
Jazz Pharmaceuticals
2018 Fourth Quarter and Full Year Financial Results
February 26, 2019

Forward-Looking Statements

"Safe Harbor" Statement Under the Private Securities Litigation Reform Act of 1995

This slide deck and the accompanying oral presentation contain forward-looking statements, including, but not limited to, statements related to Jazz Pharmaceuticals' future financial and operating results, including 2019 financial guidance and goals; the company's corporate development efforts; the company's growth strategy and expectations for growth; future product sales and volume; planned sales and marketing and related efforts; future inventory and supply challenges; planned, ongoing and future clinical trials and other product development activities, including clinical trial data read-outs, regulatory events such as the potential approval of the company's NDA and MAA for solriamfetol, and additional planned regulatory submissions; future product launches; the timing of such events and activities; and other statements that are not historical facts. These forward-looking statements are based on the company's current plans, objectives, estimates, expectations and intentions and inherently involve significant risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks and uncertainties associated with: maintaining or increasing sales of and revenue from Xyrem; effectively commercializing the company's other products and product candidates; the time-consuming and uncertain regulatory approval process, including the risk that the company's regulatory submissions, including the solriamfetol NDA and MAA, may not be approved by applicable regulatory authorities in a timely manner or at all; costly and time-consuming pharmaceutical product development and the uncertainty of clinical success, including risks related to failure or delays in initiating or completing clinical trials; protecting and enhancing the company's intellectual property rights; delays or problems in the supply or manufacture of the company's products and product candidates; complying with applicable U.S. and non-U.S. regulatory requirements; government investigations and other actions, including the risk that the company may not ultimately reach a final settlement with the U.S. Department of Justice to resolve an investigation relating to the company's support of 501(c)(3) organizations that provide financial assistance to Medicare patients; obtaining and maintaining adequate coverage and reimbursement for the company's products; identifying and acquiring, in-licensing or developing additional products or product candidates, financing these transactions and successfully integrating acquired businesses; the ability to achieve expected future financial performance and results and the uncertainty of future tax and other provisions and estimates; and other risks and uncertainties affecting the company, including those described from time to time under the caption "Risk Factors" and elsewhere in Jazz Pharmaceuticals plc's Securities and Exchange Commission filings and reports (Commission File No. 001-33500), including the company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018 and future filings and reports by the company, including the company's Annual Report on Form 10-K for the year ended December 31, 2018. Other risks and uncertainties of which the company is not currently aware may also affect the company's forward-looking statements and may cause actual results and the timing of events to differ materially from those anticipated. The forward-looking statements made in this slide deck and the accompanying oral presentation are made only as of the date hereof or as of the dates indicated in the forward-looking statements, even if they are subsequently made available by the company on its website or otherwise. The company undertakes no obligation to update or supplement any forward-looking statements to reflect actual results, new information, future events, changes in its expectations or other circumstances that exist after the date as of which the forward-looking statements were made.

4Q18 Conference Call

Bruce Cozadd Chairman and Chief Executive Officer	Overview
Matt Young Executive Vice President and Chief Financial Officer	Financial Update
Dan Swisher President and Chief Operating Officer	Q&A
Mike Miller Executive Vice President, U.S. Commercial	Q&A
Allen Yang, MD, PhD Head of Clinical Development and Acting Chief Medical Officer	Q&A
Jed Black, MD Senior Vice President, Sleep and CNS Medicine	Q&A

Growing R&D Pipeline

PRE-CLINICAL	PHASE 1	PHASE 2	PHASE 3	REGULATORY
Oxybate Once Nightly Formulation	Vyxeos + gemtuzumab[3] R/R AML or HMA Failure MDS	Solriamfetol EDS PD	JZP-258 Cataplexy & EDS in narcolepsy	Solriamfetol U.S. EDS in OSA and Narcolepsy
CombiPlex Solid tumors candidate I	Vyxeos + venetoclax[4] Low Intensity Dosing for unfit AML	Defitelio Prevention of aGvHD	JZP-258 Idiopathic hypersomnia	Solriamfetol EU EDS in OSA and Narcolepsy
CombiPlex Hem/Onc exploratory activities	IMGN779[1] CD33+ AML	Defitelio Treatment of TA-TMA[4]	Defitelio Prevention of VOD	
Asparaginase ALL/other hematological malignancies	IMGN632[1] CD123+ Hematological malignancies[5]	Defitelio Prevention of CAR-T associated neurotoxicity[4]	Vyxeos AML or HR-MDS (AML19)[6]	
Recomb. Pegaspargase[1] Hematological malignancies		Vyxeos + venetoclax[3] *de novo* or R/R AML	Vyxeos AML or HR-MDS (AML18)[6]	
Defitelio Exploratory activities		Vyxeos MDS[4,6]		
Exosome NRAS candidate[2] Hematological malignancies		Vyxeos R/R AML[6]		
Exosome STAT3 candidate[2] Hematological malignancies				
Exosome-based candidates[2] Solid tumors/Hematological malignancies				

SLEEP

HEMATOLOGY/ONCOLOGY

[1] Opt-in opportunity, [2] Jazz & Codiak collaboration, [3] Jazz & MD Anderson Cancer Center collaboration study, [4] Planned , [5] Including AML and BPDCN, [6] Cooperative group study

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4Q18 – Recent & Upcoming Events

Hematology/Oncology

Vyxeos

- Began EU rolling launch
- Following positive NICE recommendation, sales began in England & Wales
- Received positive NUB-1 status recommendation in Germany for hospital reimbursement
- Advancing broad development program
- R/R pediatric patient data presented at ASH; expect additional cooperative group study data in 2019
- Permanent product-specific J−Code effective January 1, 2019

Defitelio

- Phase 3 pVOD study interim analysis in 2019
- Phase 2 study for prevention of aGvHD enrolling well; expect to complete enrollment in 2019
- Expect to begin enrollment in the Phase 2 study for prevention of CAR-T associated neurotoxicity and initiate the Phase 2 study for treatment of TA-TMA

Erwinaze

- Significant global supply outages in 2018 negatively impacted product availability
- There will be multiple supply disruptions in 2019
- Received notice of termination from PBL for license and supply agreement. If Jazz and PBL do not reach a new agreement, Jazz would lose its license to Erwinaze at end of agreement term on December 31, 2020, with the exception of right to sell certain Erwinaze inventory for a specified period.

