Second Quarter 2019

Financial Results and Business Update

July 23, 2019

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; the anticipated benefits and potential of investments, collaborations, and business development activities; our future financial and operating results; 2019 financial guidance; and the anticipated timing of the proposed transaction with FUJIFILM Corporation. These forward-looking statements may be accompanied by such words as “aim,” “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “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; risks relating to technology failures or breaches; 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; 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; failure to comply with legal and regulatory requirements; the risks of doing business internationally, including currency exchange rate fluctuations; risks relating to management and key personnel changes, including attracting and retaining key personnel; 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 our proposed transaction with FUJIFILM Corporation will not be completed in a timely manner or at all; the possibility that certain closing conditions to our proposed transaction with FUJIFILM Corporation will not be satisfied; uncertainty as to whether the anticipated benefits of our proposed transaction with FUJIFILM Corporation 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.

Q2 2019 earnings call agenda

Introduction	**Joe Mara** VP, Investor Relations
Overview	**Michel Vounatsos** Chief Executive Officer
R&D Update	**Michael Ehlers, M.D., Ph.D.** EVP, Research & Development
Financial Update	**Jeffrey Capello** EVP, Chief Financial Officer
Closing Remarks	**Michel Vounatsos** Chief Executive Officer
Available for Q&A	**Al Sandrock, M.D., Ph.D.** EVP, Chief Medical Officer

Biogen

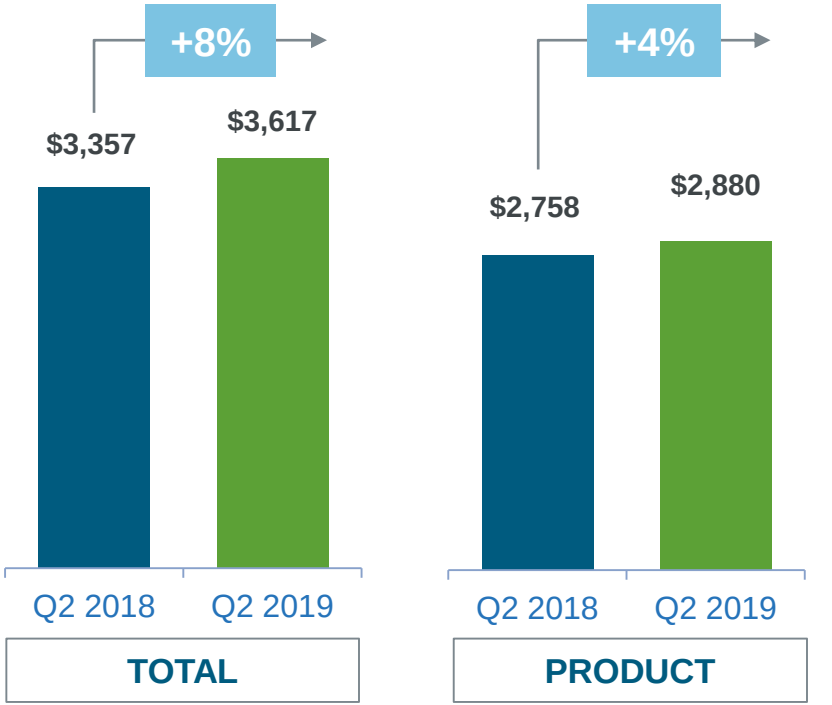
Overview

Michel Vounatsos

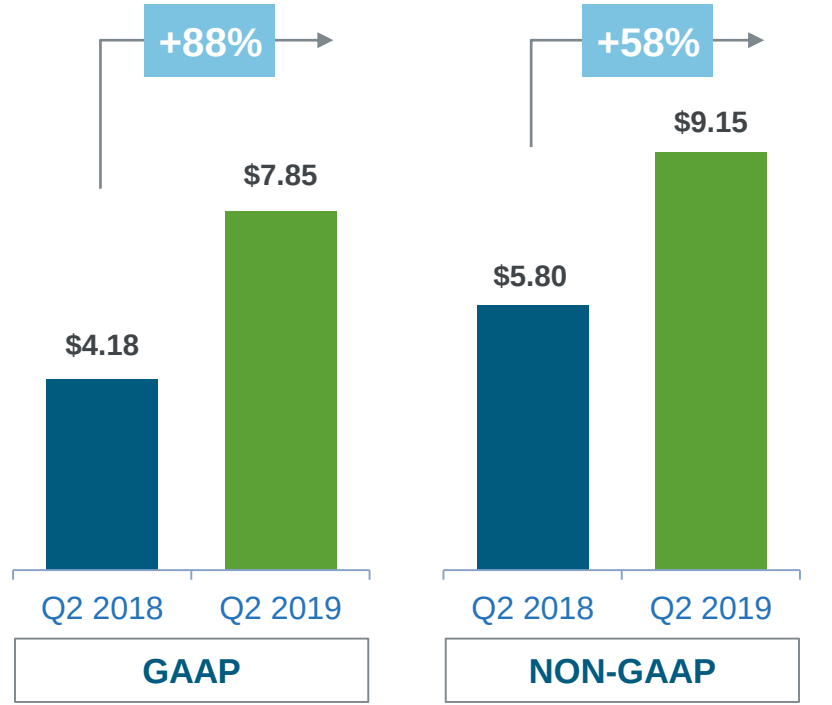
Chief Executive Officer

Strong performance in Q2 2019

Revenues ($M)



Diluted EPS ($)



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

Strong progress implementing strategy in Q2 2019

Maximizing the resilience of our MS core business

- Q2 2019 MS revenues, including OCREVUS royalties, grew 3% to $2.4 billion
- Biogen global MS patients grew in the low single digits versus the prior year
- Preparing for expected launch of VUMERITY* in Q4 2019

Accelerating our neuromuscular franchise

- Q2 2019 SPINRAZA revenues grew in both U.S. and ex-U.S. versus prior year
- ~ 8,400 patients on therapy globally as of June 30, 2019#
- NURTURE data underscore SPINRAZA's compelling safety and efficacy profile

Developing and expanding our neuroscience portfolio and pursuing therapeutic adjacencies

- Added four clinical programs: BIIB111 (NSR-REP1) and BIIB112 (NSR-RPGR) in ophthalmology, BIIB091 for MS, and BIIB100 for sporadic ALS
- Added a total of 17 clinical programs since January 2017
- Pipeline includes a total of 27 clinical programs

Unlocking the potential of biosimilars

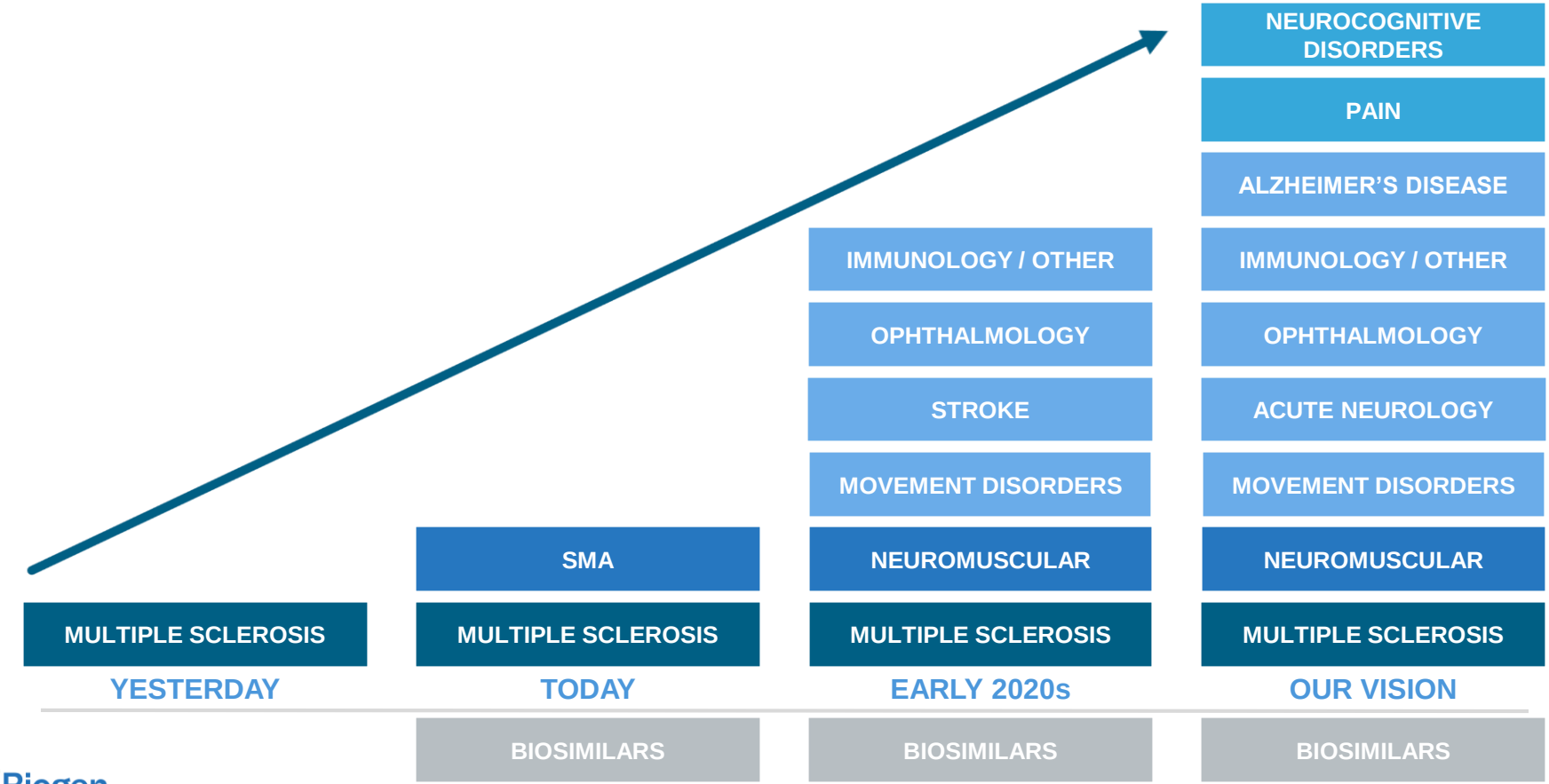
- Continued strong launch of IMRALDI, the market-leading adalimumab biosimilar in Europe
- Expect uptake of Biogen biosimilar products to contribute estimated healthcare savings of up to €1.8 billion in 2019 across Europe^

Continuous improvement and diligent capital allocation

- Generated $2.0 billion in net cash flows from operations
- Completed acquisition of Nightstar Therapeutics
- Repurchased approximately 10.4 million shares for a total value of approximately $2.4 billion

* VUMERITY is being developed in collaboration with Alkermes. The name VUMERITY has been conditionally accepted by the FDA and will be confirmed upon approval. # Includes patients on therapy across the post-marketing setting, the Expanded Access Program, and clinical trials. ^ Biogen data on file.

