their pay ratio, the estimated ratio reported above should not be used as a basis for comparison between companies.



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## Additional Information

**STOCK OWNERSHIP**

The following table and accompanying notes provide information about the beneficial ownership of our common stock by:

- each stockholder known by us to be the beneficial owner of more than 5% of our common stock;
- each of our named executive officers;
- each of our directors and nominees for director; and
- all of our directors and executive officers as a group.

Except as otherwise noted, the persons identified have sole voting and investment power with respect to the shares of our common stock beneficially owned. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting and investment power with respect to the shares. Except as otherwise noted, the information below is as of April 19, 2019 (Ownership Date).

Unless otherwise indicated in the footnotes, the address of each of the individuals named below is: c/o Biogen Inc., 225 Binney Street, Cambridge, Massachusetts 02142.

Name	Shares Owned <sup>(1)</sup>	Shares Subject to	Total Number of	Percentage of
		Options and Stock Units <sup>(2)</sup>	Shares Beneficially Owned <sup>(1)</sup>	Shares <sup>(3)</sup>
5% Stockholders				
BlackRock Inc. <sup>(4)</sup>	16,568,963		16,568,963	8.2%
55 East 52 <sup>nd</sup> Street				
New York, NY 10055				
The Vanguard Group <sup>(5)</sup>	15,170,607		15,170,607	7.52%

100 Vanguard Boulevard

Malvern, PA 19355

PRIMECAP Management Company <sup>(6)</sup>	14,727,267		14,727,267	7.31%
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177 East Colorado Boulevard

11<sup>th</sup> Floor

Pasadena, CA 91105

**Named Executive Officers**

Michel Vounatsos <sup>(7)</sup>	16,657	3,252	19,909	*
Jeffrey D. Capello	917		917	*
Michael Ehlers <sup>(7)</sup>	6,824	3,538	10,362	*
Susan H. Alexander	31,976		31,976	*
Paul F. McKenzie	6,407		6,407	*

**Directors**

John R Chiminski				
Alexander J. Denner <sup>(8)</sup>	534,687	880	535,567	*
Caroline D. Dorsa	18,172	880	19,052	*
William A. Hawkins				
Nancy L. Leaming	10,063	880	10,943	*
Jesus B. Mantas				
Richard C. Mulligan	10,029	880	10,909	*
Robert W. Pangia	17,707	880	18,587	*
Stelios Papadopoulos <sup>(9)</sup>	29,946	1,450	31,396	*
Brian S. Posner	6,015	880	6,895	*
Eric K. Rowinsky	14,144	880	15,024	*
Lynn Schenk <sup>(10)</sup>	10,097	880	10,977	*
Stephen A. Sherwin	4,284	13,158	17,442	*
Executive officers and directors as a group (23 persons) <sup>(7)(11)</sup>	731,239	28,438	759,677	*

\* Represents beneficial ownership of less than 1% of our outstanding shares of common stock.

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### **Additional Information (continued)**

