Biogen Overview

J.P. Morgan 2017 Health Care Conference

Michel Vounatsos, Chief Executive Officer

January 2017

Biogen

Forward-Looking Statements

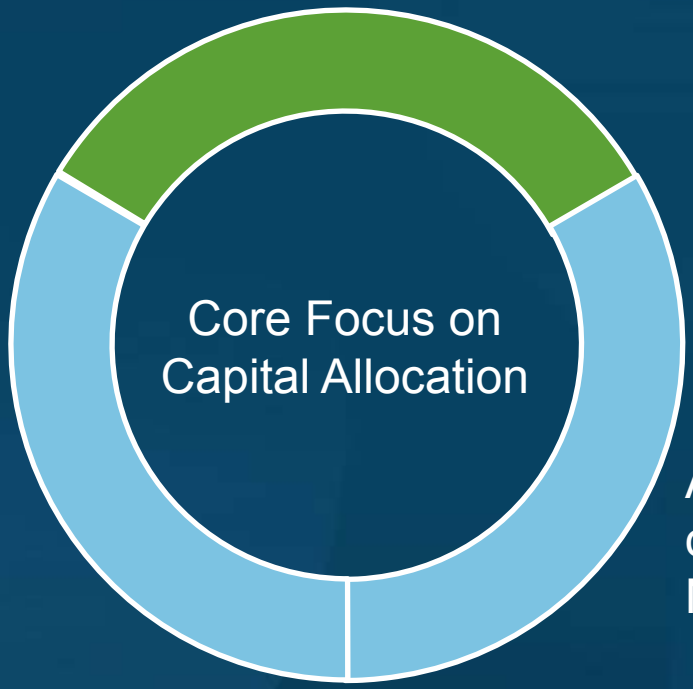
This presentation contains forward-looking statements, including statements relating to Biogen's commercial business; the prospects of our product portfolio; pipeline potential and progress; anticipated clinical trials and data readouts; regulatory filings, product launches and the timing thereof; reimbursement activities; anticipated benefits and potential of investments, collaborations and business development activities; the timing of the anticipated spin-off and launch of Bioverativ; the timing and execution of stock repurchases; and other financial matters. These forward-looking statements may be accompanied by such words as "anticipate," "believe," "could," "estimate," "expect," "forecast," "intend," "may," "plan," "potential," "project," "target," "will" and other words and terms of similar meaning. You should not place undue reliance on these statements.

These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements, including: our dependence on sales from our principal products; failure to compete effectively due to significant product competition in the markets for our products; difficulties in obtaining and maintaining adequate coverage, pricing and reimbursement for our products; risks associated with current and potential future healthcare reforms; the occurrence of adverse safety events, restrictions on use with our products or product liability claims; failure to protect and enforce our data, intellectual property and other proprietary rights and the risks and uncertainties relating to intellectual property claims; uncertainty of long-term success in developing, licensing or acquiring other product candidates or additional indications for existing products; risks associated with clinical trials, including our ability to adequately manage clinical activities, unexpected concerns that may arise from additional data or analysis obtained during clinical trials, regulatory authorities may require additional information or further studies or may fail to approve or may delay approval of our drug candidates; the risk that positive results in a clinical trial may not be replicated in subsequent or confirmatory trials or success in early stage clinical trials may not be predictive of results in later stage or large scale clinical trials or trials in other potential indications; risks relating to management and key personnel changes, including attracting and retaining key personnel; problems with our manufacturing processes; our dependence on collaborators and other third parties for the development, regulatory approval and commercialization of products and other aspects of our business, which are outside of our control; failure to successfully execute on our growth initiatives; risks relating to the proposed spin-off of our hemophilia business, including risks of completion and ability to achieve some or all of the anticipated benefits; risks relating to technology failures or breaches; failure to comply with legal and regulatory requirements; risks related to indebtedness; the risks of doing business internationally, including currency exchange rate fluctuations; fluctuations in our effective tax rate; risks relating to investment in and expansion of manufacturing capacity for future clinical and commercial requirements; risks related to commercialization of biosimilars; risks related to investment in properties; the market, interest and credit risks associated with our portfolio of marketable securities; risks relating to stock repurchase programs; risks relating to access to capital and credit markets; environmental risks; risks relating to the sale and distribution by third parties of counterfeit versions of our products; risks relating to the use of social media for our business; change in control provisions in certain of our collaboration agreements; and the other 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 SEC.

These statements are based on our current beliefs and expectations and speak only as of the date of this presentation. We do not undertake any obligation to publicly update any forward-looking statements.

Our Strategic Objectives

Drive Healthy Commercial Business



Leverage Breakthroughs in Neuroscience

Advance Pipeline in Areas of High Unmet Medical Need

Product Portfolio to Support Near-Term Revenue Growth

MULTIPLE SCLEROSIS	Tecfidera® (dimethyl fumarate) delayed-release capsules 240 mg	plegridy™ (peginterferon beta-1a)
	TYSABRI® (natalizumab)	AVONEX® (interferon beta-1a)
	Zinbryta® (daclizumab)	fampyra® 10 mg prolonged-release tablets fampridine
ONCOLOGY	Rituxan® Rituximab	GAZYVA® obinutuzumab injection
BIOSIMILARS	Benepali® Etanercept	Flixabi® Infliximab
NEW LAUNCHES	SPINRAZA™ (nusinersen) injection 12 mg/5 mL	

