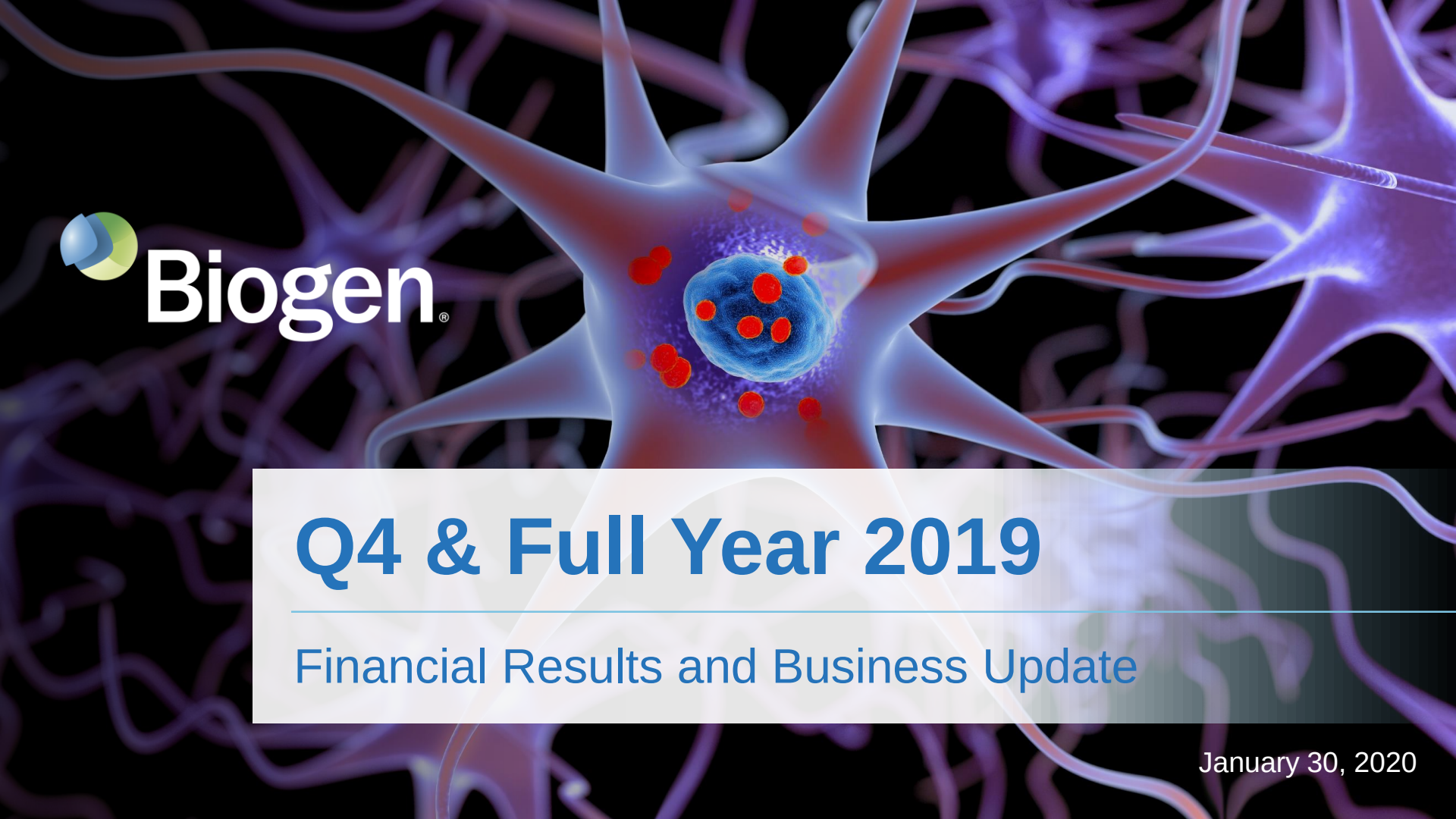


Q4 & Full Year 2019

Financial Results and Business Update

January 30, 2020

Forward-looking statements

This presentation contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, relating to: our strategy and plans; potential of our commercial business and pipeline programs; capital allocation and investment strategy; clinical development programs, clinical trials, and data readouts and presentations; regulatory filings and the timing thereof; the potential benefits, safety, and efficacy of our products and investigational therapies; anticipated benefits and potential of investments, collaborations, and business development activities; our future financial and operating results; our 2020 financial guidance; the potential benefits and results that may be achieved through the proposed transaction with Pfizer Inc. (Pfizer); and the anticipated completion and timing of the proposed transaction with Pfizer. These forward-looking statements may be accompanied by such words as “aim,” “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “goal,” “intend,” “may,” “plan,” “potential,” “possible,” “will,” “would,” and other words and terms of similar meaning. Drug development and commercialization involve a high degree of risk, and only a small number of research and development programs result in commercialization of a product. Results in early stage clinical trials may not be indicative of full results or results from later stage or larger scale clinical trials and do not ensure regulatory approval. 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: our dependence on sales from our products; difficulties in obtaining and maintaining adequate coverage, pricing, and reimbursement for our products; failure to protect and enforce our data, intellectual property, and other proprietary rights and the risks and uncertainties relating to intellectual property claims and challenges; uncertainty of long-term success in developing, licensing, or acquiring other product candidates or additional indications for existing products; failure to compete effectively due to significant product competition in the markets for our products; failure to successfully execute or realize the anticipated benefits of our strategic and growth initiatives; 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 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 occurrence of adverse safety events, restrictions on use with our products, or product liability claims; risks relating to technology failures or breaches; our dependence on collaborators, joint venture partners, and other third parties for the development, regulatory approval, and commercialization of products and other aspects of our business, which are outside of our full control; risks associated with current and potential future healthcare reforms; risks relating to management and key personnel changes, including attracting and retaining key personnel; failure to comply with legal and regulatory requirements; the risks of doing business internationally, including currency exchange rate fluctuations; risks relating to investment in our manufacturing capacity; problems with our manufacturing processes; risks related to commercialization of biosimilars; fluctuations in our operating results; fluctuations in our effective tax rate; risks related to investment in properties; the market, interest, and credit risks associated with our portfolio of marketable securities; risks relating to share repurchase programs; risks relating to access to capital and credit markets; risks related to indebtedness; environmental risks; risks relating to the distribution and sale by third parties of counterfeit or unfit 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; risks that the proposed transaction with Pfizer will be completed in a timely manner or at all; the possibility that certain closing conditions to the proposed transaction with Pfizer will not be satisfied; uncertainty as to whether the anticipated benefits of the proposed transaction with Pfizer can be achieved; 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 U.S. Securities and Exchange Commission (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.

Q4 & FY 2019 earnings call agenda

Introduction	**Joe Mara** VP, Investor Relations
Overview	**Michel Vounatsos** Chief Executive Officer
R&D Update	**Al Sandrock, M.D., Ph.D.** EVP, Research & Development
Financial Update	**Jeff Capello** EVP, Chief Financial Officer
Closing Remarks	**Michel Vounatsos** Chief Executive Officer

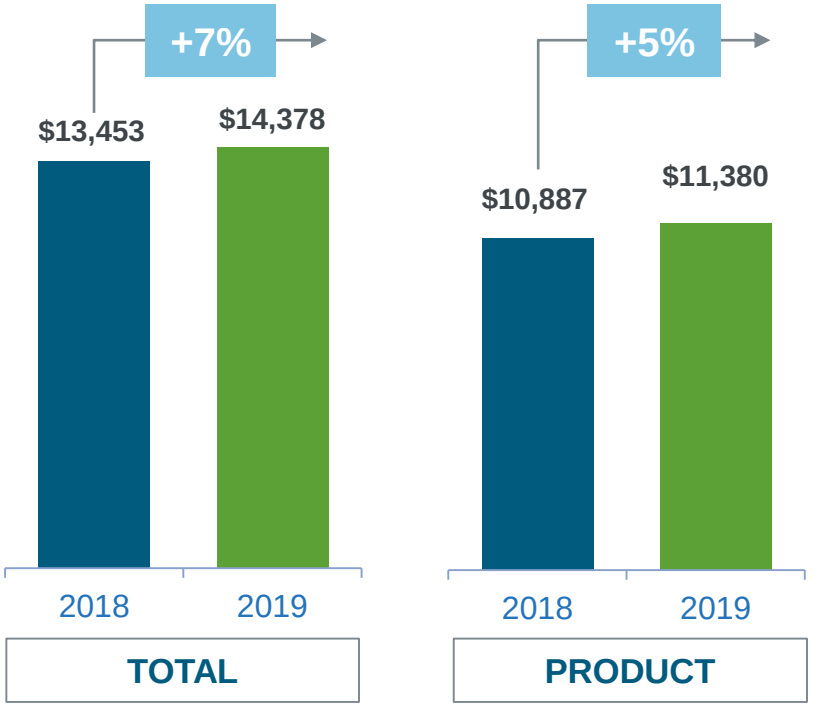
Overview

Michel Vounatsos

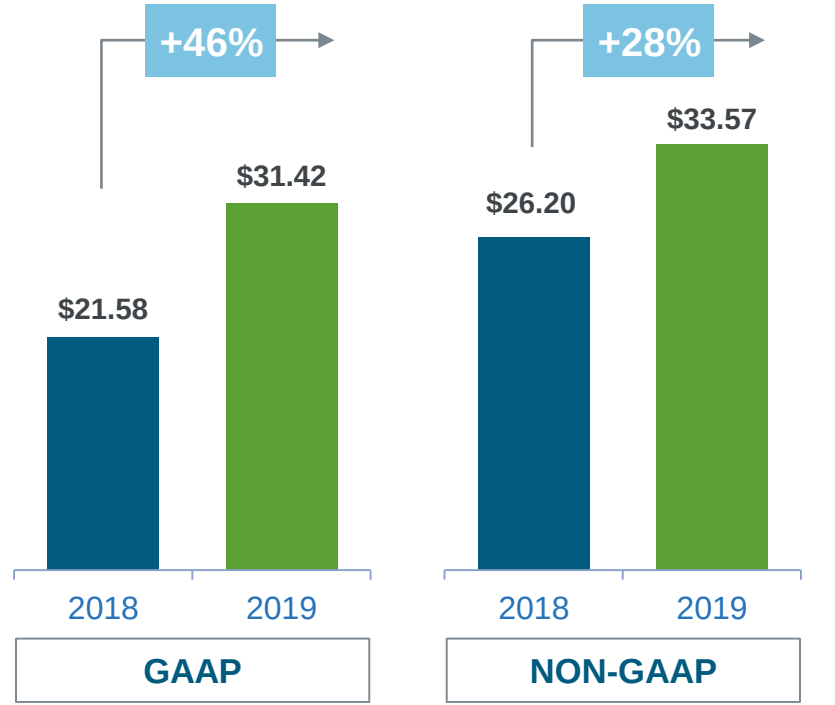
Chief Executive Officer

Strong performance in 2019

Revenues ($M)



Diluted EPS ($)



A reconciliation of our GAAP to Non-GAAP financial results is at the end of this presentation.