Continuing to build a multi-franchise portfolio



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R&D Update

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

EVP, Research & Development

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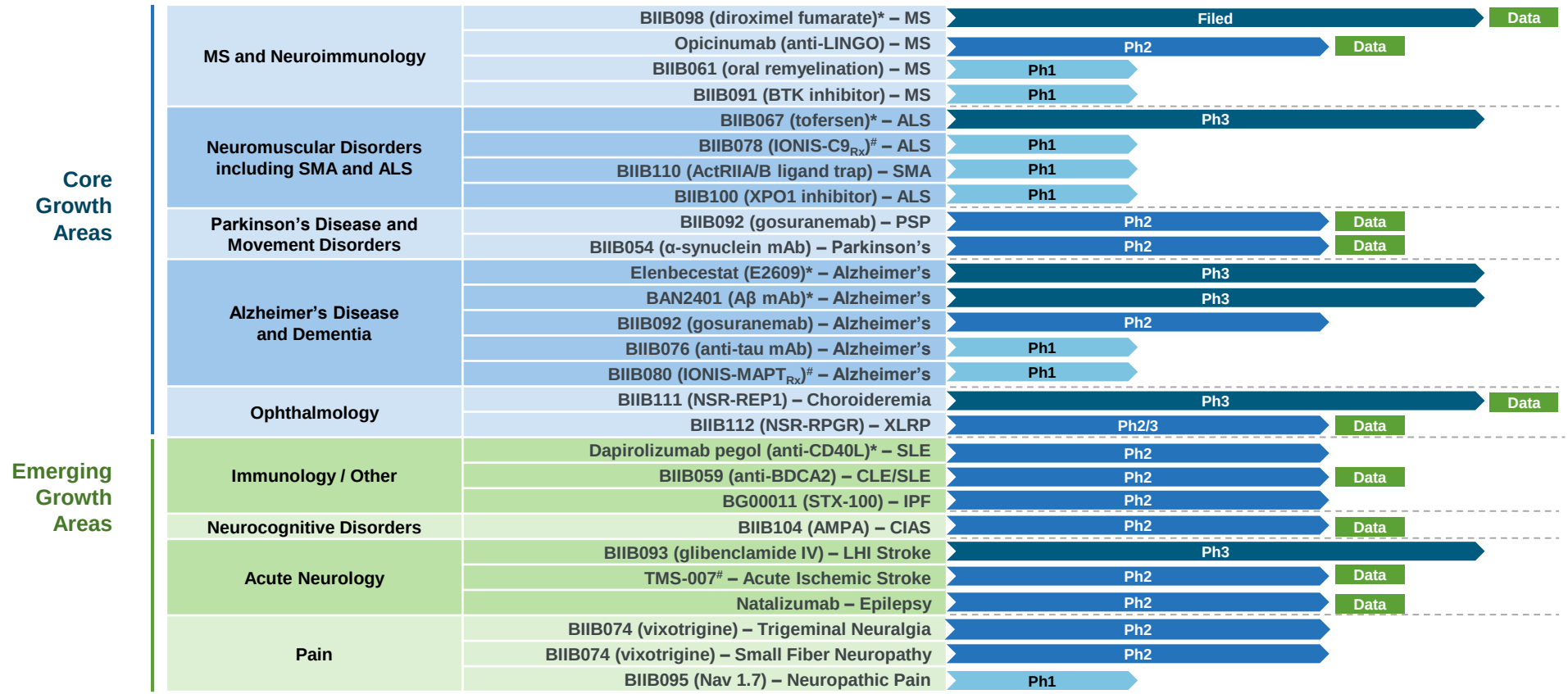
Ten mid- to late-stage readouts expected by end of 2020



Data : data readout expected by end of 2020

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

Progress to secure long-term scientific leadership in MS

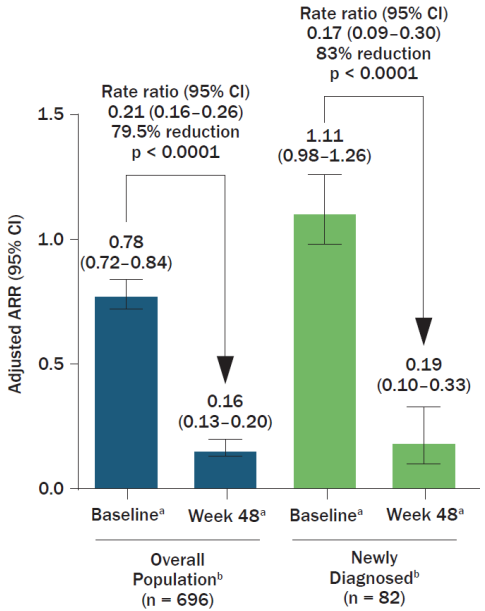
Interim data from EVOLVE-MS-1 study of diroximel fumarate (VUMERITY*) showed significant reductions in annualized relapse rate (ARR) and gadolinium-enhancing (Gd^+) lesion count over 48 weeks

- Rate of gastrointestinal adverse events leading to discontinuation was 0.7%

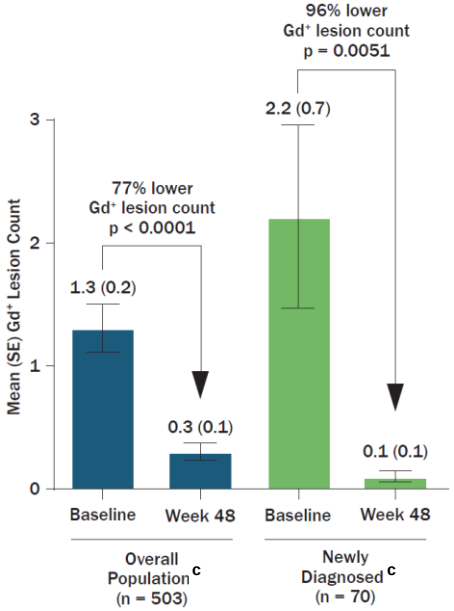
GI tolerability of diroximel fumarate versus TECFIDERA is being evaluated in the ongoing **EVOLVE-MS-2 study**

EVOLVE-MS-2 is now near completion; **results expected in the coming weeks**

Annualized relapse rate (ARR)



Gadolinium-enhancing (Gd^+) lesion count



Arnold et al., AAN, 2019; a Adjusted ARR was based on a Poisson regression model that included patient-reported relapses in the 12 months before study entry (baseline value) or protocol-defined relapses occurring on or before Week 48 (Week 48 value); b Relapse was evaluated in all patients who received at least 1 dose of DRF (overall population) and a subgroup of patients who were newly diagnosed with multiple sclerosis; c Radiological outcomes were assessed in patients who received at least 1 dose DRF and completed at least 1 postbaseline efficacy assessment (overall population) and in a subgroup of newly diagnosed patients. Baseline included those with Week 48 data.

* VUMERITY is being developed in collaboration with Alkermes. The name VUMERITY has been conditionally accepted by the FDA and will be confirmed upon approval.

Continuing to progress and expand our MS portfolio

Dosed the first patient in the Phase 1 study of **BIIB091,** a highly potent and selective small molecule **inhibitor of Bruton's Tyrosine Kinase, or BTK**

- **BTK:** non-receptor tyrosine kinase that regulates the **development and signaling of B cells and myeloid cells** hypothesized to contribute to MS pathogenesis

- BIIB091 is a **non-covalent inhibitor** of BTK, which we believe together with its high potency and selectivity has a **potentially best-in-class profile**

Updated NURTURE data highlight efficacy of SPINRAZA

Study of SPINRAZA in presymptomatic infants[#]

100%	NONE	100%	92%
Alive	Required tracheostomy or permanent ventilation	Able to sit without support	Able to walk either independently or with assistance

- **CHOP INTEND measure of motor function** (maximum score is 64)
  - Patients with **3 SMN 2** copies achieved a mean score of **63.4 out of 64**
  - Patients with **2 SMN 2** copies achieved a mean score of **62.1 out of 64**
- **Overwhelming majority of patients** achieved these motor milestones within **timeframe of normal development**

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[#]Data as of March 2019 (n=25); SPINRAZA was discovered and developed by Ionis Pharmaceuticals and Biogen, and licensed to Biogen who is responsible for manufacturing and commercialization.

Advancing a broad ALS portfolio, leading with genetically validated targets

Targeting genetic forms of ALS

Continue to advance **Phase 3 VALOR study of BIIB067 (tofersen)**, an antisense oligonucleotide (ASO) designed to degrade SOD1 mRNA

- Based on ongoing discussions with regulators, we believe the VALOR study has **potential to support registration**
- **Finalized VALOR study design; includes 99 patients treated with 100 mg tofersen or placebo for 28 weeks**
- Data expected in **2021**

Continue to advance **Phase 1 study of BIIB078***, an ASO targeting **C9orf72**; data expected in **2021**

Targeting sporadic ALS

Dosed first patient in Phase 1 study of **BIIB100** for **sporadic ALS**

- BIIB100: small molecule inhibitor of exportin 1 (XPO1), a nuclear transport factor that mediates the export of many proteins from the cell nucleus to the cytoplasm
- Aim to test the hypothesis that reducing nuclear protein export may prevent the formation of neuronal cytoplasmic inclusions, and thereby slow the clinical progression of sporadic ALS

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* Biogen has an option to license BIIB078 from Ionis Pharmaceuticals.