4Q18 – Recent & Upcoming Events

Sleep

Xyrem

- Volume growth of 10% in 4Q18 and 9% in 2018 compared to same periods in 2017
- Average number of active patients increased to 14,300 in 4Q18, up 6% compared to 4Q17
- Observed an increase in rate of newly diagnosed narcolepsy patients in 2018
- Refreshed disease awareness program to run throughout 2019
- Preparing to launch pediatric indication late 1Q19

JZP-258

- Completed patient randomization in Phase 3 study in narcolepsy in late 2018
- Expect top-line results spring 2019
- Patient enrollment in Phase 3 idiopathic hypersomnia study began 4Q18

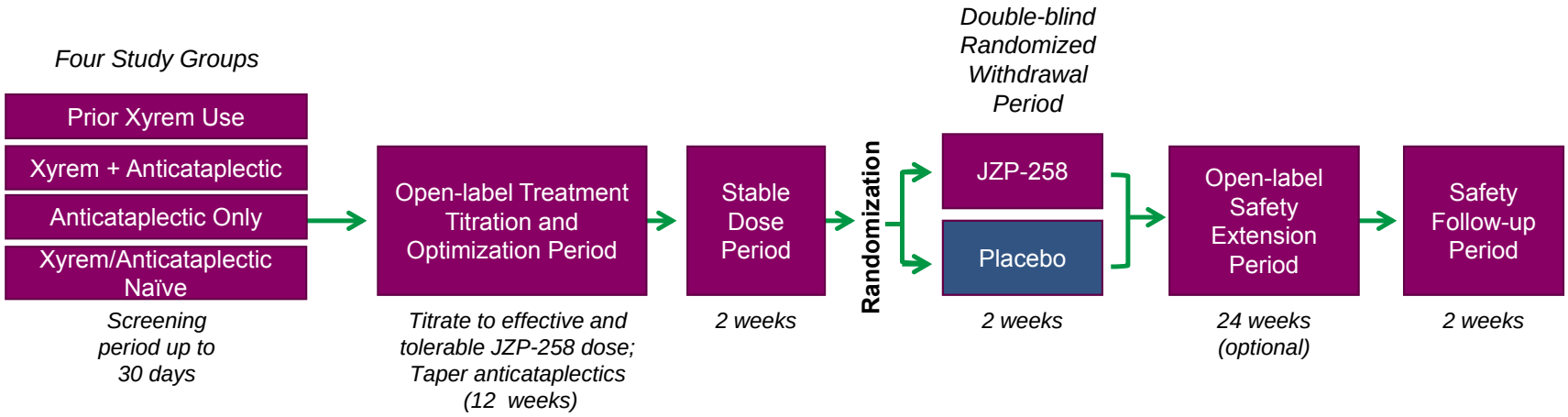
Solriamfetol

- PDUFA goal date extended to March 20, 2019
- Submitted MAA in 4Q18

JZP-258 Phase 3 Study Design for Narcolepsy

Phase 3 study completed patient randomization 4Q18

- Double-blind, placebo-controlled, randomized-withdrawal, multicenter study
- Primary endpoint: Change in weekly number of cataplexy attacks from the two weeks of the Stable-Dose Period to the two weeks of the Double-Blind Randomized-Withdrawal Period
- Key secondary endpoint: Change in the ESS score from the end of the Stable-Dose Period to the end of the Double-Blind Randomized-Withdrawal Period



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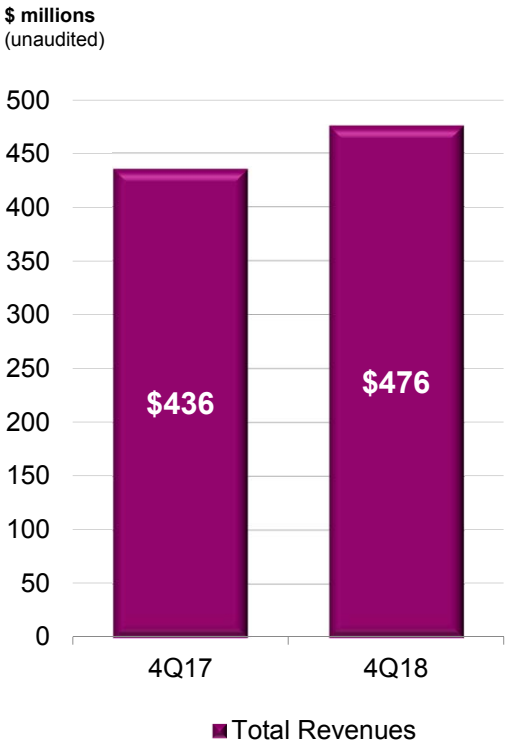
4Q18 Revenue Summary



In millions, except % (unaudited)	4Q17	3Q18	4Q18	Δ 4Q18 vs 3Q18	Δ 4Q18 vs 4Q17
Xyrem® (sodium oxybate) oral solution	$312	$357	$375	5%	20%
Erwinaze®/Erwinase® (asparaginase *Erwinia chrysanthemi*)	48	41	24	(41)%	(49)%
Defitelio® (defibrotide sodium)/defibrotide	36	36	38	4%	4%
Vyxeos® (daunorubicin and cytarabine) liposome for injection	24	21	26	22%	6%
Prialt® (ziconotide) intrathecal infusion[1]	6	6	--	N/A	N/A
Other	3	4	5	29%	43%
Total Net Product Sales	**430**	**465**	**467**	**--**	**9%**
Royalties and contract revenues	6	4	9	118%	45%
Total Revenues	**$436**	**$469**	**$476**	**2%**	**9%**

Note: Amounts may not total due to rounding. Percentages calculated from amounts in thousands.
N/A - prior year comparison is not meaningful
[1] The company sold its rights to Prialt in 3Q18.