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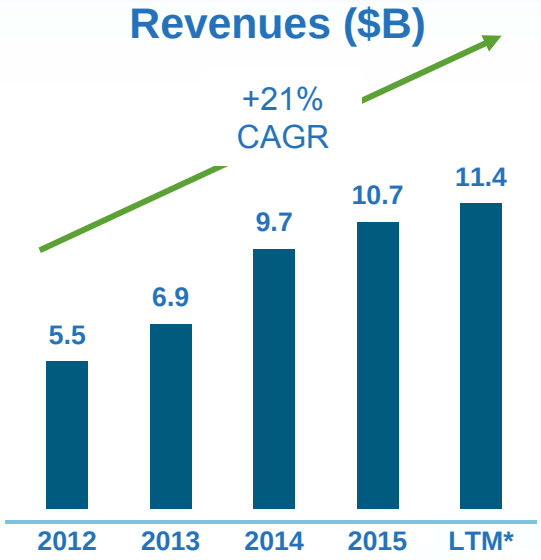
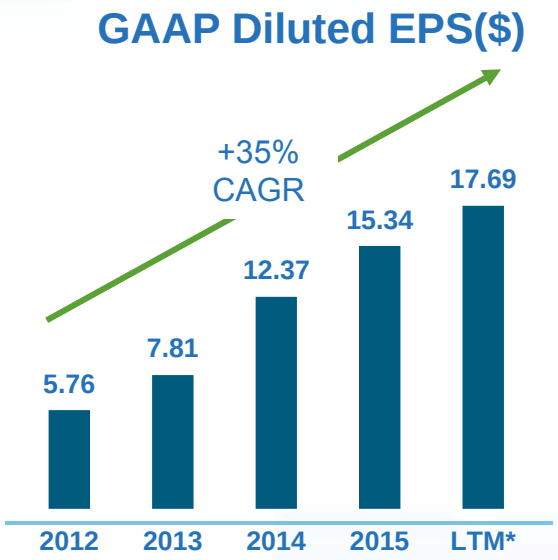
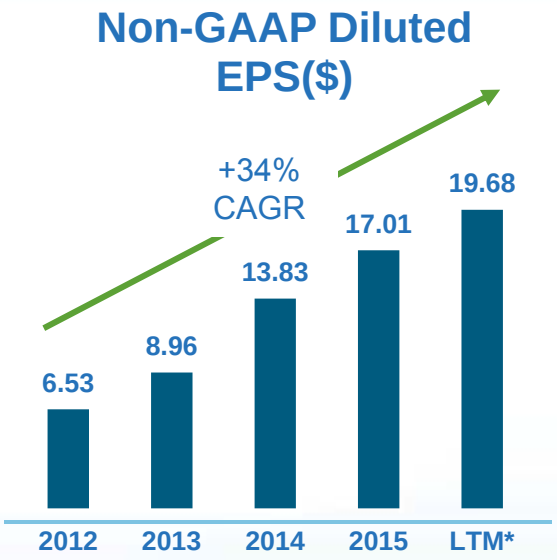
Strong Track Record







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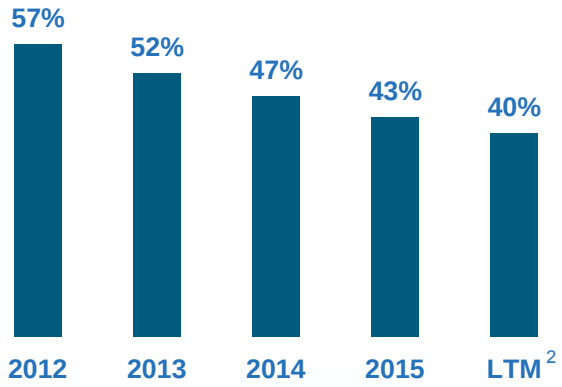
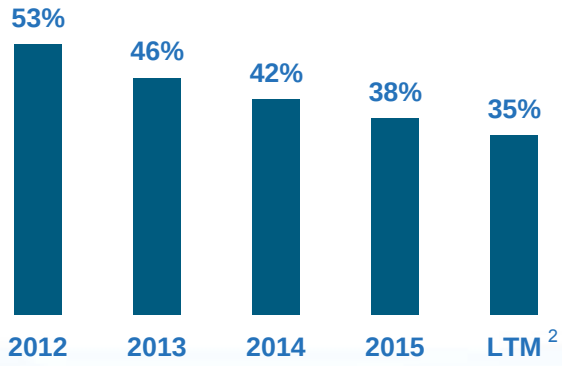
*LTM = last 12 months, Q4 2015 through Q3 2016. A reconciliation of our GAAP to non-GAAP financial results is at the end of this presentation.

Diligent OPEX Management Drives Further Reinvestment

GAAP OPEX[1] (% of Sales)

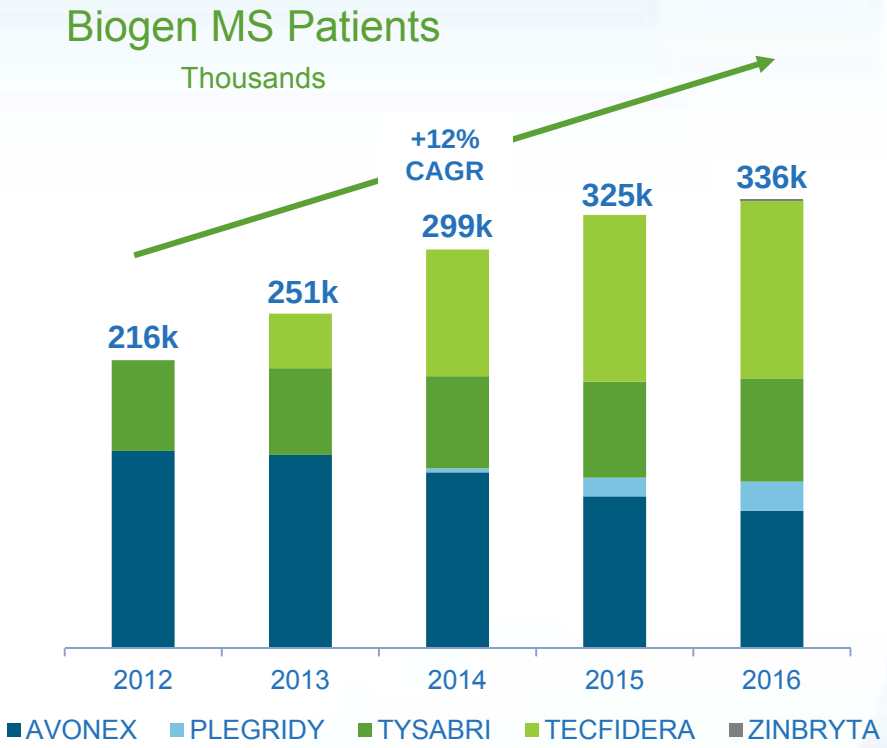


Non-GAAP OPEX[1] (% of Sales)



