



Bristol-Myers Squibb



March 2019

**“AS OTHERS HAVE MERGED INTO MEGACOMPANIES, WE ARE BECOMING MORE STREAMLINED AND FOCUSED. AS OTHERS HAVE BROADENED THEIR PORTFOLIOS, WE ARE FOCUSING ON SELECT AREAS OF MEDICAL NEED.”**

*- JIM CORNELIUS, FORMER BRISTOL-MYERS CHAIRMAN & CEO  
AND CREATOR OF THE “STRING OF PEARLS” STRATEGY*

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# I. Executive Summary



# We Believe the Proposed Acquisition of Celgene Is Ill-Advised and Could Destroy Substantial Value for Bristol-Myers Shareholders

As we will explain, the proposed acquisition of Celgene Corporation (“Celgene”) by Bristol-Myers Squibb Company (“Bristol-Myers” or the “Company”) adds substantial risk for shareholders, is based on aggressive assumptions around Celgene’s pipeline, and may have been done for defensive purposes.

- We approached this situation, as we do all of our investments, with an open mind and objectively listened to management’s rationale for the transaction.
- As we will discuss throughout the presentation, we strongly believe that Bristol-Myers’ proposed acquisition of Celgene has the potential to destroy significant shareholder value.
  - Bristol-Myers management has decided to bet the future of the Company on their highly questionable view of Celgene’s pipeline, which carries substantial risk.
  - Bristol-Myers is paying ~\$30 billion for the pipeline, approximately twice as much as the Company has implied.
  - Bristol-Myers’ base case assumptions on the pipeline are aggressive, well-above consensus estimates, and not in-line with Celgene’s historical pipeline success (which produced 3 blockbusters in 15 years vs. Bristol-Myers’ assumption of 10 blockbusters, on average, in 8 years), which adds significant risk for shareholders.
  - Even if Bristol-Myers achieves its base case assumptions, the deal will only generate a 3% IRR above WACC. In what we believe are more likely scenarios, this deal will destroy shareholder value.
  - The deal process appears to have been rushed, spurred, we believe, by Bristol-Myers’ desire to announce the acquisition by an arbitrary near-term deadline.
  - We also believe the deal may have been negotiated with the wrong intentions, as a defensive measure designed to protect Bristol-Myers from becoming an acquisition target itself.
- A management team that has struggled to create value on a standalone basis is now asking shareholders to trust them to execute one of the largest pharmaceutical transactions of all time.
- As we will demonstrate, this transaction will require near-perfect execution for Bristol-Myers shareholders to have a chance to realize any value.
- **We believe that the proposed acquisition of Celgene is a bad deal for shareholders and that there is a better path forward for Bristol-Myers.**

**Bristol-Myers’ proposed acquisition of Celgene is fraught with risks and may destroy shareholder value**

# We Believe a Standalone Bristol-Myers Will Be Better Positioned for Value Creation

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**We believe that a standalone Bristol-Myers will be better positioned and less risky than a combined Bristol-Myers and Celgene.**

- We believe the proposed acquisition of Celgene will add enormous risk to Bristol-Myers.
  - We believe the 2026 loss of exclusivity for REVLIMID will create a major overhang on the stock of the combined company.
  - Bristol-Myers is underwriting an unprecedented level of success for Celgene's pipeline in the base case, which is needed simply for shareholders to earn a modest annualized return above the cost of capital.
  - A management team that has struggled to execute is now asking for shareholders' support for one of the largest pharmaceutical acquisitions of all time.
- If Bristol-Myers shareholders vote down the proposed Celgene acquisition, the Company would only owe Celgene a reimbursement fee of up to \$40 million.
  - Importantly, the \$2.2 billion termination fee would only be required if a third party acquisition proposal for Bristol-Myers has been publicly disclosed prior to the vote and Bristol-Myers enters into another definitive agreement, or closes a different transaction, within the following year.
- Standalone Bristol-Myers is expected to have a stable and growing revenue base that will provide a platform for success.
- A standalone Bristol-Myers would also be in position to continue the historically successful "String of Pearls" strategy.
- In addition, we believe there is a significant operational improvement opportunity at Bristol-Myers.
  - With these improvements, the Company would be significantly more profitable.
  - We also believe these improvements could improve efficiency, which could potentially spur faster innovation in the R&D organization.

**We believe a standalone Bristol-Myers offers more value creation potential for shareholders**

# The Proposed Acquisition Adds Substantial Risk for Shareholders

The proposed acquisition of Celgene represents a significant shift away from the successful “String of Pearls” strategy and adds substantial risk and leverage to Bristol-Myers.

## Standalone Bristol-Myers

- ✓ Mid-sized, focused oncology leader
- ✓ Net cash balance
- ✓ Highly strategic and of acquirable size
- ✓ Opportunity to continue “String of Pearls” strategy (which includes partnership, licenses, and small acquisitions)
- ✓ Nimble enough to acquire small or large companies to improve its pipeline
- ✓ A more efficiently run standalone Bristol-Myers has substantial upside

## Combined Bristol-Myers and Celgene

- ✗ ~2.5x Pro Forma Net Leverage
- ✗ Un-acquirable, given size and massive patent cliff
- ✗ Staking the Company’s future on the Celgene deal with high base case expectations for the pipeline
- ✗ Facing an imminent and massive patent cliff that may force the Company to do additional deals and take on even more debt

**We believe a standalone Bristol-Myers is better positioned to create value for shareholders**

# The Proposed Acquisition Defies Bristol-Myers' Stated Strategy

Since 2007, Bristol-Myers has been focused on the “String of Pearls” strategy, whereby it has used acquisitions, partnerships, joint ventures, and licensing agreements, in conjunction with internal development efforts, to build out its pipeline. The \$91 billion acquisition of Celgene goes against this strategy.

## Before: A Thoughtful & Focused “String of Pearls” Strategy

“As others have merged into megacompanies, we are becoming more streamlined and focused. As others have broadened their portfolios, we are focusing on select areas of medical need. As others have widened their geographic footprints, we are concentrating on key major and emerging markets.”<sup>(1)</sup>

“The quiet, frugal nature of the firm has become a cultural one, and stems from 2007 when its former chief executive John Cornelius introduced the ‘string of pearls’ policy, something that sees the firm focus on a set level of therapy areas with strategic purchases, intentionally keeping these buys small and manageable.”<sup>(2)</sup>

“[James Cornelius, former Chairman and Chief Executive Officer of Bristol-Myers Squibb,] has spoken out against doing a mega-merger deal to pad the company's pipeline like competitors Merck (MRK) and Pfizer (PFE) have done this year. He has called Bristol-Myers' strategy a “string of pearls” approach to doing business.”<sup>(3)</sup>

“Out of this goal arose Bristol's “string of pearls” business development strategy – an effort to do targeted deal-making around licensing, partnerships and small-scale acquisitions, as opposed to the mega-mergers being pursued by some of its industry peers.”<sup>(4)</sup>

**Bristol-Myers' proposed acquisition of Celgene is directly contradictory to the “String of Pearls” strategy**

Source: Public company filings, news reports.












(1) James Cornelius, BMY 2009 Annual Report, March 9, 2010; (2) Pharmafile, September 8, 2014

(3) Minyanville, December 23, 2009; (4) Informa Pharma Intelligence, September 18, 2017

# The Proposed Acquisition Defies Bristol-Myers' Stated Strategy (cont'd)


The acquisition of Celgene is inconsistent with Bristol-Myers' historically disciplined approach to M&A.

## "String of Pearls" Had Historically Been Successful...

Acquisition	Upfront Payment	Contingent Payment		Key Products
 PDL BioPharma (2008)	\$30 million	\$680 million	+  Internal R&D	 Empliciti (elotuzumab) Partnered
 MEDAREX (2009)	\$2,285 million	\$0 million		 OPDIVO (nivolumab) Acquired
 Cardioxyl (2015)	\$200 million	\$1,875 million		 YERVOY (ipilimumab) Partnered then Acquired
 FLEXUS BIOSCIENCES (2015)	\$814 million	\$450 million		 Eliquis Developed internally
 ifm therapeutics (2017)	\$325 million	\$2,020 million		 ORENCIA (abatacept) Developed internally
				 Sprycel (dasatinib) Developed internally

=  
  
Comprises  
86% of  
2018  
Revenue!

## So Why Give it Up for Celgene?

Acquisition	Upfront Payment	Contingent Payment
 Celgene (Pending)	\$88,000 million	\$6,000 million
One of the Largest Pharma Deals Ever		
One of the Largest Patent Cliffs in History		
REVLIMID, 63% of Celgene revenue, is going away		
Questionable pipeline must meet massive expectations for the acquisition to simply be NPV-neutral		
???		

The acquisition of Celgene is the antithesis of Bristol-Myers' "String of Pearls" strategy



# Bristol-Myers Has Underperformed Under Current Leadership

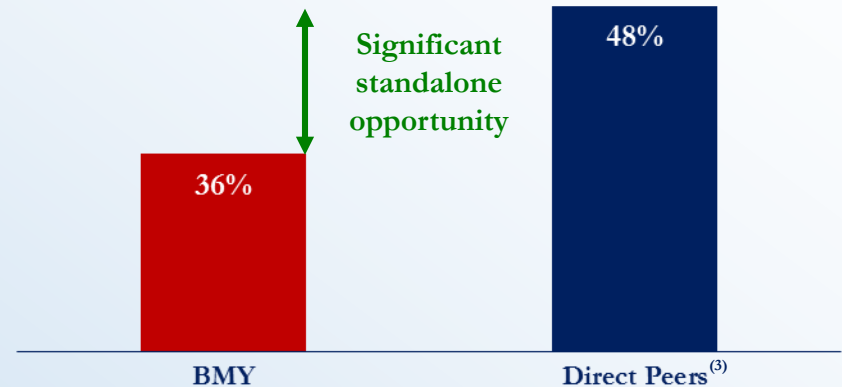
How can shareholders trust a management team that is executing poorly at Bristol-Myers to now successfully integrate one of the largest pharmaceutical deals of all time?

## Summary Returns

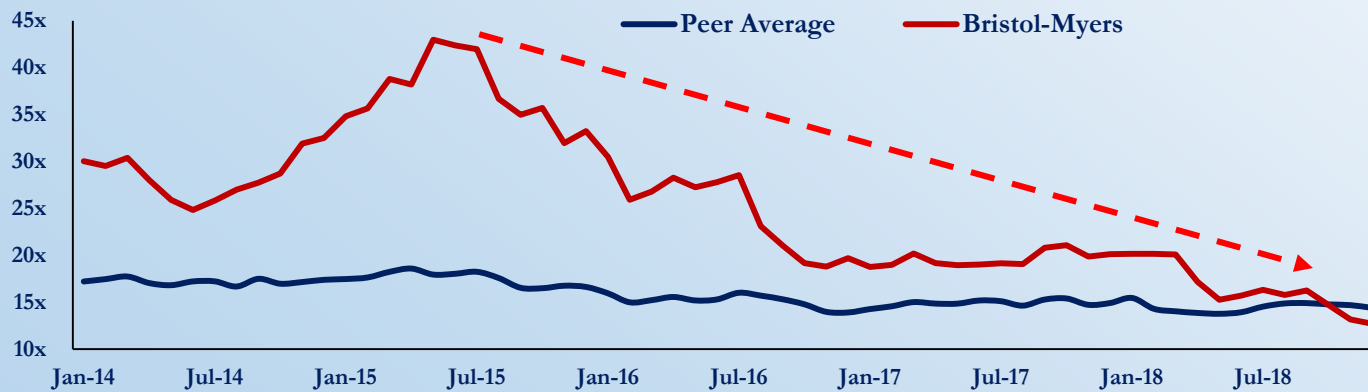
Total Shareholder Return <sup>(1)</sup>

	1 Year	3 Year	Caforio Tenure as CEO <sup>(4)</sup>
S&P 500 Index	(5.1%)	30.6%	29.6%
NYSE Arca Pharmaceutical Index (DRG)	5.3%	13.6%	8.0%
S-4 Selected Peer Group <sup>(2)</sup>	7.6%	18.6%	17.5%
Direct Peer Group <sup>(3)</sup>	5.3%	23.6%	18.0%
<b>Bristol-Myers Squibb</b>	<b>(12.2%)</b>	<b>(18.1%)</b>	<b>(11.9%)</b>
Underperformance vs. S&P 500	(7.1%)	(48.7%)	(41.5%)
Over/(Underperformance) vs. DRG	(17.5%)	(31.8%)	(19.9%)
Over/(Underperformance) vs. S-4 Selected Peer Group	(19.7%)	(36.7%)	(29.4%)
Over/(Underperformance) vs. Direct Peer Group	(17.4%)	(41.8%)	(29.9%)

## LTM Adj. EBITDA Margins<sup>(6)</sup>



## Historical NTM Price / Earnings – Bristol-Myers vs. Peers<sup>(2)</sup>



Average P/E Multiple Premium vs. Peers	
2014	11.3x
2015	19.8x
2016	9.6x
2017	4.7x
2018	2.0x
Current <sup>(5)</sup>	(3.1x)

Can shareholders really trust Bristol-Myers to execute a complex transaction well enough to create value?



Source: CapitalIQ.

(1) Total returns for all periods include dividends; performance measured as of January 2, 2019 (closing price before announcement of Celgene merger). (2) Peers based on Bristol-Myers S-4 selected publicly traded companies and includes: ABBV, AGN, AMGN, LSE:AZN, BIIB, LLY, GILD, LSE:GSK, JNJ, MRK, SWX:NOVN, CPSE:NOVO.B, PFE, SWX:ROG, ENXTPA:SAN. (3) Starboard selected Direct Peers include: ABBV, AMGN, BIIB, MRK, CPSE:NOVO.B, SWX:ROG. (4) As of May 5, 2015 (day Caforio took over as CEO). (5) Current as of 3/15/2019. (6) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of ELIQUIS revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.



# The Largest Pharmaceutical Deals Have Not Gone Well

On average, value has been destroyed in each of the five previous largest pharmaceutical deals on an absolute basis in the five years following the completion of each respective deal.

Largest Pharmaceutical Transactions in History				
Target	Acquirer	Year Announced	Transaction Value <sup>(1)</sup>	Stock Price Performance <sup>(2)</sup> – 5 Years Post Acquisition Close
		2019	\$91 Billion	???
		2018	\$81 Billion	N/A (10 weeks since close)
		2014	\$65 Billion	(49%)* *Performance to date: 4 years since close
		2004	\$73 Billion	(6%)
		2000	\$72 Billion	(10%)
		1999	\$87 Billion	(32%)

Significantly more successful teams have struggled to integrate and create value with large deals













Source: Public company filings, CapitalIQ, Bloomberg.

(1) Represents transaction value at announcement or at time of amendment to final terms.

(2) Total return for all periods includes dividends.

# The Largest Pharmaceutical Deals Have Not Gone Well (cont'd)

On average, value has been destroyed in each of the five previous largest pharmaceutical deals relative to the S&P 500 in the five years following the completion of each respective acquisition.

Largest Pharmaceutical Transactions in History				
Target	Acquirer	Year Announced	Transaction Value <sup>(1)</sup>	Stock Price Performance vs. S&P 500 <sup>(2)</sup> – 5 Years Post Acquisition Close
		2019	\$91 Billion	???
		2018	\$81 Billion	N/A (10 weeks since close)
		2014	\$65 Billion	(96%)* *Performance to date: 4 years since close
		2004	\$73 Billion	(7%)
		2000	\$72 Billion	(13%)
		1999	\$87 Billion	(21%)

Significantly more successful teams have struggled to integrate and create value with large deals












Source: Public company filings, CapitalIQ, Bloomberg.

(1) Represents transaction value at announcement or at time of amendment to final terms.

(2) Total return for all periods includes dividends.

# The Largest Pharmaceutical Deals Have Not Gone Well (cont'd)

On average, value has been destroyed in each of the five previous largest pharmaceutical deals relative to the Pharmaceutical Index in the five years following the completion of each respective acquisition.

Largest Pharmaceutical Transactions in History				
Target	Acquirer	Year Announced	Transaction Value <sup>(1)</sup>	Stock Price Performance vs. NYSE Arca Pharmaceutical Index (DRG) <sup>(2)</sup> – 5 Years Post Acquisition Close
		2019	\$91 Billion	???
		2018	\$81 Billion	N/A (10 weeks since close)
		2014	\$65 Billion	(67%)* *Performance to date: 4 years since close
		2004	\$73 Billion	(6%)
		2000	\$72 Billion	9%
		1999	\$87 Billion	(23%)

Significantly more successful teams have struggled to integrate and create value with large deals

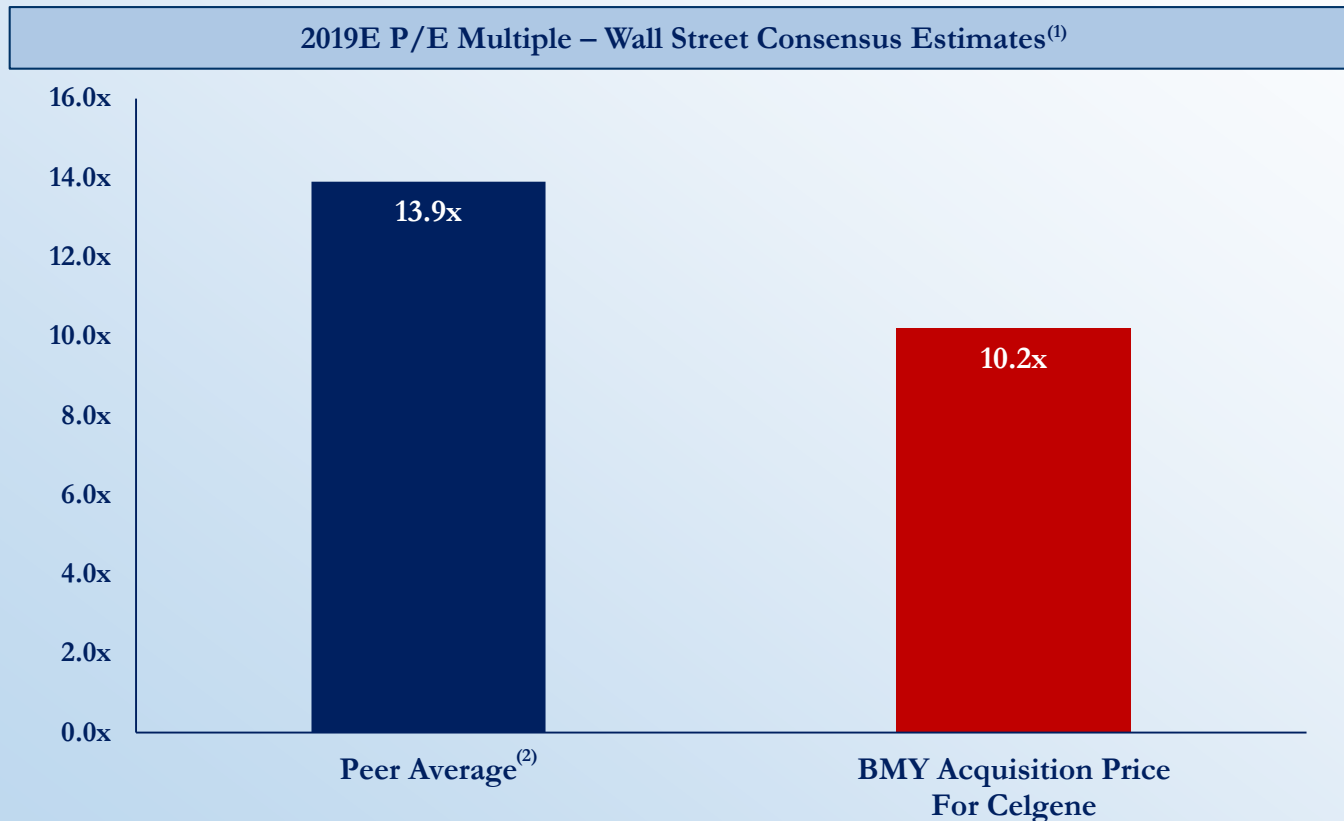
Source: Public company filings, CapitalIQ, Bloomberg.

(1) Represents transaction value at announcement or at time of amendment to final terms.

(2) Total return for all periods includes dividends.

# Bristol-Myers Claims That It Is Acquiring Celgene for a Cheap Price

Bristol-Myers is claiming that the Company is paying a cheap price to acquire Celgene...on Celgene's current earnings base.



It is not surprising that Celgene's multiple looks attractive, given the massive impending patent cliff

Examining the transaction based on 2019 earnings does not tell the whole story

Source: Public company filings, CapitalIQ, Bloomberg.