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2018 Revenue Summary

In millions, except % (unaudited)	Year Ended		Δ
	2017	2018	
Xyrem	$1,187	$1,405	18%
Erwinaze/Erwinase	197	175	(11)%
Defitelio	134	149	12%
Vyxeos[1]	34	101	198%
Prialt[2]	27	21	(24)%
Other	23	19	(17)%
Total Net Product Sales	**1,601**	**1,870**	**17%**
Royalties and contract revenues	17	21	24%
Total Revenues	**$1,619**	**$1,891**	**17%**

Note: Amounts may not total due to rounding. Percentages calculated from amounts in thousands.
[1] Vyxeos net sales in the year ended December 31, 2017 included sales following the U.S. launch in August 2017.
[2] The company sold its rights to Prialt in 3Q18.

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4Q18 Key Adjusted Line Items and Other Information[1]

Adjusted In millions, except % (unaudited)	4Q17	3Q18	4Q18	Δ 4Q18 vs 3Q18	Δ 4Q18 vs 4Q17
Gross Margin	94.5%	94.6%	94.7%	0.1 pp	0.2 pp
SG&A Expense % of Total Revenues	$121 27.8%	$137 29.2%	$142 29.8%	4% 0.6 pp	17% 2.0 pp
R&D Expense % of Total Revenues	$43 9.9%	$47 9.9%	$51 10.8%	10% 0.9 pp	19% 0.9 pp
Operating Income Margin	56.8%	55.6%	54.2%	(1.4) pp	(2.6) pp
Effective Tax Rate[2]	23.5%	12.0%	11.7%	(0.3) pp	(11.8) pp

Note: Amounts may not total due to rounding. Percentages calculated from amounts in thousands.
[1] These financial measures are presented entirely on a non-GAAP adjusted basis. Refer to the Appendix for more details on these non-GAAP adjusted financial measures, the most directly comparable GAAP reported financial measures and the related reconciliations between these financial measures.
[2] The 3Q18 effective tax rate was favorably impacted by the release of reserves related to uncertain tax positions upon the expiration of a statute of limitations. The 4Q18 effective tax rate was favorably impacted by a valuation allowance release.

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2018 Key Adjusted Line Items and Other Information[1]

Adjusted In millions, except % (unaudited)	Year Ended		Δ
	2017	2018	
Gross Margin	93.5%	93.9%	0.4 pp
SG&A Expense	$455	$549	21%
% of Total Revenues	28.1%	29.0%	0.9 pp
R&D Expense	$162	$197	21%
% of Total Revenues	10.0%	10.4%	0.4 pp
Operating Income Margin	55.3%	54.5%	(0.8) pp
Effective Tax Rate	19.1%	15.0%	(4.1) pp

Note: Amounts may not total due to rounding. Percentages calculated from amounts in thousands.
[1] These financial measures are presented entirely on a non-GAAP adjusted basis. Refer to the Appendix for more details on these non-GAAP adjusted financial measures, the most directly comparable GAAP reported financial measures and the related reconciliations between these financial measures.

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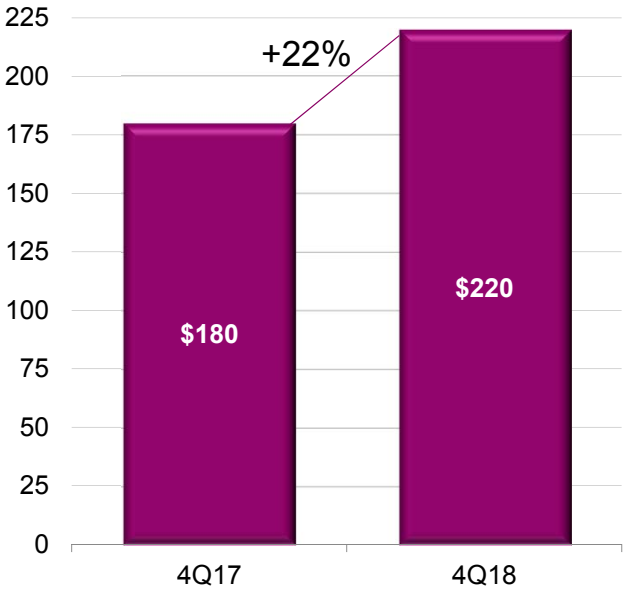
4Q18 Financial Performance

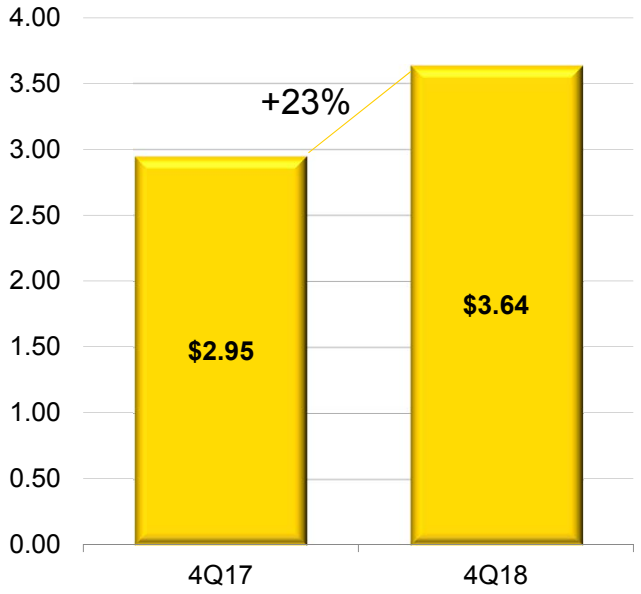
Adjusted Net Income

$ millions
(unaudited)



Adjusted Net Income Per Diluted Share

$ per share
(unaudited)



Refer to the Appendix for reconciliations of GAAP reported to non-GAAP adjusted financial measures.