Strong progress implementing strategy

Maximizing the resilience of our MS core business

- ☑ Full year MS revenues, including OCREVUS, increased 2% to $9.2 billion
- ☑ Global MS patients increased 3% versus 2018
- ☑ Launched VUMERITY* in the U.S.; important new oral treatment option

Accelerating our neuromuscular franchise

- ☑ Full year SPINRAZA revenues increased 22% to $2.1 billion
- ☑ 2019 SPINRAZA performance driven by growth in both U.S. and ex-U.S.
- ☑ Over 10,000 patients on therapy globally as of December 31, 2019#

Unlocking the potential of biosimilars

- ☑ Full year biosimilars revenues increased 35% to $738 million
- ☑ New transaction with Samsung Bioepis provides commercialization rights to two potential ophthalmology biosimilars and to anti-TNFs in China

Biogen

*VUMERITY was developed in collaboration with Alkermes.
#Includes patients on therapy across the post-marketing setting, the expanded access program, and clinical trials.

Strong progress implementing strategy

Leading in Alzheimer's disease

- ☑ Sufficient exposure to high dose aducanumab reduced clinical decline
- ☑ Actively engaging with the FDA as well as regulators in Europe and Japan
- ☑ Working to complete a regulatory filing in the U.S. as soon as possible

Developing and expanding our neuroscience portfolio and pursuing therapeutic adjacencies

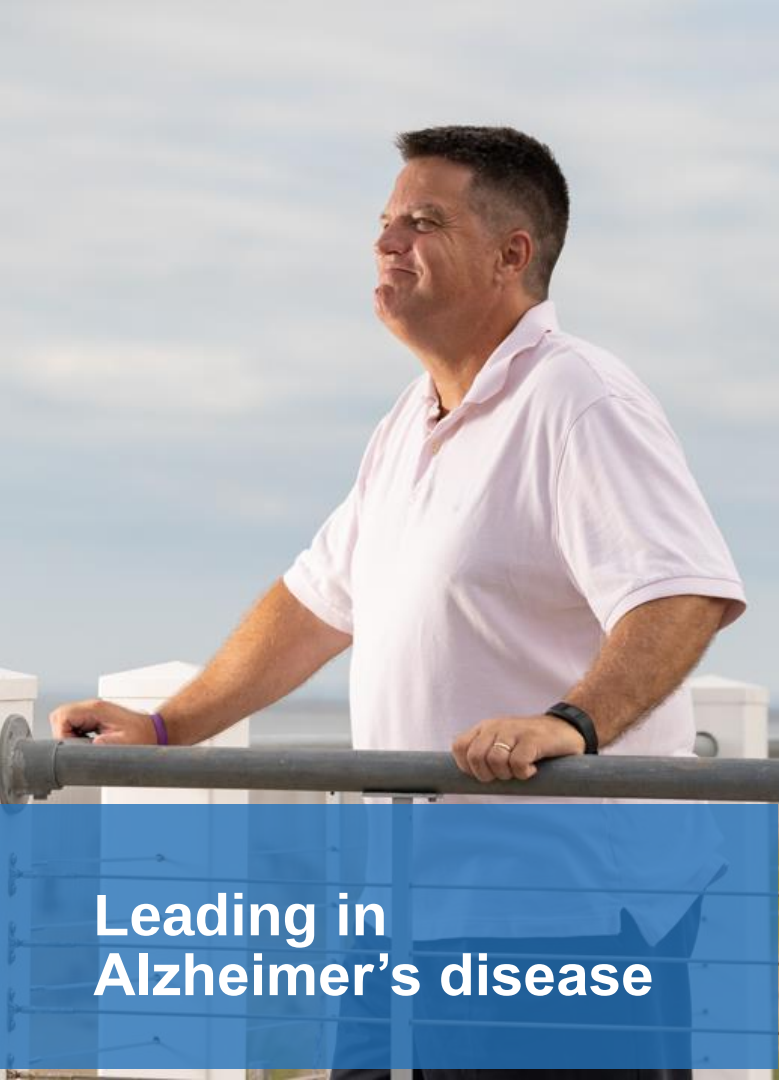
- ☑ Positive Phase 2 data for BIIB059 (anti-BDCA2) in lupus
- ☑ Seven new clinical programs in MS, ALS, Parkinson's disease, ophthalmology, and brain contusion
- ☑ Multiple opportunities for near-term value-creation

Continuous improvement and diligent capital allocation

- ☑ Generated ~ $7.1 billion in cash flow from operations in 2019
- ☑ Repurchased ~ 24 million shares for a total value of ~ $5.9 billion in 2019
- ☑ Executed four business development transactions over past three months

R&D Update

Al Sandrock, M.D., Ph.D.
EVP, Research & Development



Leading in Alzheimer's disease

Presented topline results from the Phase 3 studies of aducanumab at CTAD

- Sufficient exposure to high dose aducanumab reduced clinical decline across multiple clinical endpoints

Actively engaging with the FDA as well as regulators in Europe and Japan

Working to complete a regulatory filing in the U.S. as soon as possible

Working to initiate the open-label aducanumab redosing study as soon as possible

Advancing a broad clinical portfolio, including BAN2401 and multiple tau-directed assets

Note: Aducanumab and BAN2401 are being developed in collaboration with Eisai.

Continued to expand our market-leading MS portfolio

VUMERITY is approved by the FDA

Presented positive results from EVOLVE-MS-2, a Phase 3 study of VUMERITY, at the Annual Meeting of the European Charcot Foundation

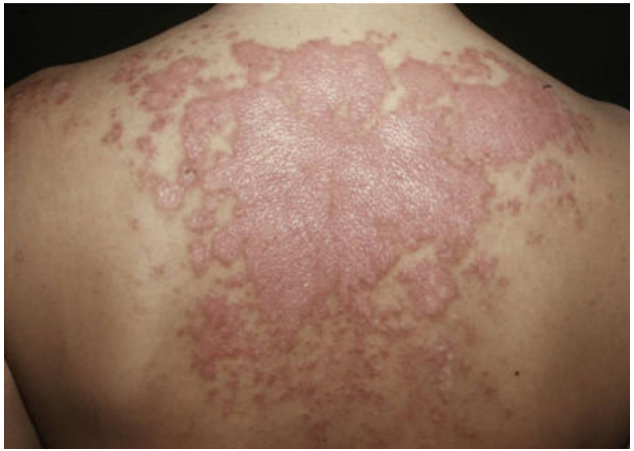
- VUMERITY was statistically superior to TECFIDERA on the pre-specified primary endpoint, the Individual Gastrointestinal Symptom and Impact Scale (IGISIS) (p=0.0003)
- Proportion of patients who discontinued due to gastrointestinal (GI) adverse events: 0.8% for VUMERITY and 4.8% for TECFIDERA

Note: VUMERITY was developed in collaboration with Alkermes.

Positive phase 2 results for BIIB059 in lupus

BIIB059 (anti-BDCA2)

- **Large market opportunity (~ 800,000 individuals in G7) with limited treatment options**
  - Cutaneous lupus erythematosus (CLE): skin disorder
  - Systemic lupus erythematosus (SLE): systemic disease with joint involvement
- **BIIB059: monoclonal antibody designed to reduce production of inflammatory cytokines (e.g., type-I interferon)**
- **Phase 2 LILAC study met its primary endpoints for both CLE and SLE:**
  - CLE: Dose response of BIIB059 on percent change from baseline in CLASI-A* score at week 16 ($p<0.001$)
  - SLE: Reduction in change from baseline in total active joint count at week 24 ($p=0.037$)
- **Planning to advance BIIB059 to Phase 3**



Skin lesions in CLE

(Uva et al., 2012)

Biogen

*CLASI-A = Cutaneous Lupus Erythematosus Disease Area and Severity Index Activity

Building depth in neuromuscular disorders

Biogen, Ionis Pharmaceuticals, and collaborators awarded Healy Center International Prize for Innovation in ALS

Presented final data from Phase 1/2 study of tofersen (BIIB067) in SOD1 ALS at International Symposium on ALS/Motor Neuron Disease

- Tofersen treatment was associated with reduced CSF SOD1 levels, trends toward slowing of clinical decline, and reduced neurofilament levels

Progress in ophthalmology

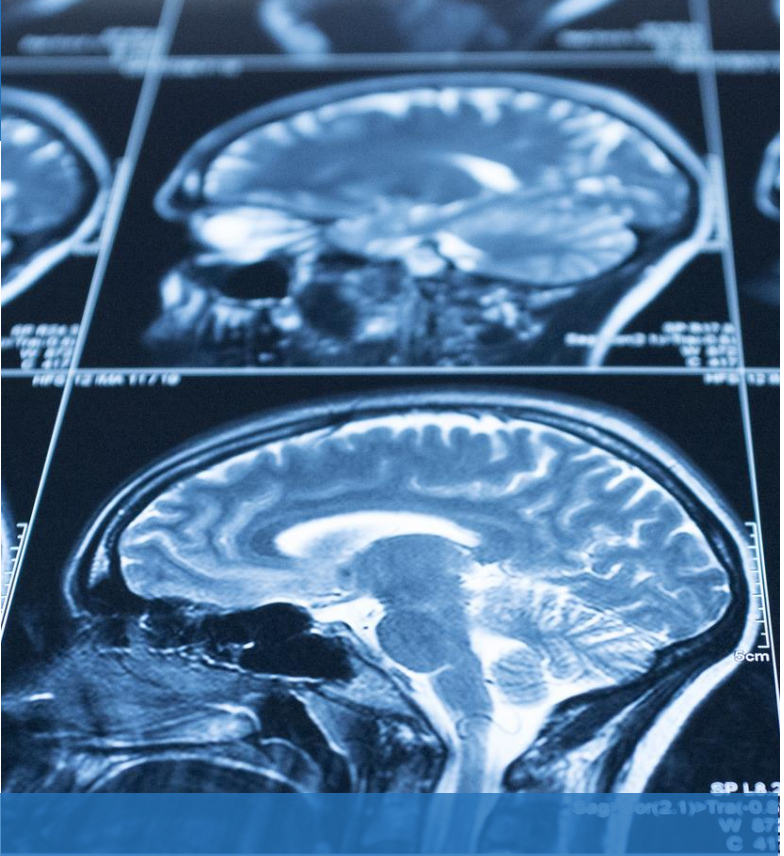
Completed enrollment of Phase 3 STAR study of BIIB111 (timrepigene emparvovec) in choroideremia

- BIIB111 aims to address underlying cause of choroideremia by expressing AAV2-packaged REP1 transgene

Data expected towards end of 2020

Data from Phase 2/3 study of BIIB112 (RPGR gene therapy) in XLRP expected in mid-2021

XLRP = X-linked retinitis pigmentosa



Progress in stroke

Continue to advance Phase 3 study of BIIB093 (glibenclamide IV) for large hemispheric infarction

- Data expected by end of 2021

Phase 2 study progressing for TMS-007* in acute ischemic stroke

- Data expected by end of 2020

*Option agreement

Updates in movement disorders and neurocognitive disorders

Expect data from Phase 2 study of BIIB054 (cinpanemab), an anti-α-synuclein antibody for Parkinson's disease, in 2H 2020

Reported topline results from Phase 2 study of BIIB092 (gosuranemab) in PSP

Continuing Phase 2 study of gosuranemab in early Alzheimer's disease

Continue to advance Phase 2b study of BIIB104 (AMPA) for cognitive impairment associated with schizophrenia