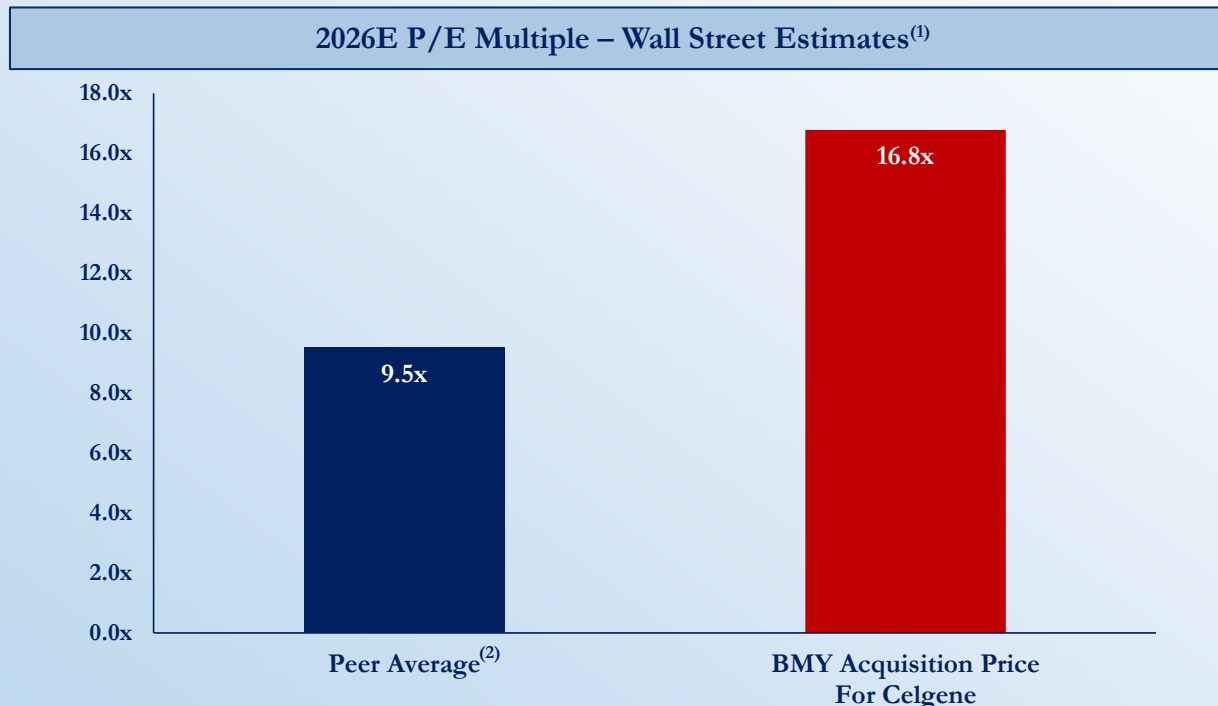
(1) Share price as of January 2, 2019 (closing price before announcement of Celgene acquisition); Based on Bloomberg consensus estimates for 2019 EPS.

(2) Peers based on Bristol-Myers S-4 selected publicly traded companies and includes: ABBV, AGN, AMGN, LSE:AZN, BIIB, LLY, GILD, LSE:GSK, JNJ, MRK, SWX:NOVN, CPSE:NOVO.B, PFE, SWX:ROG, ENXTPA:SAN.

# Bristol-Myers Conveniently Seems to Ignore Celgene's Massive Patent Cliff When Discussing Valuation

Looking at the transaction valuation based on 2019 earnings does not take into account Celgene's massive patent cliff.

- While most companies trade at lower multiples on out-year estimates because they are expected to grow earnings over time, Celgene is cheaper based on 2019 earnings for a reason.
- The market understands that Celgene's earnings power rapidly diminishes due to the loss of exclusivity for REVLIMID in 2026.



**Bristol-Myers highlights the lower current earnings multiple and near-term accretion from Celgene in the short term. However, we believe Celgene may significantly impair Bristol-Myers' financial profile in the long term.**

**On future earnings power, the proposed acquisition looks significantly more expensive**

Source: Public company filings, CapitalIQ, Bloomberg.

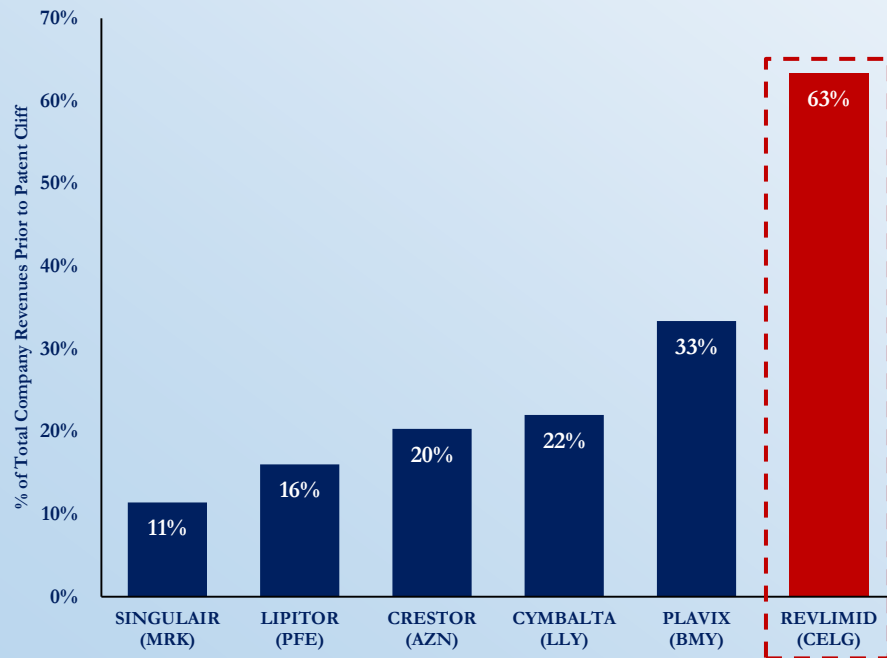
(1) Share price as of January 2, 2019 (closing price before announcement of Celgene acquisition); Based on Bloomberg consensus estimates for 2026 EPS.

(2) Peers based on Bristol-Myers S-4 selected publicly traded companies and includes: ABBV, AGN, AMGN, LSE:AZN, BIIB, LLY, GILD, LSE:GSK, JNJ, MRK, SWX:NOVN, CPSE:NOVO.B, PFE, SWX:ROG, ENXTPA:SAN (Excludes JNJ as 2026 Bloomberg consensus estimate unavailable).

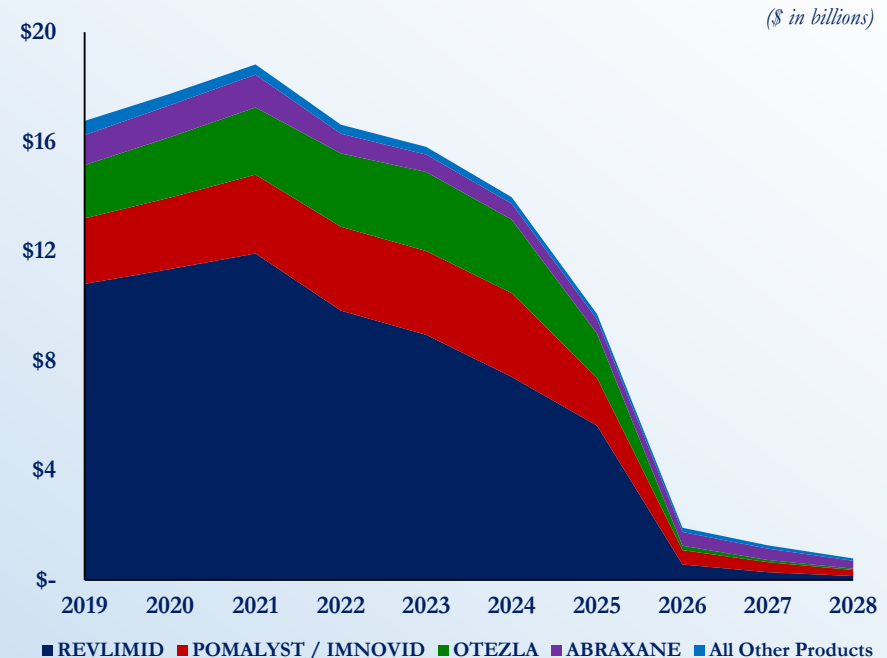
# Bristol-Myers Is Buying One of the Largest Patent Cliffs in History

Bristol-Myers is knowingly acquiring a massive small molecule patent cliff, which is, to our knowledge, unprecedented.

Select Blockbuster Drugs –  
% Revenue Contribution Prior to Loss-of-Exclusivity<sup>(1)</sup>



Wall Street Estimates for Celgene's Marketed Products Revenues



**A single drug represents 63% of Celgene revenue and is facing an impending patent cliff**

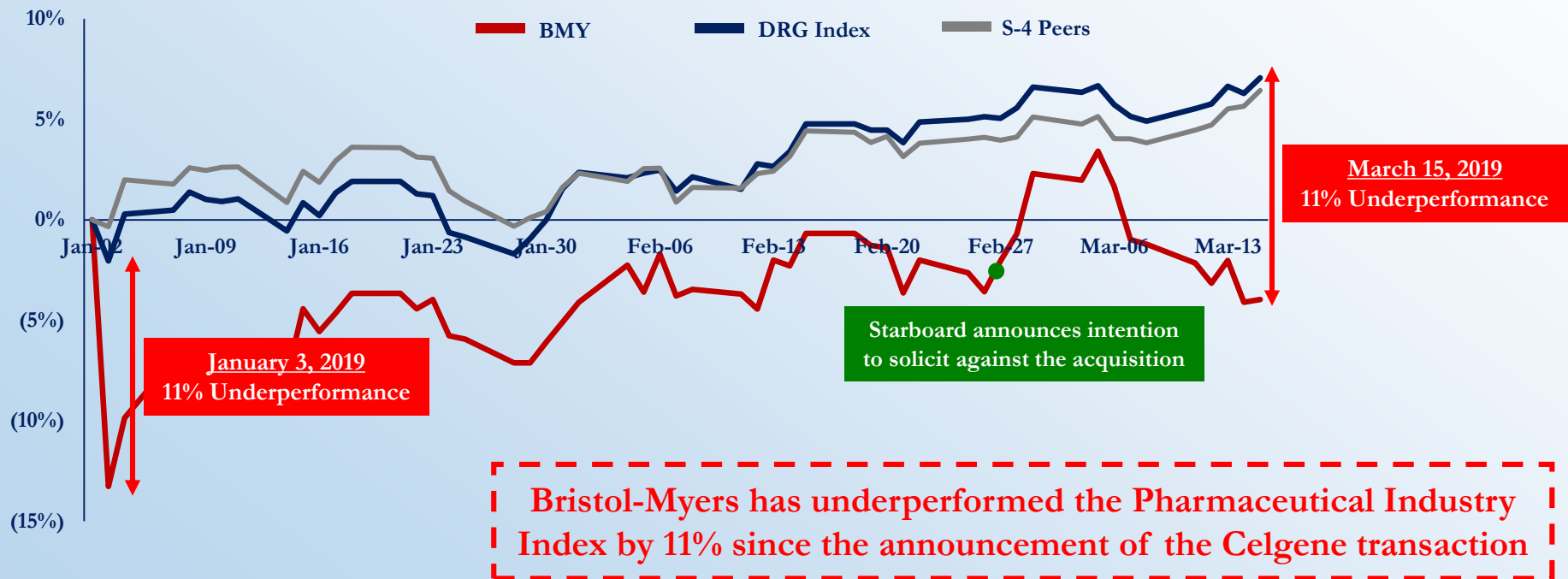


# The Market Has Responded Very Unfavorably to the Celgene Acquisition

Wall Street analysts and Bristol-Myers shareholders alike were surprised and skeptical of the Company's announced plans to acquire Celgene, as shown by the 13% decline in the Company's stock price the day of the announcement.

- Despite management's claims that investors are getting more comfortable with the Celgene acquisition, the performance of Bristol-Myers' stock price says otherwise.

Share Price Performance Since Celgene Acquisition Announcement<sup>(1)</sup>



Despite Bristol-Myers constant PR and spin campaign, shareholders remain unconvinced of the deal's merit

# Bristol-Myers' Largest Institutional Shareholder Publicly Announced It is Against the Deal

Bristol-Myers' proposed acquisition of Celgene has been met with disapproval from one of the world's largest investment management firms, in what was an unprecedented move for the firm to publicly oppose a deal.

## Wellington Management Does Not Support Bristol-Myers Squibb's Acquisition of Celgene Corporation

February 27, 2019 04:22 PM Eastern Standard Time

BOSTON--(BUSINESS WIRE)--Wellington Management Company LLP ("Wellington"), one of the world's largest independent investment management firms, managing approximately \$1 trillion in assets on behalf of its clients worldwide, recently informed the Board of Directors of Bristol-Myers Squibb ("Bristol-Myers" or the "Company") (NYSE: BMY) that it is not supportive of the Company's proposed acquisition of Celgene Corporation ("Celgene") (NASDAQ: CELG). Wellington Management, which exercises investment discretion for clients with respect to approximately 8% of the Company and, as of February 25, 2019, was the largest institutional holder of BMY's common stock, issued the following rationale for its decision.

While Wellington agrees that Bristol-Myers should be active in business development that secures differentiated science and broadens the future revenue base, Wellington does not believe that the Celgene transaction is an attractive path towards accomplishing this goal. Wellington's conclusion is based upon three tenets: 1) the transaction asks BMY shareholders to accept too much risk and the terms offer BMY shares to CELG shareholders at a price well below implied asset value; 2) execution success could be more difficult to achieve than depicted by Company management; and 3) alternative paths to create value for BMY shareholders could be more attractive.

The proposed acquisition has been met with disdain from certain Bristol-Myers shareholders

# We Believe Bristol-Myers Is Actually Paying ~\$30 Billion for the Pipeline, Not ~\$15 Billion

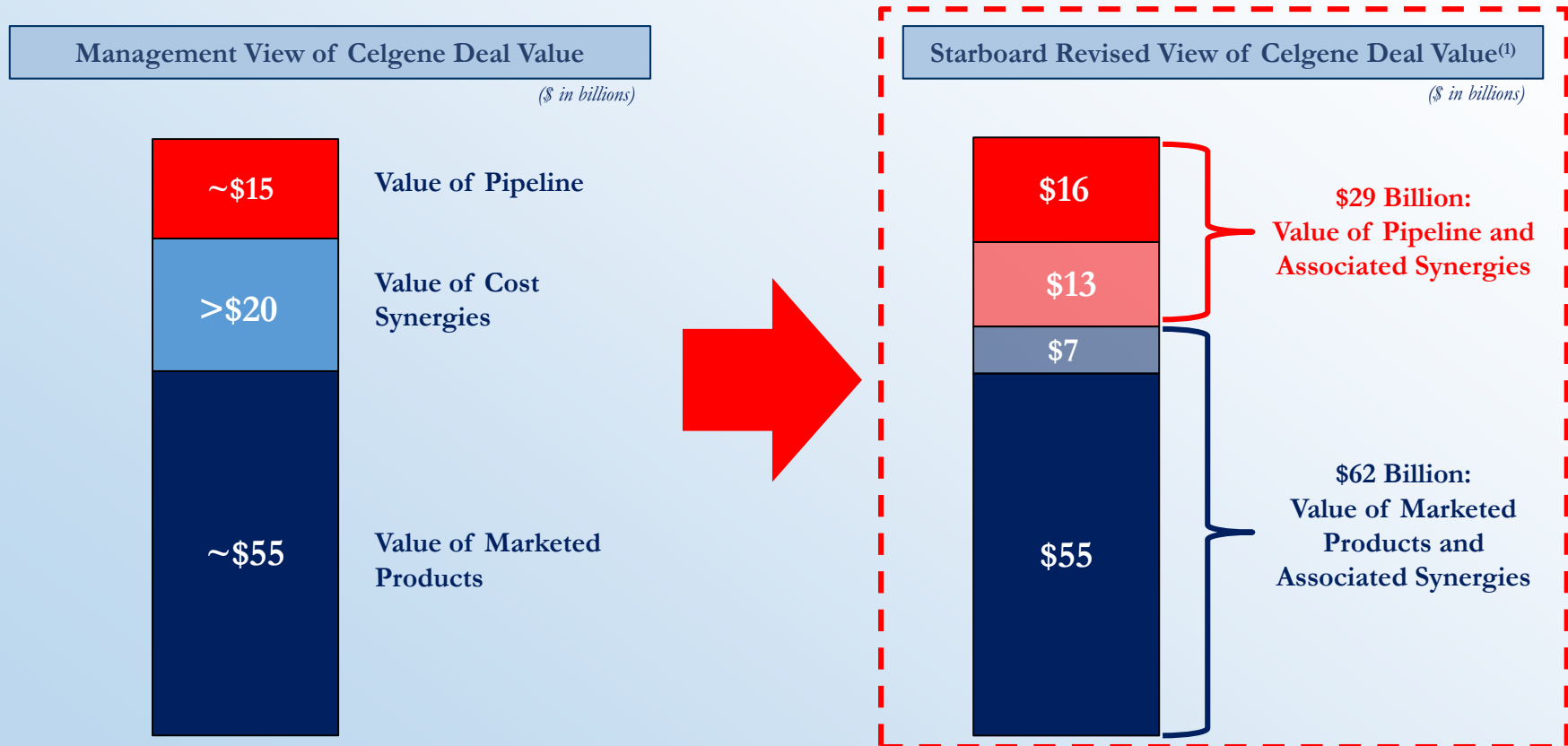
**Bristol-Myers argues that the Celgene merger is a low-risk proposition. We disagree.**

- Bristol-Myers' presentations suggest that the Company is acquiring Celgene's pipeline for only ~\$15 billion.
- Management asserts that the **~\$90 billion** acquisition breaks down roughly as follows:
  - Marketed Products: ~\$55 billion
  - Cost Synergies: >\$20 billion
  - Pipeline: Implied to be ~\$15 billion
- However, we believe management is not properly allocating the value of the cost synergies.
  - We can calculate the ~\$55 billion for marketed products, but believe there is risk to management's assumptions.
  - We can also recreate the analysis management uses to arrive at the >\$20 billion valuation for synergies.
  - However, implying that Bristol-Myers is paying only ~\$15 billion for the Celgene pipeline is misleading.
- In order to assume that Bristol-Myers is paying only ~\$15 billion for the pipeline, we would have to allocate all cost synergies to marketed products (~\$90 billion purchase price - \$55 billion Marketed Products Value - \$20 billion Cost Synergies Value = ~\$15 billion Pipeline Value).
  - However, fully allocating cost synergies to marketed products implies that marketed products EBITDA will be greater than revenue starting in 2024 – this is impossible.
  - Similarly, Bristol-Myers management's base case assumption is that marketed products revenue will be essentially \$0 after 2028, but management assumes \$2.5 billion of synergies from 2029 into perpetuity.
    - This would mean that after 2028, there will be \$0 revenue from marketed products but \$2.5 billion in EBITDA – this is obviously also impossible!
- **When properly allocating synergies, we calculate that Bristol-Myers is paying ~\$30 billion for the pipeline, not \$15 billion.**

**Bristol-Myers' math is misleading and ascribes an artificially low value to the pipeline**

# We Believe Bristol-Myers Is Actually Paying ~\$30 Billion for the Pipeline, Not ~\$15 Billion (cont'd)

Since it is not possible for EBITDA to be greater than revenue, synergies must be reallocated between marketed products and the pipeline, leading to a significantly higher implied value for the pipeline.



**This is critically important because it means the deal is far riskier than management has implied!**

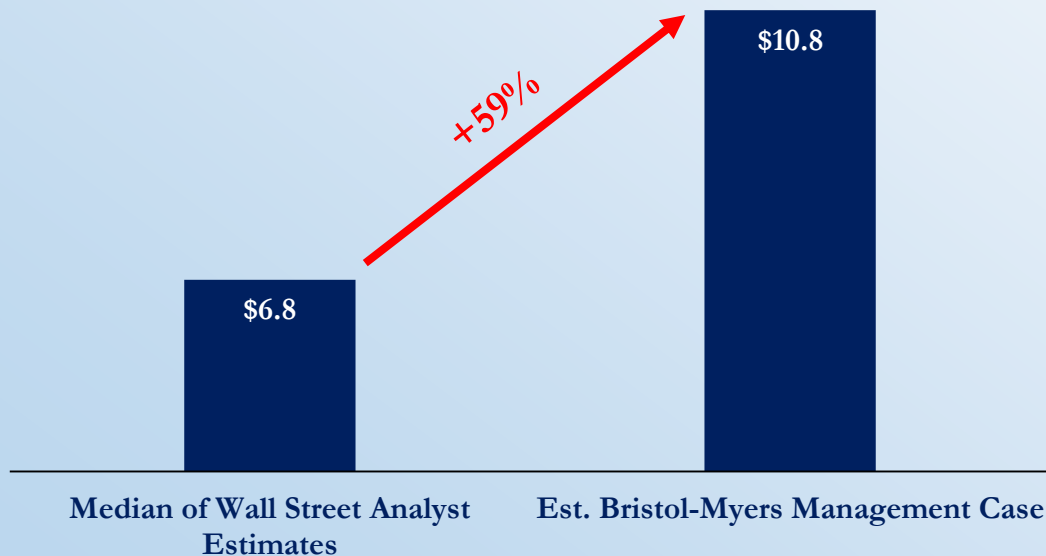
**Bristol-Myers is paying ~\$30 billion for Celgene's product pipeline, not ~\$15 billion**

# Bristol-Myers' 2028 Base Case for Celgene's Pipeline Assumes Revenue Well Above Wall Street Analysts' Estimates...

Bristol-Myers' 2028 base case assumptions for Celgene's pipeline products' revenues are significantly higher than Wall Street analysts' estimates.