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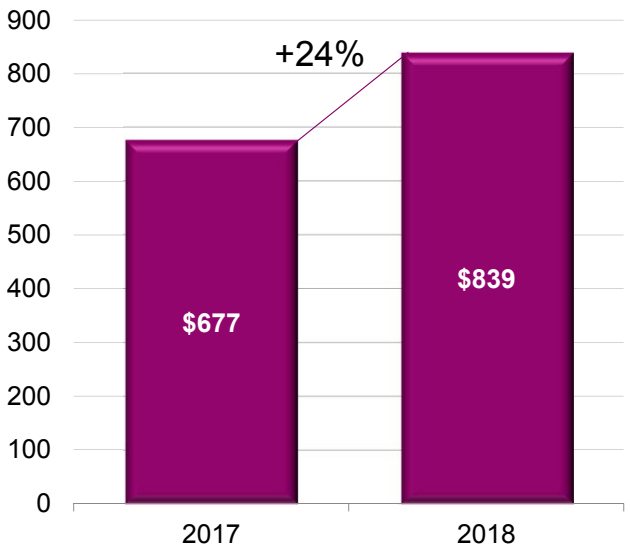
2018 Financial Performance

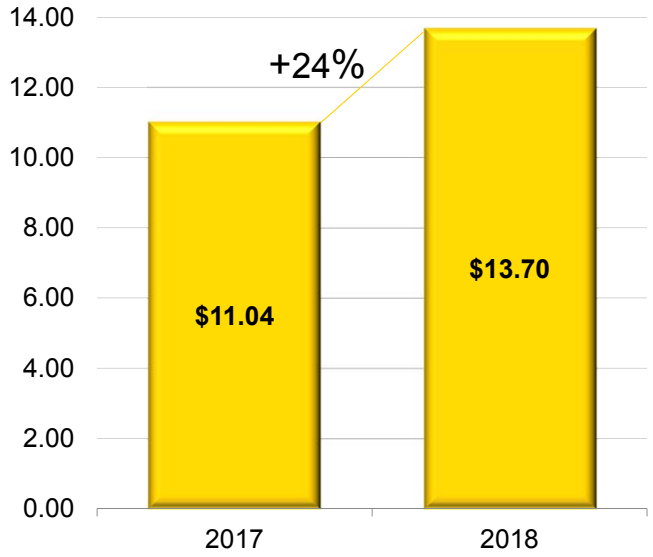
Adjusted Net Income

$ millions
(unaudited)



Adjusted Net Income Per Diluted Share

$ per share
(unaudited)



Refer to the Appendix for reconciliations of GAAP reported to non-GAAP adjusted financial measures.

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Cash and Debt

In millions (unaudited)	December 31,	
	2017	2018
Cash, cash equivalents and investments	$601	$825
Total long-term debt (principal)[1]	$1,827	$1,801
Undrawn revolving credit[2]	$1,250	$1,600

In millions (unaudited)	Year Ended	
	2017	2018
Cash flow from operations	$693	$799

[1] The carrying value of the company's total debt, as of December 31, 2017 and December 31, 2018, was $1,581M and $1,596M, respectively. The difference between principal and carrying values, at both dates, related to unamortized debt discount and debt issuance costs.
[2] In June 2018, the company refinanced its senior credit facilities to increase the borrowing capacity available under its revolving credit facility and to extend the maturity dates of the facilities to June 2023 from July 2021.

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Share Repurchase Program[1]

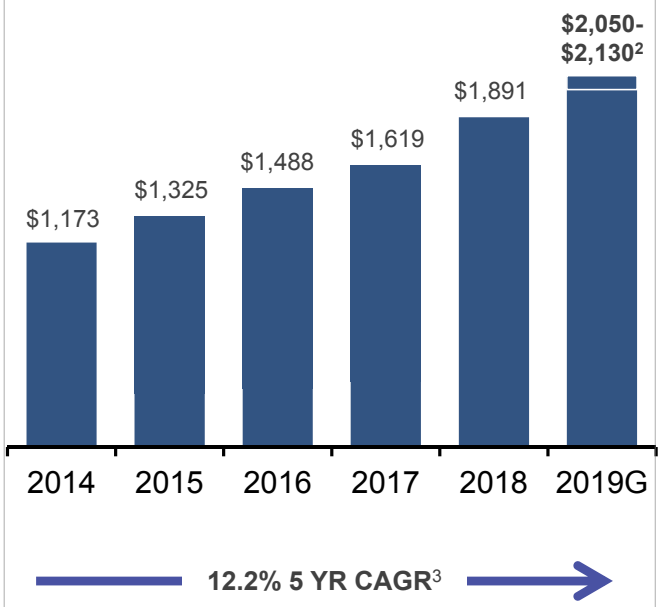
Share Repurchases	Dollar Amount Repurchased (in millions)	Shares Repurchased	Average Purchase Price Per Share
4Q18	$446.7	3,030,405	$147.39
3Q18	$21.5	127,500	$168.27
2Q18	$21.0	134,804	$155.89
1Q18	$34.5	237,700	$145.34
2017	$98.8	704,014	$140.34
4Q16	$18.5	174,800	$105.71
Program Total	**$641.0**	**4,409,223**	**$145.37**

Note: Amounts may not total due to rounding.

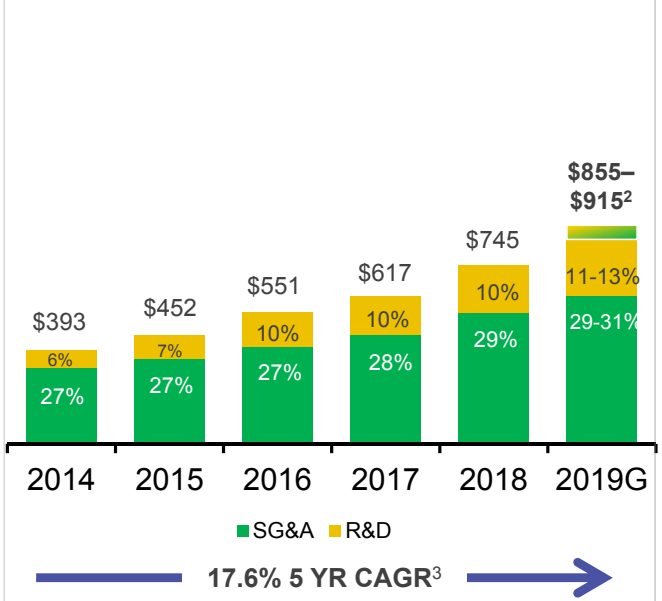
[1] In November 2016, the company's board of directors authorized a new share repurchase program under which the company is authorized to repurchase a number of ordinary shares having an aggregate purchase price of up to $300M, exclusive of any brokerage commissions. In November and December 2018, the company's board of directors increased the existing share repurchase program authorization by $320M and $400M, respectively, thereby increasing the total amount authorized to $1.02B, exclusive of any brokerage commissions. As of December 31, 2018, the remaining amount authorized under the share repurchase program was $379M.