[1] Operating expenses (OPEX) does not include cost of goods sold (COGS)
[2] LTM = last 12 months, Q4 2015 through Q3 2016. A reconciliation of our GAAP to non-GAAP financial results is at the end of this presentation.

A Global Leader in Multiple Sclerosis



- **~$20B market** with ~900k treated MS patients worldwide[1]
- Biogen product treats **~ 38%** of all treated MS patients globally; **42%** in direct markets[1]
- Expanding leadership position through new product launches:
  - ZINBRYTA® (daclizumab) launched for relapsing MS in collaboration with AbbVie
  - OCREVUS® (ocrelizumab) expected to launch 1H:17 by Roche in US for primary progressive and relapsing MS[2]

Note: Patient numbers represent estimated ending patient count as of December 31st of each year, except for 2016 which represents patients as of October 31st, 2016..

1. Biogen data on file.
2. Biogen receives a tiered royalty of 13.5-24% of US net sales and 3% of net sales outside the US.

Growing Biosimilars Business

SAMSUNG BIOEPIS

SAMSUNG BIOEPIS JOINT VENTURE

- Option to acquire up to 49.9% equity stake
- Commercialization rights to three anti-TNFs in Europe
- Leveraging expertise in protein engineering and biologics manufacturing

LAUNCHES CONTINUE TO PROGRESS

- BENEPALI launch surpassing pace of first infliximab biosimilar in Europe
- FLIXABI now available in three markets

Benepali® Etanercept

Flixabi® Infliximab

PIPELINE PROGRESS

- SB5 (adalimumab) filed in Europe
- JV advancing biosimilars of insulin glargine, trastuzumab, and bevacizumab

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New Hope for Spinal Muscular Atrophy

UNMET NEED

- Rare disease affecting motor neurons, causing muscle weakness and atrophy
- A leading cause of morbidity and mortality in infants and children

ORPHAN DISEASE

- Incidence of 1 in 10,000 live births (~13,000 a year globally)
- Prevalence of ~20,000 in US, Europe and Japan
- Treated at 40-50 SMA Specialty Centers and 150-200 Neuromuscular Disease Centers in the U.S.

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SPINRAZA™ (nusinersen): The First Treatment for SMA

U.S. Label Highlights

Broad label: Approved for the treatment of SMA in pediatric and adult patients

Highlights efficacy on the achievement of motor milestones and measures of motor function, a survival benefit in infantile-onset patients, as well as a favorable safety profile

Based on positive results from multiple clinical studies in more than 170 patients

FDA Approval Received Within 3 Months of Regulatory Filing

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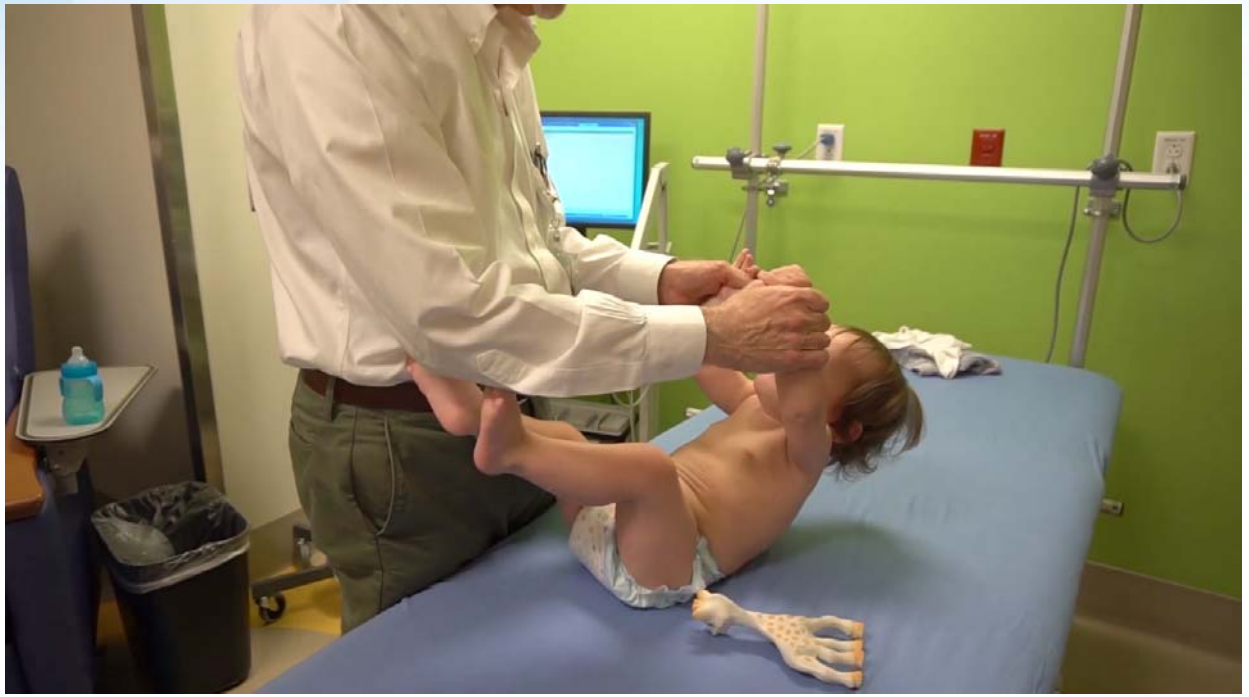
SMA Infant in NURTURE Study