Progress in movement disorders

Progressive supranuclear palsy (PSP)

Data from Phase 2 study of anti-tau antibody **BIIB092** (gosuranemab) **expected 2H 2019**

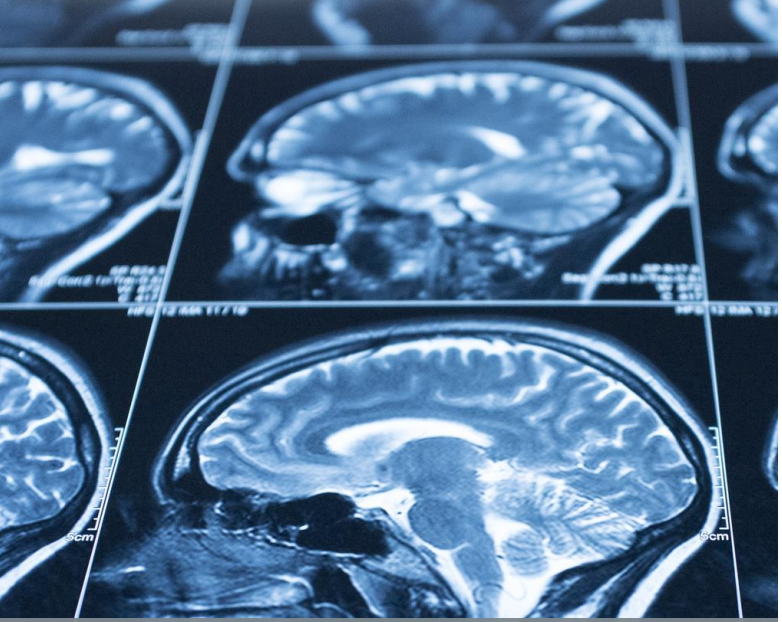
Positive data from this study could **potentially support a regulatory filing**

Parkinson's disease

Completed enrollment of **Phase 2 study** of **BIIB054**, a monoclonal antibody targeting extracellular α-synuclein

Expect data from the one-year placebo-controlled portion of this study in **2H 2020**

Expect to advance **up to 2 new ASOs by end of 2019**



Updates in our dementia and neurocognition portfolios

Alzheimer's disease & dementia

Collaboration partner Eisai **dosed the first patient in the Phase 3 study (Clarity AD) of BAN2401** for early Alzheimer's disease

Continue to advance **elenbecestat** and **portfolio of tau-directed therapeutics**, including gosuranemab, BIIB076, and BIIB080

Cognitive impairment associated with schizophrenia (CIAS)

FDA granted **fast track designation** to **BIIB104**

Data from the Phase 2b study of **BIIB104** expected in **late 2020**

Note: BAN2401 and elenbecestat are being developed in collaboration with Eisai. Biogen has an option to license BIIB080 from Ionis Pharmaceuticals.

Advances in immunology

BIIB059 (anti-BDCA2 antibody)

Completed enrollment of Phase 2 study of BIIB059 in CLE/SLE

In Phase 1, BIIB059 treatment led to:

- **BDCA2 internalization** on plasmacytoid dendritic cells
- **Decreased interferon** pathway activation
- **Reduced immune infiltrates** in skin lesions
- **Decreased cutaneous disease activity** in patients with SLE and CLE

Phase 2 data expected by the **end of 2019**

Dapirolizumab pegol (anti-CD40L pegylated Fab)

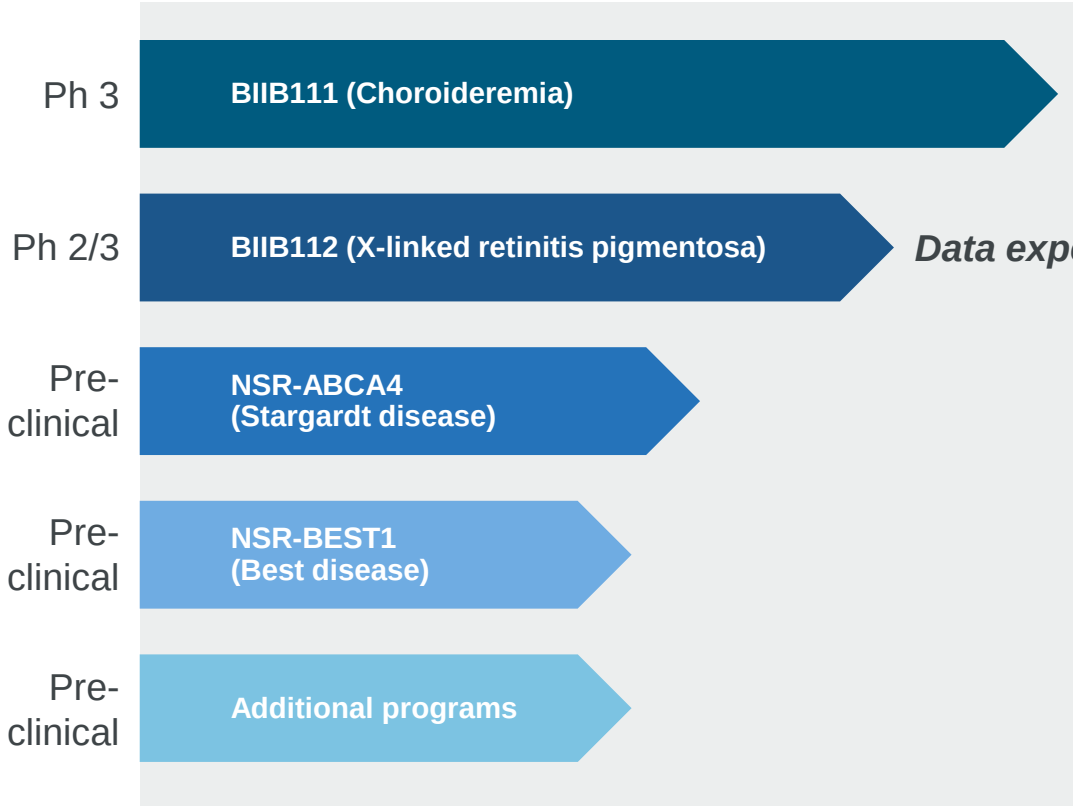
In collaboration with UCB, **plan to initiate a Phase 3 study of dapirolizumab pegol** in patients with active SLE despite standard-of-care treatment

The primary endpoint of the Phase 2b study was to demonstrate a dose response at 24 weeks on the British Isles Lupus Assessment Group (BILAG)-based Composite Lupus Assessment (BICLA) (p=0.06)

Phase 2b data demonstrated **consistent and potentially meaningful improvements** for the majority of clinical endpoints

Biomarker data demonstrated strong evidence of **proof of biology**

Completed acquisition of Nightstar Therapeutics



- Inherited retinal diseases have been estimated to afflict up to **200,000 patients in the U.S.** alone that may be amenable to similar genetic medicine solutions*

- Look forward to leveraging this platform to potentially **expand the future opportunity across inherited retinal diseases**

* Daiger et al., Clin Genet, 2013

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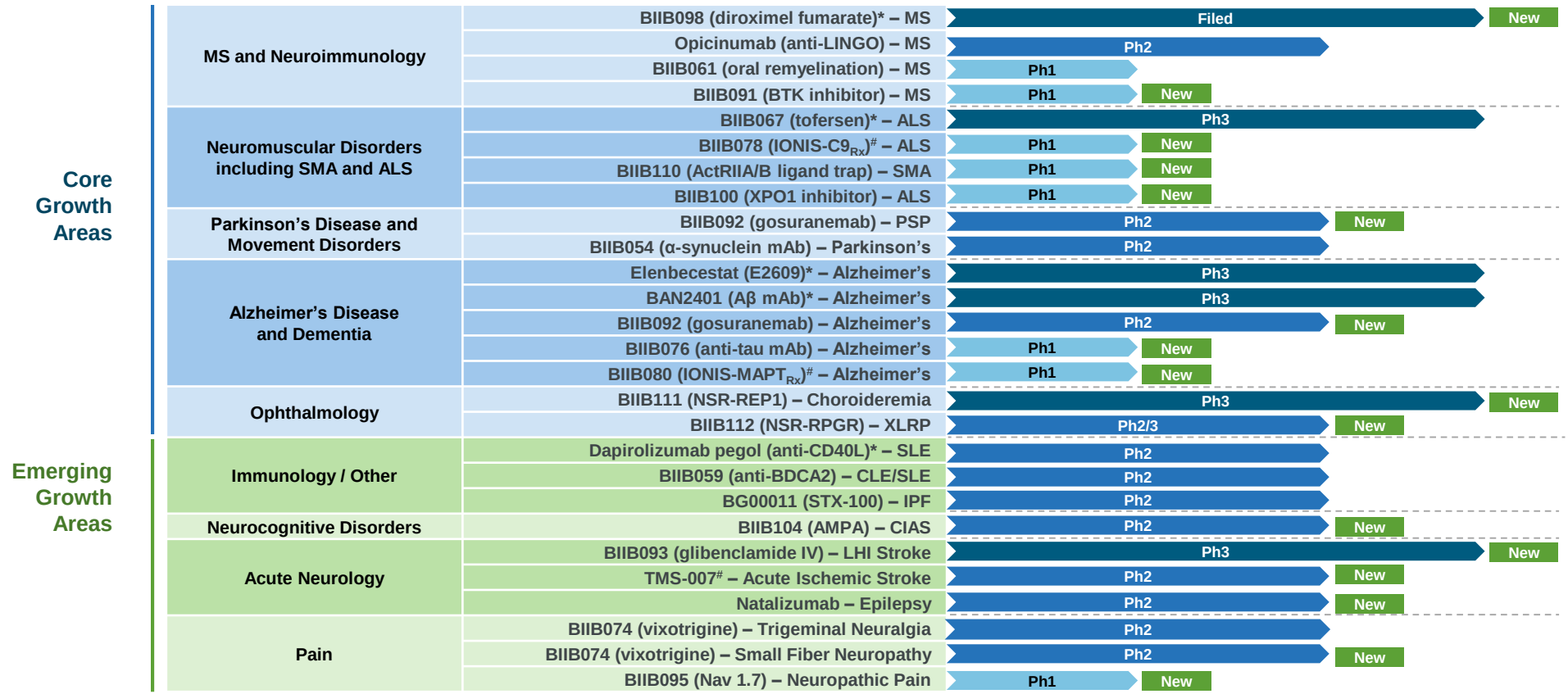
Added 17 clinical programs since beginning of 2017