- Data expected in 2H 2021

Continued progress in business development

Agreement with Catalyst Biosciences to develop and commercialize CB 2782-PEG for potential treatment of geographic atrophy (GA)

- GA has no approved therapies and affects ~ 1 million individuals in the U.S. alone
- CB 2782-PEG: novel protease that selectively cleaves complement component 3 (C3), a genetically validated target in AMD
- Complements our portfolio in ophthalmology

Initiated collaboration with CAMP4 to potentially identify druggable targets in microglial signaling pathways known to play causal role in diseases

AMD = age-related macular degeneration

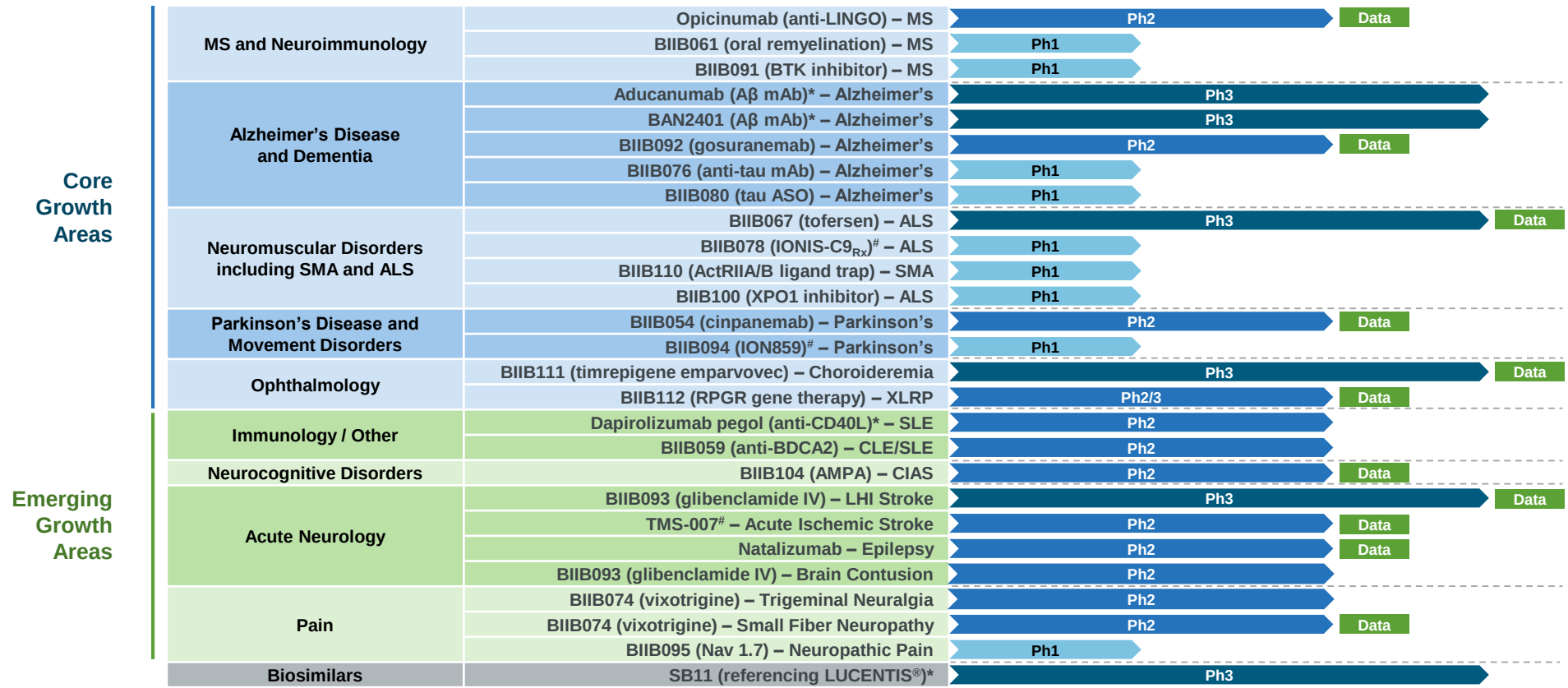
Continued progress in business development

Agreement to acquire PF-05251749, a novel CNS-penetrant small molecule inhibitor of casein kinase 1 (CK1), from Pfizer

- CK1 regulates circadian rhythms, which can become dysregulated and contribute to irregular sleep wake rhythm disorder in Parkinson's disease and sundowning in Alzheimer's disease
- Phase 1a study of PF-05251749 demonstrated an acceptable safety profile and proof of mechanism
- Expect to initiate a Phase 1b study of PF-05251749 by the end of 2020

This transaction is subject to customary closing conditions, including the expiration of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 in the U.S.

Advancing a broad pipeline toward a multi-franchise portfolio



Biogen

Data: data readout expected by end of 2021

*Collaboration program; #Option agreement; MS = multiple sclerosis; ALS = amyotrophic lateral sclerosis; SMA = spinal muscular atrophy; XLRP = X-linked retinitis pigmentosa; SLE = systemic lupus erythematosus; CLE = cutaneous lupus erythematosus; CIAS = cognitive impairment associated with schizophrenia; LHI = large hemispheric infarction

Financial Update

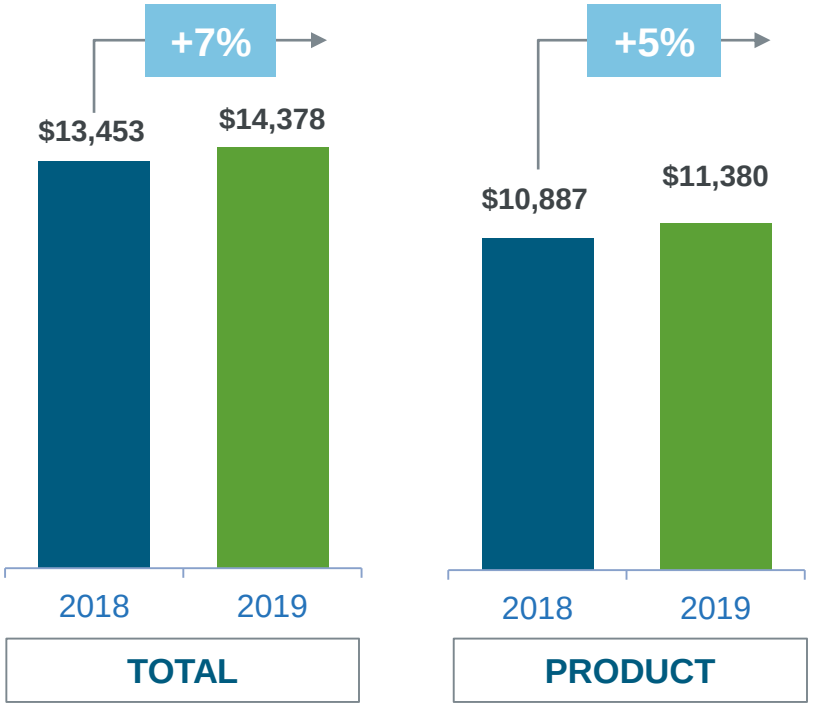
Jeff Capello

EVP, Chief Financial Officer

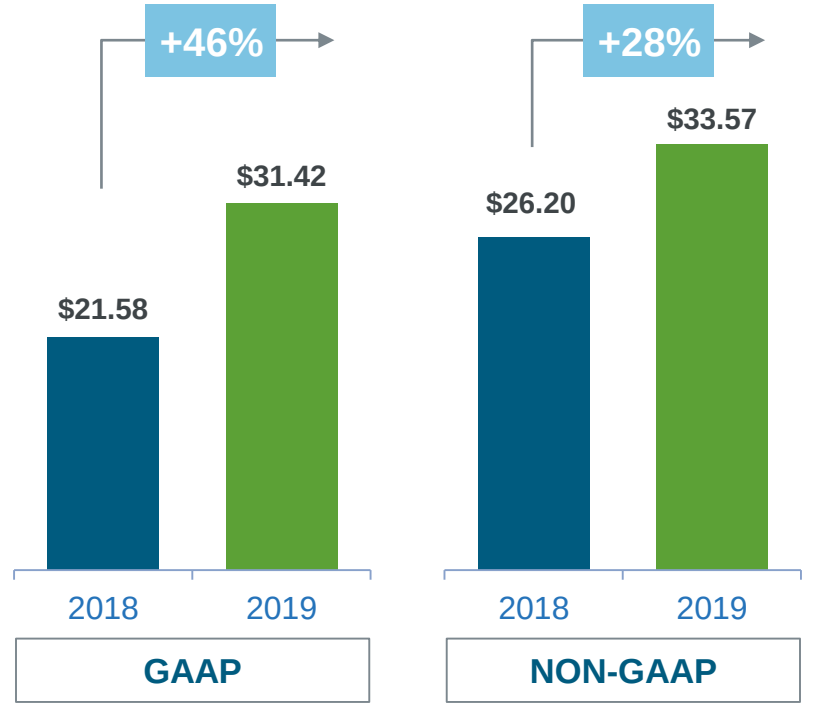
Biogen

Strong performance in 2019

Revenues ($M)



Diluted EPS ($)



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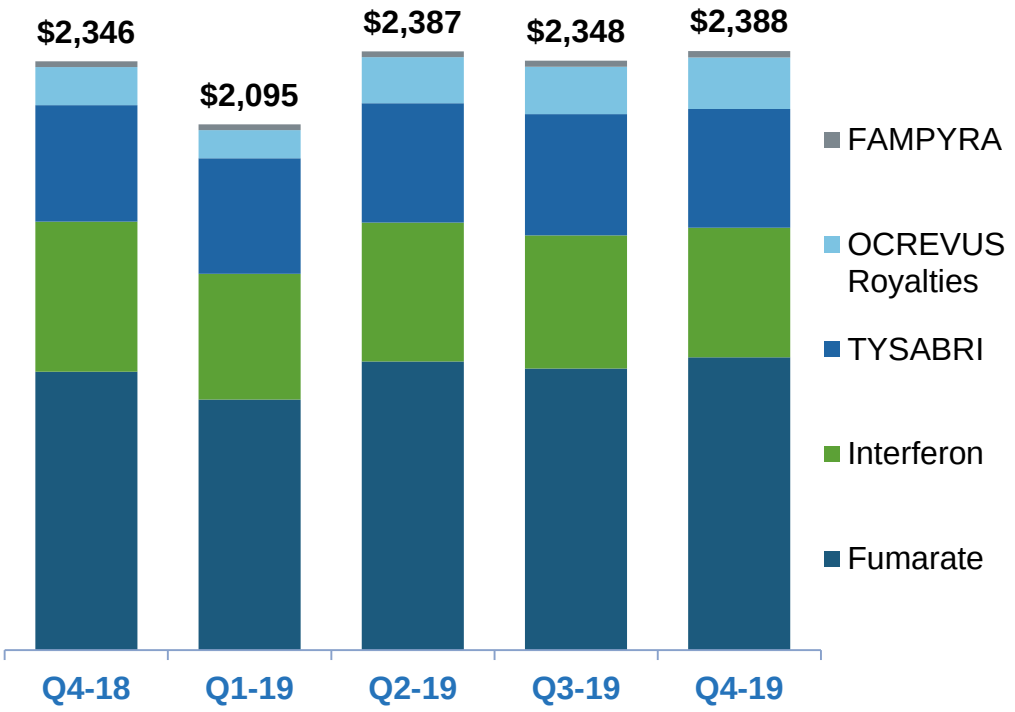
Global multiple sclerosis performance