- Male diagnosed with SMA and 2 copies of SMN2 gene (consistent with Type 1)
- 8 days old when he received first dose within NURTURE
- Video of study visit at Day 365



- NURTURE is an ongoing phase 2, open-label, single-arm study evaluating the efficacy and safety of intrathecal nusinersen in infants with genetically diagnosed and pre-symptomatic SMA
- The milestones achieved in this video may not be representative of the response achieved in all patients

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SPINRAZA™ (nusinersen) injection 12 mg/5 mL

Launch Execution

U.S. Launch Underway

Manufacturing and Supply Chain in Place

Working with Clinicians and Advocacy Groups to Minimize Delays in Time to Treatment

Filed in the E.U., Japan, Australia and Canada; Other Countries to Follow throughout 2017

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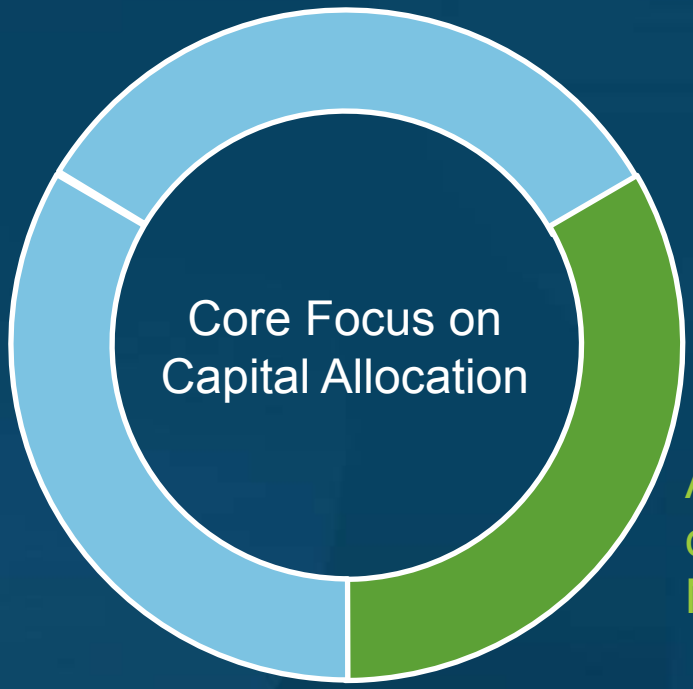
Our Strategic Objectives



Key Pipeline Events of 2016

Product Approvals
- ZINBRYTA approved in US and EU
- BENEPALI approved in EU
- FLIXABI approved in EU
- ALPROLIX approved in EU
- SPINRAZA approved in US

Regulatory Filings / Milestones
- SPINRAZA filed in EU, Japan, Australia, and Canada
- Aducanumab accepted into PRIME program in EU and received Fast Track Designation in US
- Tysabri label expanded in EU
- SB5 (adalimumab) filed in EU

Data Readouts
- Positive interim analyses of ENDEAR and CHERISH for SPINRAZA
- Phase 2 SYNERGY data for opicinumab
- Titration and LTE data from PRIME study for aducanumab

Business Development Activity
- Joined Centre for Therapeutic Target Validation
- Entered gene therapy collaboration with UPenn

Other Updates
- Eisai dosed first patient in Phase 3 for elenbecestat (E2609)
- Initiated Phase 2 studies of BIIB074 in painful lumbosacral radiculopathy and erythromelalgia
- Discontinued amiselimod

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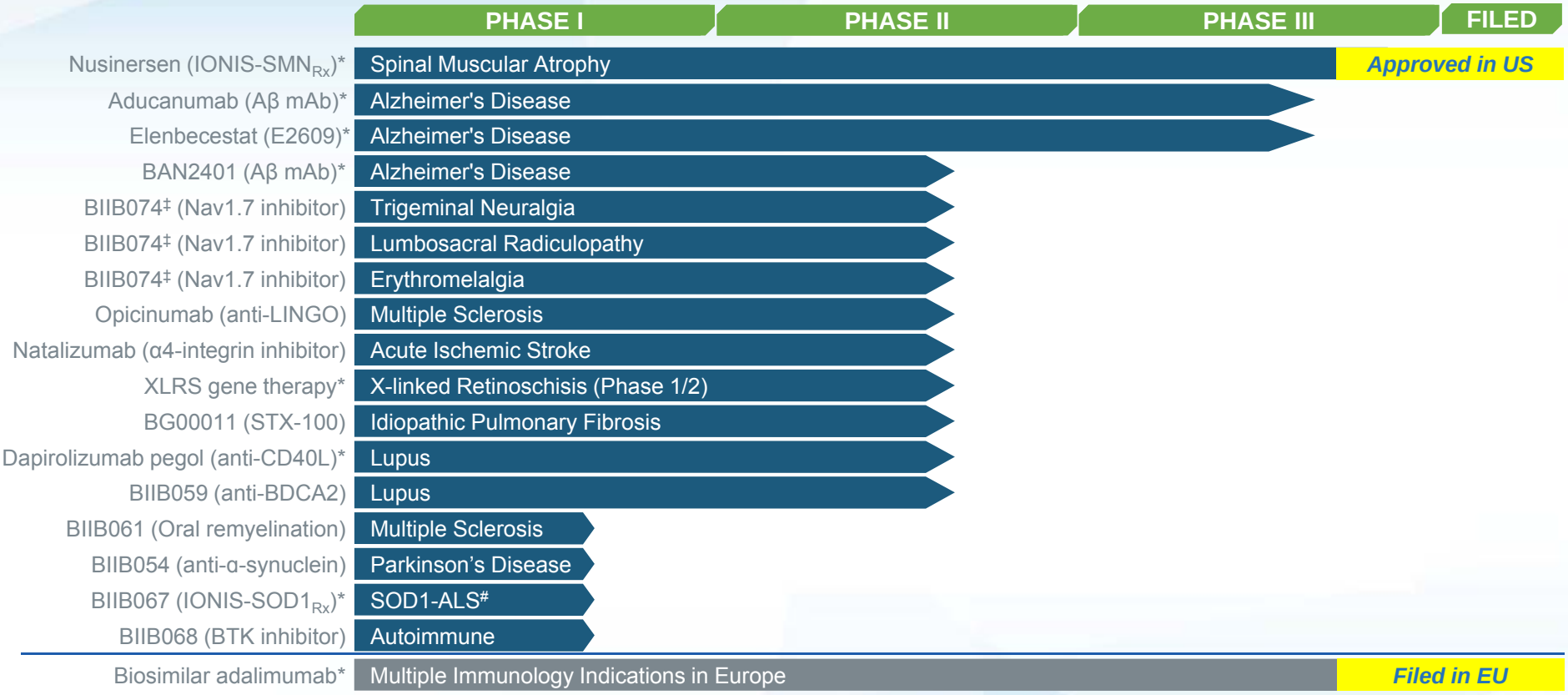
Targeting Areas of High Unmet Medical Need