Strong Top and Bottom Line Growth While Investing for the Future

TOTAL REVENUES[1]
$ in millions

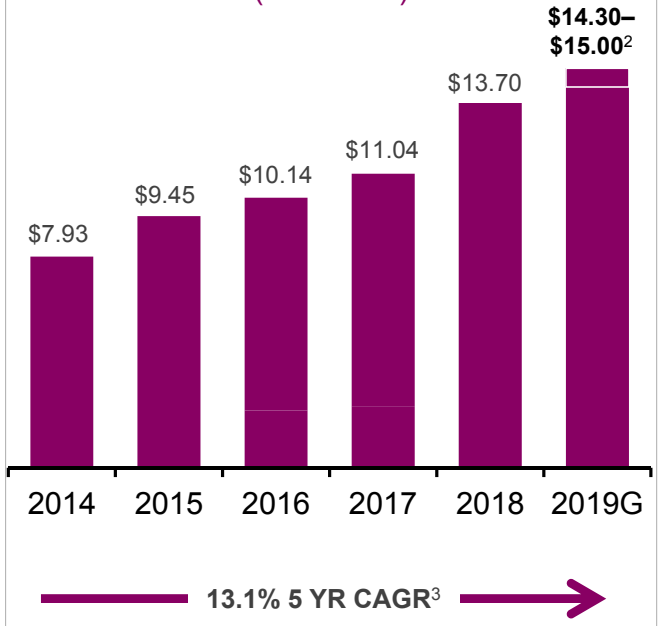


TOTAL ADJUSTED SG&A and R&D[4]
$ in millions
(unaudited)



Percentages provided are R&D as a % of total revenues and SG&A as a % of total revenues

NON-GAAP ADJUSTED NET INCOME PER DILUTED SHARE[4]
(unaudited)



[1] 2014, 2015, 2016 and 2017 audited. [2] G=Guidance. Guidance provided by Jazz Pharmaceuticals plc on and as of February 26, 2019. [3] CAGR calculations based on mid-point of guidance.
[4] Reconciliations of GAAP net income to non-GAAP adjusted net income can be found in the Appendix at the end of this presentation.

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2019 Full-Year Financial Guidance

In millions, except per share amounts and %	2019 Guidance[1]
Revenues	$2,050 - $2,130[2]
Total Net Product Sales	$2,035 - $2,110[2]
Xyrem Net Sales	$1,530 - $1,570
Erwinaze/Erwinase Net Sales	$160 - $195
Defitelio/defibrotide Net Sales	$155 - $180
Vyxeos Net Sales	$120 - $150
GAAP Gross Margin	94%
Non-GAAP Adjusted Gross Margin	94%[3,7]
GAAP SG&A Expense	$702 - $740
Non-GAAP Adjusted SG&A Expense	$620 - $650[4,7]
GAAP R&D Expense	$313 - $382
Non-GAAP Adjusted R&D Expense	$235 - $265[5,7]
GAAP Effective Tax Rate	17% - 21%
Non-GAAP Adjusted Effective Tax Rate	17% - 19%[6,7]
GAAP Net Income	$395 - $495
Non-GAAP Adjusted Net Income	$835 - $875[7]
GAAP Net Income per Diluted Share	$6.80 - $8.50
Non-GAAP Adjusted Net Income per Diluted Share	$14.30 - $15.00[7]
Weighted-Average Ordinary Shares Used in Per Share Calculations	58

[1] Guidance provided by Jazz Pharmaceuticals plc as of February 26, 2019. [2] Includes minimal net sales contribution from solriamfetol in the U.S., assuming launch in mid-2019. [3] Excludes $6-$8M of share-based compensation expense from estimated GAAP gross margin. [4] Excludes $82-$90M of share-based compensation expense from estimated GAAP SG&A expenses. [5] Excludes $56-$90M of upfront and milestone payments and $22-$27M of share-based compensation expense from estimated GAAP R&D expenses. [6] Excludes the income tax effect of adjustments between GAAP reported and non-GAAP adjusted net income. [7] Refer to the Appendix for reconciliations of these non-GAAP adjusted guidance measures to the most directly comparable GAAP measures.

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February 26, 2019

Appendix

Non-GAAP Financial Measures

To supplement Jazz Pharmaceuticals' financial results and guidance presented in accordance with GAAP, the company uses certain non-GAAP (also referred to as adjusted or non-GAAP adjusted) financial measures in this presentation and the accompanying tables. In particular, the company presents non-GAAP adjusted net income (and the related per share measure) and its line item components, as well as certain non-GAAP adjusted financial measures derived therefrom, including non-GAAP adjusted gross margin percentage, non-GAAP adjusted operating income margin percentage and non-GAAP adjusted effective tax rate. Non-GAAP adjusted net income (and the related per share measure) and its line item components exclude from reported GAAP net income (and the related per share measure) and its line item components certain items, as detailed in the reconciliation tables that follow, and in the case of non-GAAP adjusted net income (and the related per share measure), adjust for the income tax effect of non-GAAP adjustments and the U.S. Tax Cuts and Jobs Act impact. In this regard, the components of non-GAAP adjusted net income, including non-GAAP cost of product sales, non-GAAP selling, general and administrative expenses and non-GAAP research and development expenses, are income statement line items prepared on the same basis as, and therefore components of, the overall non-GAAP adjusted net income measure.