2028 Bristol-Myers Management vs. Wall Street Analysts' Median Estimate for Celgene Near-Term Product Launches

(\$ in billions)



If Bristol-Myers hits Wall Street analysts' estimates, rather than the Company's aggressive base case assumptions, the deal will be value destructive<sup>(1)</sup>

This adds incredible risk for shareholders given the inherent riskiness of pipeline drugs

The risk is amplified given Celgene's disappointing track record with its pipeline

**Bristol-Myers is assuming extremely bullish 2028 revenue targets for Celgene's five near-term product launches**

Source: Public company filings, Wall Street research, Bristol-Myers investor relations, Starboard estimates. Wall Street research include Bank of America Merrill Lynch, Barclays Capital, Morgan Stanley, Goldman Sachs, and Cantor Fitzgerald.

(1) Assumes Bristol-Myers is paying \$30 billion for Celgene's pipeline products. Also assumes median Wall Street estimates for 2028 near-term pipeline revenues and Bristol-Myers 2028 revenue estimates for earlier-stage pipeline products.

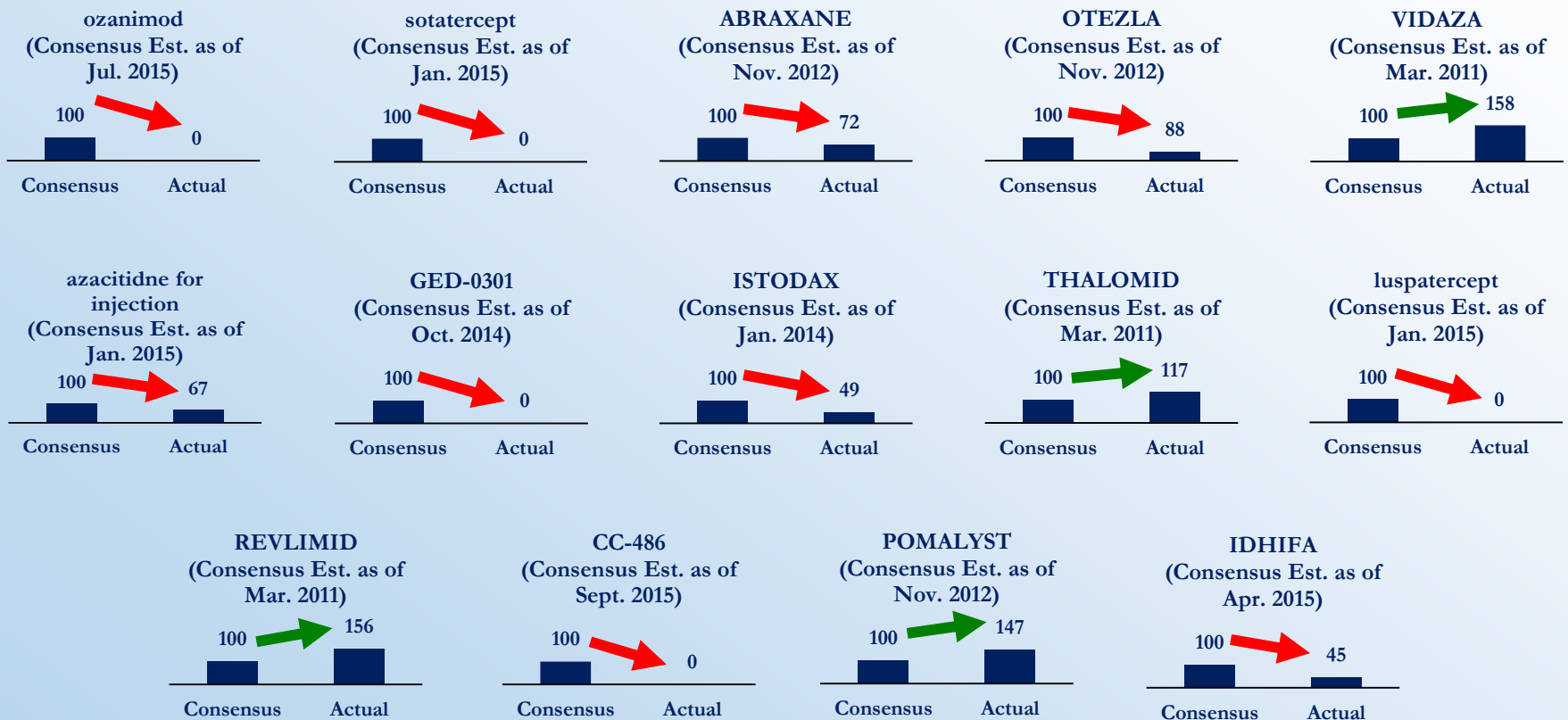


# Despite the Fact That Consensus Estimates Have Proven to Be Overly Aggressive for Celgene in the Past

Wall Street analysts have historically been overly optimistic in their estimates for Celgene's products.

- Below, we index actual 2018 Celgene product revenues against initial consensus Wall Street estimates for 2018.<sup>(1)</sup>

Indexed 2018 Actual Revenue by Product vs. Wall Street Consensus Estimates<sup>(1)</sup>



Wall Street consensus estimates for Celgene's products have generally been too optimistic

Source: Public company filings, Bloomberg, Wall Street research.

(1) We compared actual 2018 Celgene revenues by product to the earliest Wall Street consensus estimates available on Bloomberg. Bloomberg lists consensus estimates for 23 Celgene products, of which 14 had 2018 revenue estimates. The chart above compares those 14 products to actual performance.



# We Believe Celgene's Pipeline Has Massive Risk

Below, we provide an overview of the key risks related to the five near-term product launch opportunities in Celgene's pipeline that Bristol-Myers has highlighted to shareholders, and is expecting to generate \$10 billion in revenue by 2028.

## Overview of Celgene's Near-Term Product Launch Opportunities

Name	Development Phase	Key Risks
<b>fedratinib</b>	Phase III (completed)	<ul style="list-style-type: none"> <li>Trials were halted by Sanofi in 2013 due to adverse patient response</li> <li>Up to \$1.4 billion contingent payment tied to regulatory approvals, but consensus peak sales estimate is approximately \$400 million (this may become a lose-lose situation)</li> </ul>
<b>ozanimod</b>	Phase III (completed)	<ul style="list-style-type: none"> <li>Multiple sclerosis market is occupied by numerous, effective, and well-characterized products with more competition coming</li> <li>Potential IP issues that management admitted could be a roadblock to commercialization</li> </ul>
<b>liso-cel (JCAR017)</b>	Phase II / Pivotal (ongoing)	<ul style="list-style-type: none"> <li>Small niche market and high total cost of care limits total revenue potential</li> <li>Limited clinical data creates questions around sustainability of patient response</li> <li>Significant risk of complications due to neurotoxicity</li> </ul>
<b>bb2121</b>	Phase II / Pivotal (ongoing)	<ul style="list-style-type: none"> <li>Crowded market with many potential CAR-T therapies; some are even lower cost</li> <li>Lack of longer-term survival data, potentially non-curative due to declining PFS curve</li> </ul>
<b>luspatercept</b>	Phase III (completed)	<ul style="list-style-type: none"> <li>Well established competitors (Epogen, Procrit, Aranesp) that have been in the market for decades and limited published head-to-head data</li> </ul>

## Earlier-Stage Pipeline Products



In addition, Bristol-Myers management seems to be expecting five unidentified products to each generate average revenues of \$1.4 billion

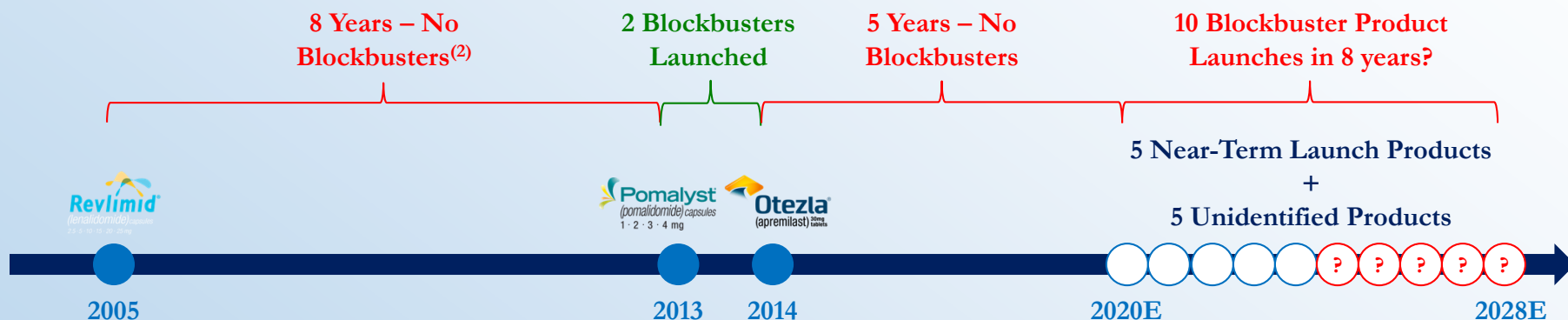
**On average, Bristol-Myers is assuming each Celgene pipeline product launched will be a blockbuster**

# Celgene Has Only Developed 3 Blockbusters In 15 Years, But Bristol-Myers' Base Case Assumes, On Average, 10 Blockbusters in the Next 8 Years

In its base case, Bristol-Myers is assuming Celgene can generate blockbuster drugs at a pace completely out-of-line with historical performance, adding substantial risk to the deal.

- We find Bristol-Myers' implied assumptions for the early-stage pipeline to be highly unrealistic.

## Launch Date For All Celgene Blockbuster Products Since REVLIMID<sup>(1)</sup>



Assuming Celgene's near-term launch products can generate \$10.8 billion revenue by 2028, another 5, on average, blockbuster products would be needed to reach Bristol-Myers' 2028 revenue base case<sup>(2)</sup>

This means that Bristol-Myers is assuming that Celgene can produce, on average, 10 blockbuster drugs in 8 years...after only producing 3 in the last 15 years!

Why should shareholders underwrite such aggressive assumptions and take on so much risk??

**Bristol-Myers needs Celgene's pipeline to churn out blockbusters at an unprecedented rate**

Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) While ABRAXANE has achieved blockbuster drug status, it was originally launched by Abraxis BioScience prior to Celgene's acquisition of the company in 2010. As such, we do not give credit to Celgene for launching ABRAXANE.

(2) Ten blockbusters includes five near-term product launches highlighted by Bristol-Myers management plus an additional five products assuming average revenue per product of \$1.4 billion.

# Despite Celgene's Disappointing Track Record of Failures and Product Delays...

Since Celgene management first highlighted fourteen significant products to their shareholders only two years ago, nearly one third of those products have already been terminated or de-prioritized, which represents greater than \$5.5 billion of previously stated peak revenues.

## Current Status of Fourteen Significant Products Highlighted in Early 2017 (Only Two Years Ago!)

Drug	Status	Celgene Stated Peak Revenue Potential	Current 2028 Wall Street Estimates <sup>(1)</sup>	
GED-0301	Terminated	>\$2.0	\$0.0	} ~30% of total drugs highlighted and <u>greater than \$5.5 billion of peak sales has been terminated or de-prioritized</u>
Durvalumab	Terminated	1.5	0.0	
Demcizumab	Terminated	1.0	0.0	
CC-122	De-Prioritized	1.0	0.0	
ACY-241	Indefinitely Delayed	\$0.5	???	} ~55% of total drugs highlighted have been delayed, and peak sales potential has declined by greater than \$4 billion (~40% discount)
RPC-046	Indefinitely Delayed	0.5	???	
CC-486	Delayed / Reduced Estimates	1.5	1.0	
Marizomib	Delayed / Reduced Estimates	1.5	???	
CC-220	Delayed / Reduced Estimates	>\$2.0	0.8	
Ozanimod	Delayed	>\$2.0	2.5	
JCAR017	Delayed	1.0	1.4	
Luspatercept	Delayed	2.0	1.6	
bb2121	On-Track	\$1.0	\$1.0	
IDHIFA	Launched	0.5	0.5	
Total Revenue		>\$18.0	\$8.7	

**Celgene has a history of being overly optimistic and Bristol-Myers is not only paying up for these lofty expectations, but actually expecting even more**

Source: Public company filings, Wall Street research, Starboard estimates.

(1) We use Wall Street consensus estimates for CC-486, CC-220, and IDHIFA. For ozanimod, JCAR017, luspatercept, and bb2121, we take the median of Bank of America Merrill Lynch, Barclays, Morgan Stanley, Goldman Sachs, and Cantor Fitzgerald.

# The Company Is Asking Shareholders to Underwrite, On Average, 10 Blockbuster Products in 8 Years

In order to reach just its base case assumptions, Bristol-Myers needs the Celgene pipeline to produce, on average, 10 blockbuster products in 8 years, which would represent an unprecedented rate of success.

## Current Status of Fourteen Significant Products Highlighted in Early 2017

Drug	Status	Celgene Stated Peak Revenue Potential	Current 2028 Wall Street Estimates <sup>(1)</sup>
GED-0301	Terminated	>\$2.0	\$0.0
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Ozanimod	Delayed	>\$2.0	2.5
JCAR017	Delayed	1.0	1.4
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IDHIFA	Launched	0.5	0.5
<b>Total Revenue</b>		<b>&gt;\$18.0</b>	<b>\$8.7</b>

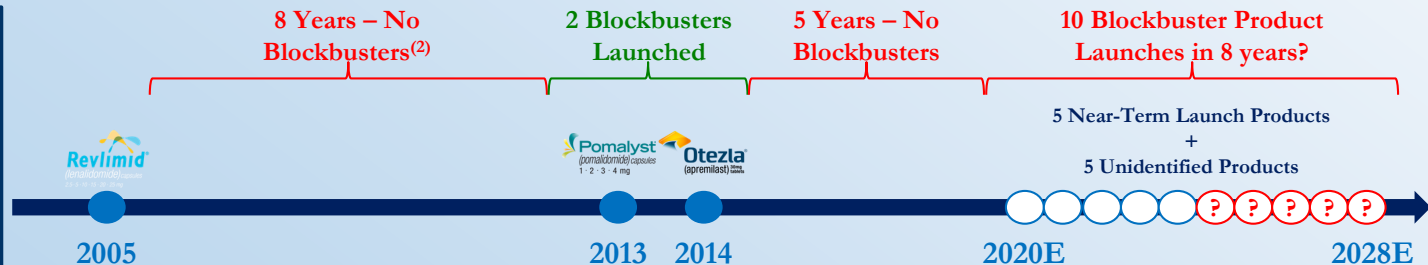
### Bristol-Myers Highlighted 5 Near-Term Products:

Of the highlighted products, in just the last two years alone, 3 have been delayed...

**AND**

Bristol-Myers also wants shareholders to underwrite, on average, 5 additional, yet-to-be-identified blockbusters.

### Pipeline Success Needed to Meet Base Case Assumptions



**Bristol-Myers is assuming an unprecedented rate of pipeline success in its base case**

Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) We use Wall Street consensus estimates for CC-486, CC-220, and IDHIFA. For ozanimod, JCAR017, luspatercept, and bb2121, we take the median of Bank of America Merrill Lynch, Barclays, Morgan Stanley, Goldman Sachs, and Cantor Fitzgerald.

(2) While ABRAXANE has achieved blockbuster drug status, it was originally launched by Abraxis BioScience prior to Celgene's acquisition of the company in 2010. As such, we do not give credit to Celgene for launching ABRAXANE.

# Realizing Bristol-Myers' Aggressive Base Case Assumptions Only Generates a 3% IRR Above Its WACC

Bristol-Myers management's base case makes several aggressive assumptions, which, even if realized, would only generate a 3% IRR above WACC.

- For the deal to even be barely NPV accretive, shareholders must fully believe management's aggressive base case assumptions, including:
  - **\$55 billion for marketed products value:**
    - This assumption carries substantial risk given significant concerns around REVLIMID IP and its impending genericization.
  - **\$20 billion for cost synergies value:**
    - This assumption carries significant execution risk given management's track record of poor execution.
  - **\$18 billion of pipeline revenue by 2028:**
    - This assumption carries tremendous risk as it implies Celgene's pipeline will produce, on average, 10 blockbusters in 8 years compared to its historical performance of 3 blockbusters in the last 15 years.
      - In fact, Wall Street analysts' estimates are significantly below Bristol-Myers management's base case assumptions for Celgene's pipeline, further highlighting the risk associated with this assumption.
- Even if all of Bristol-Myers management's base case assumptions are achieved, Bristol-Myers' shareholders will only earn a 3% annualized return above WACC.

**Management's base case implies significant risk for Bristol-Myers shareholders with minimal reward**

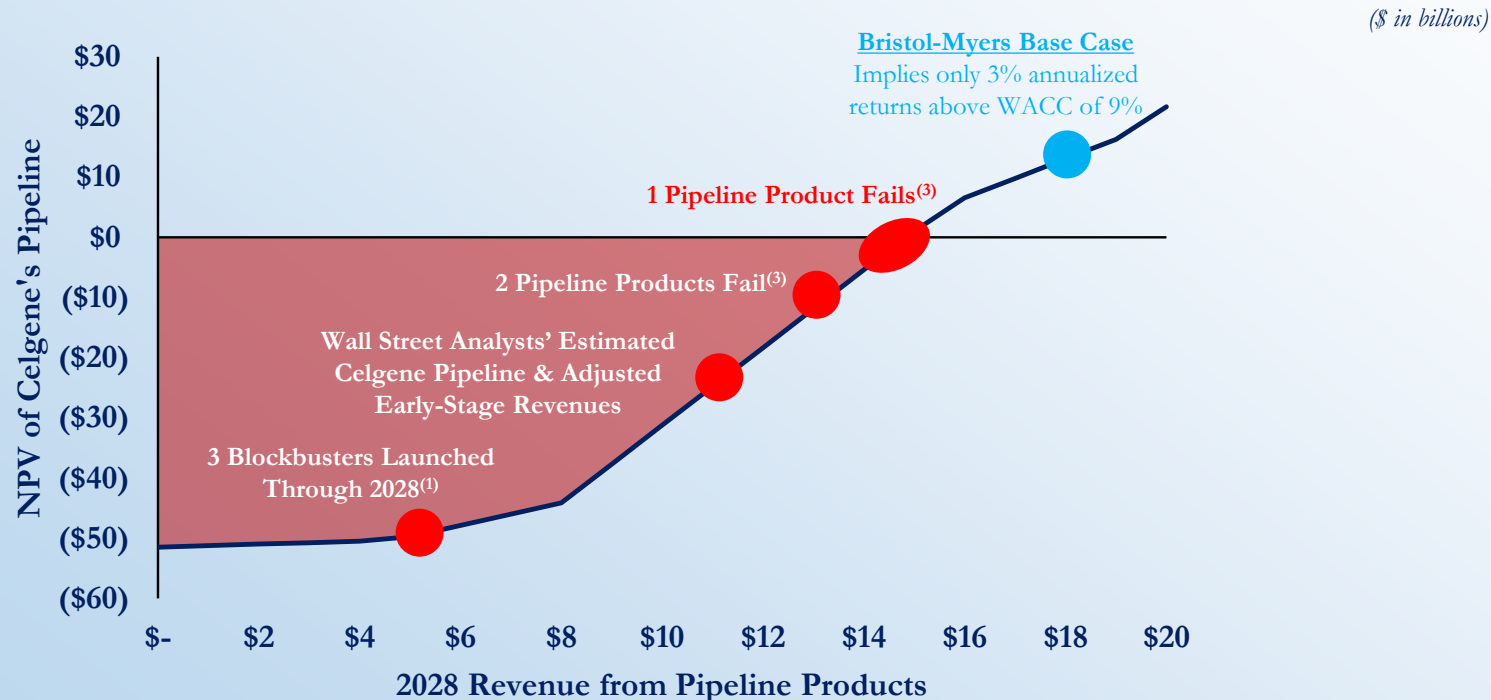


# In What We Believe Are More Likely Scenarios, This Deal Would Destroy Value

We estimate Bristol-Myers is paying ~\$30 billion for Celgene's pipeline products with an extremely thin margin for error – even if just one or two products fail to commercialize, Celgene's pipeline could destroy significant value for Bristol-Myers shareholders.

- If Celgene's pipeline commercializes only three blockbuster products, similar to the number it has commercialized over the last 15 years, \$46 billion of value could be destroyed.<sup>(1)</sup>

## Estimated NPV Value of Pipeline Products Including Synergies<sup>(2)</sup>



**A single Celgene pipeline product failure could result in value destruction for Bristol-Myers shareholders**

Source: Public company filings, Starboard estimates.

(1) Three blockbuster products are assumed to generate \$1.8 billion each in 2028.

(2) NPV is based on \$30 billion purchase price for Celgene's pipeline products. Assumes discount rate of 9.0% and terminal unlevered free cash flow multiple of 13.1x derived using Gordon Growth Method assuming 1.25% terminal growth – where terminal unlevered free cash flow is negative, we assume no terminal multiple. Financial projections derived based on S-4 filing.

(3) Assumes first product failure is ozanimod or luspatercept. High-end of 2028 Wall Street analysts' estimates for both exceed \$3.0 billion. Subsequent product failures are assumed to be \$1.8 billion each (i.e. \$18 billion / 10 products).