- (1) The shares described as owned are shares of our common stock directly or indirectly owned by each listed person, rounded up to the nearest whole share.
- (2) Includes options that are or will become exercisable and RSUs and MSUs that will vest within 60 days of the Ownership Date.
- (3) The calculation of percentages is based upon 193,893,397 shares outstanding on the Ownership Date, plus for each of the individuals listed above the shares subject to options and RSUs and MSUs exercisable within 60 days of the Ownership Date, as reflected in the column under the heading Shares Subject to Options and Stock Units.
- (4) Based solely on information as of December 31, 2018, contained in a Schedule 13G/A filed with the SEC by BlackRock Inc. on February 4, 2019, which also indicates that it has sole voting power with respect to 14,695,569 shares and sole dispositive power with respect to 16,568,963 shares.
- (5) Based solely on information as of December 31, 2018, contained in a Schedule 13G/A filed with the SEC by The Vanguard Group on February 11, 2019, which also indicates that it has sole voting power with respect to 246,897 shares, sole dispositive power with respect to 14,880,929 shares, shared voting power with respect to 47,063 shares and shared dispositive power with respect to 289,678 shares.
- (6) Based solely on information as of December 31, 2018, contained in a Schedule 13G/A filed with the SEC by PRIMECAP Management Company on February 8, 2019, which also indicates that it has sole voting power over 1,696,975 shares and sole dispositive power over 14,727,267 shares.
- (7) Includes shares underlying MSUs that will vest within 60 days of the Ownership Date, assuming the maximum possible number of shares that are eligible for vesting on the vesting date. The actual number of shares that will vest on each vesting date will be determined by comparing the price of Biogen common stock on such vesting date to the price on the grant date (i.e., number of vested shares = number of shares at target payout times the [30-day average closing stock price ending on the vesting date divided by the 30-day average closing stock price on the grant date]).
- (8) Includes 383,858 shares beneficially owned by Sarissa Capital Offshore Master Fund LP, a Cayman Islands exempted limited partnership (Sarissa Offshore), 79,800 shares beneficially owned by Sarissa Capital Catapult Fund LLC, a Delaware limited liability company (Sarissa Catapult) and 61,000 shares beneficially owned by Sarissa Capital Management LP, a Delaware limited partnership (Sarissa Capital). Sarissa Capital is the investment advisor to certain investment funds, including Sarissa Offshore and Sarissa Catapult. Dr. Denner is the Chief Investment Officer of Sarissa Capital and controls the ultimate general partner of each of Sarissa Capital and Sarissa Offshore and the managing member of Sarissa Catapult. By virtue of the foregoing, Dr. Denner may be deemed to indirectly beneficially own (as that term is defined in Rule 13d-3 of the Exchange Act) the shares that those entities beneficially own. Dr. Denner disclaims beneficial ownership of these shares except to the extent of any pecuniary interest therein.
- (9) Includes 28,206 shares held in limited liability companies of which Dr. Papadopoulos is the sole manager.
- (10) Includes 738 shares held in a trust of which Ms. Schenk is a trustee and 2,362 shares held in a defined benefit plan.
- (11) Includes 555,964 shares held indirectly through trusts, funds, defined benefit plans or limited liability companies.

### **Section 16(a) Beneficial Ownership Reporting Compliance**

Section 16(a) of the Exchange Act requires our executive officers, directors and greater than 10% stockholders to file initial reports of ownership and changes of ownership of our common stock. As a practical matter, we assist our directors and executive officers by monitoring transactions and completing and filing Section 16 forms on their behalf. Based solely on information provided to us by our directors and executive officers, we believe that during 2018 all such parties complied with all applicable filing requirements.

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Additional Information (continued)

**CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS**

Our Code of Conduct (Values in Action), Corporate Governance Principles, Related Person Transaction Policy and Conflict of Interest Policy set forth our policies and procedures for the review and approval of transactions with related persons, including transactions that would be required to be disclosed in this Proxy Statement in accordance with SEC rules.

In circumstances where one of our directors or executive officers, or a family member, has a direct or indirect material interest in a transaction involving Biogen, our Corporate Governance Committee must review and approve all such proposed transactions or courses of dealing. In determining whether to approve or ratify a transaction with a related person, among the factors our Corporate Governance Committee may consider (as applicable) are:

- the business reasons for entering into the transaction;
- the size of the transaction and the nature of the related person's interest in the transaction;
- whether the transaction terms are as favorable to us as they would be to an unaffiliated third party;
- whether the transaction terms are more favorable to the related person than they would be to an unaffiliated third party;
- the availability of alternative sources for comparable products, services or other benefits;
- whether the transaction would impair the independence or judgment of the related person in the performance of his or her duties to us;
- for non-employee directors, whether the transaction would be consistent with Nasdaq's requirements for independent directors;
- whether the transaction is consistent with our Conflict of Interest Policy, which prohibits related persons and others from having a financial interest in any competitor, customer, vendor or supplier of ours;
- the related person's role in arranging the transaction;
- the potential for the transaction to be viewed as representing or leading to an actual or apparent conflict of interest; and
- any other factors that our Corporate Governance Committee deems appropriate.