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

Financial Update

Jeffrey Capello

EVP, Chief Financial Officer

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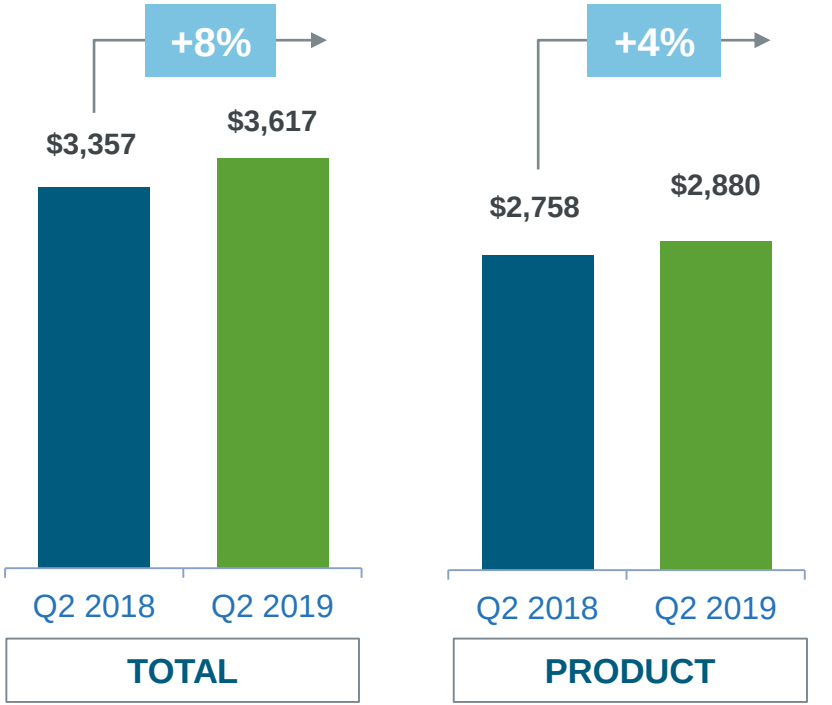
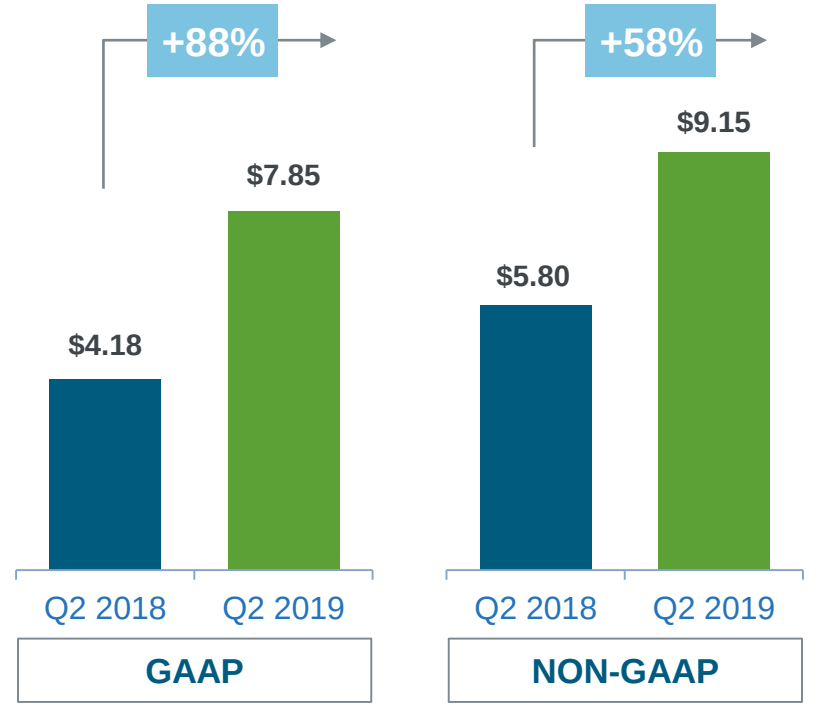
Strong performance in Q2 2019

Revenues ($M)



Diluted EPS ($)



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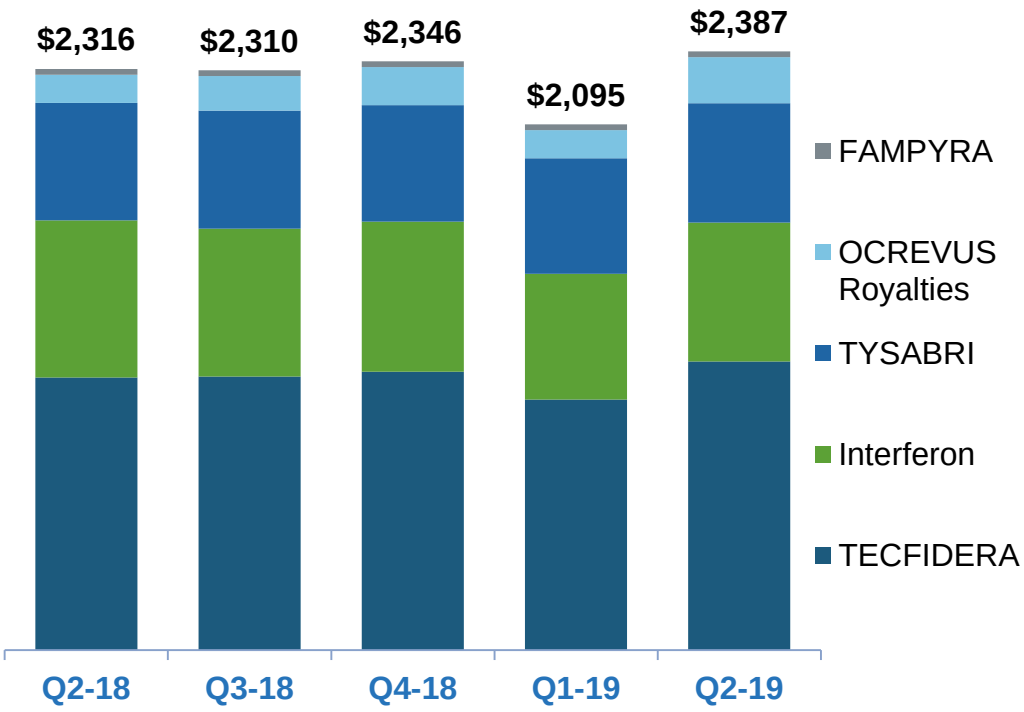
Global multiple sclerosis performance

MS Revenues ($M)



Highlights

- Revenues vs. Q2 2018 and Q1 2019

	ΔY/Y		ΔQ/Q
Total	+ 3%	and	+ 14%
U.S. Product	- 1%	and	+ 17%
ROW Product	+ 4%	and	- 0%
OCREVUS Royalties	+ 62%	and	+ 64%

- Decrease in channel inventory in the U.S. of ~$25 million in Q2 2019 compared to decrease of ~$50 million in Q2 2018 and decrease of ~$175 million in Q1 2019

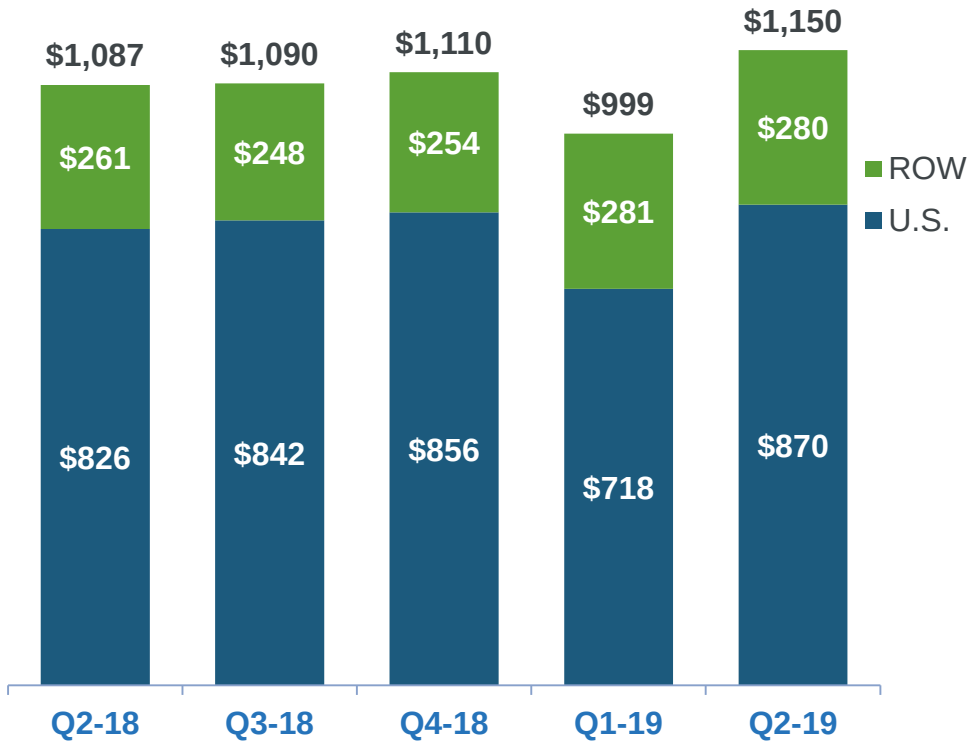
Numbers may not foot due to rounding.