MS Revenues ($M)



Q4 2019 Highlights

- Revenues vs. Q4 2018 and Q3 2019

	ΔY/Y		ΔQ/Q
Total	+ 2%	and	+ 2%
U.S. Product	- 2%	and	+ 3%
ROW Product	+ 3%	and	- 3%
OCREVUS Royalties	+ 35%	and	+ 9%

- Increase in channel inventory in the U.S. of ~ $135 million in Q4 2019 compared to increase of ~ $105 million in Q4 2018 and decrease of ~ $30 million in Q3 2019

FY 2019 Highlights

- Revenues vs. FY 2018

	ΔY/Y
Total	+ 2%
U.S. Product	- 3%
ROW Product	+ 4%
OCREVUS Royalties	+ 44%

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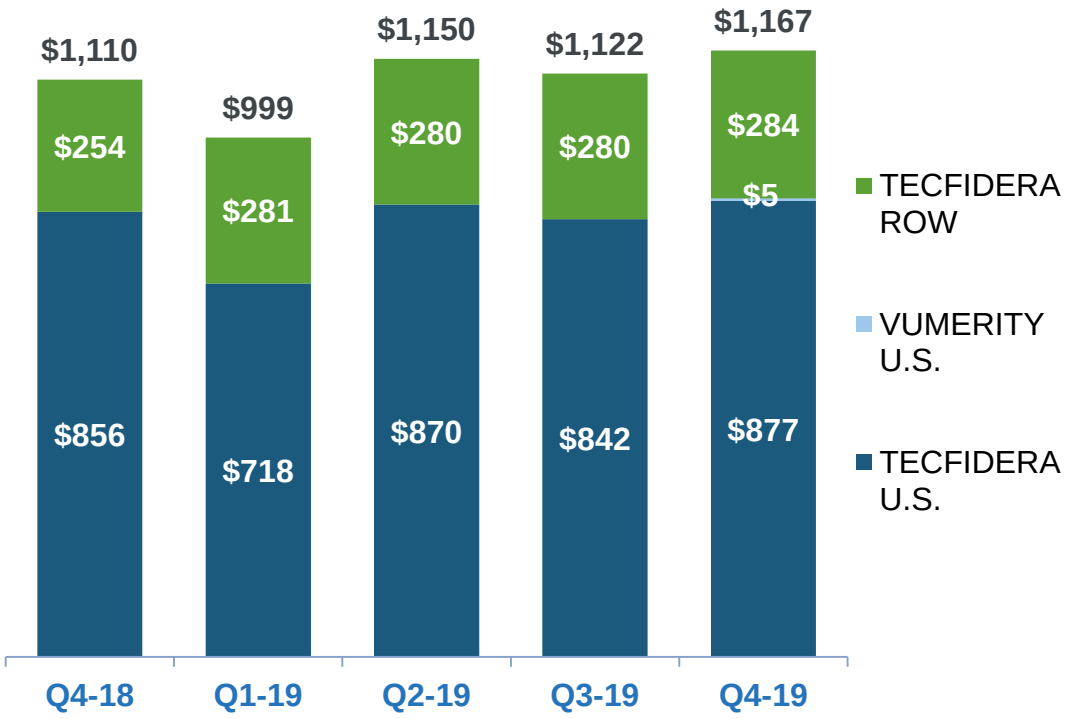
Numbers may not foot due to rounding.

Global fumarate performance

Fumarate Revenues ($M)



Q4 2019 Highlights

- Revenues vs. Q4 2018 and Q3 2019

	ΔY/Y		ΔQ/Q
WW	+ 5%	and	+ 4%
U.S.	+ 3%	and	+ 5%
ROW	+ 12%	and	+ 1%

- Increase in channel inventory in the U.S. of ~ $105 million in Q4 2019 compared to increase of ~ $60 million in Q4 2018 and decrease of ~ $15 million in Q3 2019

FY 2019 Highlights

- Revenues vs. FY 2018

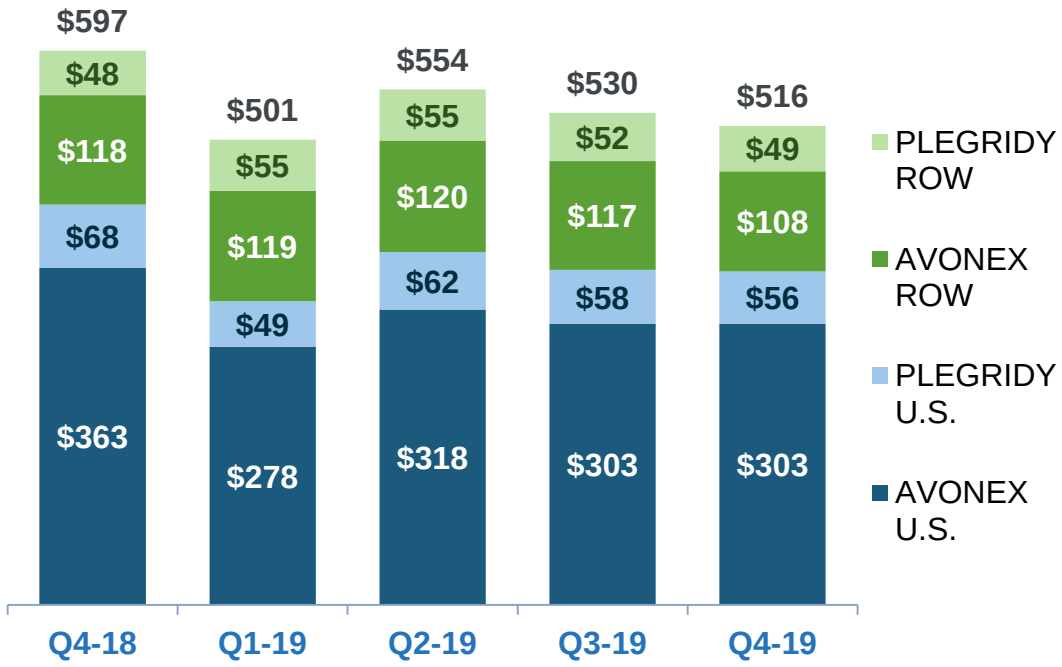
	ΔY/Y
WW	+ 4%
U.S.	+ 2%
ROW	+ 10%

Numbers may not foot due to rounding.

Global interferon performance

AVONEX (interferon beta-1a) plegridy (peginterferon beta-1a)

Interferon Revenues ($M)



Q4 2019 Highlights

- Revenues vs. Q4 2018 and Q3 2019

	ΔY/Y		ΔQ/Q
WW	- 14%	and	- 3%
U.S.	- 17%	and	- 0%
ROW	- 5%	and	- 7%

- Increase in channel inventory in the U.S. of ~ $30 million in Q4 2019 compared to increase of ~ $35 million in Q4 2018 and decrease of ~ $5 million in Q3 2019

FY 2019 Highlights

- Revenues vs. FY 2018

	ΔY/Y
WW	- 11%
U.S.	- 14%
ROW	- 3%

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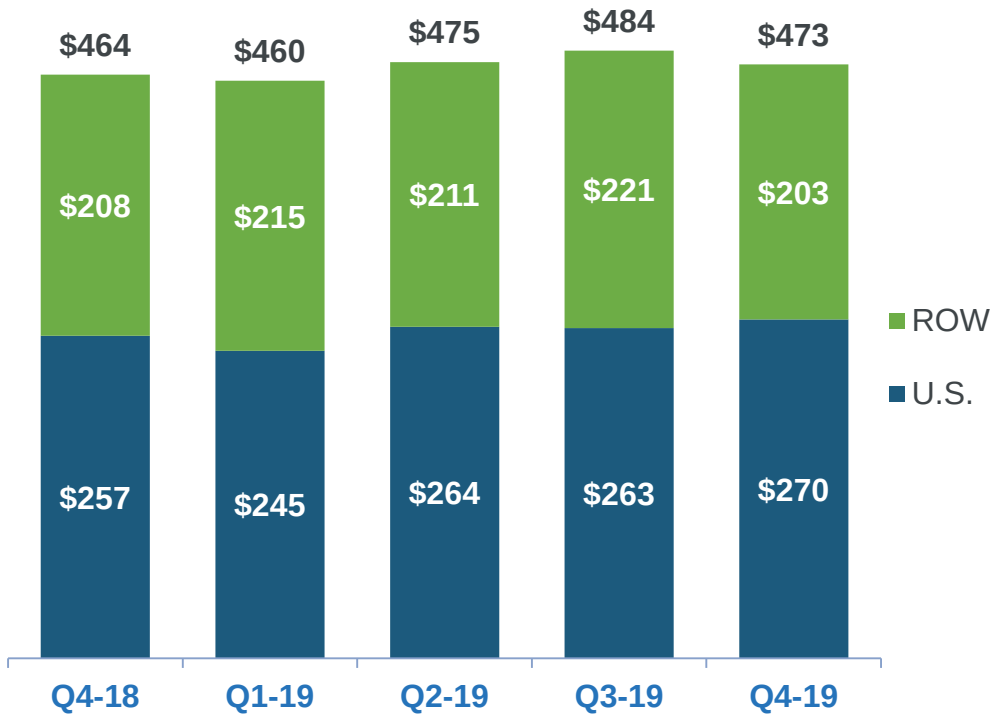
Numbers may not foot due to rounding.

Global TYSABRI performance

TYSABRI Revenues ($M)



Q4 2019 Highlights

- Revenues vs. Q4 2018 and Q3 2019

	ΔY/Y		ΔQ/Q
WW	+ 2%	and	- 2%
U.S.	+ 5%	and	+ 3%
ROW	- 2%	and	- 8%

- Relatively stable channel inventory in the U.S. in Q4 2019 compared to increase of ~ $10 million in Q4 2018 and decrease of ~ $10 million in Q3 2019

FY 2019 Highlights

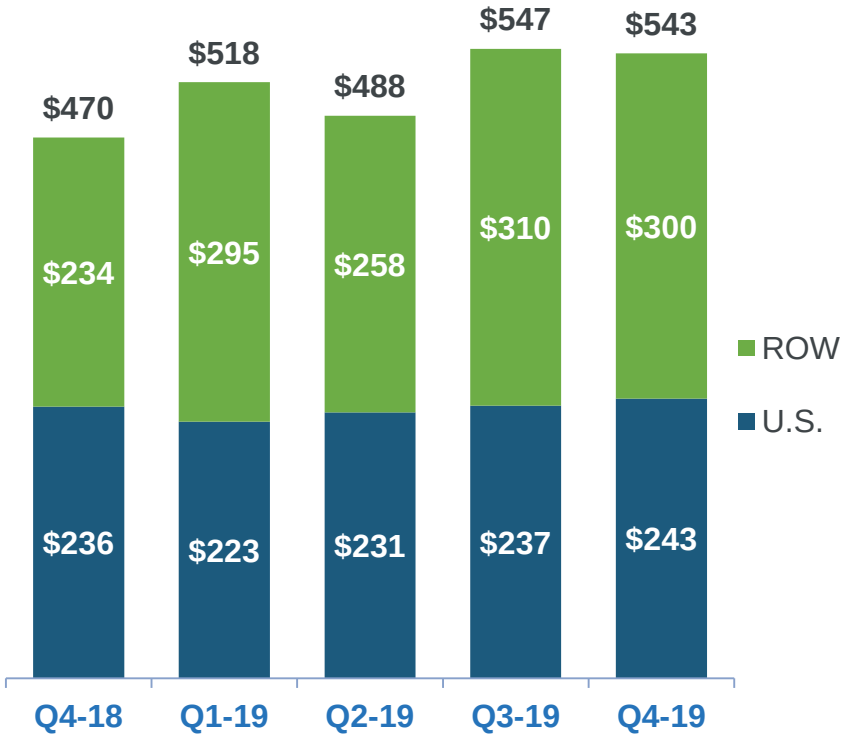
- Revenues vs. FY 2018

	ΔY/Y
WW	+ 2%
U.S.	+ 2%
ROW	+ 1%

Numbers may not foot due to rounding.