Our Code of Conduct, which sets forth legal and ethical guidelines for all of our directors and employees, states that directors, executive officers and employees must avoid relationships or activities that might impair their ability to make objective and fair decisions while acting in their Company roles. There are no relationships or transactions with related persons that are required to be disclosed in this Proxy Statement under SEC rules.

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Additional Information (continued)

**EQUITY COMPENSATION PLAN INFORMATION**

The following table provides information as of December 31, 2018, about:

the number of shares of common stock subject to issuance upon exercise of outstanding options and vesting of RSUs, MSUs and PSUs under plans adopted and assumed by us;  
the weighted-average exercise price of outstanding options under plans adopted and assumed by us; and  
the number of shares of common stock available for future issuance under our active plans: our 2017 Omnibus Equity Plan, our Non-Employee Directors Equity Plan and our 2015 Employee Stock Purchase Plan.

Plan Category	Number of Securities		
	to be Issued Upon		Remaining Available for
	Exercise of		Future Issuance Under
	Outstanding Options		Equity Compensation
	and Rights	Options and Rights <sup>(1)</sup>	Plans (excluding securities reflected in column(a)) <sup>(2)</sup>
	(a)	(b)	(c)
Equity compensation plans approved by stockholders	1,308,264	\$ 53.82	20,564,534
Equity compensation plans not approved by stockholders			
	1,308,264	\$ 53.82	20,564,534

Total

- (1) The weighted-average exercise price includes all outstanding stock options but does not include RSUs MSUs or PSUs, which do not have an exercise price.
- (2) Of these shares, (a) 14,127,581 remain available for future issuance under our 2017 Omnibus Equity Plan, (b) 703,425 remain available for future issuance under our Non-Employee Directors Equity Plan and (c) 5,733,528 remain available under our 2015 Employee Stock Purchase Plan. In addition to shares issuable upon the exercise of options or rights, the shares under our 2017 Omnibus Equity Plan and our Non-Employee Directors Equity Plan may also be issued other than upon such exercise.

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Additional Information (continued)

## **MISCELLANEOUS**

### **Stockholder Proposals**

Stockholder proposals submitted pursuant to Exchange Act Rule 14a-8 and intended to be presented at our 2020 annual meeting of stockholders must be received by our Secretary no later than December 30, 2019, to be eligible for inclusion in our proxy statement and form of proxy relating to that meeting.

A stockholder proposal submitted outside the processes of Rule 14a-8 and not for inclusion in our proxy statement for the 2020 annual meeting of stockholders will be ineligible for presentation at the meeting unless the stockholder gives timely notice of the proposal in writing to our Secretary at our principal executive offices and otherwise complies with the provisions of our Bylaws. To be timely, our Bylaws provide that we must have received the stockholder's notice no later than March 21, 2020, and no earlier than February 20, 2020. However, if the date of the 2020 annual meeting of stockholders is more than 30 days before or more than 60 days after the first anniversary of the Annual Meeting, we must receive the stockholder's notice not earlier than the close of business on the 120<sup>th</sup> day before the 2020 annual meeting of stockholders and not later than the close of business on the later of (1) the 90<sup>th</sup> day before the 2020 annual meeting of stockholders and (2) the 10<sup>th</sup> day following the day on which public announcement of the date of the 2020 annual meeting of stockholders is first made.

All stockholder proposals for our 2020 annual meeting of stockholders should be sent to our Secretary, Biogen Inc., 225 Binney Street, Cambridge, Massachusetts 02142.