Global TECFIDERA performance

Most Prescribed Oral MS Therapy Globally

Tecfidera (dimethyl fumarate) delayed-release capsules

TECFIDERA Revenues ($M)



Highlights

- Revenues vs. Q2 2018 and Q1 2019

	ΔY/Y		ΔQ/Q
WW	+ 6%	and	+ 15%
U.S.	+ 5%	and	+ 21%
ROW	+ 7%	and	- 0%

- Decrease in channel inventory in the U.S. of ~$10 million in Q2 2019 compared to decrease of ~$40 million in Q2 2018 and decrease of ~$110 million in Q1 2019

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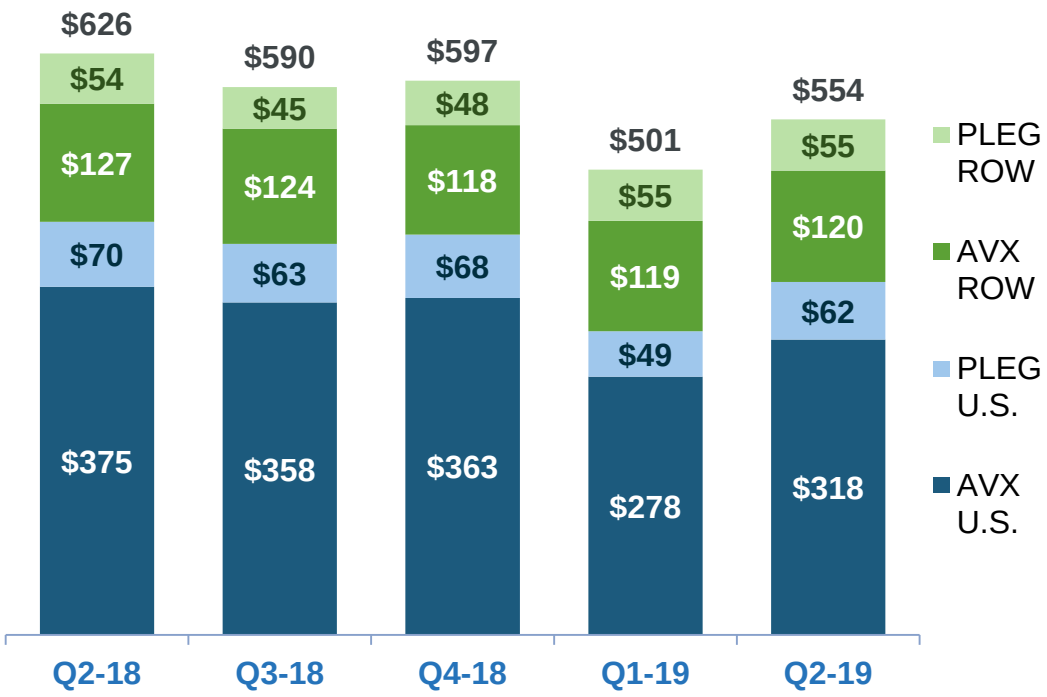
Numbers may not foot due to rounding.

Global interferon performance

Market Leading Interferon Franchise for MS Globally

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

Interferon Revenues ($M)



Highlights

- Revenues vs. Q2 2018 and Q1 2019

	ΔY/Y		ΔQ/Q
WW	- 11%	and	+11%
U.S.	- 15%	and	+16%
ROW	- 3%	and	+1%

- Decrease in channel inventory in the U.S. of ~$5 million in Q2 2019 compared to decrease of ~$10 million in Q2 2018 and decrease of ~$50 million in Q1 2019

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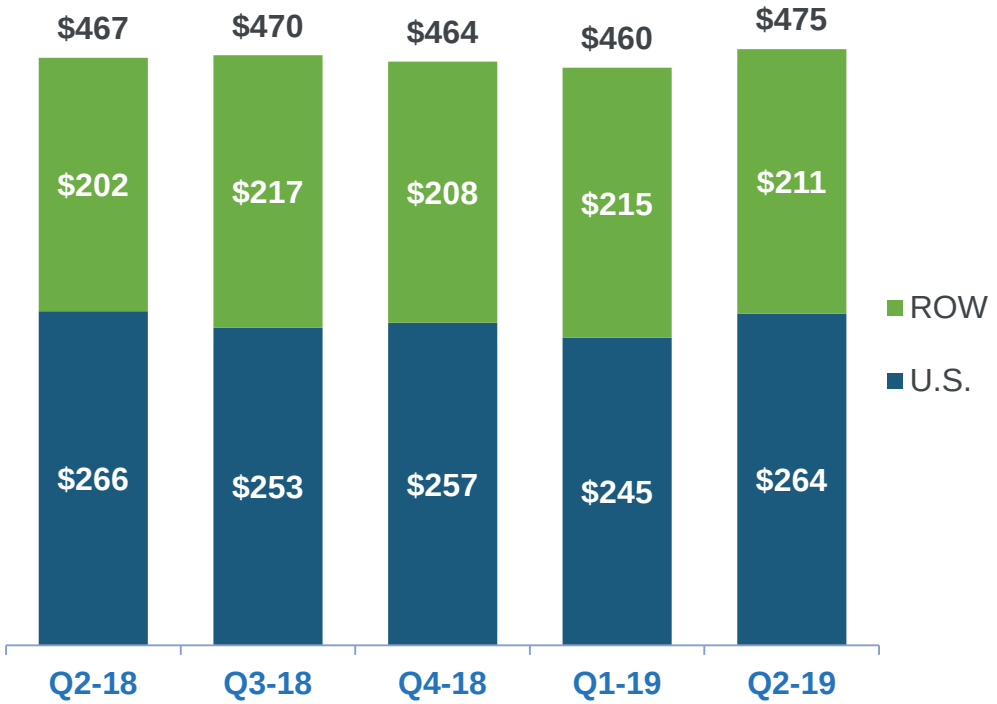
Numbers may not foot due to rounding.

Global TYSABRI performance

Market Leading High Efficacy Therapy for MS Globally

TYSABRI (natalizumab)

TYSABRI Revenues ($M)



Highlights

- Revenues vs. Q2 2018 and Q1 2019

	ΔY/Y		ΔQ/Q
WW	+ 2%	and	+ 3%
U.S.	- 0%	and	+ 8%
ROW	+ 5%	and	- 2%

- Decrease in channel inventory in the U.S. of ~$10 million in Q2 2019 compared to relatively stable inventory in Q2 2018 and decrease of ~$15 million in Q1 2019

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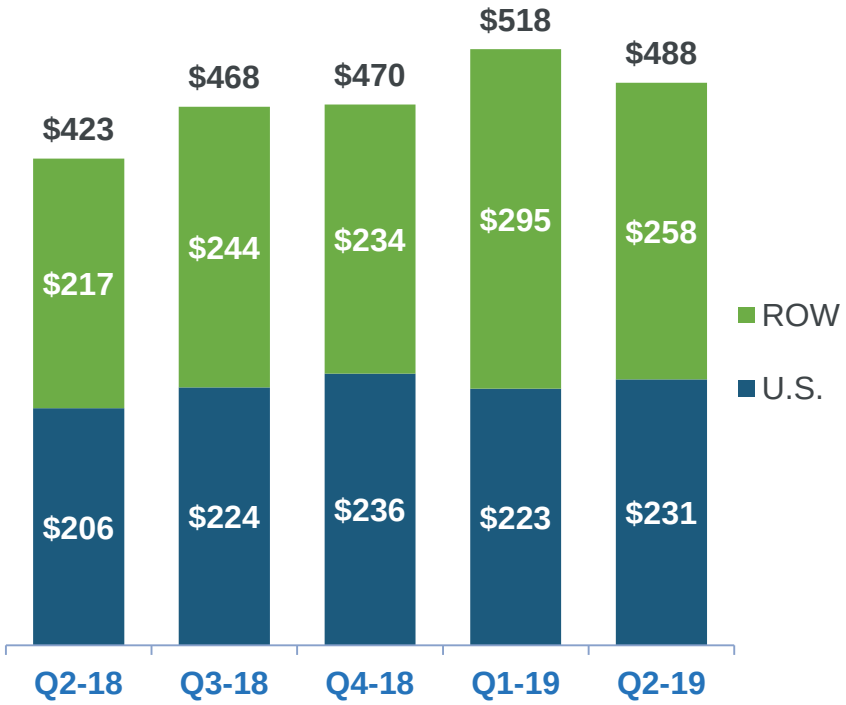
Numbers may not foot due to rounding.

Global SPINRAZA performance

Strong Global Launch Continued

SPINRAZA® (nusinersen) injection 12 mg/5 mL

SPINRAZA Revenues ($M)



Dosing Schedule

Highlights

- Approved in over 40 countries
- Formal reimbursement in over 35 countries
- Recorded revenues from over 40 markets in Q2 2019
- Secured broad reimbursement in the U.K., Ireland, and Argentina

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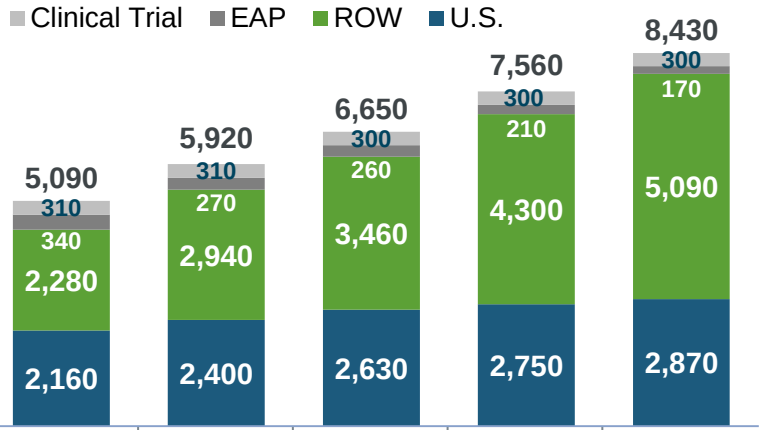
Numbers may not foot due to rounding.