# The Deal Process Appears to Have Been Incredibly Rushed

**Bristol-Myers appears to have completed only 2 weeks of full due diligence on a complex pipeline of ~25 compounds.**

- While discussions between the two companies commenced in early September 2018, as the Company's S-4 filing states, this due diligence was merely based on "publicly available information."
- Further, while there is also a mention on November 16, 2018 of a "...request for limited due diligence relating to certain Celgene intellectual property..." we understand from speaking with Bristol-Myers management that this was primarily related to REVLIMID IP.
- Celgene has been rumored to be for sale for years and yet it had not been acquired prior to this proposed transaction. In addition, according to the S-4, the one other potential buyer that Celgene contacted during the process was not interested.
- It appears that Celgene was willing to allow a longer due diligence timeline, but Bristol-Myers rushed to announce the transaction.
  - In this situation, unlike a typical M&A process, it appears that the buyer forced a rushed process with limited due diligence, in order to complete the deal by an arbitrary deadline.

## Critical Celgene Deal Elements

Celgene Deal Value	REVLIMID Patent Cliff
\$91 Billion	63% of 2018 Revenue
# of Celgene Pipeline Products	Revenue Needed From Celgene Pipeline By 2028
~25	\$18 Billion

**HOW COULD  
2 WEEKS BE  
SUFFICIENT FOR  
FULL DUE  
DILIGENCE???**

**We believe Bristol-Myers chose to rush the process and could have engaged in more thorough due diligence**

# Management Is Asking Shareholders to Accept Substantial Risk

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**Shareholders must be comfortable and supportive of the true merits of the deal – not simply trust management’s lofty expectations – given the size of the deal and risks it poses.**

- Shareholders need to understand that they are investing in a transaction that values Celgene’s marketed products at \$55 billion.
  - We believe there is risk to this assumption due to the potential genericization of REVLIMID earlier than Bristol-Myers management expects.
- Shareholders also need to understand that Bristol-Myers is actually ascribing ~\$30 billion of value to the pipeline, not ~\$15 billion as is implied by the Company’s presentations.
- In order to generate ~\$30 billion of value from the pipeline, we must assume that the Celgene pipeline can generate, on average, 10 blockbuster products in 8 years, compared to 3 blockbusters in the past 15 years.
  - This level of success would be unprecedented and is exceedingly difficult to believe, especially since 3 of the pipeline products have already been delayed and 5 are yet to be identified.
- In what we believe are more likely scenarios, even including the Company hitting Wall Street analysts’ revenue estimates for the pipeline, this deal would destroy value.
- Additionally, the Celgene acquisition process was rushed – seemingly unnecessarily, given Celgene’s apparent willingness to allow for more time – due to Bristol-Myers management’s fixation with an arbitrary deadline to announce a deal.
- Together, all of this leads us to wonder why this deal was done...

**Shareholders must be absolutely certain before allowing management to bet the Company’s future on Celgene**

# Bristol-Myers Is Well-Positioned on a Standalone Basis to Continue Its Previously Successful “String of Pearls” Strategy

Bristol-Myers has a strong balance sheet and significant expected unlevered free cash flow generation potential, which will allow management to execute on a “String of Pearls” growth strategy.

2018 Net Cash for Bristol-Myers and Direct Peers<sup>(1)</sup>



Bristol-Myers Management Estimates for Unlevered FCF (S-4)<sup>(2)</sup>



Without taking on any debt or implementing any additional operational improvements, Bristol-Myers will have the ability to use ~\$37 billion of cumulative unlevered free cash flow over the next five years to execute a “String of Pearls” strategy (i.e. in-licenses, partnerships, small acquisitions)

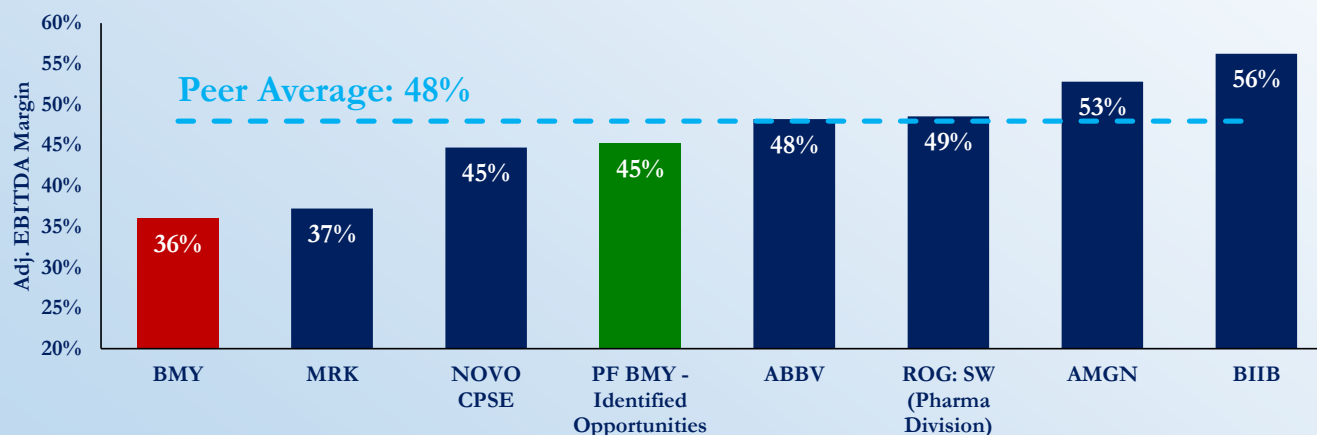
**Bristol-Myers is well positioned to continue growing on a standalone basis**

# There Is a Better Path Forward for Bristol-Myers as a Standalone Company

Based on our research, we believe that there is an opportunity to significantly improve the operations of a standalone Bristol-Myers.

- We believe a standalone Bristol-Myers would have a stable and growing revenue base, with room for significant operational improvements.
- Our research has identified opportunities to significantly improve standalone Bristol-Myers' profitability by reducing Cost of Goods Sold, Research & Development, and Selling, General, & Administrative expenses.
  - We have identified opportunities that we believe would improve margins by approximately 900bps.
  - Over a longer-term period, with a best-in-class management team and perfect information, we believe the opportunity exists to reach peer average margins and potentially further close the margin gap with Amgen.

2018 Adjusted EBITDA Margin for Bristol-Myers vs. Direct Biopharmaceutical Peers<sup>(1)</sup>



- A standalone Bristol-Myers will also be better positioned to continue the historically successful “String of Pearls” strategy.
- We do not believe this deal is in the best interests of shareholders and in what we believe are more likely scenarios, this deal will destroy value for Bristol-Myers shareholders.

**The proposed acquisition of Celgene is not in the best interests of shareholders**

Source: Public company filings, Starboard estimates.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

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## II. Overview of Bristol-Myers












# Overview of Bristol-Myers

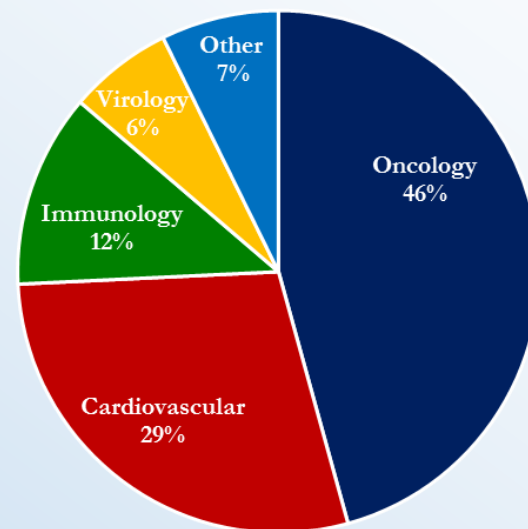
Bristol-Myers is a large, global pharmaceutical company with a strong presence in oncology.

- Among major pharmaceutical companies, Bristol-Myers is a leader in the large and growing immuno-oncology (“IO”) therapeutic category.
  - Immuno-oncology harnesses the body’s immune system to attack cancer cells and is likely on its way to displacing chemotherapy as the standard of care.

## Key Therapeutic Categories & Products

	2018 Revenue	Main Products
Oncology	\$10.3B	   
Cardiovascular	\$6.4B	
Immunology	\$2.7B	
Virology	\$1.5B	  

## 2018 Revenue by Therapeutic Category









Bristol-Myers is a market-leading pharmaceutical company

# Overview of Bristol-Myers (cont'd)

Bristol-Myers has brought numerous innovative therapies to market.

## Bristol-Myers Main Products

Product	Molecule	Therapeutic Category	2018 Revenue	'18 Rev. Growth	Description
 <b>OPDIVO™</b> (nivolumab)	<i>nivolumab</i>	Oncology	<b>\$6.7B</b>	36%	<ul style="list-style-type: none"> <li>• Biologic</li> <li>• Fully human monoclonal antibody that binds to the PD-1 on T and NKT cells</li> <li>• Has received approvals for several anti-cancer indications</li> </ul>
 <b>Eliquis®</b> (apixaban) tablets	<i>apixaban</i>	Cardiovascular	<b>\$6.4B</b>	32%	<ul style="list-style-type: none"> <li>• Small molecule</li> <li>• Oral Factor Xa inhibitor</li> <li>• Targeted at stroke prevention in adult patient with NVAf and the prevention and treatment of VTE disorders</li> </ul>
 <b>ORENCIA®</b> (abatacept)	<i>abatacept</i>	Immunology	<b>\$2.7B</b>	9%	<ul style="list-style-type: none"> <li>• Biologic</li> <li>• Fusion protein indicated for adult patients with moderate to severe RA and PSA &amp; reducing symptoms in certain pediatric patients with active polyarticular JIA</li> </ul>
 <b>SPRYCEL™</b> dasatinib ZONIVU tablets	<i>dasatinib</i>	Oncology	<b>\$2.0B</b>	0%	<ul style="list-style-type: none"> <li>• Small molecule</li> <li>• Oral inhibitor of multiple tyrosine kinase</li> <li>• Indicated for 1L of Philadelphia chromosome-positive CML in chronic phase</li> </ul>
 <b>YERVOY®</b> (ipilimumab)	<i>ipilimumab</i>	Oncology	<b>\$1.3B</b>	7%	<ul style="list-style-type: none"> <li>• Biologic</li> <li>• Monoclonal antibody that binds to CTLA-4</li> <li>• Treatment of patients with unresectable or metastatic melanoma</li> </ul>
 <b>Empliciti®</b> (elotuzumab)	<i>elotuzumab</i>	Oncology	<b>\$247M</b>	7%	<ul style="list-style-type: none"> <li>• Biologic</li> <li>• Humanized monoclonal antibody for the treatment of multiple myeloma</li> </ul>

Bristol-Myers has numerous market-leading therapies

# Overview of Bristol-Myers (cont'd)

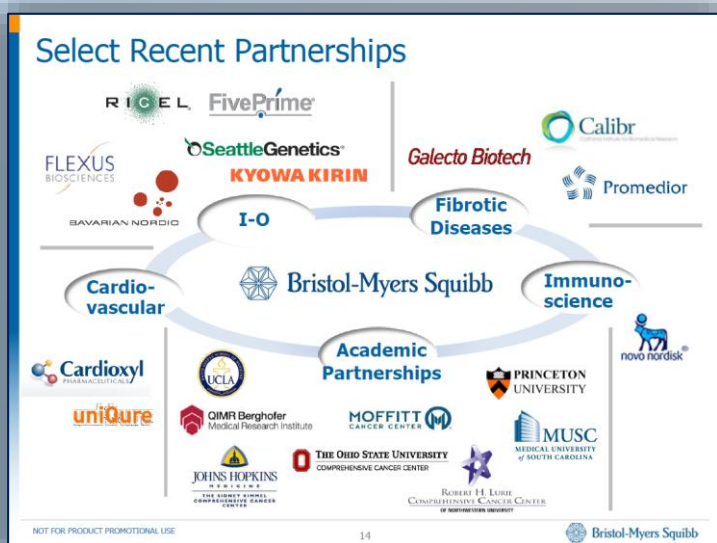
Historically, Bristol-Myers executed a “String of Pearls” strategy to build out its current portfolio of products.

“In the fourth quarter of 2007, [Bristol-Myers] announced its intent to transform into a next generation biopharma leader by implementing a strategy that is referred to as the “String of Pearls” initiative. Pursuant to this initiative, **[Bristol-Myers] is focused on entering into a series of transactions, including acquisitions, licensing agreements, joint ventures and other business arrangements, that are intended to enrich [Bristol-Myers]’ pipeline, technology, capabilities and talent.** Therefore, [Bristol-Myers] continues to look for opportunities to complement its internal capabilities with external innovation.

*Bristol-Myers Tender Offer Statement of Kosan Biosciences, May 2008*

Bristol-Myers’ Main Products Have Been Developed Through the Company’s “String of Pearls” Strategy

JP Morgan Healthcare Conference – January 2016



**OPDIVO**  
(nivolumab)

**Acquired** as part of \$2.3bn acquisition of Medarex in 2009, but studies not published until 2014

**Eliquis**

**Developed internally** through Phase III before receiving \$250mm from Pfizer in 2007 to co-develop and commercialize

**ORENCIA**  
(abatacept)

**Developed internally**

**Sprycel**  
dasatinib

**Developed internally**

**YERVOY**  
(ipilimumab)  
injection for intravenous use 5 mg/mL

**Partnered** with Medarex for \$25mm in 2004 before formally acquiring Medarex for \$2.3bn in 2009

**Empliciti**  
(elotuzumab)  
FOR INJECTION FOR INTRAVENOUS USE 100 mg/10 mL

**Partnered** with PDL BioPharma for \$30mm in 2008, with milestone and other payments up to \$1.15bn

**Comprises 86% of 2018 Revenue**

Bristol-Myers’ strategy of partnerships and smaller acquisitions elevated the Company to a market leadership position

# Overview of Bristol-Myers (cont'd)

Wall Street applauded this strategy and analysts fell in love with the Bristol-Myers story.

## Wall Street Analyst Commentary

“The company’s ‘**string of pearls**’ acquisition and partnering strategy are part of what has gained it a more favourable valuation than most of its peers.”

- Jefferies, January 2012

“Our DCF-based PO of \$58 indicates BMY can trade at roughly 34x our 2015E EPS of \$1.73, higher than BMY’s current 2014 multiple and at a significant premium to the US major pharma group average on 2014E, which we believe is warranted due to the potentially higher quality of BMY’s R&D pipeline relative to its peers.”

- Bank of America, October 2014

“We remain bullish on BMY ahead of these upcoming data releases as we see the overall opportunity for immuno-oncology (I-O) in general still being underappreciated by investors while the depth and breadth of BMY’s I-O portfolio leaves them as the clear leader in the space.”

- Credit Suisse, October 2014

“We view BMY as the leader in immuno-oncology...”

- Goldman Sachs, February 2014

“We believe BMY’s investments in therapeutic areas with significant unmet need **position it to become a leader in these areas and to deliver strong growth.**”

- Deutsche Bank, August 2014

“Overall, we continue to see Bristol as a leader in the PD-1 and broader I-O space both in terms of time-to-market and breadth of clinical program.”

- JP Morgan, December 2014

“The portfolio could give upside to another solid growth outlook for BMY and generate much news flow. A management team that has a solid track record of reshaping the business provides additional appeal to this powerful product story.”

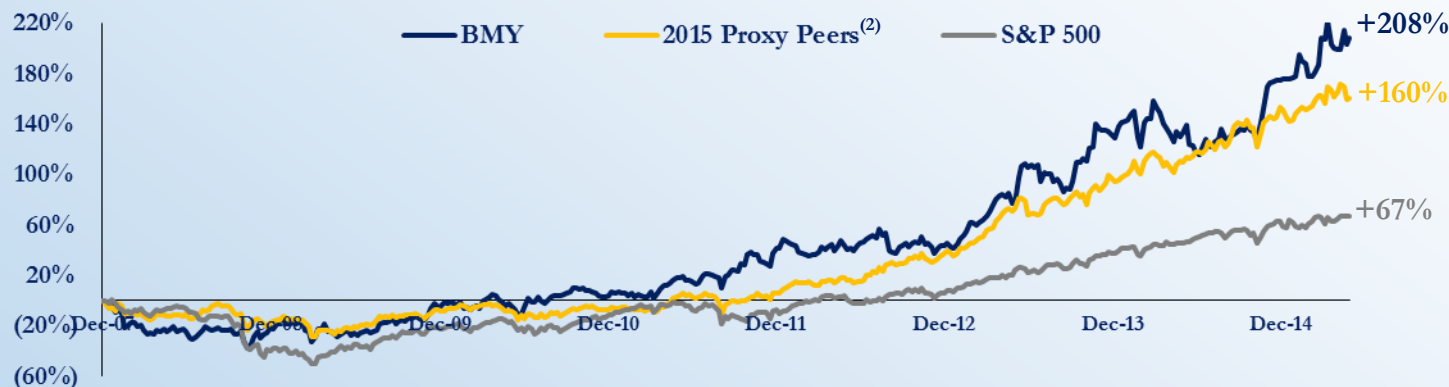
- Cowen, December 2014

Wall Street analysts were incredibly positive on the Bristol-Myers strategy, pipeline, and management team

# Overview of Bristol-Myers (cont'd)

Shareholders applauded this execution and the stock outperformed peers.

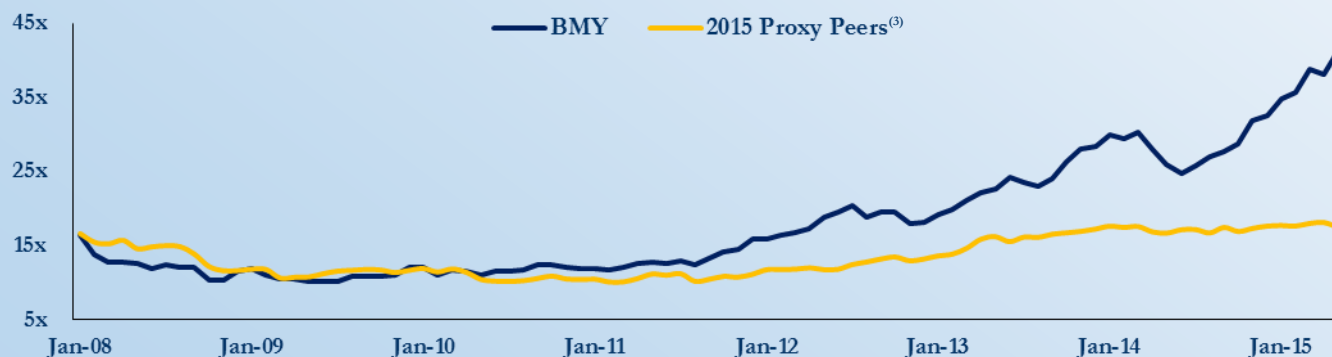
Bristol-Myers Share Price Performance Prior to Caforio Assuming CEO Role<sup>(1)</sup>



**48%  
Outperformance  
vs. Peers**

**141%  
Outperformance  
vs. S&P 500**

NTM Price / Earnings – Bristol-Myers vs. Peers<sup>(3)</sup>



Average P/E Multiple Premium vs. Peers <sup>(3)</sup>	
2008	(1.9x)
2009	(0.6x)
2010	0.9x
2011	2.4x
2012	5.9x
2013	7.7x
2014	11.3x
2015 (Jan 1 - May 4)	20.0x

Bristol-Myers stock was a strong performer as the Company executed its “String of Pearls” strategy

Source: CapitalIQ.

(1) Total returns for all periods include dividends; performance measured from December 5, 2007 (BMY Community Meeting explaining “String of Pearls” Strategy) to May 4, 2015 (closing price before Caforio began as CEO).

(2) Peers based on Bristol-Myers 2015 proxy peers and includes: ABBV, AMGN, LSE:AZN, BIIB, CELG, LLY, GILD, LSE:GSK, JNJ, MRK, SWX:NOVN, PFE, SWX:ROG, ENXTPA:SAN (only includes peers that were public during entire duration of time period).

(3) Peers based on Bristol-Myers 2015 proxy peers and includes: ABBV, AMGN, LSE:AZN, BIIB, CELG, LLY, GILD, LSE:GSK, JNJ, MRK, SWX:NOVN, PFE, SWX:ROG, ENXTPA:SAN.



# In 2015, Giovanni Caforio Became Bristol-Myers' CEO, Succeeding Lamberto Andreotti

Following years of success and share price outperformance, Bristol-Myers made a CEO change.