Global SPINRAZA performance

SPINRAZA Revenues ($M)



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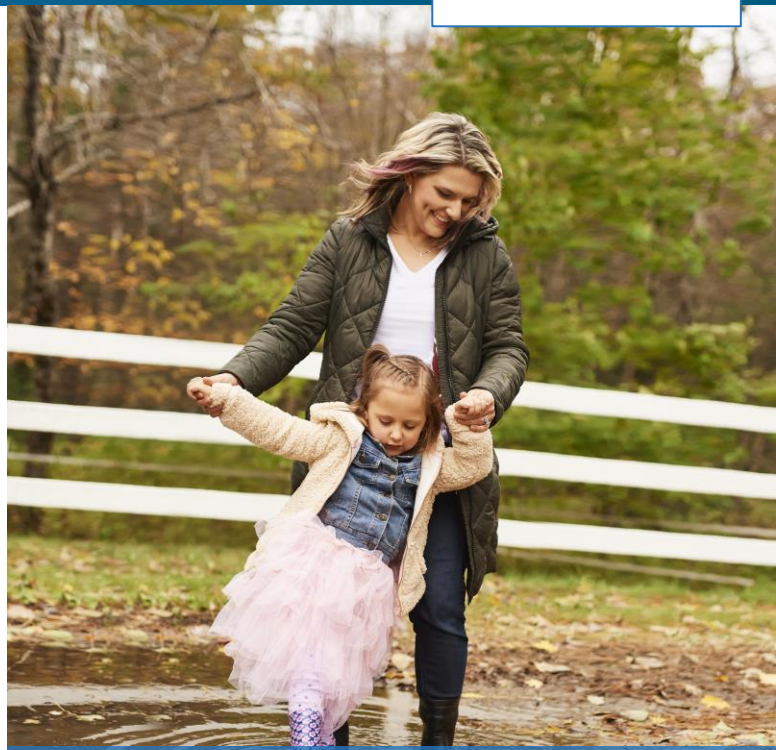
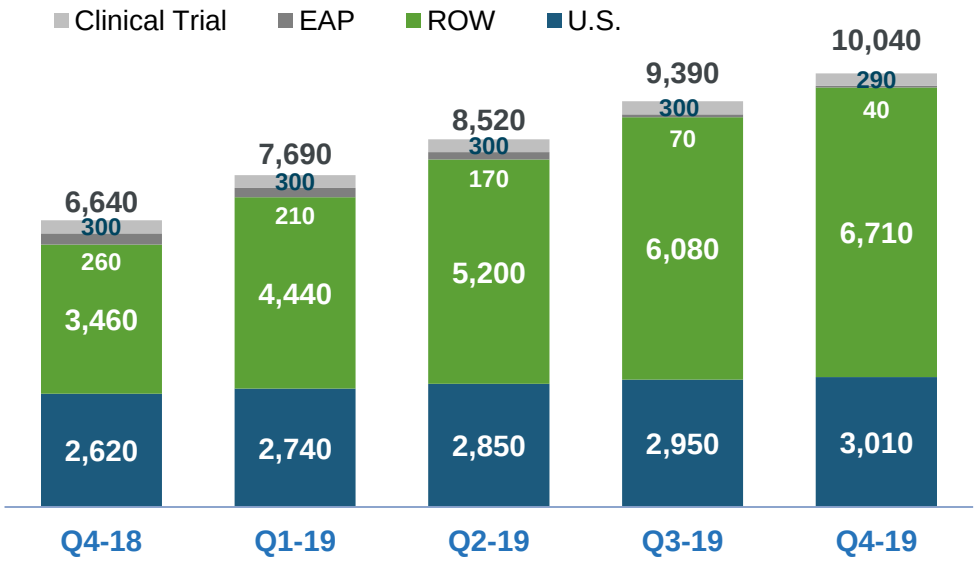


Approved in over 50 countries

Formal reimbursement in 40 countries

SPINRAZA patient dynamics

SPINRAZA Patients



Highlights

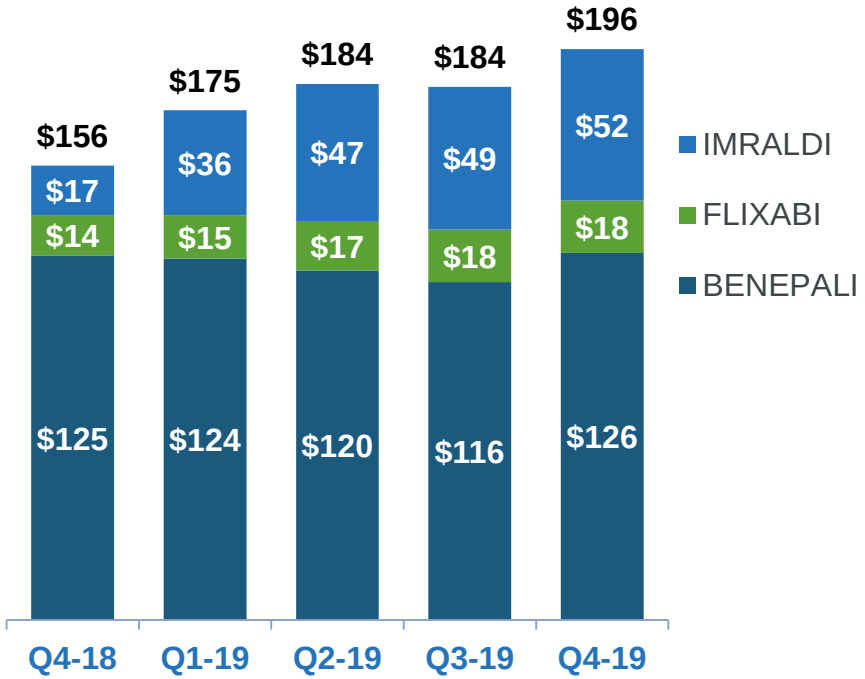
- As of December 31, 2019, > 10,000 patients on therapy across the post-marketing setting, the EAP, and clinical trials
- In the U.S. more than 50% of new starts in Q4 2019 were adults; growth in adults exceeded overall patient growth
- Continued strong patient growth outside the U.S. with significant remaining opportunity

Numbers may not foot due to rounding. U.S. and Ex-U.S. SPINRAZA patients represent the total estimated number of patients on therapy in the post-marketing setting as of the end of each quarter, including free patients in the U.S. EAP patients represent patients actively enrolled in the Expanded Access Program (EAP) as of the end of each quarter.

Biosimilars business

SAMSUNG BIOEPIS

Biosimilars Revenues ($M)



Commercialization in Europe

- > 200,000 patients currently on biosimilars*
- Biogen contributed ~ €1.8 billion of healthcare savings in 2019 across Europe#

New Commercialization Agreement

- Biogen to commercialize potential ophthalmology biosimilars referencing LUCENTIS and EYLEA across the U.S., Canada, Europe, Japan, and Australia
  - Global market of almost $11 billion in 2018^
- Commercialization rights to anti-TNFs in China

Samsung Bioepis Joint Venture

- Equity stake to ~49.9%

Biogen

*Biogen data on file as of December 31, 2019. Includes ~ 105,000 patients on BENEPALI, ~ 75,000 patients on IMRALDI, and ~ 25,000 patients on FLIXABI.
#Biogen data on file.
^Company reported sales, EvaluatePharma.

Q4 & FY 2019 financial results summary: revenues

$ in Millions	Q4 2019	Q3 2019	Q4 2018	Δ Q/Q	Δ Y/Y	FY 2019	FY 2018	Δ FY/FY
Total MS Product Revenues[1]	**$2,182**	**$2,160**	**$2,195**	**1%**	**(1%)**	**$8,529**	**$8,595**	**(1%)**
SPINRAZA U.S.	$243	$237	$236	3%	3%	$933	$854	9%
SPINRAZA ROW[1]	$300	$310	$234	(3%)	28%	$1,164	$870	34%
Total SPINRAZA Revenues[1]	**$543**	**$547**	**$470**	**(1%)**	**16%**	**$2,097**	**$1,724**	**22%**
Biosimilars Revenues	$196	$184	$156	7%	25%	$738	$545	35%
FUMADERM Revenues	$4	$4	$5	(3%)	(28%)	$15	$22	(32%)
Total Product Revenues[1]	**$2,925**	**$2,895**	**$2,826**	**1%**	**4%**	**$11,380**	**$10,887**	**5%**
RITUXAN/GAZYVA Revenues	$395	$408	$383	(3%)	3%	$1,603	$1,502	7%
OCREVUS Royalties	$205	$188	$152	9%	35%	$688	$478	44%
Revenues from Anti-CD20 Therapeutic Programs	**$601**	**$596**	**$535**	**1%**	**12%**	**$2,290**	**$1,980**	**16%**
Other Revenues	$146	$110	$166	33%	(12%)	$708	$586	21%
Total Revenues[1]	**$3,671**	**$3,600**	**$3,526**	**2%**	**4%**	**$14,378**	**$13,453**	**7%**

Numbers may not foot due to rounding. Percent changes represented as favorable/(unfavorable). For all periods, there were no adjustments between GAAP and Non-GAAP revenues.
[1]Net of hedge

Q4 & FY 2019 financial results summary

$ in Millions	Q4 2019	Q3 2019	Q4 2018	Δ Q/Q	Δ Y/Y	FY 2019	FY 2018	Δ FY/FY
GAAP Cost of Sales	$447	$430	$489	(4%)	8%	$1,955	$1,816	(8%)
% of Total Revenues	12%	12%	14%			14%	14%	
Non-GAAP Cost of Sales	$447	$430	$489	(4%)	8%	$1,955	$1,816	(8%)
% of Total Revenues	12%	12%	14%			14%	14%	
GAAP R&D Expenses	$692	$540	$612	(28%)	(13%)	$2,281	$2,597	12%
% of Total Revenues	19%	15%	17%			16%	19%	
Non-GAAP R&D Expenses	$692	$540	$602	(28%)	(15%)	$2,273	$2,425	6%
% of Total Revenues	19%	15%	17%			16%	18%	
GAAP SG&A Expenses	$665	$555	$591	(20%)	(12%)	$2,376	$2,106	(13%)
% of Total Revenues	18%	15%	17%			17%	16%	
Non-GAAP SG&A Expenses	$662	$547	$591	(21%)	(12%)	$2,325	$2,095	(11%)
% of Total Revenues	18%	15%	17%			16%	16%	
GAAP Divestiture of Assets	($40)	($18)	$0	127%	NMF	$55	$0	NMF
GAAP Amortization of Acquired Intangibles	$68	$284	$254	76%	73%	$490	$747	34%
Collaboration Profit (Loss) Sharing	$60	$60	$56	1%	(7%)	$242	$185	(31%)

Biogen

Numbers may not foot due to rounding. Percent changes represented as favorable/(unfavorable). A reconciliation of our GAAP to Non-GAAP financial results is at the end of this presentation.