SPINRAZA patient dynamics

SPINRAZA Patients



U.S. Patient Dynamics	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19
Total patients	2,160	2,400	2,630	2,750	2,870
New patient starts	270	250	240	160	160
Avg. doses per patient	1.1	1.0	1.0	0.8	0.9
% Loading doses	45%	40%	35%	25%	25%
% Maintenance doses	55%	60%	65%	75%	75%
% Free doses	15%	15%	15%	10%	10%

Highlights

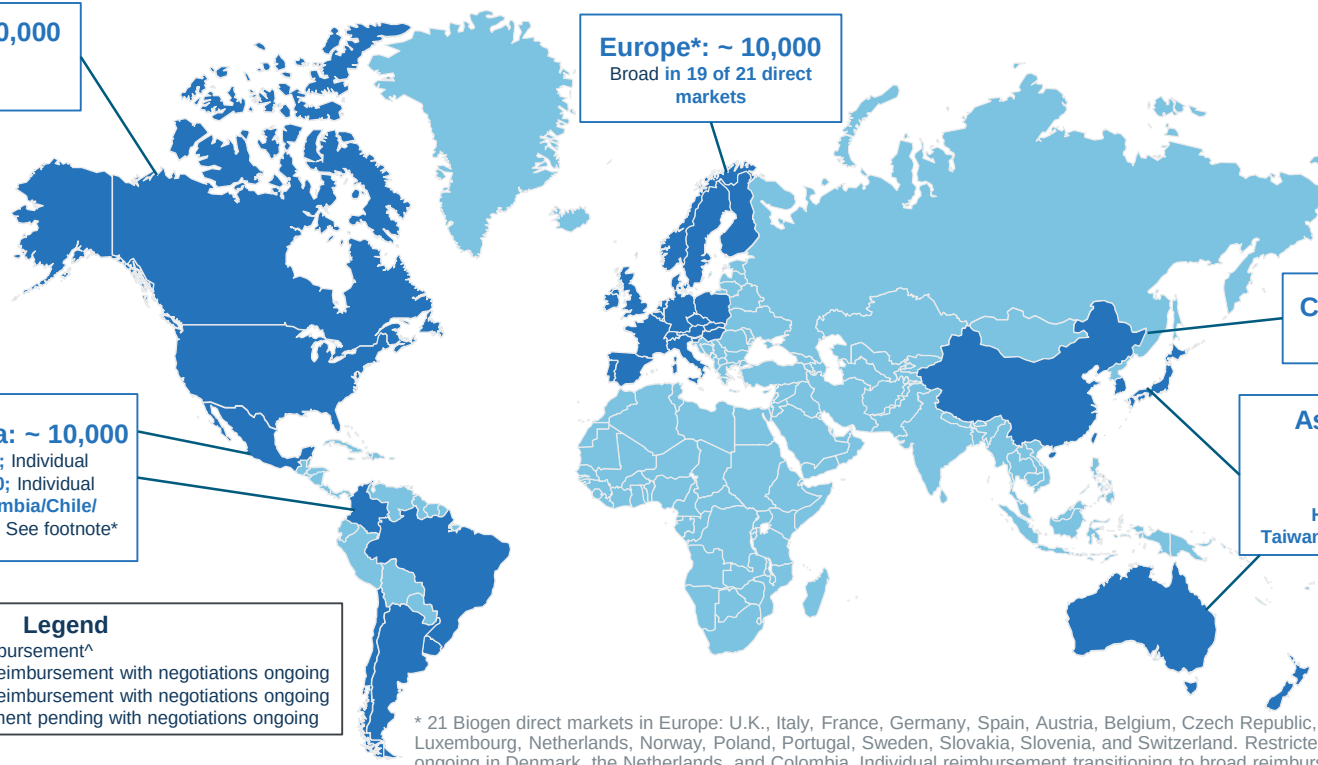
- As of June 30, 2019, ~ 8,400 patients on therapy across the post-marketing setting, the EAP, and clinical trials
- No meaningful impact from launch of ZOLGENSMA to-date*; indicated for ~ 5% of prevalent SMA population
- Annualized discontinuation rate in mid-single digits in the U.S.
- ~ 20% of adult SMA patients in U.S. being treated with SPINRAZA
- Versus Q1 2019, patient growth in mid-single digits across larger, more mature European markets; significant patient growth in Turkey, and double digit patient growth across multiple markets in Asia Pacific and Latin America

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.
* ZOLGENSMA was approved by the FDA on May 24, 2019, and is indicated to treat children less than two years of age with spinal muscular atrophy.

Global opportunity: over 45,000 individuals with SMA

Estimated Prevalence of SMA in Biogen Direct Markets#

(Total market size, not addressable population for SPINRAZA)



U.S./Canada: ~ 10,000
U.S.: Broad
Canada: Broad

Europe*: ~ 10,000
Broad **in 19 of 21 direct markets**

China: ~ 15,000-25,000
Self-pay / Negotiations

Latin America: ~ 10,000
Brazil: ~ 4,700; Individual
Mexico: ~ 3,000; Individual
Argentina/Colombia/Chile/Uruguay: ~ 2,500; See footnote*

Asia Pacific: ~ 3,600
Japan: ~ 1,600; Broad
Korea: ~ 950; Broad
Australia: ~ 450; Broad
Hong Kong: ~ 150; Broad
Taiwan/New Zealand: ~ 450; Pending

Legend

Broad	=	broad reimbursement^
Restricted	=	restricted reimbursement with negotiations ongoing
Individual	=	individual reimbursement with negotiations ongoing
Pending	=	reimbursement pending with negotiations ongoing

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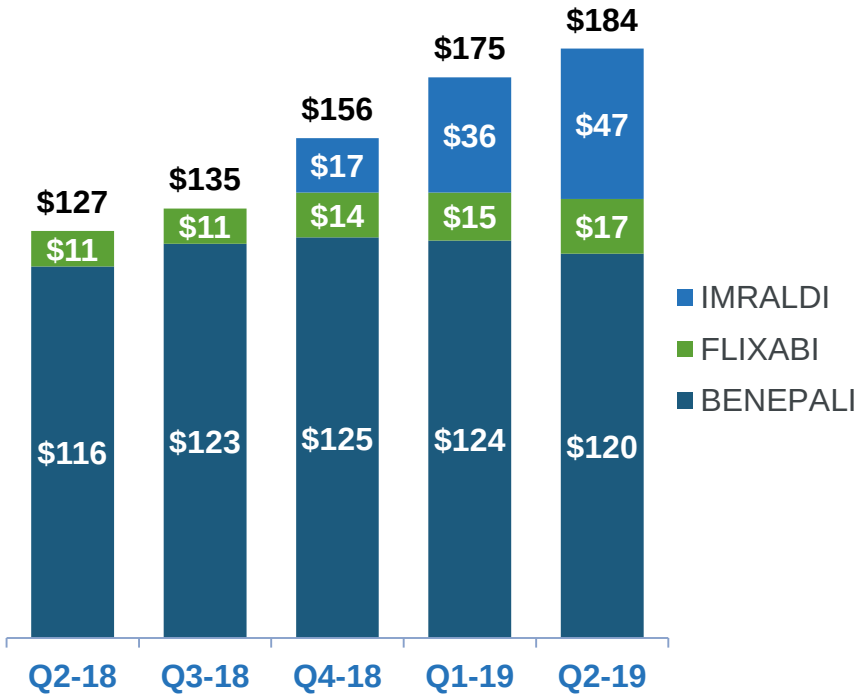
Source: Biogen analysis, data on file.

* 21 Biogen direct markets in Europe: U.K., Italy, France, Germany, Spain, Austria, Belgium, Czech Republic, Denmark, Finland, Hungary, Ireland, Luxembourg, Netherlands, Norway, Poland, Portugal, Sweden, Slovakia, Slovenia, and Switzerland. Restricted reimbursement with negotiations ongoing in Denmark, the Netherlands, and Colombia. Individual reimbursement transitioning to broad reimbursement in Argentina. Individual reimbursement with negotiations ongoing in Chile and Uruguay. # Regulatory approval in all countries shown. ^ Broad reimbursement defined as reimbursement in line with or broader than clinical trial data; coverage of all ages up to 18 years and in certain countries also coverage for adults.

Biosimilars business

Biosimilars Revenues ($M)



Commercialization in Europe

- > 170,000 patients currently on Biogen biosimilars*
- IMRALDI is the market-leading adalimumab biosimilar in Europe
- Expect uptake of Biogen biosimilar products to contribute estimated healthcare savings of up to €1.8 billion in 2019 across Europe#

Samsung Bioepis Joint Venture

- Increased equity stake to ~49.9%
- Advancing biosimilars of trastuzumab, bevacizumab, ranibizumab, eculizumab, and ulinastatin-Fc Fusion Protein

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* Biogen data on file as of June 30, 2019.
# Biogen data on file.