### **Other Stockholder Communications**

Generally, stockholders who have questions or concerns should contact our Investor Relations department at (781) 464-2442. However, stockholders who wish to communicate directly with our Board of Directors, or any individual director, should direct questions in writing to our Secretary, Biogen Inc., 225 Binney Street, Cambridge, Massachusetts 02142. Communications addressed in this manner will be forwarded directly to our Board of Directors or named individual director(s).

### **Incorporation by Reference**

Notwithstanding anything to the contrary set forth in any of our previous filings under the securities laws that might incorporate future filings, including this Proxy Statement, in whole or in part, the Compensation Committee Report, the Audit Committee Report, the content of [www.biogen.com](http://www.biogen.com), including the charters of the committees of our Board of Directors, Corporate Governance Principles, Related Person Transaction Policy, Conflicts of Interest Policy, Code of Conduct and Bylaws, included or referenced in this Proxy Statement shall not be incorporated by reference into any



such filings.

### Copies of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of householding proxy statements and annual reports. This means that, unless you have instructed otherwise, only one copy of this Proxy Statement, Annual Report or Notice of Internet Availability of Proxy Materials, as applicable, may have been sent to multiple stockholders in your household. **We will promptly deliver a separate copy of any of these documents without charge to you if you write or call Investor Relations, Biogen Inc., 225 Binney Street, Cambridge, Massachusetts 02142, (781) 464-2442.** If you want to receive separate copies of our proxy statement, annual report or Notice of Internet Availability of Proxy Materials, as applicable, in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, broker or other nominee record holder, or you may contact us at the above address or phone number.

### Manner and Cost of Proxy Solicitation

Biogen pays the cost of soliciting proxies. In addition to solicitation by mail, our directors, officers and employees may contact you in person, by telephone or by email or other electronic means. None of our directors, officers or employees will receive additional compensation for soliciting you. We will reimburse brokerage houses, banks, custodians and other nominees and fiduciaries for out-of-pocket expenses incurred in forwarding our proxy solicitation materials to, and obtaining instructions relating to such materials from, beneficial owners of our common stock. Georgeson LLC, New York, New York, has been retained to assist us in the solicitation of proxies at a fee estimated not to exceed \$11,000.

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## APPENDIX A

## GAAP to Non-GAAP Reconciliation

**Diluted Earnings Per Share and Net Income Attributable to Biogen Inc.***(unaudited, \$ in millions, except per share amounts)*

	For the Twelve Months Ended December 31, December 31,	
	2018	2017
GAAP earnings per share Diluted	\$21.58	\$11.92
Adjustments to GAAP net income attributable to Biogen Inc. (as detailed below)	4.62	9.89
Non-GAAP earnings per share Diluted	\$26.20	\$21.81

	For the Twelve Months Ended December 31, December 31,	
	2018	2017 <sup>(1)</sup>
GAAP net income attributable to Biogen Inc.	\$4,430.7	\$2,539.1
Adjustments:		
Amortization of acquired intangible assets <sup>A, B</sup>	747.3	814.7
Acquired in-process research and development	112.5	120.0
Research and development <sup>C</sup>	10.0	
(Gain) loss on fair value remeasurement of contingent consideration <sup>D</sup>	(12.3)	62.7
Premium paid on purchase of Ionis common stock <sup>E</sup>	162.1	
(Gain) loss on equity security investments	(128.0)	
Net distribution to noncontrolling interests <sup>F</sup>	43.7	132.4
Restructuring, business transformation and other cost saving initiatives:		
2017 corporate strategy implementation <sup>G</sup>	10.9	18.5
Restructuring charges <sup>G</sup>	12.0	0.9
Hemophilia business separation costs		19.2
Income tax effect related to reconciling items	(146.6)	(235.7)
Elimination of deferred tax asset <sup>H</sup>	10.6	
Tax reform <sup>I</sup>	124.9	1,173.6
Non-GAAP net income attributable to Biogen Inc.	\$5,377.8	\$4,645.4

**Free Cash Flow Reconciliation***(unaudited, \$ in millions)*

	For the Twelve Months Ended December 31,
	2018
Net cash flows provided by operating activities	\$ 6,187.7
Purchases of property, plant and equipment (Capital Expenditures)	(770.6)
Contingent consideration related to Fumapharm AG acquisition	(1,500.0)
Free Cash Flow	\$ 3,917.1

(1) On February 1, 2017, we completed the spin-off of our hemophilia business. Our consolidated results of operations reflect the financial results of our hemophilia business through January 31, 2017.