Note: OCREVUS (ocrelizumab) has been filed in the US and EU by Roche for primary progressive and relapsing forms of MS. Roche also reported positive Phase 3 data for GAZYVA (obinutuzumab) in front-line indolent Non-Hodgkin's Lymphoma. Biogen has a financial interest in both OCREVUS and GAZYVA.

* Collaboration programs ‡ Formerly referred to as raxatrigine # Amyotrophic Lateral Sclerosis

Portfolio of Alzheimer's Disease Candidates

Aducanumab

Phase 3
Anti-amyloid antibody

AMYLOID PATHWAY

Elenbecestat (E2609)

Phase 3
Oral inhibitor of β secretase

REDUCE AMYLOID PRODUCTION

BAN2401

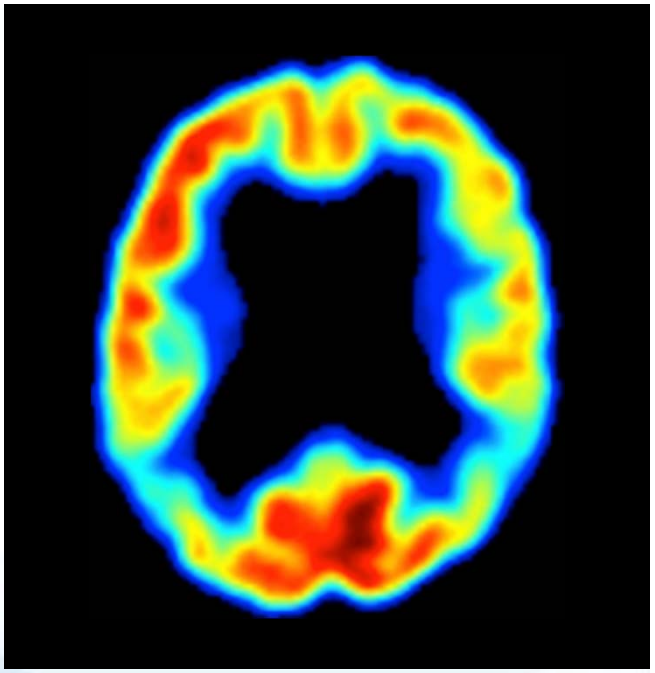
Phase 2
Anti-amyloid antibody

AMYLOID PATHWAY

Anti-TAU

Preclinical antibody &
antisense oligonucleotide (ASO)

REDUCE SPREAD OF TAU



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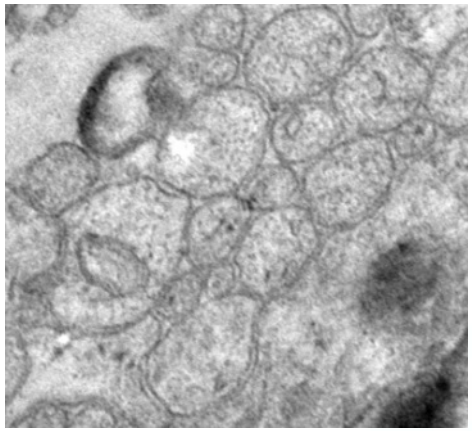
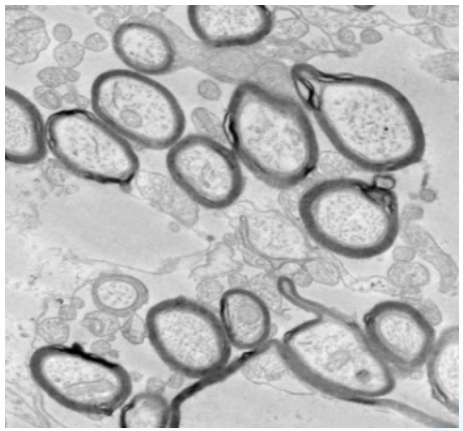
Note: E2609 and BAN2401 are being developed in collaboration with Eisai. Eisai also has options to jointly develop and commercialize aducanumab and an anti-tau monoclonal antibody. The anti-TAU ASO is being developed in collaboration with Ionis Pharmaceuticals.