Q2 2019 financial results highlights: revenues

$ in Millions	Q2 2019	Q2 2018	Q1 2019	Δ Y/Y	Δ Q/Q
Total MS Product Revenues[1]	**$2,204**	**$2,203**	**$1,983**	**0%**	**11%**
SPINRAZA U.S.	$231	$206	$223	12%	3%
SPINRAZA ROW[1]	$258	$217	$295	19%	(13%)
Total SPINRAZA Revenues[1]	**$488**	**$423**	**$518**	**15%**	**(6%)**
Biosimilars Revenues	$184	$127	$175	45%	6%
FUMADERM Revenues	$4	$6	$4	(33%)	(10%)
Total Product Revenues[1]	**$2,880**	**$2,758**	**$2,680**	**4%**	**7%**
RITUXAN/GAZYVA Revenues	$394	$377	$405	4%	(3%)
OCREVUS Royalties	$183	$113	$112	62%	64%
Revenues from Anti-CD20 Therapeutic Programs	**$576**	**$490**	**$517**	**18%**	**11%**
Other Revenues	$160	$109	$292	47%	(45%)
Total Revenues[1]	**$3,617**	**$3,357**	**$3,490**	**8%**	**4%**

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

Q2 2019 financial results highlights

$ in Millions	Q2 2019	Q2 2018	Q1 2019	ΔY/Y	ΔQ/Q
GAAP Cost of Sales	$476	$421	$602	(13%)	21%
% of Total Revenues	13%	13%	17%		
Non-GAAP Cost of Sales	$476	$421	$602	(13%)	21%
% of Total Revenues	13%	13%	17%		
GAAP R&D Expenses	$485	$981	$564	51%	14%
% of Total Revenues	13%	29%	16%		
Non-GAAP R&D Expenses	$477	$819	$564	42%	15%
% of Total Revenues	13%	24%	16%		
GAAP SG&A Expenses	$588	$516	$568	(14%)	(4%)
% of Total Revenues	16%	15%	16%		
Non-GAAP SG&A Expenses	$553	$512	$563	(8%)	2%
% of Total Revenues	15%	15%	16%		
GAAP Loss on Assets & Liabilities Held for Sale	($2)	$0	$116	NMF	NMF
GAAP Amortization of Acquired Intangibles	$70	$107	$68	35%	(3%)
Collaboration Profit (Loss) Sharing	$64	$39	$58	(62%)	(9%)

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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.

Q2 2019 financial results highlights

$ in Millions except EPS, Shares in Millions	Q2 2019	Q2 2018	Q1 2019	Δ Y/Y	Δ Q/Q
GAAP Other Income (Expense)	($197)	($35)	$357	NMF	NMF
Non-GAAP Other Income (Expense)	($19)	($40)	($19)	53%	(1%)
GAAP Tax Rate	14%	22%	23%		
Non-GAAP Tax Rate	14%	21%	18%		
GAAP JV Equity Income (Loss)	($16)	$0	($29)	NMF	43%
Non-GAAP JV Equity Income (Loss)	$5	$0	($14)	NMF	NMF
GAAP Net Income (Loss) Attributable to Noncontrolling Interests	$0	$48	($0)	NMF	NMF
Non-GAAP Net Income (Loss) Attributable to Noncontrolling Interests	$0	($0)	($0)	NMF	NMF
Weighted average diluted shares used in calculating diluted EPS	190	207	197	8%	3%
GAAP Net Income Attributable to Biogen Inc.	$1,494	$867	$1,409	72%	6%
GAAP Diluted EPS	**$7.85**	**$4.18**	**$7.15**	**88%**	**10%**
Non-GAAP Net Income Attributable to Biogen Inc.	$1,742	$1,202	$1,374	45%	27%
Non-GAAP Diluted EPS	**$9.15**	**$5.80**	**$6.98**	**58%**	**31%**

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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.

Updated 2019 full year financial guidance

	Prior FY 2019 Guidance	Updated FY 2019 Guidance
Revenues	**$13.6 to $13.8 billion**	**$14.0 to $14.2 billion**
R&D Expense (as a % of revenues)	**16% to 17%**	**15.5% to 16.5% (GAAP and Non-GAAP)**
SG&A Expense (as a % of revenues)	**16% to 17%**	**16% to 17% (GAAP) 15.5% to 16.5% (Non-GAAP)**
Tax Rate	**18.5% to 19.5% (GAAP) 18% to 19% (Non-GAAP)**	**17% to 18% (GAAP) 15.5% to 16.5% (Non-GAAP)**
GAAP Diluted EPS	**$26.65 to $27.65**	**$29.60 to $30.40**
Non-GAAP Diluted EPS	**$28.00 to $29.00**	**$31.50 to $32.30**

Additional 2019 Assumptions:

- Does not include any impact from potential acquisitions or large business development transactions, as both are hard to predict
- Expect capital expenditures to be between $500 million and $600 million

Biogen may incur charges, realize gains or losses, or experience other events in 2019 that could cause actual results to vary from this financial guidance. A reconciliation of our GAAP to Non-GAAP financial results is at the end of this presentation.

Closing Remarks

Michel Vounatsos

Chief Executive Officer

Biogen

Ten mid- to late-stage readouts expected by end of 2020

	Expected Data Readout	Timing	G7 Prevalence^
Multiple sclerosis	Head-to-head data for BIIB098	Mid 2019	~ 1.4 million
PSP	Phase 2 data for BIIB092	2H 2019	~ 70 thousand
CLE/SLE	Phase 2 data for BIIB059	Late 2019	~ 800 thousand
Epilepsy*	Phase 2 data for natalizumab	1H 2020	~ 1.1 million
Multiple sclerosis	Phase 2b data for opicinumab	Mid 2020	~ 1.4 million
Parkinson's disease	Phase 2 data for BIIB054	2H 2020	~ 3.1 million
Choroideremia	Phase 3 data for BIIB111	2H 2020	~ 15 thousand
XLRP	Phase 2/3 data for BIIB112	2H 2020	~ 20 thousand
CIAS	Phase 2b data for BIIB104	Late 2020	~ 16.3 million
Stroke#	Phase 2 data for TMS-007	Late 2020	~ 700 thousand

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^ Biogen data on file; * Drug-resistant focal epilepsy; # Mild to moderate acute ischemic stroke patients presenting within 12 hours of last known normal; PSP = progressive supranuclear palsy; CLE = cutaneous lupus erythematosus; SLE = systemic lupus erythematosus; XLRP = X-linked retinitis pigmentosa; CIAS = cognitive impairment associated with schizophrenia

Biogen's commitment to sustainability

	PATIENTS	EMPLOYEES	ENVIRONMENT	COMMUNITY
	Improving the lives of patients in a dynamic health care landscape	Attracting and retaining the world's leading minds in an inclusive workplace	Science based business practices to positively impact the environment	Nurturing next generation scientists and supporting local communities
FOCUS AREAS	TACKLING DIFFICULT DISEASES ACCESS TO TREATMENTS PATIENT HEALTH OUTCOMES	WORKPLACE CULTURE & TALENT DIVERSITY & INCLUSION WORKPLACE HEALTH & SAFETY	CLIMATE WATER GREEN CHEMISTRY	CULTIVATING FUTURE SCIENTISTS STRONGER & HEALTHIER COMMUNITIES

Ethical access to investigational therapies through **Expanded Access Programs** in 40 countries^

>170,000 patients treated with our biosimilars products^

Transparent **pricing principles** for our therapies

No-cost genetic testing for SMA in collaboration with Invitae

44% of director-level positions & above were held by women*

22% of U.S. director-level & above employees were ethnic or racial minorities*

100% Score on Disability Equality Index®

5 Consecutive years 'Best Place to Work' for LGBTQ equality

Worked with the biotech community to support **transgender inclusion** in Mass.

Integrated **green chemistry** into process development processes reducing waste and emissions

100% renewable power commitment

Carbon neutral company since 2014

Zero waste to landfill status*

~70% reduction in potable water intensity from baseline*

Co-located **Food for Free non-profit** kitchen at Biogen HQ to tackle hunger and food insecurity in Greater Boston

$10 Million Biogen Foundation commitment over 4 years to cultivate a STEM education ecosystem in Cambridge and Somerville, Mass.

3.2k+ employees participated in annual care deeply volunteer day in 2018

50k+ students engaged in community labs since inception

^Biogen data on file as of June 30, 2019.
*Data as of December 31, 2018.

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Learn more by visiting **biogen.com/CSR**

Questions & Answers

Appendix

Q2 2019 financial results highlights: MS revenues

$ in Millions	Q2 2019	Q2 2018	Q1 2019	Δ Y/Y	Δ Q/Q
TECFIDERA U.S.	$870	$826	$718	5%	21%
TECFIDERA ROW[1]	$280	$261	$281	7%	(0%)
Total TECFIDERA Revenues[1]	**$1,150**	**$1,087**	**$999**	**6%**	**15%**
AVONEX U.S.	$318	$375	$278	(15%)	14%
AVONEX ROW[1]	$120	$127	$119	(6%)	1%
Total AVONEX Revenues[1]	**$438**	**$502**	**$397**	**(13%)**	**10%**
PLEGRIDY U.S.	$62	$70	$49	(12%)	26%
PLEGRIDY ROW[1]	$55	$54	$55	2%	0%
Total PLEGRIDY Revenues[1]	**$117**	**$124**	**$104**	**(6%)**	**12%**
Total Interferon Revenues[1]	**$554**	**$626**	**$501**	**(11%)**	**11%**
TYSABRI U.S.	$264	$266	$245	(0%)	8%
TYSABRI ROW[1]	$211	$202	$215	5%	(2%)
Total TYSABRI Revenues[1]	**$475**	**$467**	**$460**	**2%**	**3%**
FAMPYRA[1]	$24	$23	$23	5%	5%
OCREVUS Royalties	$183	$113	$112	62%	64%
MS Product Revenues[1] + OCREVUS Royalties	**$2,387**	**$2,316**	**$2,095**	**3%**	**14%**

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

Q2 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)	
	Q2'19	Q2'19	Q2'18	Q1'19	Vs. Q2'18	Vs. Q1'19	Vs. Q2'18	Vs. Q1'19	Vs. Q2'18	Vs. Q1'19
Total Revenues	**$3,617**	**$33**	**($2)**	**$18**	**($62)**	**($16)**	**$36**	**$15**	**($26)**	**($1)**
TECFIDERA	$1,150	$14	($1)	$8	($15)	($3)	$15	$6	$0	$3
Interferon	$554	$8	($1)	$4	($11)	($2)	$9	$4	($2)	$2
TYSABRI	$475	$10	($1)	$6	($12)	($3)	$11	$4	($1)	$2
SPINRAZA	$488	$0	N/A	$0	($14)	($4)	$0	($0)	($14)	($4)
Biosimilars	$184	N/A	N/A	N/A	($8)	($2)	$0	$0	($8)	($2)