## Giovanni Caforio Biography



APPOINTED CEO OF  
BRISTOL-MYERS ON  
JANUARY 20, 2015  
EFFECTIVE MAY 5, 2015

- Dr. Caforio began his career in Medical Affairs at Abbott Laboratories
- He joined Bristol-Myers in 2000 as Vice President and General Manager, Italy

### *Previous Titles Held at Bristol-Myers*

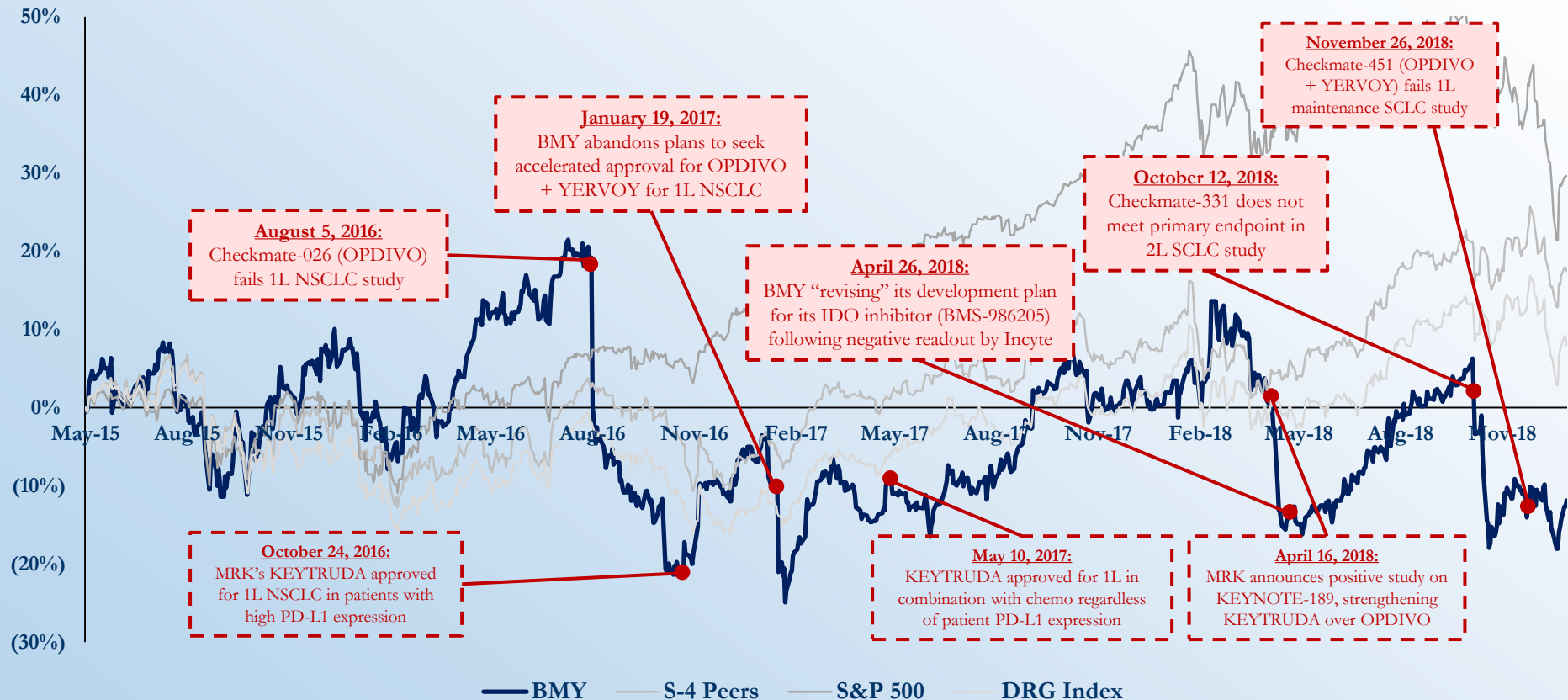
- 2004 – 2007: SVP, European Marketing and Brand Commercialization
- 2007 – 2009: SVP, US Oncology
- 2009 – 2010: SVP, Oncology, US and Global Commercialization
- 2010 – 2011: SVP, Global Commercialization and Immunology
- 2011 – 2013: President, US
- 2013 – 2014: EVP & Chief Commercial Officer
- 2014 – 2015: Chief Operating Officer

We believe investors were disappointed to see the CEO transition, as Andreotti helped transform the pharmaceutical company into an immunotherapy pioneer, but were hopeful for continued success

# Since That Time, Bristol-Myers Has Been Plagued by Numerous Clinical Trial Failures, Pipeline Setbacks, and Poor Execution

Since the beginning of Caforio's tenure as CEO, Bristol-Myers has stagnated, and shareholders have suffered.

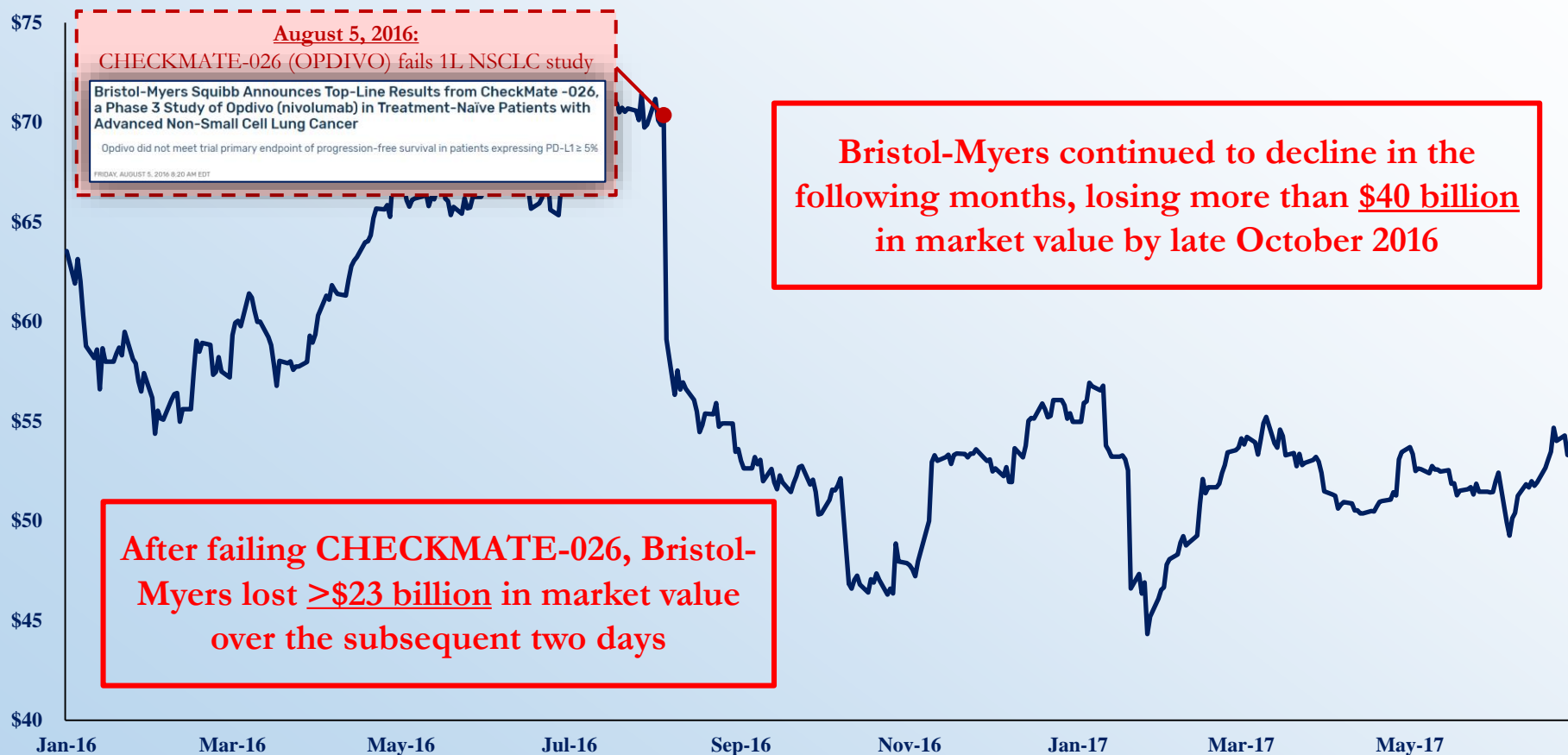
Bristol-Myers Developments Since Giovanni Caforio Became CEO on May 5, 2015



Management has not leveraged the Company's considerable assets to create shareholder value

# One of The Largest Failures During This Time Was CHECKMATE-026

The failure of CHECKMATE-026 triggered one of the largest market value destructions in recent pharmaceutical industry history.



Bristol-Myers lost significant market value in the days and weeks that followed the CHECKMATE-026 trial results

# Where Did CHECKMATE-026 Go Wrong?

**Bristol-Myers was considered the leader in immuno-oncology heading into CHECKMATE-026.**

- Immuno-oncology, or cancer therapies that harness the body's immune system to attack cancer cells, was considered the next significant opportunity in the pharmaceutical industry, with the potential to replace chemotherapy as the standard of care.
- One of the most promising IO treatments revolves around PD-1 “checkpoint inhibitors”. Essentially, the body's immune system has a braking mechanism, referred to as a “checkpoint”, to prevent immune system responses to self-markers. Without this checkpoint, autoimmune disease could flourish.
- One immune system checkpoint involves the interaction between two proteins: PD-1 and PD-L1.
  - PD-1 is a protein on the surface of immune system attack cells known as “T-Cells”.
  - PD-L1 is a protein on the surface of cancerous cells that binds with PD-1 and causes the immune system to stop attacking, allowing cancer to grow unchecked.
- **PD-1 checkpoint inhibitors, like OPDIVO and Merck's KEYTRUDA, block the interaction between PD-1 and PD-L1.**
- However, only a certain subset of cancer patients express any PD-L1.
  - ~25% of cancer patients have cancerous cells that exhibited a level of 50% PD-L1 expression.
    - A 50% PD-L1 expression level was widely considered to be “strong” and increased the likelihood that the cancer patient would react positively to PD-1 inhibitors.
  - Conversely, research suggested that mere PD-L1 positivity (e.g. 5% PD-L1 expression) alone was insufficiently predictive of a successful reaction to PD-1 inhibitors.
- While Bristol-Myers took an early lead in the race to bring PD-1 inhibitors to market with its 2014 approval of OPDIVO in Japan for the treatment of melanoma (skin cancer), the lead was short-lived, as Merck received an earlier than expected first US FDA approval of KEYTRUDA for the treatment of melanoma later in 2014.

**The level of PD-L1 expression would be a key focus when analyzing CHECKMATE-026**

# Where Did CHECKMATE-026 Go Wrong? (cont'd)

We believe Bristol-Myers took a major gamble by designing the CHECKMATE-026 trial to target patients regardless of their cancer's level of PD-L1 expression. This backfired enormously.

- Bristol-Myers and Merck began pursuit of approval within the lung cancer market – seen as immuno-therapies most lucrative opportunity.
  - Non-small cell lung cancer (“NSCLC”) is estimated to be 85% of the \$16 billion lung cancer market.



## CHECKMATE-026

- Bristol-Myers designed its trial to target patients regardless of their cancer's level of PD-L1 expression in hopes of receiving first-mover advantage.
  - This was a gamble that Bristol-Myers hoped would result in a superior label for OPDIVO over its competitors, if successful.
- In reality, Bristol-Myers' gamble added considerable risks to CHECKMATE-026 and threatened the Company's ability to achieve any FDA approval at all for the use of OPDIVO to treat NSCLC as a first-line alternative to chemotherapy.
- This gamble resulted in **COMPLETE FAILURE**, and **CHECKMATE-026 failed its first-line NSCLC study**.

“This data represented a worst-case scenario for Opdivo.”

- Sanford Bernstein, October 2016



## KEYNOTE-189

- Merck's trial (KEYNOTE-189) only enrolled patients if they were shown to have high levels (i.e. 50% expression) of PD-L1, increasing the likelihood that the patients would react positively to the PD-1 inhibitor.
- KEYTRUDA's KEYNOTE-189 halved the risk of disease progression in previously untreated patients, and cut overall deaths by 40% compared to chemotherapy.
- The FDA approved KEYTRUDA in first-line lung cancer patients with high PD-L1 expression.

“Keytruda will be the new standard of care in first line lung.”

- Bank of America, October 2016

“...Sets Stage for Merck to Dominate NSCLC Market.”

- Credit Suisse, October 2016

**Merck has gone on to gain additional approvals for KEYTRUDA in first-line NSCLC, while Bristol-Myers has continued to struggle, and shareholders are still waiting for OPDIVO to break into first-line NSCLC**



# We Believe This Failure Was a Direct Result of Poor Trial Design

As Wall Street analysts and investors searched for answers, they began to severely question the clinical trial's design.

## Wall Street Analyst Commentary

"Checkmate-026 failure highly surprising represents setback in largest segment of the I/O market...We are disappointed and highly surprised by the outcome and see the failure as largely driven by the study's broad design..."

*JP Morgan, August 2016*

"This is a MAJOR SURPRISE – possibly the biggest clinical surprise of my career...our only lead is the much-broader patient population in BMY's trial: their high-expressor cutoff was 5% PD-L1 expression, a much lower bar than MRK's 50%."

*Evercore ISI, August 2016*

"...we held a conference call with a leading IO/lung cancer expert..."

[Physician Expert] – "Not surprised CM-026 failed given the 5% PD-L1 threshold...unlikely that other factors played a role. PD-L1 expression level was the key difference. Opdivo and Keytruda are therapeutically equivalent."

*Cowen, August 2016*

"...completely puzzled by Bristol's decision to evaluate...at a threshold this low, particularly given that the trial description indicated patients would be strongly expressing PD-L1...[BMO] and probably most of the market, thought the threshold was at least 10%, and therefore expected that the trial had a reasonably high probability of success...suspect that the reason the trial failed is that the PD-1 threshold of at least 5% was too low."

*BMO Capital Markets, August 2016*

## Media Commentary

### ***Bristol-Myers Squibb's Hubris Cost It \$21 Billion***

"Bristol-Myers Squibb has suffered a \$21 billion self-inflicted wound.

The amount is the value that investors wiped off the pharmaceutical company on Friday morning after its trial to greatly broaden the use of one of its most promising cancer drugs failed. It was an unnecessarily risky move for Bristol, whose immunotherapy has been outselling Merck's. The stumble will allow its more cautious rival to clean up."

*New York Times, August 2016*

"Bristol-Myers went for a broader patient population, potentially winning a bigger market but increasing its risk of failure."

*Investor's Business Daily, August 2016*

Wall Street analysts and investors were highly disappointed by the trial results presented by Bristol-Myers in CHECKMATE-026

# The Company Even Admitted as Much

Members of Bristol-Myers' management team admitted that the Company did not focus on tumors exhibiting a strong expression of PD-L1, a surprising acknowledgment of trial design error.

Credit Suisse Healthcare Conference – November 2016

“Obviously, the study was not designed to look at the smaller subgroup of highly inflamed tumor or high expression of PD-L1. **Basically, that's the reason we are having a study that did not meet its primary endpoint.**”

*Fouad Namouni, Oncology Development Head at Bristol-Myers*

Bristol-Myers subsequently admitted that the reason for the CHECKMATE-026 failure was due to trial design

# CHECKMATE-026 Was Followed by Several Other High-Profile Failures and Delays

CHECKMATE-026 was the beginning of a string of successive clinical trial failures that damaged management's credibility and destroyed significant shareholder value.

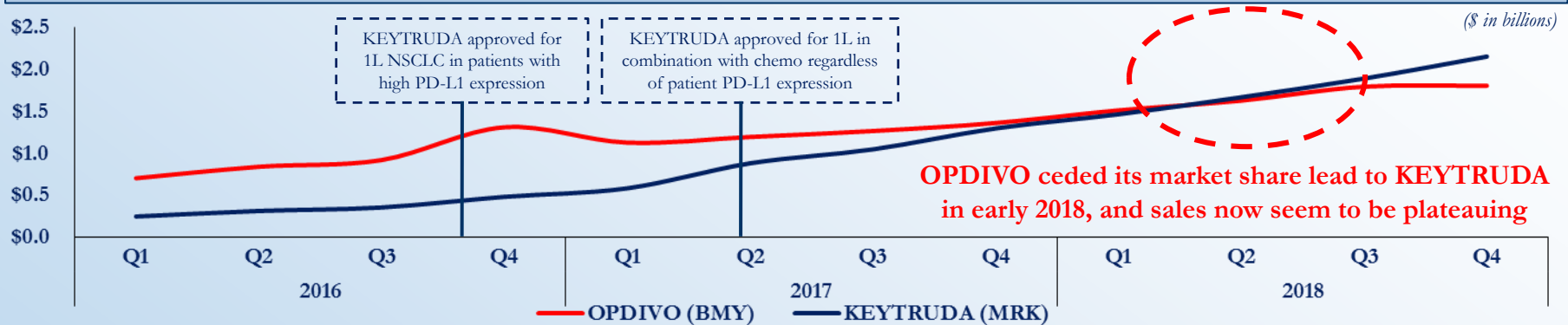
Clinical Trial	Date	Description of Event	Wall Street Analyst Reaction
CHECKMATE - 227	January 19, 2017	BMJ <u>abandoned plans to seek accelerated approval for OPDIVO + YERVOY for 1L NSCLC</u>	<ul style="list-style-type: none"> <li>1-Day Stock Price Reaction: (11.3%)</li> <li>"...we see this update as disappointing, particularly given the FDA's acceptance of Merck's sBLA for the Keytruda/chemo combo..." - JP Morgan</li> <li>"A Perplexing Disappointment" – Morgan Stanley</li> </ul>
CHECKMATE-214	August 15, 2017	OPDIVO+YERVOY vs. sunitinib in 1L RCC hit on ORR but <u>missed on more important PFS endpoint</u>	<ul style="list-style-type: none"> <li>"We think investors will likely be disappointed...management had pointed to this study as something to look forward to..." – UBS</li> <li>"If you're looking for certainty in immuno-oncology, Bristol-Myers Squibb's latest trial data won't help." – FiercePharma</li> </ul>
CHECKMATE-331	October 12, 2018	OPDIVO monotherapy vs. chemotherapy in 2L SCLC <u>failed to meet primary endpoint</u>	<ul style="list-style-type: none"> <li>"There is no denying that this is a disappointing outcome." – Evercore ISI</li> </ul>
CHECKMATE-451	November 26, 2018	OPDIVO+YERVOY in 1L Maintenance SCLC <u>failed to meet primary endpoint</u>	<ul style="list-style-type: none"> <li>"BMJ: another lung trial fails – SCLC indication can get pulled"- Evercore ISI</li> <li>"Bristol-Myers cancer efforts aren't in good shape." – Bloomberg Intelligence</li> <li>"This marks the second Phase III failure in 2L SCLC in 2 months. BMJ SCLC market share is at risk...The failure of CM-451 is a significant miss for BMJ." - Cowen</li> </ul>

Management has not provided adequate responses for its failures, leaving Wall Street analysts and investors confused

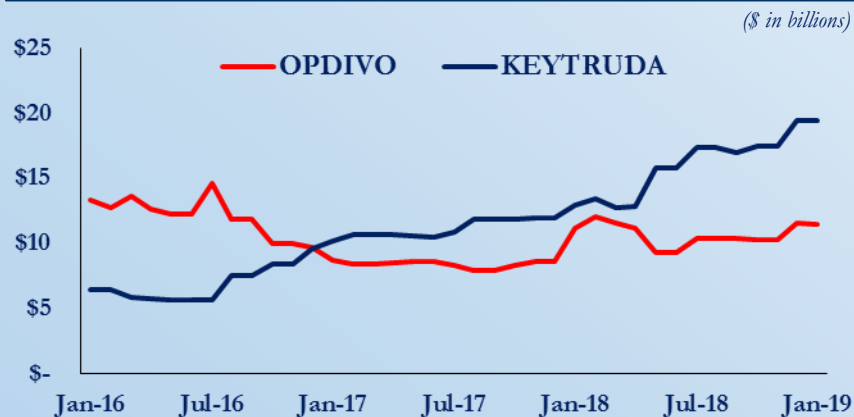
# Multiple Setbacks Have Resulted in OPDIVO Ceding Its Market Leadership Position to KEYTRUDA

In 2016, Wall Street analysts projected OPDIVO to be a significantly larger drug than KEYTRUDA, but unfortunately that prospect has now reversed.

Revenue by Quarter for OPDIVO vs. KEYTRUDA



2024 Consensus Revenue Est. Over Time – OPDIVO vs. KEYTRUDA



“Opdivo had been considered the leader among the new class of medicines...The view of the rival drugs began to change in August, with the surprise announcement by Bristol-Myers that Opdivo had failed to best older chemotherapies in the Phase III [CHECKMATE-026] trial....”

The Opdivo trial enrolled patients regardless of their tumor’s level of PD-L1 expression, a protein targeted by the drug whose presence may help identify those most likely to benefit from treatment with the new medicines. Meanwhile, researchers reported that Keytruda halved the risk of disease progression in previously untreated patients, and cut overall deaths by 40 percent compared to chemotherapy. Patients in the Merck trial were only enrolled if they were shown to have high levels of PD-L1, a narrower segment of the lung cancer population than those in the Bristol-Myers study.

‘Merck will completely ‘own’ the segment of first-line lung cancer patients who have high PD-L1 expression levels, and Bristol-Myers will capture nothing really,’ [Sanford Bernstein’s Tim] Anderson said.”

Renters, October 2016

Bristol-Myers has ceded significant market share to rival Merck

# However, OPDIVO Remains a Stable and Growing Franchise With a Strong Market Leadership Position

OPDIVO is a market leader in immuno-oncology; however, we believe the tremendous franchise has been poorly managed.