Repair & Regeneration Programs

OPICINUMAB (ANTI-LINGO)

- Monoclonal antibody targeting LINGO-1, an important regulator of myelination
- **Phase 2 RENEW Trial (AON)** – first clinical study to demonstrate biological repair of the CNS
- **Phase 2 SYNERGY Trial (MS)** – post-hoc analysis demonstrated benefit in subgroup of ~ 25% of patients
  - Planning to initiate Phase 2b in this population in Q4-17

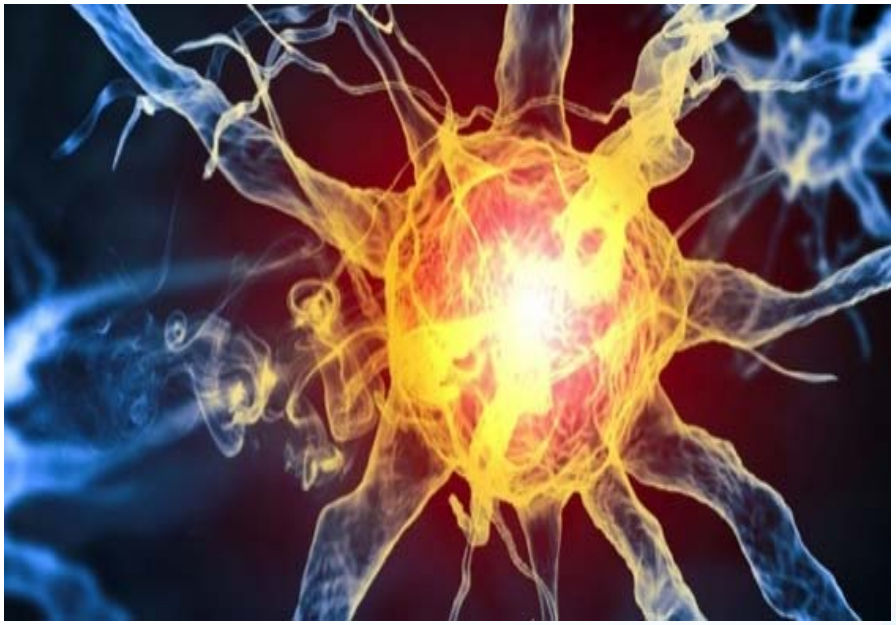




BIIB061

- Potential novel oral remyelinating agent for MS
- Small molecule with a different mechanism from anti-LINGO-1
- Applying learnings from SYNERGY to inform design of Phase 2

Natalizumab for Acute Ischemic Stroke



HIGH UNMET NEED

- Over 1.7M first-time ischemic strokes occur each year, common cause of death and disability
- Need for new treatments that can be used alone or as add-on to current therapies over extended time window

DEMONSTRATED PROOF OF CONCEPT

- Natalizumab targets key mediators of post-ischemic inflammation and neurotoxicity
- In Phase 2 ACTION study, natalizumab did not reduce MRI-defined infarct volume, but showed benefit on key clinical measures up to 9 hours after onset

ADDITIONAL PHASE 2B STUDY ONGOING

- Second dose-ranging Phase 2 study (ACTION 2) with an extended time window expected to be fully enrolled in 2017
- Focused on clinical measures of functional independence and cognition

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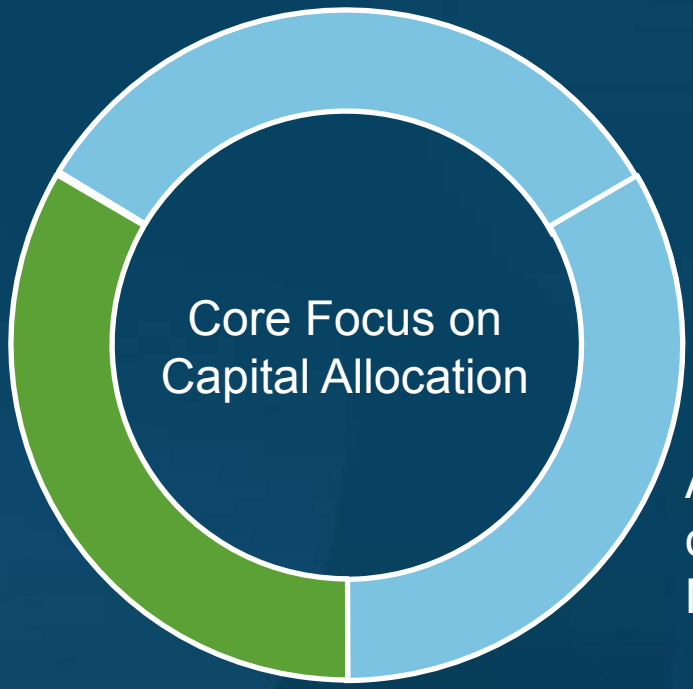
* Patients with chronic painful lumbo-sacral radiculopathy (PLSR) in the US, EU5, and Japan

Our Strategic Objectives

Drive Healthy Commercial Business



Leverage Breakthroughs in Neuroscience

Advance Pipeline in Areas of High Unmet Medical Need

A Transformative Era in Neurodegeneration Research

Improved Understanding of Disease Biology

Novel Therapeutic Approaches

Tools to Support Smarter Drug Development

Recent example in aducanumab

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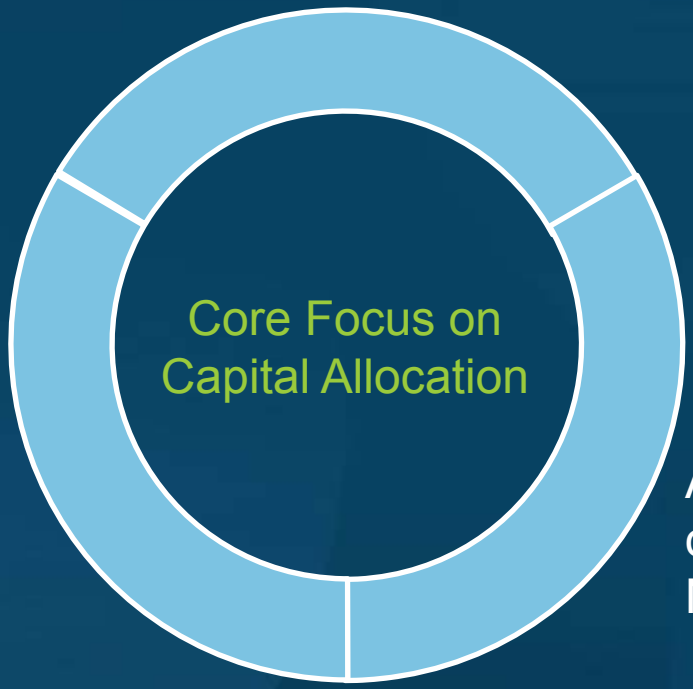
Our Strategic Objectives