Q4 & FY 2019 financial results summary

$ in Millions except EPS Shares in Millions	Q4 2019	Q3 2019	Q4 2018	Δ Q/Q	Δ Y/Y	FY 2019	FY 2018	Δ FY/FY
GAAP Other Income (Expense)	($49)	($27)	($29)	(81%)	(72%)	$83	$11	655%
Non-GAAP Other Income (Expense)	($50)	($23)	($16)	(121%)	(206%)	($110)	($117)	6%
GAAP Tax Rate	16%	12%	33%			16%	24%	
Non-GAAP Tax Rate	16%	16%	21%			16%	21%	
GAAP JV Equity Income (Loss)	($13)	($22)	$0	42%	NMF	($79)	$0	NMF
Non-GAAP JV Equity Income (Loss)	$8	($1)	$0	NMF	NMF	($1)	$0	NMF
GAAP Net Income (Loss) Attributable to Noncontrolling Interests	$0	$0	($2)	NMF	(100%)	$0	$43	NMF
Non-GAAP Net Income (Loss) Attributable to Noncontrolling Interests	$0	$0	($0)	NMF	(100%)	$0	($0)	NMF
Weighted average diluted shares used in calculating diluted EPS	178	184	200	3%	11%	187	205	9%
GAAP Net Income Attributable to Biogen Inc.	$1,440	$1,546	$947	(7%)	52%	$5,889	$4,431	33%
GAAP Diluted EPS	**$8.08**	**$8.39**	**$4.73**	**(4%)**	**71%**	**$31.42**	**$21.58**	**46%**
Non-GAAP Net Income Attributable to Biogen Inc.	$1,486	$1,689	$1,400	(12%)	6%	$6,291	$5,378	17%
Non-GAAP Diluted EPS	**$8.34**	**$9.17**	**$6.99**	**(9%)**	**19%**	**$33.57**	**$26.20**	**28%**

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Numbers may not foot due to rounding. Percent changes represented as favorable/(unfavorable). A reconciliation of our GAAP to Non-GAAP financial results is at the end of this presentation.

Biogen 2020 full year financial guidance

Expense ratios and tax rates apply to both GAAP and Non-GAAP 2020 Full Year Guidance	2019 Actual	2020 Guidance
Revenues	$14.4 billion	**$14.0 to $14.3 billion**
R&D Expense (as a % of revenues)	16%	**15% to 16%**
SG&A Expense (as a % of revenues)	17% (GAAP) 16% (Non-GAAP)	**19.5% to 20.5%**
Tax Rate	16%	**18% to 19%**
GAAP Diluted EPS	$31.42	**$29.50 to $31.50**
Non-GAAP Diluted EPS	$33.57	**$31.50 to $33.50**

Additional 2020 Assumptions:

- Does not include any impact from potential acquisitions or large business development transactions, as both are hard to predict.
- Assumes no generic competition in the U.S. for TECFIDERA in 2020 and no change in foreign exchange rates.
- Assumes additional commercial and R&D expenses related to aducanumab, a stable share count, and that the proposed transaction with Pfizer closes.
- Expect capital expenditures to be between $350 million and $400 million.

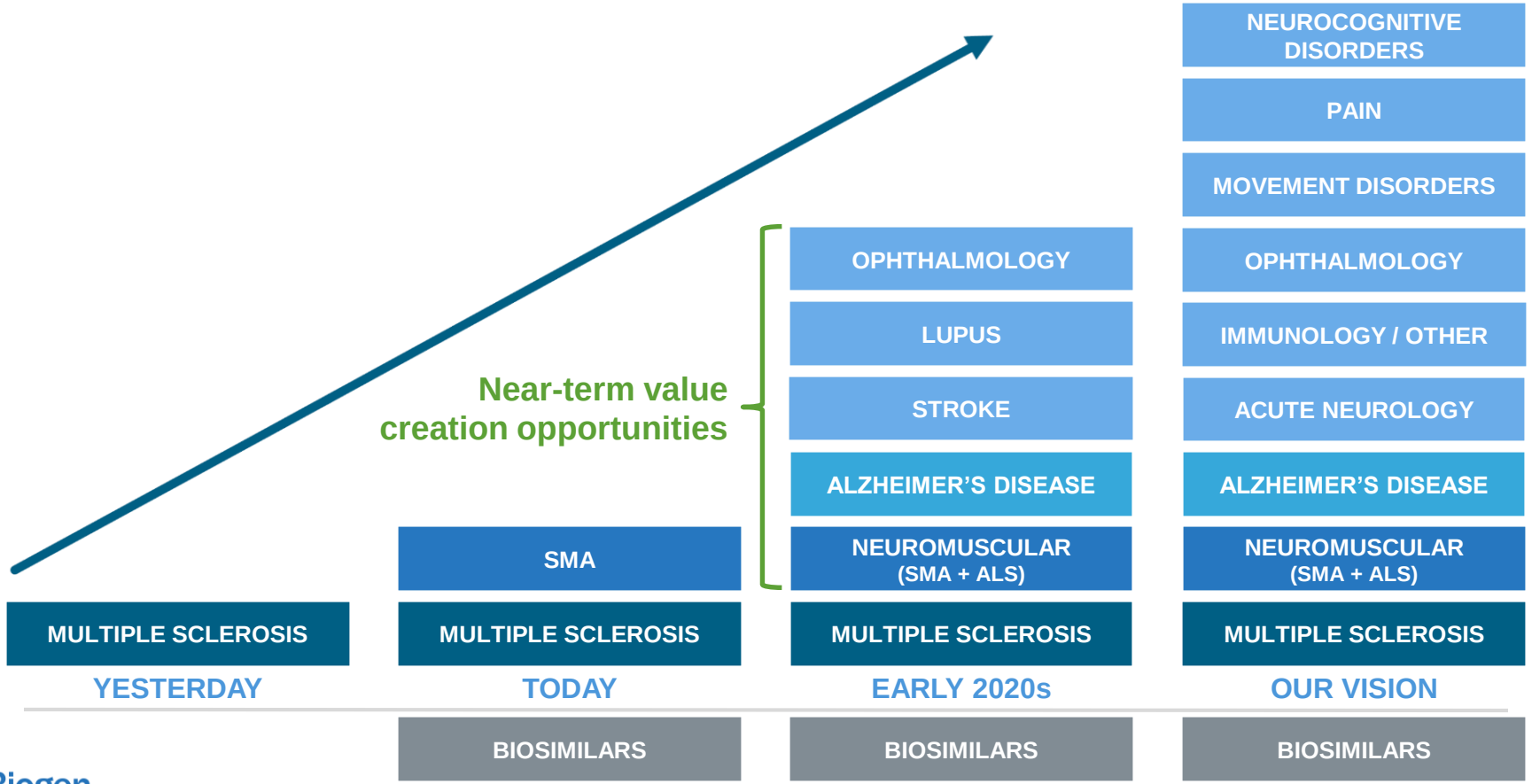
Biogen may incur charges, realize gains or losses, or experience other events or circumstances in 2020 that could cause actual results to vary from this financial guidance.
A reconciliation of our GAAP to non-GAAP financial guidance is at the end of this presentation.

Closing Remarks

Michel Vounatsos
Chief Executive Officer

Biogen

Continuing to build a multi-franchise portfolio



Significant opportunity for value creation

Near-Term Opportunities

~50M patients with dementia

<5 years average life expectancy for patients with ALS

~800,000 individuals with lupus*

Stroke: **5th leading cause of death** in the U.S.

Up to 200,000 patients with inherited retinal disorders in the U.S.

11 Readouts Expected by End of 2021

Phase 3 readouts

- **Tofersen** SOD1 ALS
- **BIIB111** Choroideremia
- **BIIB093** LHI

Phase 2 readouts

- **Opicinumab** MS
- **Gosuranemab** Alzheimer's
- **Cinpanemab** Parkinson's
- **BIIB112** XLRP
- **BIIB104** CIAS
- **TMS-007#** AIS
- **Natalizumab** Epilepsy
- **Vixotrigine** SFN

Source: World Health Organization; The ALS Association; American Heart Association; Biogen data on file.
*Represents patients with CLE and/or SLE in the G7

#Option agreement; SOD1 = superoxide dismutase 1; ALS = amyotrophic lateral sclerosis; LHI = large hemispheric infarction; MS = multiple sclerosis; XLRP = X-linked retinitis pigmentosa; CIAS = cognitive impairment associated with schizophrenia; AIS = acute ischemic stroke; SFN = small fiber neuropathy

Continuing to create value through pioneering science

Building breadth and depth across the pipeline → **Working to create multiple franchises**

11 data readouts expected by end of 2021 → **Multiple value creation inflection points**

The leader in neuroscience → **Significant market opportunity with high unmet need**

Biogen

Where science meets humanity

PATIENTS

PIONEERING SCIENCE TO TRANSFORM PEOPLE'S LIVES

Early Access Programs
in over 40 countries^

~200,000 Patients
treated with biosimilars^

100% HTAs[#]
pricing approval

Innovating Digital Tools
to help patients (Aby/CLEO)

EMPLOYEES

IGNITING THE WORLD'S LEADING SCIENTIFIC MINDS IN AN INCLUSIVE WORKPLACE

46% women in director-level positions and above^^

25% ethnic or racial minorities
in U.S. director-level roles and above^^

'Best Place to Work for Disability Inclusion'
3 consecutive years

Driving Health Equity
in the disease areas we treat

ENVIRONMENT

FOLLOWING THE SCIENCE TO OPERATE SUSTAINABLY AND SET BOLD TARGETS

#1 Biotech Company
on Dow Jones Sustainability Index*

Carbon neutral
company since 2014

100% renewable
power commitment

Green chemistry
principles adopted

COMMUNITY

INSPIRING THE NEXT GENERATION OF SCIENTISTS IN OUR COMMUNITIES

$10M 4-year STEM commitment
from Biogen Foundation

53k+ students engaged in Community Lab since inception^

54% summer Community Lab students from underrepresented and/or low-income household groups^

3k+ employees volunteered
in 30+ countries
for Care Deeply Day

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^Biogen data on file as of December 31, 2019; [#]Health Technology Assessment; ^^Biogen data on file as of September 30, 2019; *DJSI World and DJSI North America