<sup>A</sup> In January 2017 we entered into a settlement and license agreement among Biogen Swiss Manufacturing GmbH, Biogen International Holding Ltd., Forward Pharma A/S (Forward Pharma) and certain related parties, which was effective February 1, 2017. Pursuant to this

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**Table of Contents****2019 PROXY STATEMENT****Appendix A (continued)**

agreement, we obtained U.S. and rest of world licenses to Forward Pharma's intellectual property, including Forward Pharma's intellectual property related to TECFIDERA. In exchange, we paid Forward Pharma \$1.25 billion in cash, of which \$795.2 million was recognized as an intangible asset in the first quarter of 2017.

We have two intellectual property disputes with Forward Pharma, one in the U.S. and one in the European Union, concerning intellectual property related to TECFIDERA.

In March 2017 the U.S. intellectual property dispute was decided in our favor. Forward Pharma appealed to the U.S. Court of Appeals for the Federal Circuit. We evaluated the recoverability of the U.S. asset acquired from Forward Pharma and recorded a \$328.2 million impairment charge in the first quarter of 2017 to adjust the carrying value of the acquired U.S. asset to fair value reflecting the impact of the developments in the U.S. legal dispute and continued to amortize the remaining net book value of the U.S. intangible asset in our consolidated statements of income utilizing an economic consumption model. The U.S. Court of Appeals for the Federal Circuit upheld the U.S. Patent and Trademark Office's March 2017 ruling and in January 2019 denied Forward Pharma's petition for rehearing. We evaluated the recoverability of the U.S. asset based upon these most recent developments and recorded a \$176.8 million impairment charge in the fourth quarter of 2018 to reduce the remaining net book value of the U.S. asset to zero.

In March 2018 the European Patent Office (EPO) revoked Forward Pharma's European Patent No. 2 801 355. Forward Pharma has filed an appeal to the Technical Boards of Appeal of the EPO and the appeal is pending. Based upon our assessment of this ruling, we continue to amortize the remaining net book value of the rest of world intangible asset in our consolidated statements of income utilizing an economic consumption model.

Amortization of acquired intangible assets for the twelve months ended December 31, 2017, also includes a \$31.2 million pre-tax impairment charge related to our acquired and in-licensed rights and patents intangible asset associated with ZINBRYTA after the initiation of an European Medicines Agency review (referred to as an Article 20 Procedure) of ZINBRYTA following the report of a case of fatal fulminant liver failure, as well as four cases of serious liver injury.

- <sup>B</sup> Amortization of acquired intangible assets for the twelve months ended December 31, 2018, includes the impact of impairment charges totaling \$189.3 million related to certain in-process research and development (IPR&D) assets associated with our vixotrigine (BIIB074) program.

During the third quarter of 2018 we completed a Phase 2b study of vixotrigine for the treatment of painful lumbosacral radiculopathy (PLSR). The study did not meet its primary or secondary efficacy endpoints; therefore,

we discontinued development of vixotrigine for the treatment of PLSR and we recognized an impairment charge of approximately \$60.0 million during the third quarter of 2018 to reduce the fair value of the related IPR&D intangible asset to zero. In addition, we delayed the initiation of the Phase 3 studies of vixotrigine for the treatment of trigeminal neuralgia (TGN) as we awaited the outcome of ongoing interactions with the U.S. Food and Drug Administration (FDA) regarding the design of the Phase 3 studies, a more detailed review of the data from the Phase 2b study of vixotrigine for the treatment of PLSR and insights from the Phase 2 study of vixotrigine for the treatment of small fiber neuropathy. We reassessed the fair value of our vixotrigine program for the treatment of TGN using reduced expected lifetime revenues, higher expected clinical development costs and a lower cumulative probability of success and, as a result of that assessment, we recognized an impairment charge of \$129.3 million during the third quarter of 2018 to reduce the fair value of the IPR&D intangible asset associated with our vixotrigine program for the treatment of TGN to \$41.8 million.