Drive Healthy Commercial Business



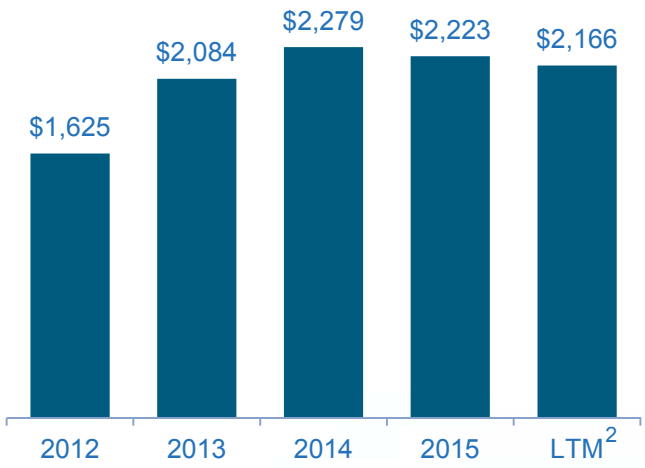
Leverage Breakthroughs in Neuroscience

Advance Pipeline in Areas of High Unmet Medical Need

Strong Cash Flow Drives Strategic Capital Allocation

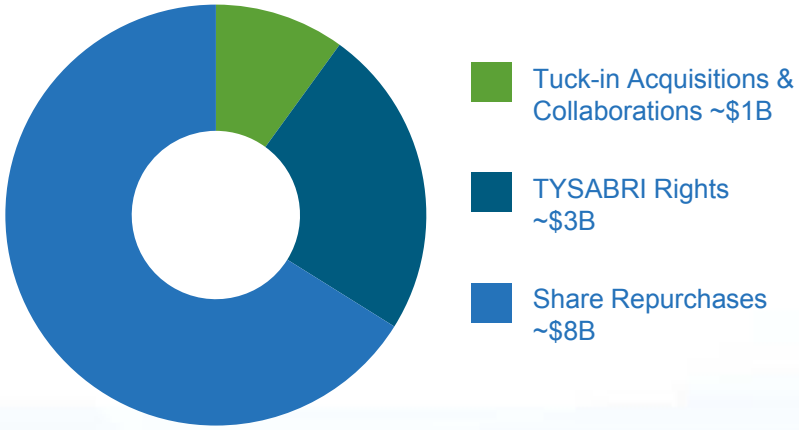
Free Cash Flow[1]

($) MILLIONS



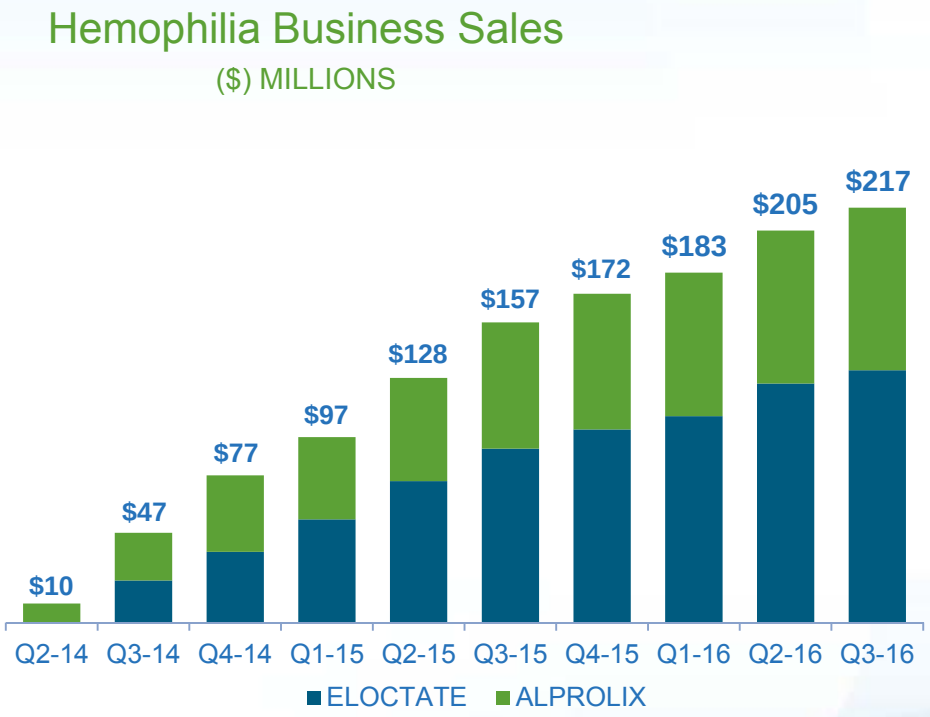
~$12B Excess Cash Invested

SINCE 2012



1. Free Cash Flow = Cash Flow from Operations – Capital Expenditures – Contingent Consideration Related to Fumapharm AG Acquisition. A reconciliation of free cash flow is at the end of this presentation.
2. LTM = last 12 months, Q4 2015 through Q3 2016.