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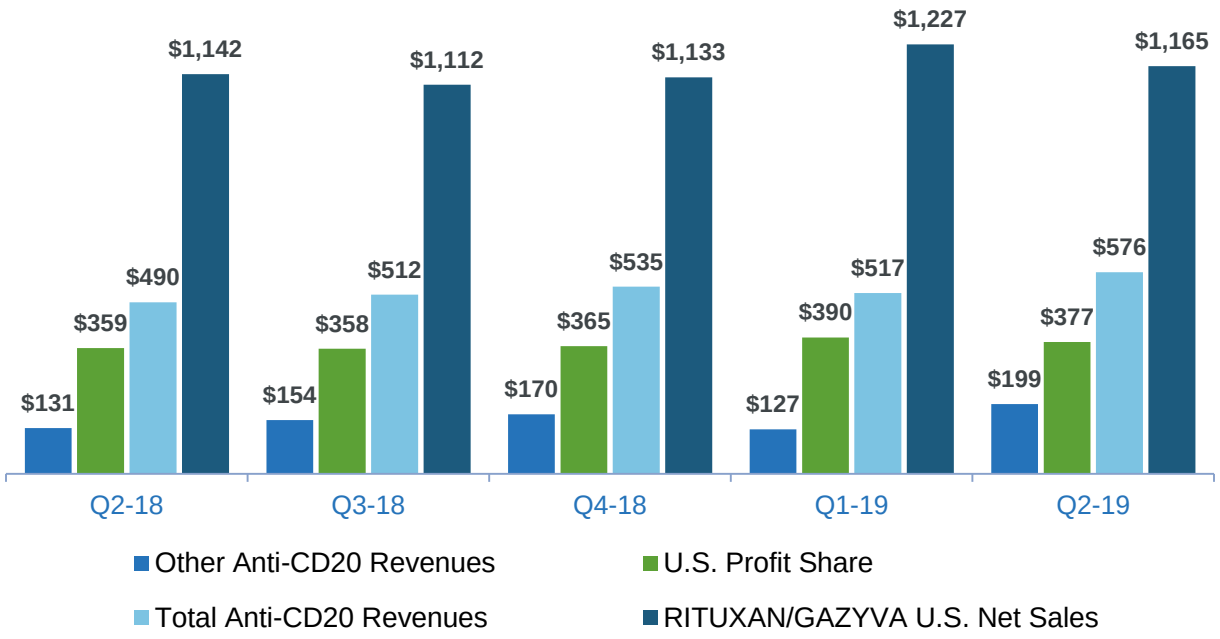
Amounts are in millions and are GAAP and Non-GAAP. Numbers may not foot due to rounding.

Anti-CD20 performance

Revenues from Anti-CD20 Therapeutic Programs ($M)



Highlights

- Revenues vs. Q2 2018 and Q1 2019

	ΔY/Y		ΔQ/Q
U.S. Net Sales	+ 2%	and	- 5%
U.S. Profit Share[1]	+ 5%	and	- 3%
Other Anti-CD20	+ 52%	and	+ 57%
Total Anti-CD20 Revenues	+ 18%	and	+ 11%

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

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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		
	June 30, 2019	June 30, 2018	March 31, 2019
GAAP earnings per share - Diluted	$ 7.85	$ 4.18	$ 7.15
Adjustments to GAAP net income attributable to Biogen Inc. (as detailed below)	1.30	1.62	(0.17)
Non-GAAP earnings per share - Diluted	$ 9.15	$ 5.80	$ 6.98

	For the Six Months Ended	
	June 30, 2019	June 30, 2018
GAAP earnings per share - Diluted	$ 14.99	$ 9.73
Adjustments to GAAP net income attributable to Biogen Inc. (as detailed below)	1.10	2.12
Non-GAAP earnings per share - Diluted	$ 16.09	$ 11.85

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		
	June 30, 2019	June 30, 2018	March 31, 2019
GAAP net income attributable to Biogen Inc.	$ 1,494.1	$ 866.6	$ 1,408.8
Adjustments:			
Acquisition and divestiture related costs:			
Amortization and impairment of acquired intangible assets [A]	70.1	107.4	68.2
Acquired in-process research and development	—	75.0	—
(Gain) loss on fair value remeasurement of contingent consideration	(20.0)	1.9	11.5
Loss on assets and liabilities held for sale [B]	(2.3)	—	115.5
Net distribution to noncontrolling interests [C]	—	48.5	—
Stock option expense [D]	26.2	—	—
Acquisition-related transaction and integration costs	19.4	—	4.3
Subtotal: Acquisition and divestiture related costs	93.4	232.8	199.5
Restructuring, business transformation and other cost saving initiatives:			
2017 corporate strategy implementation [E]	0.7	4.0	1.0
Restructuring charges [E]	0.8	1.6	0.4
Subtotal: Restructuring, business transformation and other cost saving initiatives	1.5	5.6	1.4
Premium paid on purchase of Ionis common stock [F]	—	162.1	—
(Gain) loss on equity security investments	174.2	(5.4)	(376.1)
Income tax effect related to reconciling items	(43.1)	(60.2)	126.1
Amortization included in Equity in loss of investee, net of tax [G]	21.7	—	14.7
Non-GAAP net income attributable to Biogen Inc.	$ 1,741.8	$ 1,201.5	$ 1,374.4

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.

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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)

	For the Six Months Ended	
	June 30, 2019	June 30, 2018
GAAP net income attributable to Biogen Inc.	$ 2,902.9	$ 2,039.5
Adjustments:		
Acquisition and divestiture related costs:		
Amortization and impairment of acquired intangible assets [A]	138.3	211.3
Acquired in-process research and development	—	85.0
(Gain) loss on fair value remeasurement of contingent consideration	(8.5)	(3.7)
Loss on assets and liabilities held for sale [B]	113.2	—
Net distribution to noncontrolling interests [C]	—	46.8
Stock option expense [D]	26.2	—
Acquisition-related transaction and integration costs	23.7	—
Subtotal: Acquisition and divestiture related costs	292.9	339.4
Restructuring, business transformation and other cost saving initiatives:		
2017 corporate strategy implementation [E]	1.7	7.8
Restructuring charges [E]	1.2	3.2
Subtotal: Restructuring, business transformation and other cost saving initiatives	2.9	11.0
Premium paid on purchase of Ionis common stock [F]	—	162.1
(Gain) loss on equity security investments	(201.9)	1.0
Income tax effect related to reconciling items	83.0	(69.8)
Amortization included in Equity in loss of investee, net of tax [G]	36.4	—
Non-GAAP net income attributable to Biogen Inc.	$ 3,116.2	$ 2,483.2

2019 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.	$ 5,670	189	$ 30.00
Adjustments:			
Acquisition and divestiture related costs:			
Amortization and impairment of acquired intangible assets [A]	260		
(Gain) loss on fair value remeasurement of contingent consideration	(5)		
Loss on assets and liabilities held for sale [B]	113		
Stock option expense [D]	26		
Acquisition-related transaction and integration costs	20		
Subtotal: Acquisition and divestiture related costs	414		
Restructuring, business transformation and other cost saving initiatives:			
2017 corporate strategy implementation [E]	5		
Restructuring charges [E]	5		
Subtotal: Restructuring, business transformation and other cost saving initiatives	10		
(Gain) loss on equity security investments	(220)		
Income tax effect related to reconciling items	75		
Amortization included in Equity in loss of investee, net of tax [G]	80		
Non-GAAP net income attributable to Biogen Inc.	$ 6,029	189	$ 31.90

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.

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

Notes to GAAP to Non-GAAP Reconciliation

A For the three and six months ended June 30, 2019, compared to same periods in 2018, the decrease in amortization and impairment of acquired intangible assets 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 A/S' (Forward Pharma) intellectual property, including Forward Pharma's intellectual property related to TECFIDERA, and higher expected lifetime revenues of TYSABRI.

B In March 2019 we entered into a share purchase agreement with FUJIFILM Corporation (FUJIFILM) under which FUJIFILM will acquire all of the outstanding shares of our subsidiary that owns our biologics manufacturing operations in Hillerød, Denmark. Upon closing of the proposed transaction, we expect to receive up to $890.0 million in cash, subject to certain working capital adjustments and other contractual terms.

As part of the proposed 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 $120.0 million associated with such guarantees. We may adjust this estimate based upon changes in business conditions, which may result in the recognition of additional losses. We are also obligated to indemnify FUJIFILM for liabilities that may exist relating to certain business activities incurred prior to the closing of the proposed transaction.

In February 2019 the assets and liabilities related to our Hillerød, Denmark manufacturing operations met the criteria to be classified as held for sale and were reclassified as assets held for sale and liabilities held for sale, respectively, in our condensed consolidated balance sheets.

For the six months ended June 30, 2019, we recorded a loss of approximately $174.5 million in our condensed consolidated statements of income. This estimated loss includes a pre-tax loss of $113.2 million, which reflects a $2.3 million decrease to our original estimate as of March 31, 2019, reflecting our current estimated fair value of the assets and liabilities held for sale, adjusting for our expected costs to sell our Hillerød, Denmark manufacturing operations of approximately $10.0 million and our estimate of the fair value of an adverse commitment of approximately $120.0 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. In addition, we recorded a tax expense of $61.3 million related to the proposed transaction. Our total estimated loss is based on current exchange rates and business conditions, and any changes to these factors through the closing date of the transaction will result in adjustments to the carrying values of the related assets and liabilities as well as a corresponding adjustment to the loss amount recognized on the sale.

Following the closing of the proposed transaction, the final purchase price will be adjusted by an amount equal to the difference between our current estimates of working capital and inventory balances that will be transferred to FUJIFILM and the amounts that are ultimately transferred.

The proposed transaction remains subject to customary closing conditions. We expect to complete the proposed transaction in the third quarter of 2019.

C 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, by an additional 5%.

Notes to GAAP to Non-GAAP Reconciliation (Continued)

D 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.

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

F In June 2018 we closed the 2018 Ionis Agreement, which is a 10-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 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.

G Amortization included in Equity in loss of investee, net of tax represents 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.