- C GAAP research and development expense for the twelve months ended December 31, 2018, include a \$10.0 million contingent consideration payment accrued in relation to the acquisition of an asset.
- D During the third quarter of 2018, we adjusted the fair value of our contingent consideration obligations related to our vixotrigine program for the treatment of TGN to reflect the lower cumulative probabilities of success, which resulted in a gain of \$89.6 million.

In late December 2018 we received feedback from the FDA regarding the design of the Phase 3 studies of vixotrigine for the treatment of TGN. Following this feedback, we are now planning to initiate the Phase 3 studies for our vixotrigine program for the treatment of TGN and, as a result, we adjusted the fair value of our contingent consideration obligations related to our vixotrigine program for the treatment of TGN to reflect increased probabilities of success and recognized a loss of \$80.6 million in the fourth quarter of 2018.

- E In June 2018 we closed a new ten-year exclusive agreement with Ionis Pharmaceuticals, Inc. (Ionis) to develop novel antisense oligonucleotide drug candidates for a broad range of neurological diseases for a total payment of \$1.0 billion consisting of an upfront payment of \$375.0 million and the purchase of approximately 11.5 million shares of Ionis common stock at a cost of \$625.0 million.

The 11.5 million shares of Ionis common stock were purchased at a premium to their fair value at the transaction closing date. The premium consisted of acquiring the shares at a price above the fair value based on the trailing 10-day weighted-average close price prior to entering into the agreement in April 2018 and the effect of certain holding period restrictions. We recorded an asset of \$462.9 million in investments and other assets in our consolidated balance sheets reflecting the fair value of the common stock as of the purchase date and a charge of \$162.1 million to research and development expense in our consolidated statements of income during the second quarter of 2018 reflecting the premium paid for the common stock.

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**2019 PROXY STATEMENT**

**Appendix A (continued)**

<sup>F</sup> In October 2017 we amended the terms of our collaboration and license agreement with Neurimmune SubOne AG (Neurimmune). Under the amended agreement, we made a \$150.0 million payment to Neurimmune in exchange for a 15% reduction in the previously negotiated royalty rates payable on products developed under this agreement. In May 2018 we made an additional \$50.0 million payment to Neurimmune to further reduce the previously negotiated royalty rates payable on products developed under this agreement by an additional 5%.

Net distribution to noncontrolling interest for the twelve months ended December 31, 2018, reflects the \$50.0 million payment made to Neurimmune, net of Neurimmune's tax, in May 2018.

Net distribution to noncontrolling interest for the twelve months ended December 31, 2017, reflects the \$150.0 million payment made to Neurimmune, net of Neurimmune's tax, in October 2017.

<sup>G</sup> 2017 corporate strategy implementation and restructuring charges are related to our efforts to create a leaner and simpler operating model.

<sup>H</sup> Elimination of deferred tax asset due to Samsung Bioepis Co., Ltd. qualifying as a corporate joint venture for accounting purposes.

<sup>I</sup> The Tax Cuts and Jobs Act of 2017 (2017 Tax Act) resulted in significant changes to the U.S. corporate tax system. These changes include a federal statutory rate reduction from 35% to 21%, the elimination or reduction of certain domestic deductions and credits and limitations on the deductibility of interest expense and executive compensation. The 2017 Tax Act also transitions international taxation from a worldwide system to a modified territorial system and includes base erosion prevention measures on non-U.S. earnings, which has the effect of subjecting certain earnings of our foreign subsidiaries to U.S. taxation as global low-taxed income (GILTI). During the fourth quarter of 2018 we elected to recognize deferred taxes for basis differences expected to reverse as GILTI is incurred and have established initial deferred tax balances, as of the enactment date of the 2017 Tax Act.