## Bristol-Myers Transaction Update – March 6, 2019

### Despite Competitive Intensity, BMS Continues to Lead in Key Tumors where Opdivo is Approved

6 Approved PD(L)Is with a Combined  
43 Indications Across 14 Tumors In ~ 4 years

U.S. Approval	Commercialization	Product
Sep. 2014	MERCK	KEYTRUDA
Dec. 2014	Bristol-Myers Squibb	OPDIVO
May. 2016	Genentech	TECENTRIQ
Mar. 2017	Pfizer MERCK	BAVENCIO
May. 2017	AstraZeneca	IMFINZI
Sep. 2018	REGENERON SANOFI	UMITAYO

#### Ongoing Competitive Execution Strategy:

- Develop launch-like plans to key competitive events
- Leverage analytical capability to quickly assess and pivot in market
- Discipline to stay focused where we are playing

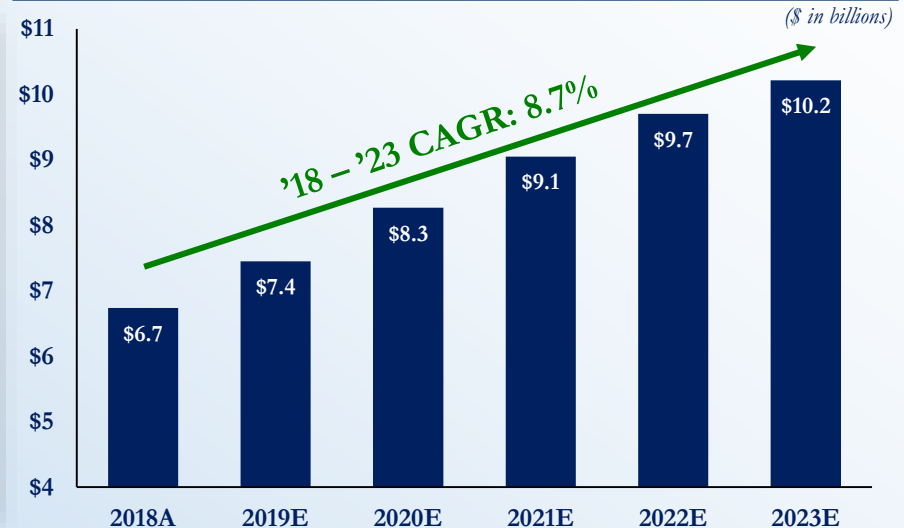
#### BMS I-O Leadership Across Key Tumors

BMS I-O share includes Opdivo and Yervoy share in combination and/or monotherapy

LUNG	<ul style="list-style-type: none"> <li>• 2L Leadership with 28% BMS I-O share</li> <li>• 3L+ SCLC Leadership with 68% BMS I-O share</li> </ul>
MELANOMA	<ul style="list-style-type: none"> <li>• 1L Leadership with 60% BMS I-O share</li> <li>• Adjuvant Leadership with 77% BMS I-O share</li> </ul>
RENAL CELL CARCINOMA	<ul style="list-style-type: none"> <li>• 1L Leadership with 44% BMS I-O share</li> <li>• 2L Leadership with 52% BMS I-O share</li> </ul>
HEAD & NECK	<ul style="list-style-type: none"> <li>• Post platinum 18% BMS I-O share</li> </ul>
2L HEPATOCELLULAR CARCINOMA	<ul style="list-style-type: none"> <li>• 2L Leadership with 57% BMS I-O share</li> </ul>

Bristol-Myers Squibb

## Wall Street Consensus - OPDIVO Sales Estimates



“...BMY is still a formidable player in IO given Opdivo’s strong position in several tumors.”

*Cowen, January 2019*

“...we see the market’s current outlook for Opdivo as overly bearish given the size of the PD-1 market...”

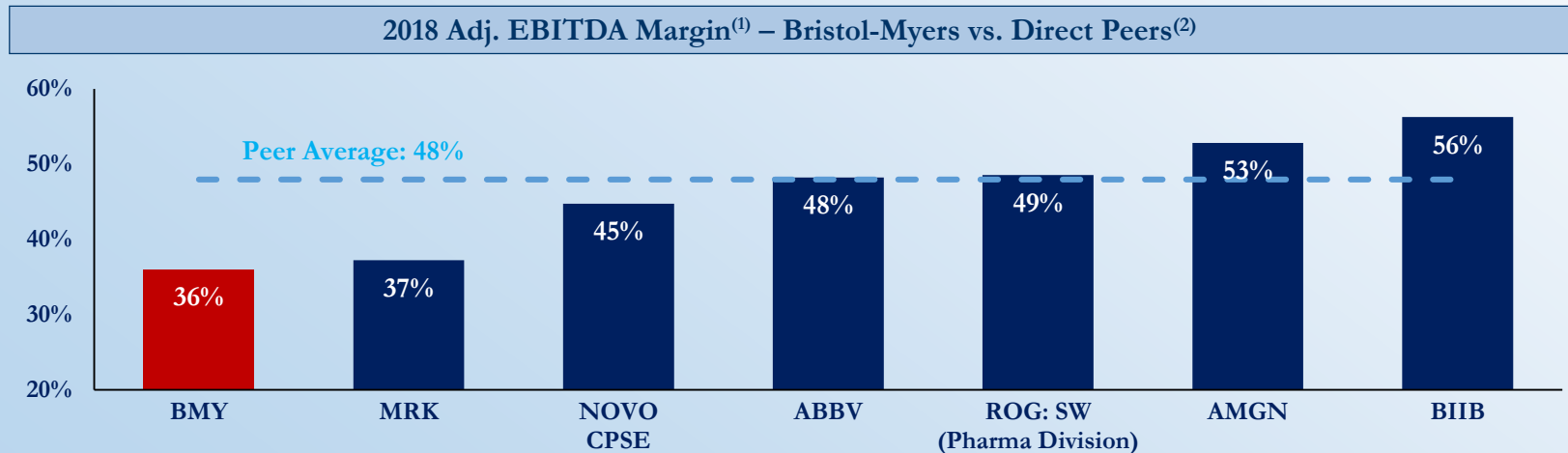
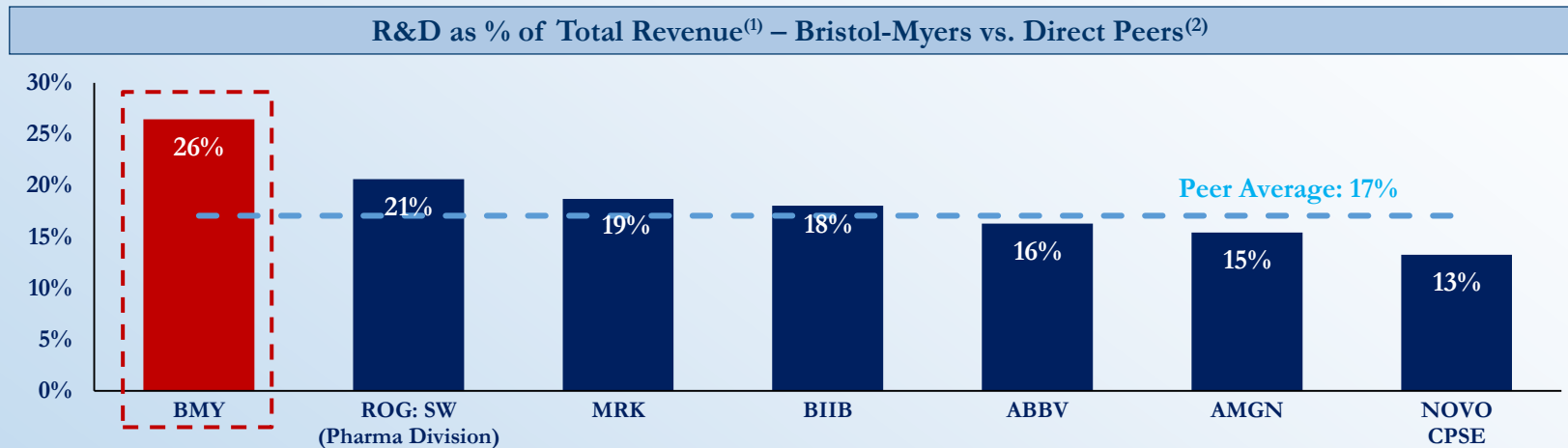
*JP Morgan, December 2018*

We believe OPDIVO remains a highly valuable franchise in a segment with strong secular tailwinds



# Financial Performance Remains Poor with Elevated R&D Spending and Margins Well Below Peers

Bristol-Myers has spent significantly more on R&D than Direct Peers as a percentage of revenue, resulting in substantially lower profitability than these peers.



**Bristol-Myers profitability significantly lags that of its peers**

Source: Public company filings, CapitalIQ, Starboard estimates.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of ELIQUIS revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

(2) Starboard selected Direct Peers include: ABBV, AMGN, BIIB, MRK, CPSE:NOVO.B, SWX:ROG.

# The Poor Execution Has Resulted in Severe Share Price Underperformance

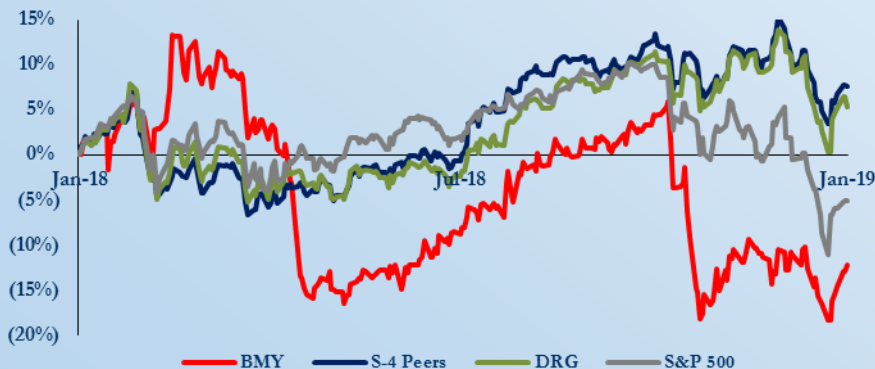
Bristol-Myers shares have underperformed their peers over a 1-year and 3-year basis, as well as during the entire tenure of CEO Caforio's leadership.

## Summary Returns

### Total Shareholder Return <sup>(1)</sup>

	1 Year	3 Year	Caforio Tenure as CEO <sup>(4)</sup>
S&P 500 Index	(5.1%)	30.6%	29.6%
NYSE Arca Pharmaceutical Index (DRG)	5.3%	13.6%	8.0%
S-4 Selected Peer Group <sup>(2)</sup>	7.6%	18.6%	17.5%
Direct Peer Group <sup>(3)</sup>	5.3%	23.6%	18.0%
<b>Bristol-Myers Squibb</b>	<b>(12.2%)</b>	<b>(18.1%)</b>	<b>(11.9%)</b>
Underperformance vs. S&P 500	(7.1%)	(48.7%)	(41.5%)
Over/(Underperformance) vs. DRG	(17.5%)	(31.8%)	(19.9%)
Over/(Underperformance) vs. S-4 Selected Peer Group	(19.7%)	(36.7%)	(29.4%)
Over/(Underperformance) vs. Direct Peer Group	(17.4%)	(41.8%)	(29.9%)

## One-Year Stock Price Chart



## Stock Price Chart since Caforio CEO <sup>(4)</sup>



## Three-Year Stock Price Chart



**Bristol-Myers has significantly underperformed its peers during Caforio's leadership**

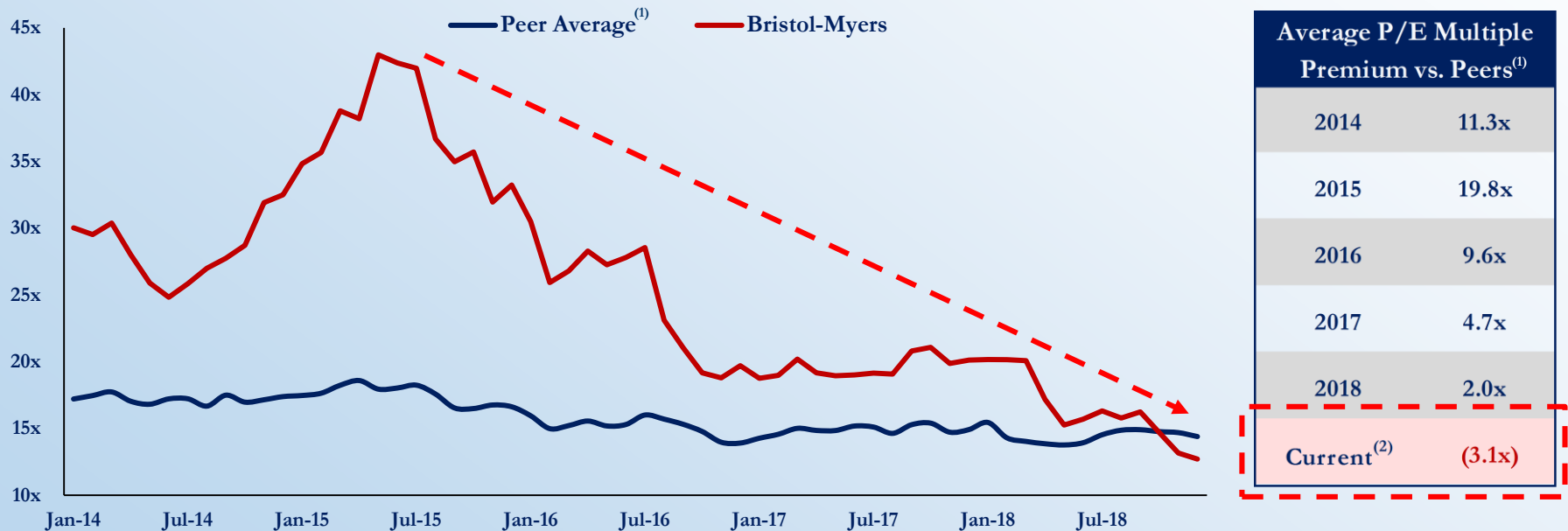
Source: CapitalIQ.

(1) Total returns for all periods include dividends; performance measured as of January 2, 2019 (closing price before announcement of Celgene merger). (2) Peers based on Bristol-Myers S-4 selected publicly traded companies and includes: ABBV, AGN, AMGN, LSE:AZN, BIIB, LLY, GILD, LSE:GSK, JNJ, MRK, SWX:NOVN, CPSE:NOVO.B, PFE, SWX:ROG, ENXTPA:SAN. (3) Starboard selected Direct Peers include: ABBV, AMGN, BIIB, MRK, CPSE:NOVO.B, SWX:ROG. (4) As of May 5, 2015 (day Caforio took over as CEO).

# Bristol-Myers' Poor Execution Has Resulted in The Company Trading at Its Lowest P/E Multiple in Years

Bristol-Myers' P/E ratio was near its 5-year peak when Caforio took over as CEO. Since then, the Company's P/E ratio has collapsed, and now, for the first time in recent memory, Bristol-Myers trades at a discount to its peers.

Historical NTM Price / Earnings – Bristol-Myers vs. Peers<sup>(1)</sup>

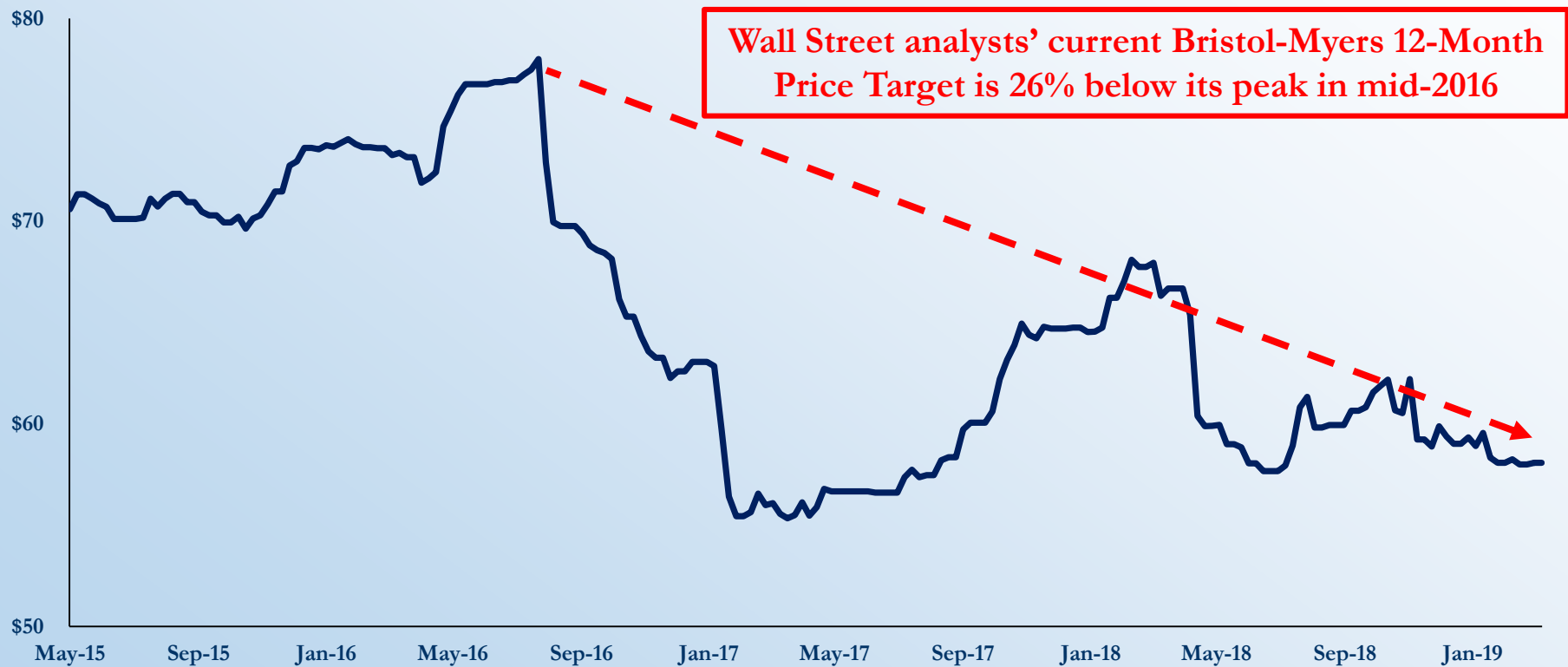


**Bristol-Myers' P/E ratio is now at its lowest level in years and below its peer group**

# Wall Street Analysts' Forward Price Targets for Bristol-Myers Have Decreased Significantly Over the Past Few Years

Wall Street analysts now target a significantly lower Bristol-Myers stock price than they did at the beginning of CEO Caforio's tenure.





Wall Street Analysts' Average Bristol-Myers Price Target



We believe investor sentiment on Bristol-Myers has completely reversed

# Now, This Team - With This Track Record - Is Attempting to Execute One of the Largest Pharmaceutical Deals in History

Bristol-Myers' \$91 billion acquisition of Celgene would be one of the largest transactions in pharmaceutical industry history.



Largest Pharmaceutical Transactions in History			
Target	Acquirer	Year Announced	Transaction Value <sup>(1)</sup>
	 Bristol-Myers Squibb	2019	\$91 Billion
		1999	\$87 Billion
		2018	\$81 Billion
	 SANOFI	2004	\$73 Billion
	GlaxoWellcome	2000	\$72 Billion
 ALLERGAN		2014	\$65 Billion

Bristol-Myers' proposed acquisition of Celgene carries substantial risk



# The Largest Pharmaceutical Deals Have Not Gone Well

On average, value has been destroyed in each of the five previous largest pharmaceutical deals on an absolute basis in the five years following the completion of each respective deal.

Largest Pharmaceutical Transactions in History				
Target	Acquirer	Year Announced	Transaction Value <sup>(1)</sup>	Stock Price Performance <sup>(2)</sup> – 5 Years Post Acquisition Close
		2019	\$91 Billion	???
		2018	\$81 Billion	N/A (10 weeks since close)
		2014	\$65 Billion	(49%)* *Performance to date: 4 years since close
		2004	\$73 Billion	(6%)
		2000	\$72 Billion	(10%)
		1999	\$87 Billion	(32%)

Significantly more successful teams have struggled to integrate and create value with large deals

Source: Public company filings, CapitalIQ, Bloomberg.

(1) Represents transaction value at announcement or at time of amendment to final terms.

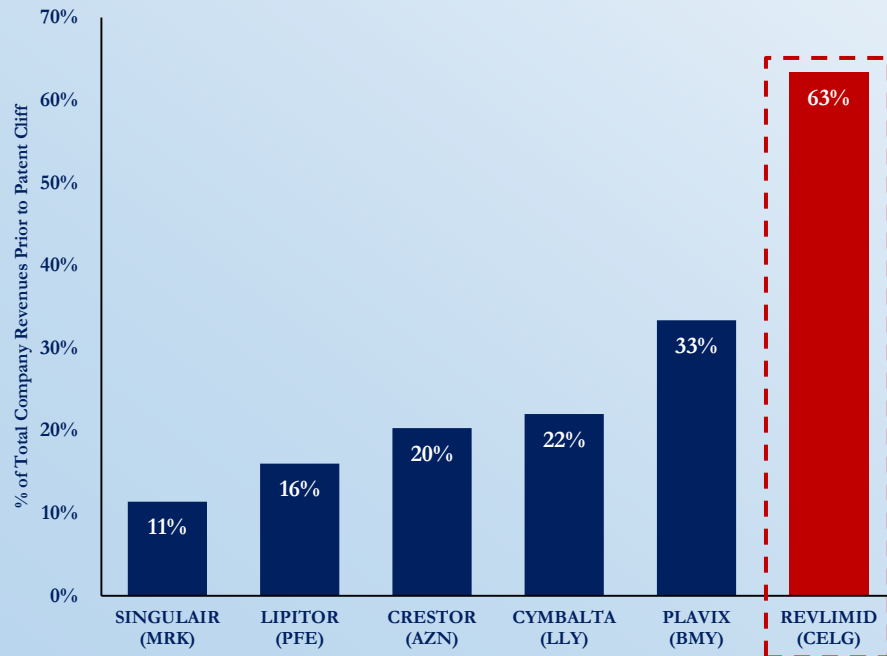
(2) Total return for all periods includes dividends.