Questions & Answers

Appendix

Q4 & FY 2019 financial results summary: MS revenues

$ in Millions	Q4 2019	Q3 2019	Q4 2018	Δ Q/Q	Δ Y/Y	FY 2019	FY 2018	Δ FY/FY
TECFIDERA U.S.	$877	$842	$856	4%	2%	$3,307	$3,253	2%
TECFIDERA ROW[1]	$284	$280	$254	1%	12%	$1,126	$1,021	10%
Total TECFIDERA Revenues[1]	**$1,161**	**$1,122**	**$1,110**	**3%**	**5%**	**$4,433**	**$4,274**	**4%**
VUMERITY U.S.	$5	$0	$0	NMF	NMF	$5	$0	NMF
Total Fumarate Revenues[1]	**$1,167**	**$1,122**	**$1,110**	**4%**	**5%**	**$4,438**	**$4,274**	**4%**
AVONEX U.S.	$303	$303	$363	0%	(16%)	$1,202	$1,420	(15%)
AVONEX ROW[1]	$108	$117	$118	(8%)	(9%)	$464	$495	(6%)
Total AVONEX Revenues[1]	**$411**	**$420**	**$481**	**(2%)**	**(15%)**	**$1,666**	**$1,915**	**(13%)**
PLEGRIDY U.S.	$56	$58	$68	(3%)	(18%)	$225	$248	(10%)
PLEGRIDY ROW[1]	$49	$52	$48	(6%)	2%	$211	$199	6%
Total PLEGRIDY Revenues[1]	**$106**	**$110**	**$116**	**(4%)**	**(9%)**	**$436**	**$448**	**(3%)**
Total Interferon Revenues[1]	**$516**	**$530**	**$597**	**(3%)**	**(14%)**	**$2,102**	**$2,363**	**(11%)**
TYSABRI U.S.	$270	$263	$257	3%	5%	$1,042	$1,025	2%
TYSABRI ROW[1]	$203	$221	$208	(8%)	(2%)	$850	$839	1%
Total TYSABRI Revenues[1]	**$473**	**$484**	**$464**	**(2%)**	**2%**	**$1,892**	**$1,864**	**2%**
FAMPYRA[1]	$26	$24	$23	6%	14%	$97	$93	5%
ZINBRYTA ROW	$0	$0	$0	NMF	NMF	$0	$1	(100%)
Total MS Product Revenues[1]	**$2,182**	**$2,160**	**$2,195**	**1%**	**(1%)**	**$8,529**	**$8,595**	**(1%)**
OCREVUS Royalties	$205	$188	$152	9%	35%	$688	$478	44%
MS Product Revenues[1] + OCREVUS Royalties	**$2,388**	**$2,348**	**$2,346**	**2%**	**2%**	**$9,217**	**$9,073**	**2%**

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Numbers may not foot due to rounding. Percent changes represented as favorable/(unfavorable). For all periods there were no adjustments between GAAP and Non-GAAP revenues. [1]Net of hedge

Q4 2019 impact of foreign exchange and hedging

	Actuals	Hedge Gains (Losses) in the Quarter			FX Impact w/o Hedge Favorable/ (Unfavorable)		Hedge Impact Favorable/ (Unfavorable)		Total Impact Favorable/ (Unfavorable)	
	Q4'19	Q4'19	Q3'19	Q4'18	Vs. Q3'19	Vs. Q4'18	Vs. Q3'19	Vs. Q4'18	Vs. Q3'19	Vs. Q4'18
Total Revenues	**$3,671**	**$32**	**$35**	**$13**	**($7)**	**($28)**	**($3)**	**$21**	**($10)**	**($7)**
TECFIDERA	$1,161	$16	$16	$5	($1)	($5)	($1)	$10	($1)	$5
Interferon	$516	$7	$8	$3	($1)	($4)	($1)	$3	($3)	($1)
TYSABRI	$473	$10	$11	$4	($1)	($6)	($1)	$6	($2)	$0
SPINRAZA	$543	($0)	($0)	N/A	($4)	($7)	$0	($0)	($4)	($7)
Biosimilars	$196	N/A	N/A	N/A	$1	($4)	-	-	$1	($4)

Biogen

Amounts are in millions and are GAAP and Non-GAAP. Numbers may not foot due to rounding.

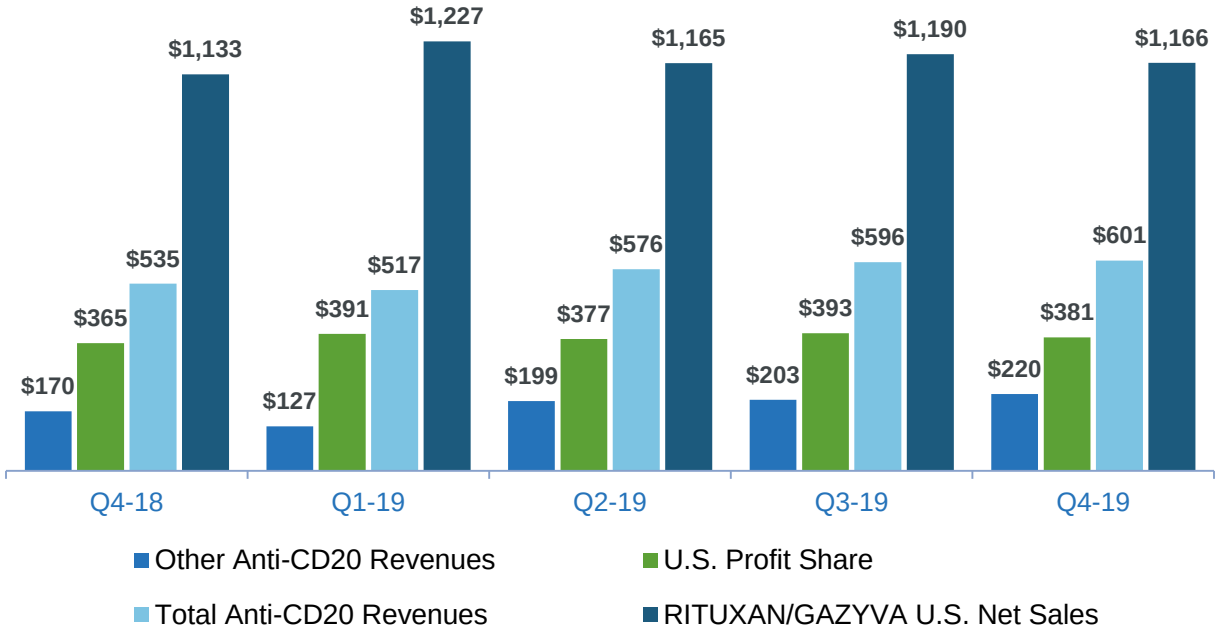
FY 2019 impact of foreign exchange and hedging

	Actuals	Hedge Gains (Losses) in the Year		FX Impact w/o Hedge Favorable/ (Unfavorable)	Hedge Impact Favorable/ (Unfavorable)	Total Impact Favorable/ (Unfavorable)
	FY 19	FY 19	FY 18	Vs. FY 18	Vs. FY 18	Vs. FY 18
Total Revenues	**$14,378**	**$118**	**($32)**	**($208)**	**$153**	**($55)**
TECFIDERA	$4,433	$54	($12)	($49)	$65	$17
Interferon	$2,102	$27	($9)	($35)	$36	$1
TYSABRI	$1,892	$37	($11)	($45)	$48	$3
SPINRAZA	$2,097	($0)	N/A	($43)	($0)	($43)
Biosimilars	$738	N/A	N/A	($28)	-	($28)

Amounts are in millions and are GAAP and Non-GAAP. Numbers may not foot due to rounding.

Anti-CD20 performance

Revenues from Anti-CD20 Therapeutic Programs ($M)



Highlights

- Revenues vs. Q4 2018 and Q3 2019

	ΔY/Y		ΔQ/Q
U.S. Net Sales	+ 3%	and	- 2%
U.S. Profit Share[1]	+ 4%	and	- 3%
Other Anti-CD20	+ 29%	and	+ 8%
Total Anti-CD20 Revenues	+ 12%	and	+ 1%

- Other anti-CD20 revenues consist of royalty revenues on sales of OCREVUS and our share of pre-tax copromotion profits on RITUXAN in Canada

Biogen

Note: In collaboration with Genentech, Inc., a wholly-owned member of the Roche Group. Numbers may not foot due to rounding.
[1]U.S. profit share = U.S. profit share + expense reimbursement.

GAAP to Non-GAAP Reconciliation
Net Income Attributable to Biogen Inc. and Diluted Earnings Per Share
(unaudited, in millions, except per share amounts)

An itemized reconciliation between diluted earnings per share on a GAAP and Non-GAAP basis is as follows:

	For the Three Months Ended		
	December 31, 2019	September 30, 2019	December 31, 2018
GAAP earnings per share - Diluted	$ 8.08	$ 8.39	$ 4.73
Adjustments to GAAP net income attributable to Biogen Inc. (as detailed below)	0.26	0.78	2.26
Non-GAAP earnings per share - Diluted	$ 8.34	$ 9.17	$ 6.99

	For the Twelve Months Ended	
	December 31, 2019	December 31, 2018
GAAP earnings per share - Diluted	$ 31.42	$ 21.58
Adjustments to GAAP net income attributable to Biogen Inc. (as detailed below)	2.15	4.62
Non-GAAP earnings per share - Diluted	$ 33.57	$ 26.20

An itemized reconciliation between net income attributable to Biogen Inc. on a GAAP and Non-GAAP basis is as follows:

	For the Three Months Ended		
	December 31, 2019	September 30, 2019	December 31, 2018
GAAP net income attributable to Biogen Inc.	$ 1,439.7	$ 1,545.9	$ 946.8
Adjustments:			
Acquisition and divestiture related costs:			
Amortization and impairment of acquired intangible assets [A, B]	67.7	283.9	254.1
Research and Development	–	–	10.0
(Gain) loss on fair value remeasurement of contingent consideration [C]	2.6	(57.8)	79.3
Loss on divestiture of Hillerød, Denmark manufacturing operations [D]	(40.2)	(17.7)	–
Net distribution to noncontrolling interests	–	–	(1.6)
Acquisition-related transaction and integration costs	4.5	(0.3)	–
Accelerated share-based compensation expense	–	6.7	–
Subtotal: Acquisition and divestiture related costs	34.6	214.8	341.8
Restructuring, business transformation and other cost saving initiatives:			
2017 corporate strategy implementation [E]	0.5	1.3	–
Restructuring charges [E]	–	0.3	2.8
Subtotal: Restructuring, business transformation and other cost saving initiatives	0.5	1.6	2.8
(Gain) loss on equity security investments	(2.9)	4.6	12.2
Income tax effect related to reconciling items	(6.9)	(44.8)	(49.8)
Elimination of deferred tax asset	–	–	10.6
U.S. tax reform [F]	–	–	135.8
Swiss tax reform [G]	–	(54.3)	–
Amortization included in Equity in loss of investee, net of tax [H]	20.6	21.2	–
Non-GAAP net income attributable to Biogen Inc.	$ 1,485.6	$ 1,689.0	$ 1,400.2

	For the Twelve Months Ended	
	December 31, 2019	December 31, 2018
GAAP net income attributable to Biogen Inc.	$ 5,888.5	$ 4,430.7
Adjustments:		
Acquisition and divestiture related costs:		
Amortization and impairment of acquired intangible assets [A, B]	489.9	747.3
Acquired in-process research and development	–	112.5
Research and Development	–	10.0
(Gain) loss on fair value remeasurement of contingent consideration [C]	(63.7)	(12.3)
Loss on divestiture of Hillerød, Denmark manufacturing operations [D]	55.3	–
Net distribution to noncontrolling interests [K]	–	43.7
Stock option expense [I]	26.2	–
Acquisition-related transaction and integration costs	27.9	–
Accelerated share-based compensation expense	6.7	–
Subtotal: Acquisition and divestiture related costs	542.3	901.2
Restructuring, business transformation and other cost saving initiatives:		
2017 corporate strategy implementation [E]	3.5	10.9
Restructuring charges [E]	1.5	12.0
Subtotal: Restructuring, business transformation and other cost saving initiatives	5.0	22.9
Premium paid on purchase of Ionis common stock [J]	–	162.1
(Gain) loss on equity security investments	(200.2)	(128.0)
Income tax effect related to reconciling items	31.3	(146.6)
Elimination of deferred tax asset	–	10.6
U.S. tax reform [F]	–	124.9
Swiss tax reform [G]	(54.3)	–
Amortization included in Equity in loss of investee, net of tax [H]	78.2	–
Non-GAAP net income attributable to Biogen Inc.	$ 6,290.8	$ 5,377.8

Biogen

Footnotes referenced in the tables above are included at the end of this presentation.