During the fourth quarter of 2017 we recognized within our provision for income taxes a \$1.2 billion provisional estimate pursuant to U.S. Securities and Exchange Commission Staff Accounting Bulletin No. 118. Our provisional estimate included an amount of \$989.6 million associated with a one-time mandatory deemed repatriation tax on accumulated foreign subsidiaries' previously untaxed foreign earnings (the Transition Toll Tax) and \$184.0 million related to the impact of remeasuring our deferred tax balances to reflect the new federal statutory rate and other changes to U.S. tax law.

Tax reform amounts for the twelve months ended December 31, 2018, reflect the effect of an expense of \$135.8 million related to the establishment of GILTI deferred taxes.

Tax reform amounts for the twelve months ended December 31, 2018, also reflect the effect of a net reduction of \$34.6 million to our 2017 preliminary Transition Toll Tax estimate, an expense of \$12.7 million for the remeasurement of our deferred tax balance and an \$11.0 million expense to reflect other aspects of the 2017 Tax Act.

The final determination of the Transition Toll Tax and remeasurement of our deferred assets and liabilities was completed in the fourth quarter of 2018.

### **Use of Non-GAAP Financial Measures**

We supplement our consolidated financial statements presented on a GAAP basis by providing additional measures which may be considered Non-GAAP financial measures under applicable SEC rules. We believe that the disclosure of these Non-GAAP financial measures provides additional insight into the ongoing economics of our business and reflects how we manage our business internally, set operational goals and form the basis of our management incentive programs. These Non-GAAP financial measures are not in accordance with generally accepted accounting principles in the United States and should not be viewed in isolation or as a substitute for reported, or GAAP, net income attributable to Biogen Inc., diluted earnings per share and net cash flows provided by operating activities.

Our Non-GAAP net income attributable to Biogen Inc. and Non-GAAP earnings per share Diluted financial measures exclude the following items from GAAP net income attributable to Biogen Inc. and GAAP earnings per share Diluted :

#### *1. Purchase accounting, merger-related and other adjustments*

We exclude certain purchase accounting related items associated with the acquisition of businesses, assets and amounts in relation to the consolidation or deconsolidation of variable interest entities for which we are the primary beneficiary. These adjustments include, but are not limited to, charges for IPR&D and certain milestones, the amortization of intangible assets and charges or credits from the fair value remeasurement of our contingent consideration obligations.

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**Table of Contents****2019 PROXY STATEMENT****Appendix A (continued)***2. Hemophilia business separation costs*

We have excluded costs that are directly associated with the set up and spin-off of our hemophilia business on February 1, 2017. These costs represent incremental third-party costs attributable solely to hemophilia spin-off and set up activities.

*3. Restructuring, business transformation and other cost saving initiatives*

We exclude costs associated with our execution of certain strategies and initiatives to streamline operations, achieve targeted cost reductions, rationalize manufacturing facilities or refocus R&D activities. These costs may include employee separation costs, retention bonuses, facility closing and exit costs, asset impairment charges or additional depreciation when the expected useful life of certain assets have been shortened due to changes in anticipated usage and other costs or credits that management believes do not have a direct correlation to our ongoing or future business operations.

*4. (Gain) loss on equity security investments*

Effective January 2018 we exclude unrealized and realized gains and losses and discounts or premiums on our equity security investments as we do not believe that these components of income or expense have a direct correlation to our ongoing or future business operations.

*5. Other items*

We evaluate other items of income and expense on an individual basis and consider both the quantitative and qualitative aspects of the item, including (i) its size and nature, (ii) whether or not it relates to our ongoing business operations and (iii) whether or not we expect it to occur as part of our normal business on a regular basis. We also include an adjustment to reflect the related tax effect of all reconciling items within our reconciliation of our GAAP to Non-GAAP net income attributable to Biogen Inc. and diluted earnings per share.