# Bristol-Myers is Buying One of the Largest Patent Cliffs in History

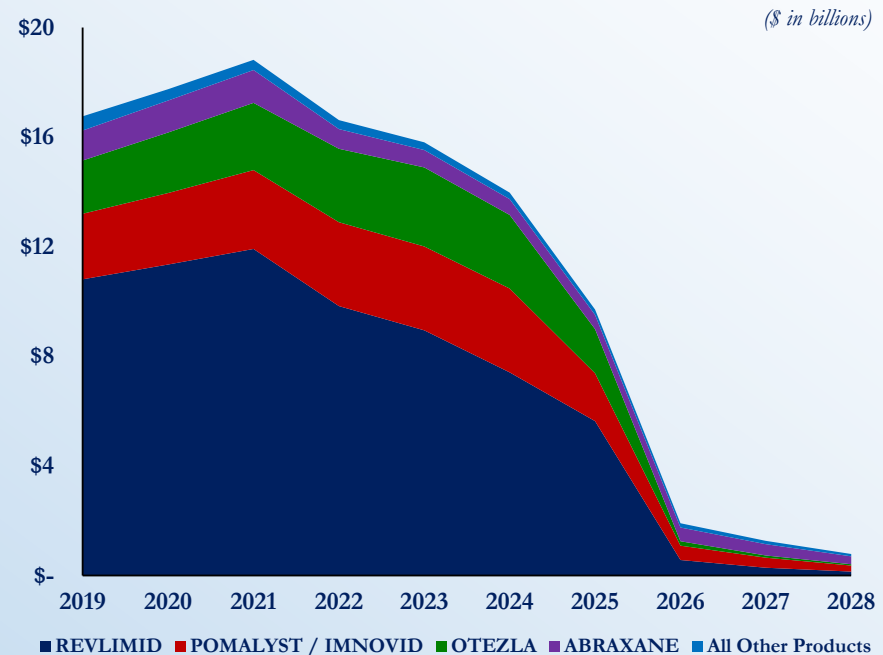
Bristol-Myers is knowingly acquiring a massive small molecule patent cliff, which is, to our knowledge, unprecedented.

- REVLIMID is among the largest patent cliffs in pharmaceutical industry history, which alone will require Celgene to replace over 60% of its total revenue in the next 7 years.
- When including Celgene's other marketed products, Bristol-Myers will be forced to rebuild Celgene's entire current revenue base from its pipeline over the next decade, as essentially all of Celgene's marketed products lose patent protection over this timeframe.

Select Blockbuster Drugs –  
% Revenue Contribution Prior to Loss-of-Exclusivity<sup>(1)</sup>



Wall Street Estimates for Celgene's Marketed Products Revenues

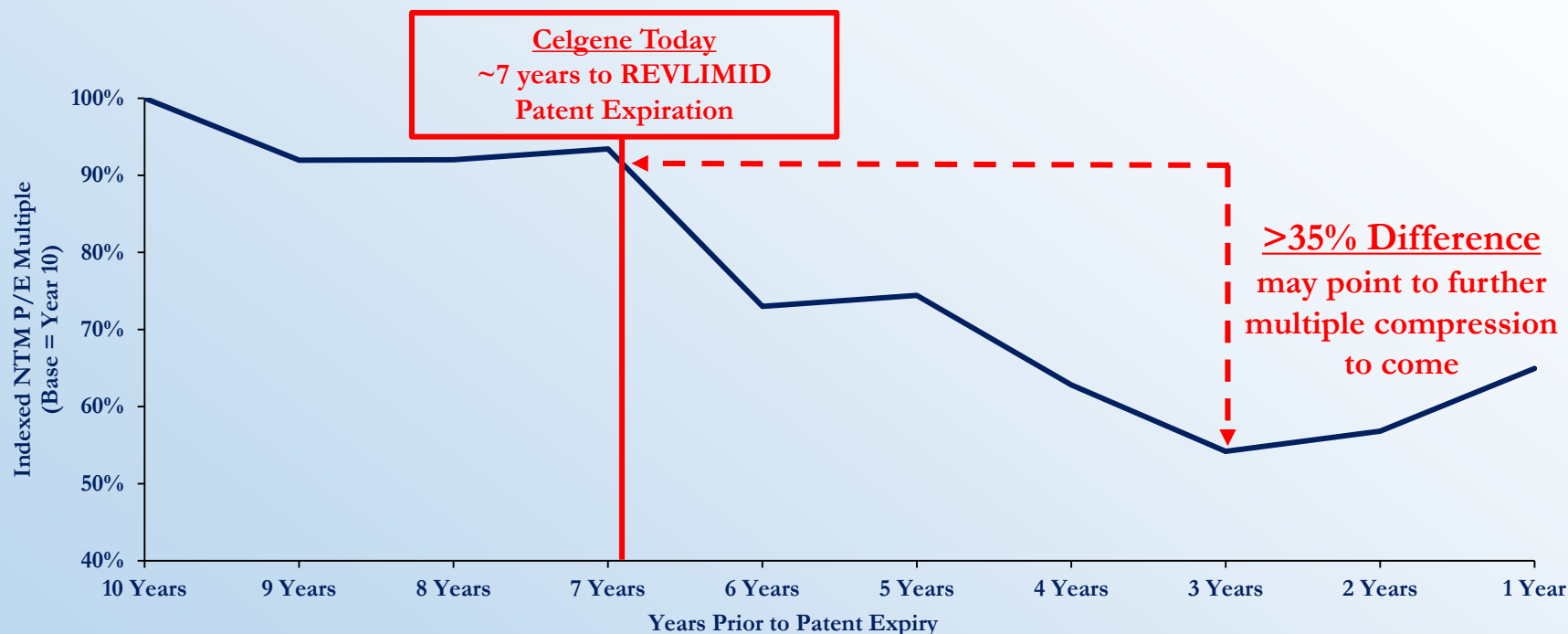


Bristol-Myers is knowingly acquiring one of the largest patent cliffs in the history of the pharmaceutical industry

# Bristol-Myers Is Buying Celgene's Patent Cliff Before a Likely Significant Valuation Decline

The valuation of pharmaceutical companies has historically declined significantly as patent expiry, and the associated risk of substantial revenue decline, draws closer.

NTM P/E Multiple Leading to Patent Expiration – Select Peer Average<sup>(1)</sup>



“When faced with a patent slope/cliff, our biopharma comps group has historically traded at a multiple range of roughly ~6x-9x going into a patent expiry period.”

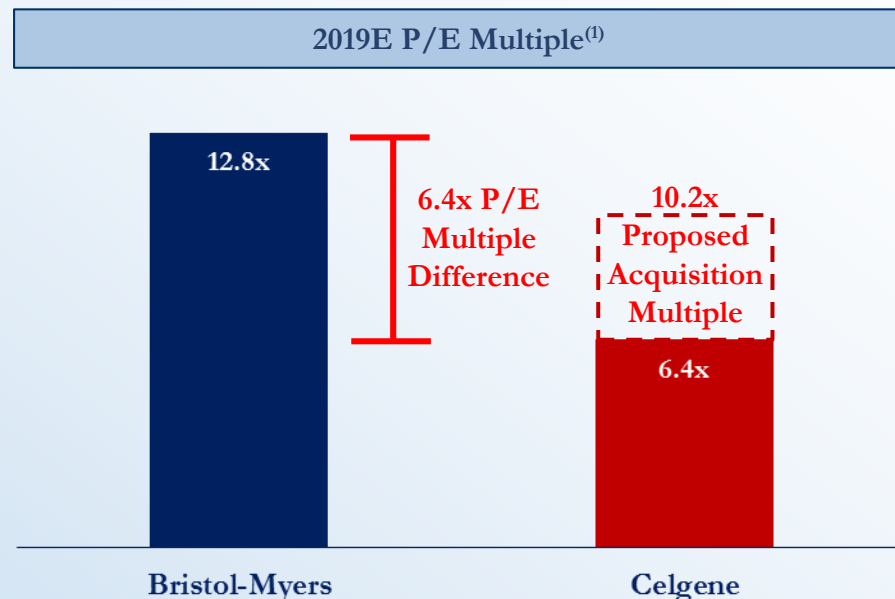
- UBS, February 2019

The Celgene patent cliff and likely valuation decline bodes poorly for Bristol-Myers shareholders

# We Believe Celgene's Patent Cliff Will Adversely Impact the Combined Company's Valuation

The combined company will likely trade at a lower multiple than standalone Bristol-Myers, given the impending REVLIMID patent cliff.

- As shown on the previous slide, companies with impending patent cliffs typically trade at lower multiples.
- As such, prior to the deal, Bristol-Myers traded at a higher P/E multiple than Celgene.
- However, it is important to note that the combined company will also be facing a significant patent cliff, and as such, pro forma Bristol-Myers would likely trade at a lower multiple than standalone Bristol-Myers.
- Shareholders must be aware of this fact and factor in the potential value destruction from multiple contraction that will likely result from this deal.
- Management describes how they purchased Celgene for a bargain; however, we believe there is significant risk to Celgene's earnings as the loss of REVLIMID's patent exclusivity draws near. We believe this will manifest itself in a significantly lower multiple for the combined company.









Historical precedent suggests that Celgene's P/E multiple will continue to contract as the loss of REVLIMID's patent exclusivity draws near

Given that Celgene's REVLIMID has one of the largest small molecule patent cliffs in history, we believe that the resulting multiple compression may potentially be worse than precedent would suggest

# Relying on an Unproven Pipeline Adds Incredible Risk and May Force Additional Large Acquisitions

If Celgene's pipeline does not pan out, Bristol-Myers may be forced to do another large transaction in the future, adding even more risk for shareholders.

- In the past, companies facing patent cliffs have made large acquisitions to diversify their portfolios.

Company	Patent Cliff	Acquisition	Announcement Date	Details
	 <i>26% of 2008 Revenue</i>	 <b>\$64 Billion</b>	<b>January 2009</b> <i>~3 Years Prior to LOE</i>	<p>“As you can see, the combination of Pfizer and Wyeth <u>clearly addresses the revenue decline resulting from the loss of exclusivity of both Lipitor and Effexor.</u>”</p> <p>- Frank D'Amelio, SVP &amp; CFO of Pfizer Wyeth Merger Call, January 2009</p>
	 <i>18% of 2008 Revenue</i>	 <b>\$47 Billion</b>	<b>March 2009</b> <i>~3.5 Years Prior to LOE</i>	<p>“...the Schering portfolio is composed of products that have considerably long market exclusivity in the future; and as you know, <u>Merck faces patent cliffs with respect to certain molecules, including Singulair and 2012, so this is a nice complement...</u>”</p> <p>- Ken Frazier, Global Human Health President at Merck Barclays Healthcare Conference, March 2009</p>

**Bristol-Myers may be forced to make another large acquisition in order to mitigate the impact of the patent cliff**

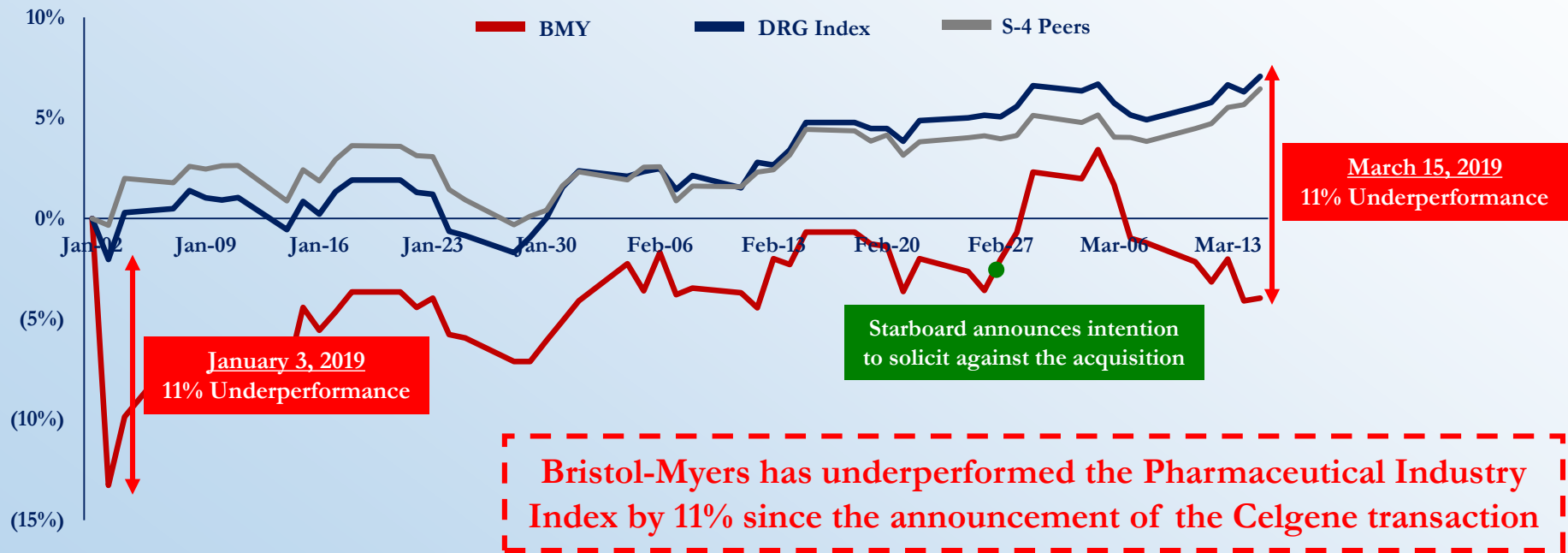


# Bristol-Myers Shares Have Underperformed Significantly Since the Merger Was Announced

Wall Street analysts and shareholders alike were surprised and skeptical of Bristol-Myers' announcement to acquire Celgene, as shown by the 13% decline in the Company's stock price on the day of the announcement.

- Despite management's claims that investors are getting more comfortable with the Celgene acquisition, the performance in Bristol-Myers' stock price says otherwise.

Share Price Performance Since Celgene Acquisition Announcement<sup>(1)</sup>



Despite Bristol-Myers management incessantly lobbying its shareholders that the proposed acquisition of Celgene is the right deal for the Company, shareholders do not seem convinced

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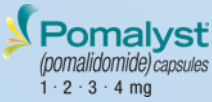


## III. Overview Of Celgene

# Overview of Celgene

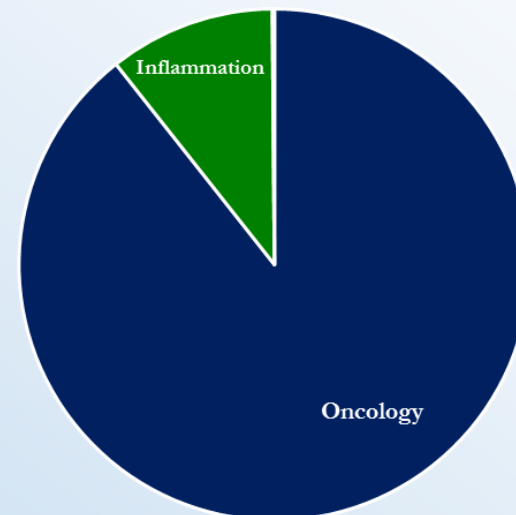
Celgene is a large pharmaceutical company with a focus on hematology (i.e. liquid tumors).

- Celgene's small molecule products focus on several therapeutic categories: hematology, oncology, and inflammatory disorders.
  - Hematology includes the treatment of blood disorders and malignancies, including types of hemophilia, leukemia, lymphoma, and sickle-cell anemia, among others.
- REVLIMID, which is the company's core product, is a hematology drug that generated 63% of 2018 revenues.
  - REVLIMID is a small molecule drug used to treat a range of multiple myeloma ("MM") and myelodysplastic syndromes ("MDS") that was initially approved by the FDA in December 2005.

## Celgene Main Products

	2018 Revenue (% of Total)	Product Description
 <b>Revlimid®</b> <i>(lenalidomide) capsules</i> <small>2.5 · 5 · 10 · 15 · 20 · 25 mg</small>	<b>\$9.7B</b> (63%)	<ul style="list-style-type: none"> <li>• Oral small molecule drug</li> <li>• Used to treat multiple myeloma, myelodysplastic syndrome (MDS), and mantle cell lymphoma</li> </ul>
 <b>Pomalyst®</b> <i>(pomalidomide) capsules</i> <small>1 · 2 · 3 · 4 mg</small>	<b>\$2.0B</b> (13%)	<ul style="list-style-type: none"> <li>• Oral small molecule drug</li> <li>• Used to treat multiple myeloma</li> </ul>
 <b>Otezla®</b> <i>(apremilast) 30mg tablets</i>	<b>\$1.6B</b> (11%)	<ul style="list-style-type: none"> <li>• Oral small molecule drug</li> <li>• Inhibitor of phosphodiesterase-4 used to treat psoriatic arthritis and psoriasis</li> </ul>
 <b>Abraxane®</b> <i>nanoparticle albumin bound paclitaxel</i>	<b>\$1.1B</b> (7%)	<ul style="list-style-type: none"> <li>• Injectable small molecule drug</li> <li>• Used in cancer chemotherapy</li> </ul>

## 2018 Revenue by Therapeutic Category



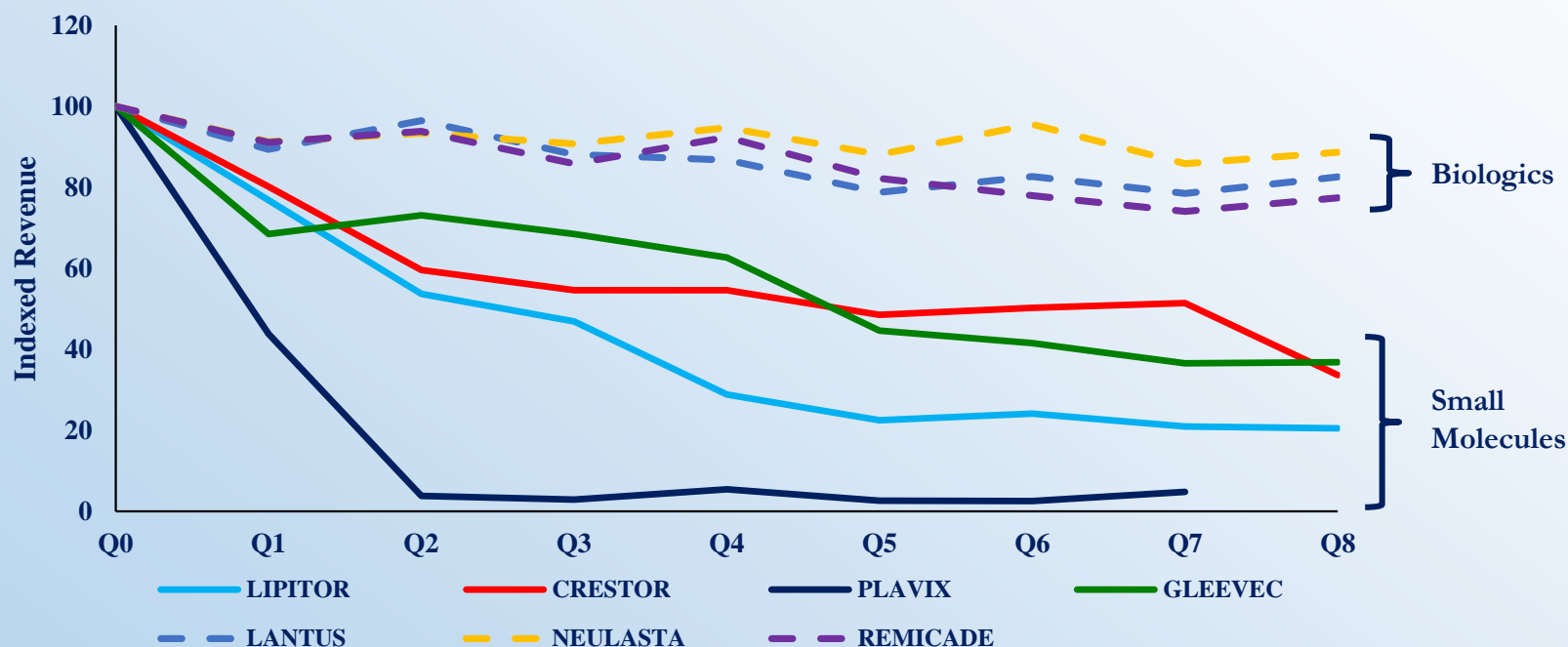
Celgene generates a significant portion of its revenue from small molecule hematology drugs

# Overview of Celgene (cont'd)

Unlike Bristol-Myers, which possesses a portfolio of biologic (i.e. large molecule) drugs, Celgene is focused on small molecules.

- Small molecule drugs have less complex chemical structures relative to large molecule biologics (large molecules), which make them easier to manufacture, and as a result, small molecule drugs are generally more adversely impacted by generic competition.

Post-Patent Expiration Revenue Slope – Selected Small Molecules vs. Biologics<sup>(1)</sup>



Essentially all of Celgene's marketed products portfolio is small molecule drugs, and therefore they are likely to experience significant revenue deterioration as they lose patent protection

Source: Public company filings.