GAAP to Non-GAAP Reconciliation
Net Income Attributable to Biogen Inc. and Diluted Earnings Per Share
(unaudited, in millions, except per share amounts)

2020 Full Year Guidance: GAAP to Non-GAAP Reconciliation

An itemized reconciliation between projected net income attributable to Biogen Inc. and diluted earnings per share on a GAAP and Non-GAAP basis is as follows:

	$	Shares	Diluted EPS
GAAP net income attributable to Biogen Inc.	$ 5,338.0	174.9	$ 30.52
Adjustments:			
Amortization of acquired intangible assets	262.0		
Loss (gain) on fair value remeasurement of contingent consideration	7.0		
Acquired in-process research and development	75.0		
Amortization included in Equity in loss of investee, net of tax [H]	67.0		
Income tax effect related to reconciling items	(65.0)		
Non-GAAP net income attributable to Biogen Inc.	$ 5,684.0	174.9	$ 32.50

Footnotes referenced in the table above are included at the end of this presentation.

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. 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. Acquisition and divestiture related costs

We exclude transaction, integration and certain other costs related to the acquisition and divestiture of businesses. We exclude certain purchase accounting related items associated with the acquisition of assets and amounts in relation to the consolidation or deconsolidation of variable interest entities. These adjustments include, but are not limited to, charges for in-process research and development and certain milestones, the amortization and impairment of intangible assets, charges or credits from the fair value remeasurement of our contingent consideration obligations and losses on assets and liabilities held for sale.

2. 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.

3. (Gain) loss on equity security investments

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.

4. 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 earnings per share - diluted.

Notes to GAAP to Non-GAAP Reconciliation

[A] Amortization and impairment of acquired intangible assets for the three months ended September 30, 2019, and the twelve months ended December 31, 2019, reflects the impact of a $215.9 million impairment charge related to certain in-process research and development (IPR&D) assets associated with the Phase 2b study of BG00011 (STX-100) for the potential treatment of idiopathic pulmonary fibrosis, which was discontinued during the third quarter of 2019.

Amortization and impairment of acquired intangible assets for the twelve months ended December 31, 2018, includes the impact of impairment charges related to certain IPR&D assets associated with our vixotrigine (BIIB074) program totaling $189.3 million that were recognized during the third quarter of 2018. During the third quarter of 2018 we completed a Phase 2b study of vixotrigine for the potential 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 potential treatment of PLSR. As a result, we recognized an impairment charge of approximately $60.0 million during the third quarter of 2018 to reduce the fair value of the IPR&D intangible asset to zero. In addition, we delayed the initiation of the Phase 3 studies of vixotrigine for the potential 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 potential treatment of PLSR and insights from the Phase 2 study of vixotrigine for the potential treatment of small fiber neuropathy. We reassessed the fair value of the TGN program using reduced expected lifetime revenues, higher expected clinical development costs and a lower cumulative probability of success. As a result of that reassessment, we recognized an impairment charge of $129.3 million during the third quarter of 2018 to reduce the fair value of the TGN IPR&D intangible asset to $41.8 million.

[B] 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 as of February 1, 2017. Pursuant to this 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 within intangible assets in the first quarter of 2017.

We had an intellectual property dispute with Forward Pharma in the U.S. 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.

We have an intellectual property dispute with Forward Pharma in the European Union concerning intellectual property related to TECFIDERA.

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. The remaining net book value of the TECFIDERA rest of world intangible asset as of December 31, 2019, was $36.1 million.

Notes to GAAP to Non-GAAP Reconciliation (Continued)

For the twelve months ended December 31, 2019, compared to the prior year period, the decrease in amortization of acquired intangible assets, excluding impairment charges, was primarily due to a net overall decrease in our expected rate of amortization for acquired intangible assets. This decrease was primarily due to lower amortization subsequent to the impairment in the fourth quarter of 2018 of the U.S. license to Forward Pharma intellectual property, including Forward Pharma's intellectual property related to TECFIDERA, and higher expected lifetime revenues of TYSABRI.

[C] (Gain) loss on fair value remeasurement of contingent consideration for the three months ended September 30, 2019, and the twelve months ended December 31, 2019, reflects our adjustment to the value of our contingent consideration obligations related to the BG00011 asset, resulting in a gain of $61.2 million during the third quarter of 2019.

(Gain) loss on fair value remeasurement of contingent consideration for the twelve months ended December 31, 2018, reflects our adjustment to the fair value of our contingent consideration obligations related to our vixotrigine program for the potential treatment of TGN.

In the third quarter of 2018 we decided to delay the initiation of the Phase 3 studies of vixotrigine for the potential treatment of TGN. As a result of that decision, we adjusted the value of our contingent consideration obligations related to the TGN program to reflect the lower cumulative probabilities of success resulting in a gain of $89.6 million in the third quarter of 2018.

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

[D] In August 2019 we completed the sale of all of the outstanding shares of our subsidiary that owned our biologics manufacturing operations in Hillerød, Denmark to FUJIFILM Corporation (FUJIFILM). Upon the closing of this transaction, we received approximately $881.9 million in cash, which may be adjusted based on other contractual terms, which are discussed below. We determined that the operations disposed of in this transaction did not meet the criteria to be classified as discontinued operations under the applicable guidance.

As part of this transaction, we have provided FUJIFILM with certain minimum batch production commitment guarantees. There is a risk that the minimum contractual batch production commitments will not be met. Based upon current estimates we expect to incur an adverse commitment obligation of approximately $74.0 million associated with such guarantees. We may adjust this estimate based upon changes in business conditions, which may result in the increase or reduction of this adverse commitment obligation in subsequent periods. We also may be obligated to indemnify FUJIFILM for liabilities that existed relating to certain business activities incurred prior to the closing of this transaction.

In addition, we may earn certain contingent payments based on future manufacturing activities at the Hillerød facility. For the disposition of a business, our policy is to recognize contingent consideration when the consideration is realizable. We currently believe the probability of earning these payments is remote and therefore we did not include these contingent payments in our calculation of the fair value of the operations.

As part of this transaction, we entered into certain manufacturing services agreements with FUJIFILM pursuant to which FUJIFILM will use the Hillerød facility to produce commercial products for us, such as TYSABRI, as well as other third-party products.

Notes to GAAP to Non-GAAP Reconciliation (Continued)

In connection with this transaction we recognized a total net loss of approximately $164.4 million in our consolidated statements of income. This loss included a pre-tax loss of $95.5 million, which was recorded in loss on divestiture of Hillerød, Denmark manufacturing operations. The loss recognized was based on exchange rates and business conditions on the closing date of this transaction, and included costs to sell our Hillerød, Denmark manufacturing operations of approximately $11.2 million and our estimate of the fair value of an adverse commitment of approximately $114.0 million associated with the guarantee of future minimum batch production at the Hillerød facility. The value of this adverse commitment was determined using a probability-weighted estimate of future manufacturing activity. We also recorded a tax expense of $68.9 million related to this transaction. During the fourth quarter of 2019 we recorded a $40.2 million reduction in our estimate of the future minimum batch commitment utilizing our current manufacturing forecast, which reflects the impact of forecasted aducanumab batches, resulting in a reduction in the pre-tax loss on divestiture from $95.5 million to $55.3 million.

[E] 2017 corporate strategy implementation and restructuring charges are related to our efforts to create a leaner and simpler operating model.

[F] The Tax Cuts and Jobs Act of 2017 (2017 Tax Act) resulted in significant changes to the U.S. corporate income 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, which has the effect of subjecting certain earnings of our foreign subsidiaries and collaborations to immediate U.S. taxation as global intangible low-taxed income (GILTI) or Subpart F income, and includes base erosion prevention measures on U.S. earnings and the reduced effective tax rate on income that comes from U.S. exports, called Foreign Derived Intangible Income. During the fourth quarter of 2018 we elected to recognize deferred taxes for the 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.

U.S. tax reform amounts for the three and twelve months ended December 31, 2018, reflects 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, reflects the effect of a net reduction of $34.6 million to our 2017 preliminary estimate associated with a one-time mandatory deemed repatriation tax on accumulated foreign subsidiaries' previously untaxed foreign earnings (the Transition Toll Tax), an expense of $12.7 million for the remeasurement of our deferred tax balances and an $11.0 million expense to reflect other aspects of the 2017 Tax Act.

[G] During the third quarter of 2019 a new taxing regime in the country and certain cantons of Switzerland was enacted and we refer to this as Swiss Tax Reform. As a result of the impact of Swiss Tax Reform, we recorded an income tax benefit of approximately $54.3 million resulting from a remeasurement of our deferred tax assets and liabilities in the third quarter of 2019.

[H] Amortization included in equity in loss of investee, net of tax reflects the amortization of the differences between the fair value of our investment in Samsung Bioepis Co., Ltd. and the carrying value of our interest in the underlying net assets of the investee. These basis differences are amortized over their economic life.

[I] Stock option expense reflects the accelerated vesting of stock options previously granted to Nightstar Therapeutics plc (NST) employees as a result of our acquisition of NST in the second quarter of 2019.

Notes to GAAP to Non-GAAP Reconciliation (Continued)

[J] In June 2018 we closed a 10-year exclusive collaboration agreement with Ionis Pharmaceuticals, Inc. (Ionis) to develop novel antisense oligonucleotide drug candidates for a broad range of neurological diseases (the 2018 Ionis Agreement) 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 2018 Ionis 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 condensed 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 condensed consolidated statements of income in the second quarter of 2018 reflecting the premium paid for the common stock.

[K] Net distribution to noncontrolling interests reflects the $50.0 million payment to Neurimmune SubOne AG (Neurimmune), net of Neurimmune's tax, to further reduce the previously negotiated royalty rates payable on products developed under our amended collaboration and license agreement with Neurimmune, including royalties payable on potential commercial sales of aducanumab, an investigational treatment for early Alzheimer's disease, by an additional 5%.