The company believes that each of these non-GAAP financial measures provides useful supplementary information to, and facilitates additional analysis by, investors and analysts. In particular, the company believes that each of these non-GAAP financial measures, when considered together with the company's financial information prepared in accordance with GAAP, can enhance investors' and analysts' ability to meaningfully compare the company's results from period to period and to its forward-looking guidance, and to identify operating trends in the company's business. In addition, these non-GAAP financial measures are regularly used by investors and analysts to model and track the company's financial performance. Jazz Pharmaceuticals' management also regularly uses these non-GAAP financial measures internally to understand, manage and evaluate the company's business and to make operating decisions, and compensation of executives is based in part on certain of these non-GAAP financial measures. Because these non-GAAP financial measures are important internal measurements for Jazz Pharmaceuticals' management, the company also believes that these non-GAAP financial measures are useful to investors and analysts since these measures allow for greater transparency with respect to key financial metrics the company uses in assessing its own operating performance and making operating decisions.

These non-GAAP financial measures are not meant to be considered in isolation or as a substitute for comparable GAAP measures; should be read in conjunction with the company's consolidated financial statements prepared in accordance with GAAP; have no standardized meaning prescribed by GAAP; and are not prepared under any comprehensive set of accounting rules or principles. In addition, from time to time in the future there may be other items that the company may exclude for purposes of its non-GAAP financial measures; and the company has ceased, and may in the future cease, to exclude items that it has historically excluded for purposes of its non-GAAP financial measures. Likewise, the company may determine to modify the nature of its adjustments to arrive at its non-GAAP financial measures. Because of the non-standardized definitions of non-GAAP financial measures, the non-GAAP financial measures as used by Jazz Pharmaceuticals in this presentation and the accompanying tables have limits in their usefulness to investors and may be calculated differently from, and therefore may not be directly comparable to, similarly titled measures used by other companies.

Jazz Pharmaceuticals

Reconciliation of GAAP Reported to Non-GAAP Adjusted Net Income

In millions, except per share amounts (unaudited)	**4Q17**	**3Q18**	**4Q18**
GAAP reported net income	$ 232.2	$ 149.3	$ 159.5
Intangible asset amortization	52.9	47.0	46.5
Share-based compensation expense	27.3	25.1	26.7
Upfront and milestone payments	26.5	--	--
Non-cash interest expense	10.8	11.2	11.3
Income tax effect of above adjustments	(20.4)	(13.8)	(13.8)
U.S. Tax Cuts and Jobs Act impact	(148.8)	2.9	(10.3)
Non-GAAP adjusted net income	$ 180.5	$ 221.7	$ 220.0
GAAP reported net income per diluted share	$ 3.79	$ 2.41	$ 2.64
Non-GAAP adjusted net income per diluted share	$ 2.95	$ 3.58	$ 3.64
Weighted-average ordinary shares used in diluted per share calculations	61.2	61.9	60.4

Note: Amounts may not total due to rounding.

Jazz Pharmaceuticals

Reconciliations of GAAP Reported to Non-GAAP Adjusted Information Certain Line Items and Other Information

In millions, except per share amounts and % (unaudited)	4Q17 GAAP Reported	4Q17 Adjustments	4Q17 Non-GAAP Adjusted*	3Q18 GAAP Reported	3Q18 Adjustments	3Q18 Non-GAAP Adjusted*	4Q18 GAAP Reported	4Q18 Adjustments	4Q18 Non-GAAP Adjusted*
Product sales, net	**$ 430.1**	$ --	$ 430.1	**$ 465.2**	$ --	$ 465.2	**$ 467.3**	$ --	$ 467.3
Total revenues	**436.4**	--	436.4	**469.4**	--	469.4	**476.5**	--	476.5
Cost of product sales	**25.2**	(1.5)[a]	23.8	**26.6**	(1.5)[a]	25.0	**26.3**	(1.6)[a]	24.7
% of Product sales, net	***5.9%***		*5.5%*	***5.7%***		*5.4%*	***5.6%***		*5.3%*
Gross margin[b]	***94.1%***		*94.5%*	***94.3%***		*94.6%*	***94.4%***		*94.7%*
Selling, general and administrative	**143.1**	(21.6)[c]	121.4	**155.9**	(19.0)[c]	136.9	**161.9**	(19.8)[c]	142.1
% of Total revenues	***32.8%***		*27.8%*	***33.2%***		*29.2%*	***34.0%***		*29.8%*
Research and development	**66.0**	(22.7)[d]	43.3	**51.2**	(4.6)[d]	46.6	**56.7**	(5.4)[d]	51.3
% of Total revenues	***15.1%***		*9.9%*	***10.9%***		*9.9%*	***11.9%***		*10.8%*
Intangible asset amortization	**52.9**	(52.9)	--	**47.0**	(47.0)	--	**46.5**	(46.5)	--
Acquired in-process research and development	**8.0**	(8.0)	--	**--**	--	--	**--**	--	--
Operating income margin[e]	***32.4%***		*56.8%*	***40.2%***		*55.6%*	***38.8%***		*54.2%*
Interest expense, net	**21.4**	(10.8)[f]	10.6	**18.9**	(11.2)[f]	7.8	**17.9**	(11.3)[f]	6.6
Foreign exchange loss	**0.9**	--	0.9	**0.8**	--	0.8	**1.7**	--	1.7
Income before income tax provision (benefit) and equity in loss of investees	**118.9**	117.5[g]	236.4	**169.1**	83.3[g]	252.4	**165.5**	84.6[g]	250.0
Income tax provision (benefit)	**(113.7)**	169.2[h]	55.6	**19.3**	10.9[h]	30.3	**5.1**	24.1[h]	29.2
Effective tax rate[i]	***(95.6)%***		*23.5%*	***11.4%***		*12.0%*	***3.1%***		*11.7%*
Equity in loss of investees	**0.4**	--	0.4	**0.4**	--	0.4	**0.8**	--	0.8
Net income	**$ 232.2**	$ (51.7)[j]	$ 180.5	**$ 149.3**	$72.3[j]	$ 221.7	**$ 159.5**	$60.5[j]	$ 220.0
Net income per diluted share	**$ 3.79**		$ 2.95	**$ 2.41**		$ 3.58	**$ 2.64**		$ 3.64

Note: Amounts may not total due to rounding. Percentages calculated from amounts in thousands.