Bioverativ Spin-Off



- **~$10B+ market** with >180k identified hemophilia patients worldwide[1]
- ELOCTATE and ALPROLIX were the first meaningful innovations for the hemophilia community in ~20 years
- Promising early-stage pipeline candidates
- Well capitalized to pursue strategic opportunities
- Clear focus in rare hematology

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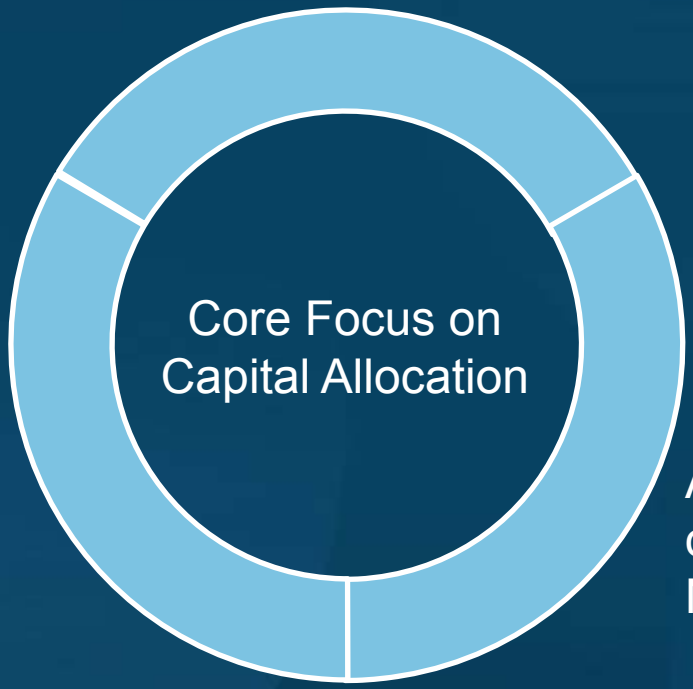
1. Biogen data on file.

Our Strategic Objectives

Drive Healthy Commercial Business



Leverage Breakthroughs in Neuroscience

Advance Pipeline in Areas of High Unmet Medical Need

Near-Term Priorities

- **Gain global approvals and successfully launch SPINRAZA for spinal muscular atrophy**
- **Continue the turnaround program of our core MS business and continue to grow our global MS franchise**
- **Understand better how we can become a more efficient and well-functioning organization**
- **Successfully complete enrollment in the Phase 3 program for our lead Alzheimer's candidate aducanumab**

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Key Events in 2017

Bioverativ Spin-Off

SPINRAZA and OCREVUS launches

Rulings on TECFIDERA IP cases

Phase2b for natalizumab in stroke fully enrolled

Phase 2b initiation for opicinumab in MS

Potential BAN2401 data in Alzheimer's

Phase 2 completion for BG00011 in idiopathic pulmonary fibrosis

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GAAP to Non-GAAP Reconciliation

Diluted EPS and Net Income to Biogen Inc.
(Unaudited, $ in millions, except per share amounts)

	FY 2012	FY 2013	FY 2014	FY 2015	LTM
GAAP diluted EPS	$ 5.76	$ 7.81	$ 12.37	$ 15.34	$17.69
Adjustment to net income attributable to Biogen Inc. (see below)	0.77	1.15	1.46	1.67	$2.00
Non-GAAP diluted EPS	$ 6.53	$ 8.96	$ 13.83	$ 17.01	$19.68

GAAP Net Income Attributable to Biogen Inc.	$ 1,380	$ 1,862	$ 2,935	$ 3,547	$ 3,886
Amortization of acquired intangible assets	194	331	473	365	364
(Gain)/ loss on fair value remeasurement of contingent consideration	27	(1)	(39)	31	44
Hemophilia business separation costs	-	-	-	-	6
Restructuring, business transformation and other cost saving initiatives					
R&D – Severance and restructuring	9	-	-	-	-
2010 restructuring charges	2	-	-	-	-
Weston exit costs	-	27	-	-	-
2015 restructuring charges	-	-	-	93	101
2016 restructuring charges	-	-	-	-	13
Cambridge manufacturing facility rationalization costs	-	-	-	-	37
Donation to Biogen Foundation	-	-	35	-	-
Stock option expense	8	10	12	-	-
Income tax effect primarily related to reconciling items	(53)	(93)	(135)	(104)	(126)
Non-GAAP Net Income Attributable to Biogen Inc.	$ 1,567	$ 2,136	$ 3,281	$ 3,932	$ 4,325

Free Cash Flow Reconciliation
(unaudited, $ in millions)

	FY 2012	FY 2013	FY 2014	FY 2015	LTM
Net cash flows provided by operating activities	$ 1,880	$ 2,345	$ 2,942	$ 3,716	$ 3,956
Purchases of property, plant and equipment (Capital Expenditures)	255	246	288	643	620
Contingent Consideration related to Fumapharm AG acquisition	-	15	375	850	1,200
Free Cash Flow	$ 1,625	$ 2,084	$ 2,279	$ 2,223	$ 2,136

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 forms 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. and diluted earnings per share.

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 and merger-related adjustments

We exclude certain purchase accounting related items associated with the acquisition of businesses, assets and amounts in relation to the consolidation of variable interest entities for which we are the primary beneficiary. These adjustments include charges for in-process research and development, the amortization of certain acquired intangible assets and fair value remeasurement of our contingent consideration obligations.

2. Hemophilia business separation costs

We have excluded costs that are directly associated with the proposed separation of our hemophilia business into an independent, publicly-traded company. These costs represent incremental third party costs attributable solely to hemophilia separation activities.

3. Restructuring, business transformation and other cost saving initiatives

We exclude costs associated with the company's 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 the changes in anticipated usage, and other costs that management believes do not have a direct correlation to our on-going or future business operations.

4. Weston Exit Costs

As a result of our decision to relocate our headquarters to Cambridge, MA, we vacated a portion of our Weston, MA facility in the fourth quarter of 2013. This charge represents our remaining lease obligation for the vacated portion of our Weston facility, net of sublease income.

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.

Numbers may not foot due to rounding. LTM = last 12 months, Q4 2015 through Q3 2016.

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