Free Cash Flow is defined as net cash flows provided by operating activities less purchases of property, plant and equipment and contingent consideration related to our acquisition of Fumapharm AG as disclosed in our 2018 Annual Report on Form 10-K.



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***BIOGEN INC.***

***225 BINNEY STREET***

***CAMBRIDGE, MA 02142***

**VOTE BY INTERNET**

*Before The Meeting* - Go to **[www.proxyvote.com](http://www.proxyvote.com)**

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 P.M. Eastern Time the day before the meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

*During The Meeting* - Go to **[www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019)**

You may attend the Meeting via the Internet and vote during the Meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

**VOTE BY PHONE - 1-800-690-6903**

Use any touch-tone telephone to transmit your voting instructions up until 11:59 P.M. Eastern Time the day before the meeting date. Have your proxy card in hand when you call and then follow the instructions.

**VOTE BY MAIL**

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK  
INK AS FOLLOWS:

E76108-P22124

KEEP THIS PORTION  
FOR YOUR RECORDS

DETACH AND RETURN THIS PORTION ONLY

**THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.**

**BIOGEN INC.**

The Board recommends a vote **FOR** the following  
proposals:

1.	<b>For Against Abstain</b>	<b>For AgainstAbstain</b>
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Election of Directors. To elect the fourteen director nominees numbered 1a through 1n to serve for a one-year term extending until the 2020 annual meeting of stockholders and their successors are duly elected and qualified.

1a. John R. Chiminski

1j. Brian S. Posner

1b. Alexander J. Denner

1k. Eric K. Rowinsky

1c. Caroline D. Dorsa

1l. Lynn Schenk

1d. William A. Hawkins

1m. Stephen A. Sherwin

1e. Nancy L. Leaming

1n. Michel Vounatsos

1f. Jesus B. Mantas

2. To ratify the selection of PricewaterhouseCoopers LLP as Biogen Inc.'s independent registered public accounting firm for the fiscal year ending December 31, 2019.

1g. Richard C. Mulligan

3. Say on Pay - To approve an advisory vote on executive compensation.

1h. Robert W. Pangia

1i. Stelios Papadopoulos

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN  
WITHIN BOX]

Date

Signature (Joint Owners)

Date

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**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:**

The 2019 Notice and Proxy Statement and 2018 Annual Report with Form 10-K are available

at: [www.proxyvote.com](http://www.proxyvote.com).

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**BIOGEN INC.**

**Annual Meeting of Stockholders**

**June 19, 2019, 9:00 a.m. Eastern Time**

**This proxy is solicited by the Board of Directors**

The undersigned hereby appoints Michel Vounatsos, Jeffrey D. Capello and Susan H. Alexander, and each of them (with full power to act alone), as proxies of the undersigned with all the powers the undersigned would possess if present during the 2019 Annual Meeting, and with full power of substitution in each of them to appear, represent and vote all shares of common stock of Biogen Inc. which the undersigned would be entitled to vote at the 2019 Annual Meeting of Stockholders, to be held at Biogen Inc.'s offices located at 225 Binney Street, Cambridge, Massachusetts 02142 and online at [www.virtualshareholdermeeting.com/BIIB2019](http://www.virtualshareholdermeeting.com/BIIB2019) on Wednesday, June 19, 2019, at 9:00 a.m. Eastern Time, and at any adjournment or postponement thereof.

**The shares represented by this proxy will be voted as directed herein. If no direction is indicated, such shares will be voted FOR the election of all of the director nominees listed in Proposal 1 and FOR Proposals 2 and 3. As to any other matter that may be properly brought before the meeting or any adjournment or postponement thereof, proxy holders will vote in accordance with their best judgment.**

**Continued and to be signed on reverse side**