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Explanation of Adjustments to Above Reconciliation Table

Explanation of Adjustments and Certain Line Items (In millions):

(a) Share-based compensation expense of $1.5, $1.5 and $1.6 for 4Q17, 3Q18 and 4Q18, respectively.
(b) Net of product sales, net and cost of product sales divided by product sales, net.
(c) Share-based compensation expense of $21.6, $19.0 and $19.8 for 4Q17, 3Q18 and 4Q18, respectively.
(d) Upfront and milestone payments of $18.5, $0 and $0 and share-based compensation expense of $4.2, $4.6 and $5.4 for 4Q17, 3Q18 and 4Q18, respectively.
(e) Income from operations divided by total revenues.
(f) Non-cash interest expense associated with debt discount and debt issuance costs.
(g) Sum of adjustments (a), (c), (d) and (f), plus the adjustment for intangible asset amortization and acquired in-process research and development, as applicable, for the respective quarter.
(h) Income tax adjustments related to the income tax effect of adjustments between GAAP reported and non-GAAP adjusted net income and the impact of the U.S. Tax Cuts and Jobs Act.
(i) Income tax provision divided by income before income tax provision and equity in loss of investees.
(j) Net of adjustments (g) and (h).

Reconciliation of GAAP Reported to Non-GAAP Adjusted Net Income

In millions, except per share amounts (unaudited)	2014	2015	2016	2017	2018
GAAP net income[1]	$ 58.4	$ 329.5	$ 396.8	$ 487.8	$ 447.1
Intangible asset amortization	126.6	98.2	102.0	152.1	201.5
Share-based compensation expense	69.6	91.6	98.8	106.9	102.4
Estimated loss contingency	--	--	--	--	57.0
Impairment charges and disposal costs	39.4	31.5	--	--	44.0
Upfront and milestone payments	202.6	25.0	23.8	101.5	11.0
Transaction and integration related costs	28.8	18.2	13.6	--	--
Acquisition accounting inventory fair value step-up adjustments	10.5	--	--	--	--
Expenses related to certain legal proceedings and restructuring	1.9	1.6	6.1	6.0	--
Non-cash interest expense	13.7	22.7	22.1	30.0	44.0
Loss on extinguishment and modification of debt	--	16.8	0.6	--	--
Income tax effect of above adjustments	(53.8)	(39.6)	(36.7)	(58.8)	(60.9)
U.S. Tax Cuts and Jobs Act impact	--	--	--	(148.8)	(7.5)
Amount attributable to noncontrolling interests	(1.5)	--	--	--	--
Non-GAAP adjusted net income[2]	$ 496.3	$ 595.5	$ 627.2	$ 676.7	$ 838.6
GAAP net income per diluted share[1]	$ 0.93	$ 5.23	$ 6.41	$ 7.96	$ 7.30
Non-GAAP adjusted net income per diluted share[2]	$ 7.93	$ 9.45	$ 10.14	$ 11.04	$ 13.70
Weighted-average ordinary shares used in diluted per share calculation	62.6	63.0	61.9	61.3	61.2

Note: Amounts may not total due to rounding.
[1] 2014, 2015, 2016 and 2017 audited.
[2] In 2016, the company modified the calculation of its non-GAAP income tax provision and effected this modification in the non-GAAP results from 2014 onwards.

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Reconciliations of GAAP Reported to Non-GAAP Adjusted Information Certain Line Items and Other Information

In millions, except per share amounts and % (unaudited)	Year Ended December 31, 2017 GAAP Reported	Adjustments	Non-GAAP Adjusted*	Year Ended December 31, 2018 GAAP Reported	Adjustments	Non-GAAP Adjusted*
Product sales, net	**$ 1,601.4**	--	$ 1,601.4	**$ 1,869.5**	$ --	$ 1,869.5
Total revenues	**1,618.7**	--	1,618.7	**1,890.9**	--	1,890.9
Cost of product sales	**110.2**	(5.8)[a]	104.4	**121.5**	(6.6)[a]	114.9
% of Product sales, net	***6.9%***		*6.5%*	***6.5%***		*6.1%*
Gross margin[b]	***93.1%***		*93.5%*	***93.5%***		*93.9%*
Selling, general and administrative	**544.2**	(89.2)[c]	454.9	**683.5**	(134.8)[c]	548.7
% of Total revenues	***33.6%***		*28.1%*	***36.1%***		*29.0%*
Research and development	**198.4**	(36.4)[d]	162.1	**226.6**	(30.0)[d]	196.6
% of Total revenues	***12.3%***		*10.0%*	***12.0%***		*10.4%*
Intangible asset amortization	**152.1**	(152.1)	--	**201.5**	(201.5)	--
Impairment charges	**--**	--	--	**42.9**	(42.9)	--
Acquired in-process research and development	**85.0**	(83.0)	2.0	**--**	--	--
Operating income margin[e]	***32.7%***		*55.3%*	***32.5%***		*54.5%*
Interest expense, net	**77.8**	(30.0)[f]	47.7	**77.1**	(44.0)[f]	33.1
Foreign exchange loss	**10.0**	--	10.0	**6.9**	--	6.9
Loss on extinguishment and modification of debt	**--**	--	--	**1.4**	--	1.4
Income before income tax provision (benefit) and equity in loss of investee	**441.1**	396.5[g]	837.6	**529.5**	459.9[g]	989.3
Income tax provision (benefit)	**(47.7)**	207.6[h]	159.9	**80.2**	68.4[h]	148.5
Effective tax rate[i]	***(10.8)%***		*19.1%*	***15.1%***		*15.0%*
Equity in loss of investee	**1.0**	--	1.0	**2.2**	--	2.2
Net income	**$ 487.8**	$ 188.9[j]	$ 676.7	**$ 447.1**	$391.5[j]	$ 838.6
Net income per diluted share	**$ 7.96**		$ 11.04	**$ 7.30**		$ 13.70

Note: Amounts may not total due to rounding. Percentages calculated from amounts in thousands.

Jazz Pharmaceuticals

Explanation of Adjustments to Above Reconciliation Table

Explanation of Adjustments and Certain Line Items (In millions):

(a) Share-based compensation expense of $5.8 and $6.6 for the year ended December 31, 2017 and December 31, 2018, respectively.
(b) Net of product sales, net and cost of product sales divided by product sales, net.
(c) Share-based compensation expense of $83.2 and $76.8, expenses related to certain legal proceedings of $6.0 and $0, estimated loss contingency of $0 and $57.0 and disposal costs of $0 and $1.1 for the year ended December 31, 2017 and December 31, 2018, respectively.
(d) Share-based compensation expense of $17.9 and $19.0 and upfront and milestone payments of $18.5 and $11.0 for the year ended December 31, 2017 and December 31, 2018, respectively.
(e) Income from operations divided by total revenues.
(f) Non-cash interest expense associated with debt discount and debt issuance costs.
(g) Sum of adjustments (a), (c), (d) and (f), plus the adjustments for intangible asset amortization, impairment charges and acquired in-process research and development, as applicable, for the respective twelve-month period.
(h) Income tax adjustments related to the income tax effect of adjustments between GAAP reported and non-GAAP adjusted net income and the impact of the U.S. Tax Cuts and Jobs Act.
(i) Income tax provision divided by income before income tax provision and equity in loss of investee.
(j) Net of adjustments (g) and (h).

Reconciliation of GAAP to Non-GAAP Adjusted 2019 Financial Guidance

In millions, except per share amounts (unaudited)	**2019 Guidance**[1]
GAAP net income	$395 - $495
Intangible asset amortization	250 – 270
Share-based compensation expense	110 – 125
Upfront and milestone payments	56 – 90
Non-cash interest expense	40 – 50
Income tax effect of above adjustments	(75) – (95)
Non-GAAP adjusted net income	$835 - $875
GAAP net income per diluted share	$6.80 - $8.50
Non-GAAP adjusted net income per diluted share	$14.30 - $15.00
Weighted-average ordinary shares used in per share calculations	58

[1] Guidance provided by Jazz Pharmaceuticals plc as of February 26, 2019.

Jazz Pharmaceuticals

Xyrem Phase 3 Randomized Withdrawal Study Results

Phase 3 Narcolepsy—Study N2 (ages 16+)[1]

Treatment Group	Baseline	Median Change from Baseline	Comparison to Placebo (p-value)
Median Number of Cataplexy Attacks (attacks/2 weeks)			
Placebo (n=29)	4.0	21	--
Xyrem (n=26)	1.9	0	<0.001

[1] Xyrem U.S. Prescribing Information 10/2018

Phase 3 Narcolepsy—Study N5 (ages 7-16)[1]

Treatment Group	Baseline*	Median Change from Baseline	Comparison to Placebo (p-value) ¶
Median Number of Cataplexy Attacks (attacks/week)			
Placebo (n=32)	4.7	12.7	--
Xyrem (n=31)	3.5	0.3	<0.0001

[1] Xyrem U.S. Prescribing Information 10/2018
* For weekly number of cataplexy attacks, baseline value is calculated from the last 14 days of the stable-dose period.
¶ P-value from rank-based analysis of covariance (ANCOVA) with treatment as a factor and rank baseline value as a covariate.

Key Considerations

- Study N2 reported cataplexy attacks over 2 weeks; Study N5 reported cataplexy attacks per week
- Patients in N2 were on Xyrem from 7-44 months prior to study entry; Xyrem-naïve patients were allowed in N5

Jazz Pharmaceuticals

Xyrem® (sodium oxybate) Boxed Warning

WARNING: CENTRAL NERVOUS SYSTEM DEPRESSION and ABUSE AND MISUSE.

Central Nervous System Depression

Xyrem (sodium oxybate) is a CNS depressant. In clinical trials at recommended doses, obtundation and clinically significant respiratory depression occurred in adult patients treated with Xyrem. Many patients who received Xyrem during clinical trials in narcolepsy were receiving central nervous system stimulants.

Abuse and Misuse

Xyrem® (sodium oxybate) is the sodium salt of gamma-hydroxybutyrate (GHB). Abuse or misuse of illicit GHB, either alone or in combination with other CNS depressants, is associated with CNS adverse reactions, including seizure, respiratory depression, decreases in the level of consciousness, coma, and death.

Because of the risks of CNS depression and abuse and misuse, Xyrem is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS) called the Xyrem REMS Program. Further information is available at www.XYREMREMS.com or 1-866-XYREM88® (1-866-997- 3688).

Xyrem (sodium oxybate) prescribing information

Jazz Pharmaceuticals

Glossary of Abbreviations

aGvHD = Acute GvHD
ALL = Acute Lymphoblastic Leukemia
AML = Acute Myeloid Leukemia
ANCOVA = Analysis of Covariance
ASH = American Society of Hematology
BPDCN = Blastic Plasmacytoid Dendritic Cell Neoplasm
CAR-T = Chimeric Antigen Receptor T-cell Therapy
CNS = Central Nervous System
EDS = Excessive Daytime Sleepiness
ESS = Epworth Sleepiness Scale
EU = European Union
GAAP = U.S. Generally Accepted Accounting Principles
GvHD = Graft-vs-Host Disease
HMA = Hypomethylating Agent
HR-MDS = High-Risk MDS
IMGN = ImmunoGen
MAA = Marketing Authorization Application
MDS = Myelodysplastic Syndrome
NDA = New Drug Application
NICE = The National Institute for Health and Care Excellence
NUB = New Diagnostic and Therapeutic Methods
OSA = Obstructive Sleep Apnea
PBL = Porton Biopharma Limited
PD = Parkinson's Disease
PDUFA = Prescription Drug User Fee Act
pVOD = Prevention of Hepatic Veno-occlusive Disease
R/R = Relapsed /Refractory
REMS = Risk Evaluation and Mitigation Strategy
TA-TMA = Transplant Associated Thrombotic Microangiopathy
VOD = Hepatic Veno-occlusive Disease