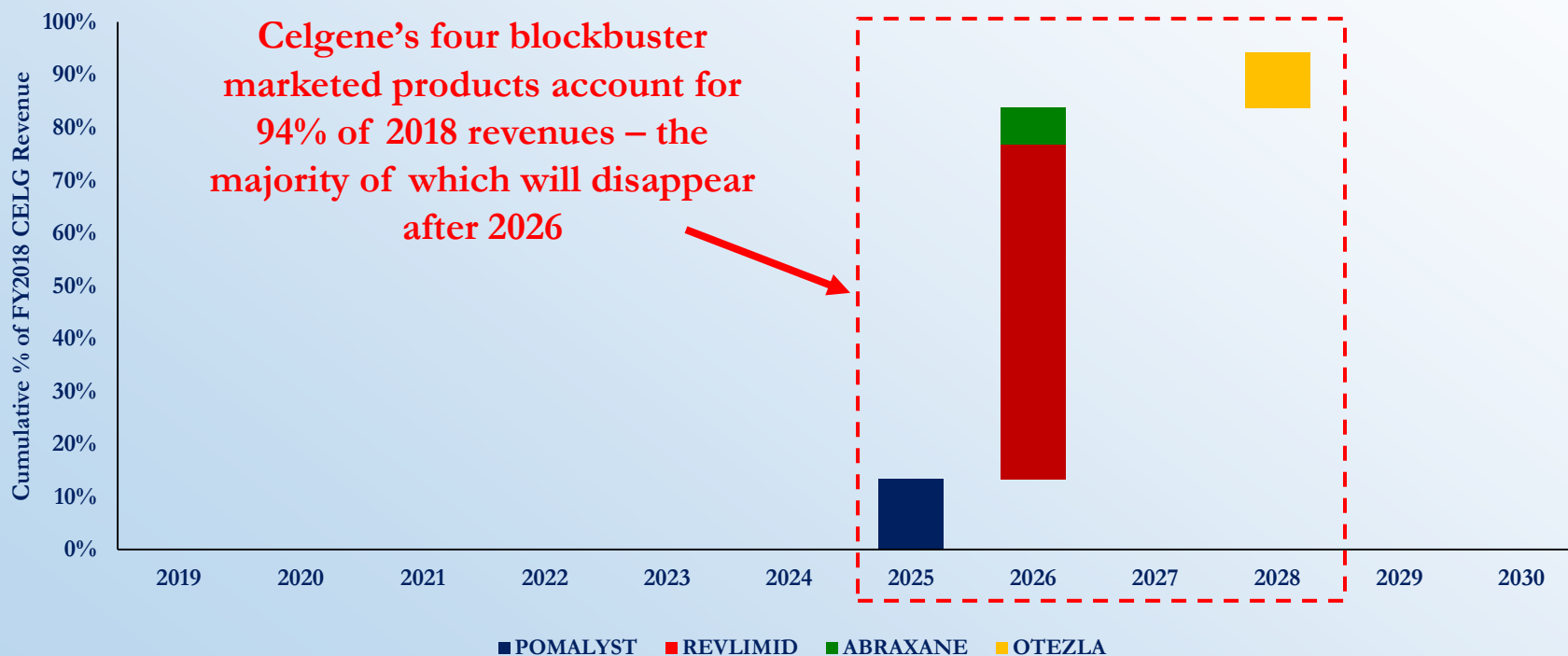
(1) Q0 represents the quarter prior to a product coming off-patent / losing exclusivity. We have assumed the following as Q0 for each drug: LIPITOR (Q3 2011), CRESTOR (Q1 2016), PLAVIX (Q1 2012), GLEEVEC (Q4 2015), LANTUS (Q4 2014), NEULASTA (Q3 2015), REMICADE (Q3 2016). Q8 unavailable for PLAVIX as company stopped reporting PLAVIX revenue as a separate line item.

# Overview of Celgene (cont'd)

Given that Celgene's marketed products are essentially all small molecules, revenue from Celgene's current product portfolio is expected to eventually completely evaporate.

- Assuming REVLIMID does not face full genericization until 2026, 94% of Celgene's current revenues will be lost between 2025 and 2028.

Loss of Exclusivity / Patent Expiration for Celgene's Major Marketed Products<sup>(1)</sup>



Celgene must essentially replace its entire revenue base, as genericization of small molecules happens swiftly once the drugs lose patent protection

Source: Public company filings.

(1) Loss of exclusivity and patent expirations shown are for U.S., with the exception of REVLIMID. Celgene's settlement with Natco Pharma will allow Natco to manufacture and sell a genericized REVLIMID without volume restriction beginning in 2026. As a result, we have shown Celgene losing REVLIMID revenues in 2026 even though U.S. patent expiration is in 2027.

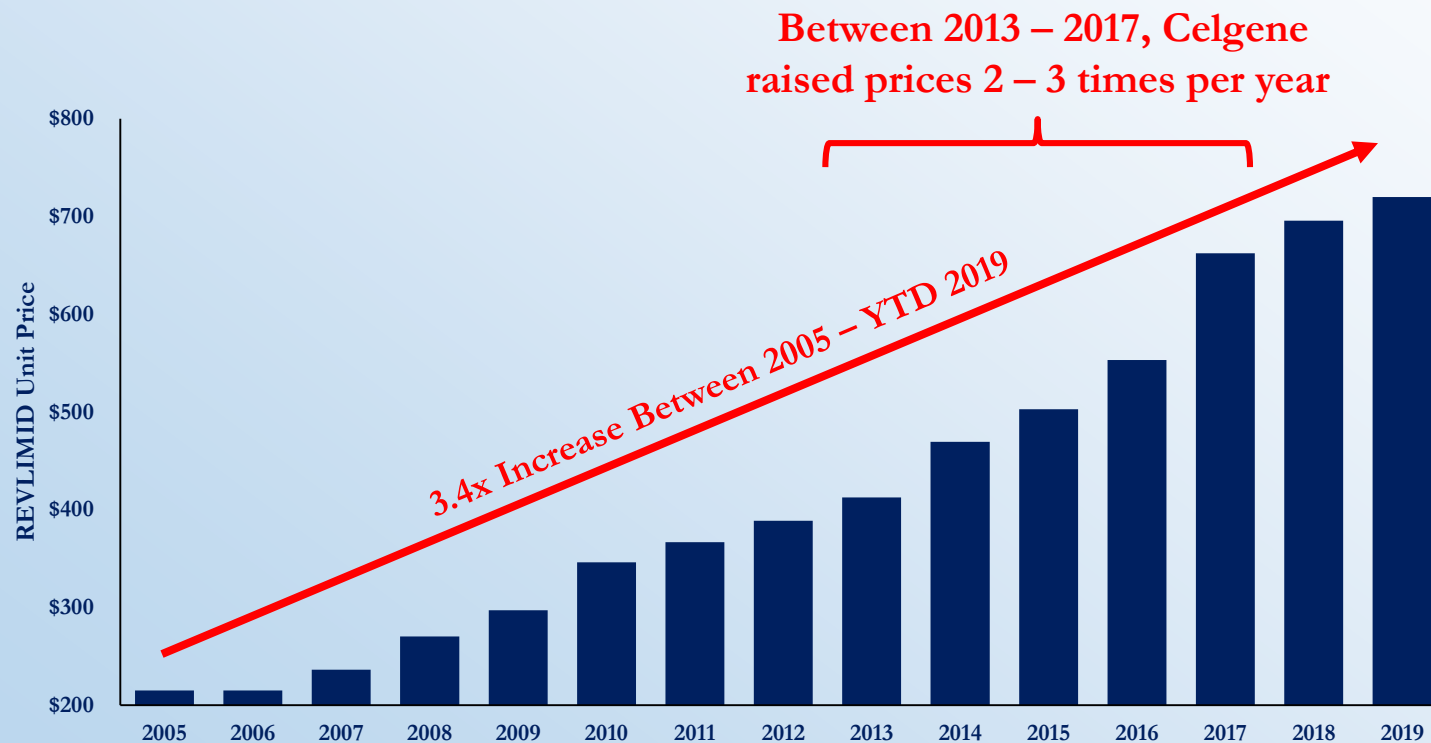


# How Did REVLIMID Become Such a Large Drug?

Celgene has taken substantial price increases over time, as the wholesale acquisition cost (“WAC”) price has increased 75% over the last five years.

- Each pill now costs over \$700, more than three times the WAC price when REVLIMID was first brought to market.

REVLIMID Unit Price Over Time



Celgene has frequently raised the price of REVLIMID and increases have become more aggressive over time

# Celgene's REVLIMID Price Increases Have Caught the Government's Attention

Alex Azar, Secretary of Health & Human Services, has commented on REVLIMID's aggressive price increases.

- In May 2018, while delivering a speech on drug pricing in the U.S., Alex Azar specifically singled out REVLIMID as an example of egregious price increases (excerpt of speech below).

## Remarks on Drug Pricing Blueprint – May 14, 2018

For example, the company that makes one of the 10 most common drugs in these categories raised that drug's price 20 percent in the last 12 months. That particular drug, in 2015, cost \$11,500 per month. Under Medicare Part D, that means seniors using the drug will typically owe an extra \$115 every month. They just went from paying \$575 per month to \$690 per month, at a time when the average Social Security check is \$1,400.

**While the speech did not name Celgene, the description was unambiguous**

- Media headlines have also contributed to the negative attention by reporting Celgene's aggressive pricing behavior on multiple occasions.

## Top Celgene cancer drugs now 20% more expensive after latest price hikes

Published: Oct 26, 2017 10:27 a.m. ET



Blockbuster drugs Revlimid and Pomalyst are Celgene's two most valuable products — now especially:

### FiercePharma

MANUFACTURING MARKETING PHARMA VACCINES

Pharma

**With Revlimid and Pomalyst price increases, could Celgene be next on Trump's to-call list?**

by Angus Liu | Jul 12, 2018 11:40am



Rebecca Spalding

@rcurtisspalding

Follow

BREAKING: Celgene raised the price of its top cancer drug Revlimid on the \*same day\* as the Bristol-Myers \$74 billion mega-deal announcement.

The 10mg dose that cost \$247.28 at the end of 2007 now costs \$719.82. My latest for @business: [bloom.bg/2COxs7n](https://www.bloom.bg/2COxs7n) \$CELG \$BMV

**Celgene has been called out as “costing consumers and taxpayers millions of dollars in unnecessary prescription costs”**

# While Celgene Is Not Alone in Being Accused of Aggressive Pricing, They Are Not in Good Company

Celgene is among several other pharmaceutical manufacturers that have been called out for aggressive pricing.

- U.S. politicians are extremely focused on investigating aggressive pharmaceutical pricing as evidenced by the recent Congressional hearings on insulin affordability and high prescription drug prices.

## Select Manufacturers and News Headlines on Aggressive Pharmaceutical Pricing



HEALTH

### Mylan Faces Scrutiny Over EpiPen Price Increases

Criticisms mount after drugmaker raises cost of allergy treatment by 548% since 2007

By Jonathan D. Rockoff  
Aug. 24, 2016 5:40 p.m. ET

BUSINESS

### Valeant shares fall on federal probe into drug pricing

By Post Staff Report

October 15, 2015 | 10:05am

LEGAL, PRICING

### Accused of milking the CMS with co-pay kickbacks, J&J's Actelion settles case for \$310M



by AMBER TONG — on D

U.S. LEGAL NEWS OCTOBER 16, 2018 / 3:24 PM / 4 MONTHS AGO

### Minnesota accuses insulin makers of deceptive drug pricing

Nate Raymond

3 MIN READ



Aggressive pharmaceutical pricing tactics have not worked out well for others

# In Addition, Celgene's Anti-Competitive Behavior Has Also Caught the Government's Attention

Separately, in June 2018, Sen. Richard Blumenthal sent a letter to the Federal Trade Commission (“FTC”) alleging that pharmaceutical companies, in particular Celgene, are engaging in anti-competitive behavior to prevent drug genericization (excerpt from letter below).

- To prevent drug genericization, Celgene and others have used aggressive interpretations of FDA regulations to block generic drug manufacturers from gaining access to their drug samples; these drug samples are required for generic manufacturers to prove bioequivalence, a key test to gain FDA approval for generic products.
- In an effort to shame pharmaceutical companies that block generic manufacturers from accessing their drugs, the FDA publishes a list of pharmaceutical companies that receive the most complaints for anti-competitive behavior – Celgene tops the list.

## Sen. Richard Blumenthal Accusing Celgene of Anticompetitive Behavior

For example, the FDA reported that it has received thirteen complaints regarding Celgene Corporation for blocking access to its brand-name drug, Revlimid,<sup>1</sup> which is used to treat a number of cancers, including several rare blood cancers.<sup>2</sup> In 2006, Celgene charged \$6,195 for a month's supply of Revlimid, but by March 2017, that price increased to \$16,691.<sup>3</sup> With its original patent expiring in less than a year and complaints pouring into the FDA about its anti-competitive behavior, Celgene has continued to raise the price of Revlimid—including a 20% increase in October 2017.<sup>4</sup> Without generic competition, Celgene's sales of Revlimid topped \$8 billion—approximately 63% of the company's total revenue for fiscal year 2017.<sup>5</sup> Likewise, by using tactics to keep generic competitors from accessing necessary samples, it is near certain that Celgene will continue to benefit from a lack of competition far beyond Revlimid's patent expiration.

## FDA List of Pharmaceutical Companies Receiving the Most Complaints for Anti-Competitive Behavior

Company	# of Drugs on List	# of Complaints
Celgene Corp	3	31
Actelion Pharmaceuticals	4	26
Gilead Sciences	2	11
Novartis Pharmaceuticals	4	11
Lundbeck Pharmaceuticals	2	8

Celgene has been called out as “anti-competitive” by a member of the U.S. Senate

# REVLIMID Is at Risk of Imminent Massive Genericization

Given the magnitude of the potential REVLIMID generic opportunity, numerous generic manufacturers are attempting to bring generic REVLIMID to market.

## Landscape of Generic Challengers for REVLIMID

### List of Companies That Have Filed Generic Challenges on REVLIMID



### Settled In 2015



Settlement allows for phased genericization beginning in 2022 with full genericization by 2026

### Settled In 2018



Settlement allows for entry into U.K. and EU in 2022

### Launched in Eastern Europe With No Settlement



#### FiercePharma

MANUFACTURING MARKETING PHARMA VACCINES

Pharma

Just as it's enjoying a reprieve in the U.S., Celgene's Revlimid gets generic rival in Europe

by Eric Sagonowsky | Feb 13, 2019 11:45am

There is a potential risk that Celgene could lose greater than 60% of its current revenues before 2026

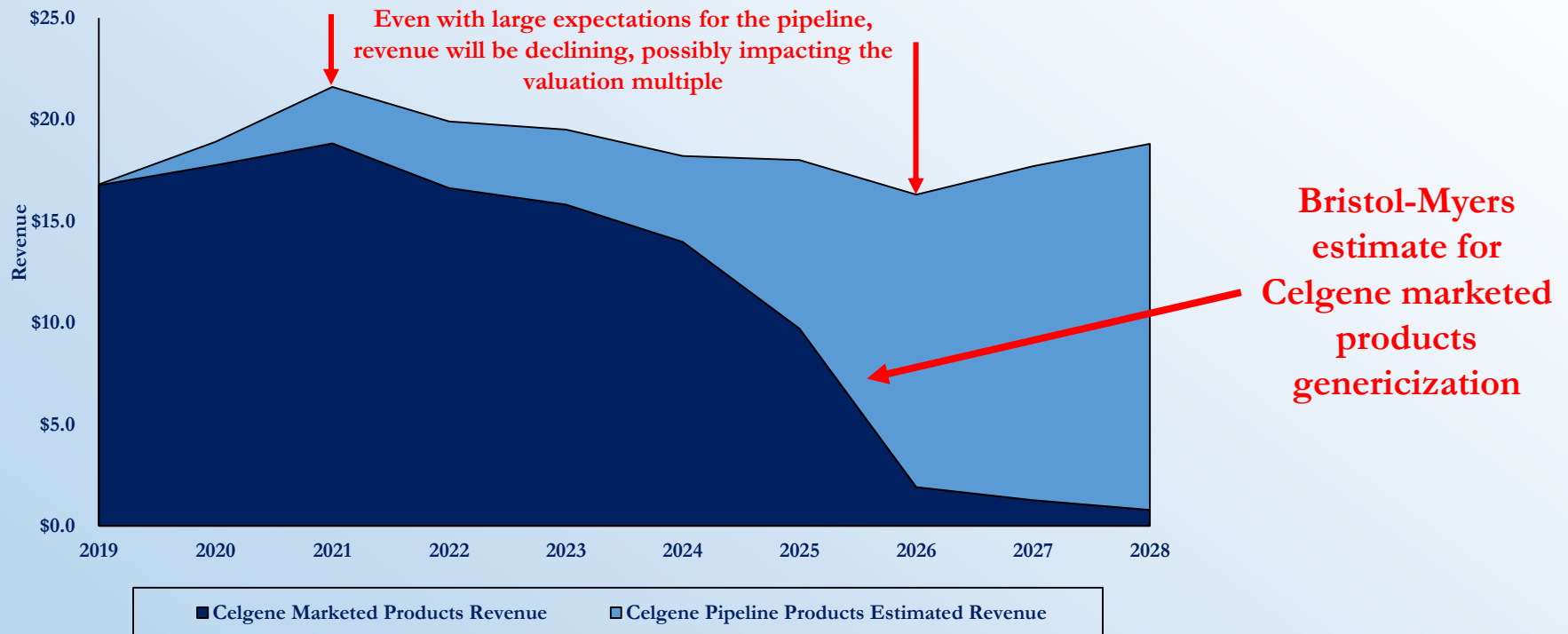


# All of Celgene's Marketed Products Will Face Generic Competition in the Near Term

In fact, our conversations with Bristol-Myers management indicated that they expect all of Celgene's current marketed products to be essentially wiped out by 2028.

Estimates for Celgene's Marketed Products Revenues

(\$ in billions)



By 2028, Celgene's product portfolio as we know it today will essentially cease to exist

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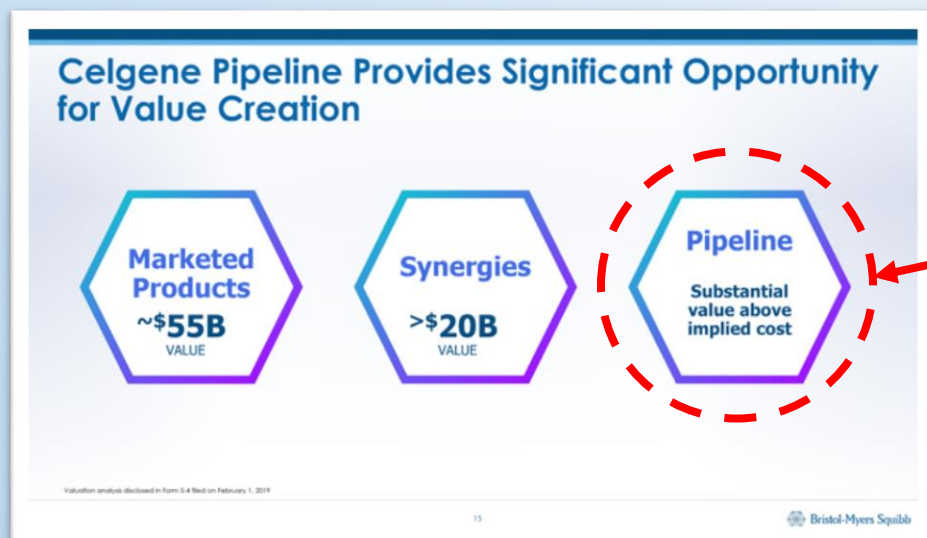
## **IV. We Believe the Math Underlying Bristol-Myers' Assumptions Is Flawed**

# Bristol-Myers States That The Company Is Acquiring Celgene's Pipeline for Only ~\$15 Billion

Bristol-Myers argues that the Celgene merger is a low-risk proposition; we disagree.

- Bristol-Myers states that the ~\$90 billion acquisition is broken down roughly as follows:
  - Marketed Products: ~\$55 billion
  - Cost Synergies: >\$20 billion
  - Pipeline: Implied to be ~\$15 billion

## Bristol-Myers Presentation On Celgene Deal Value



Bristol-Myers management attributes ~\$75 billion of value to Celgene's marketed products and synergies, which implies that Bristol-Myers is paying ~\$15 billion for Celgene's pipeline products

Management indicates that the purchase price ascribes minimal value to Celgene's pipeline

# To Justify the Valuation, Bristol-Myers Has Shared With Us the Following Assumptions

We have had multiple conversations with Bristol-Myers to discuss how management arrives at an implied valuation of \$15 billion for Celgene's pipeline products.

## Bristol-Myers View On Celgene Deal Value



## Key Bristol-Myers Assumptions

- Celgene's marketed products will mostly be in run-off by 2028, such that Bristol-Myers management ascribes no terminal value to the marketed products in their DCF valuation.
- Operating expenses needed to support the marketed products are \$3.5 billion in 2019 and will scale down proportionally such that only a "few hundred million dollars" is required by 2028.
- Cost synergies will ramp to \$2.5 billion by 2022 and remain constant into perpetuity.
- A DCF discount rate that is conservative relative to the 7.5% - 9.0% range provided in the S-4 filing.

We have had multiple conversations with Bristol-Myers management to review their valuation assumptions

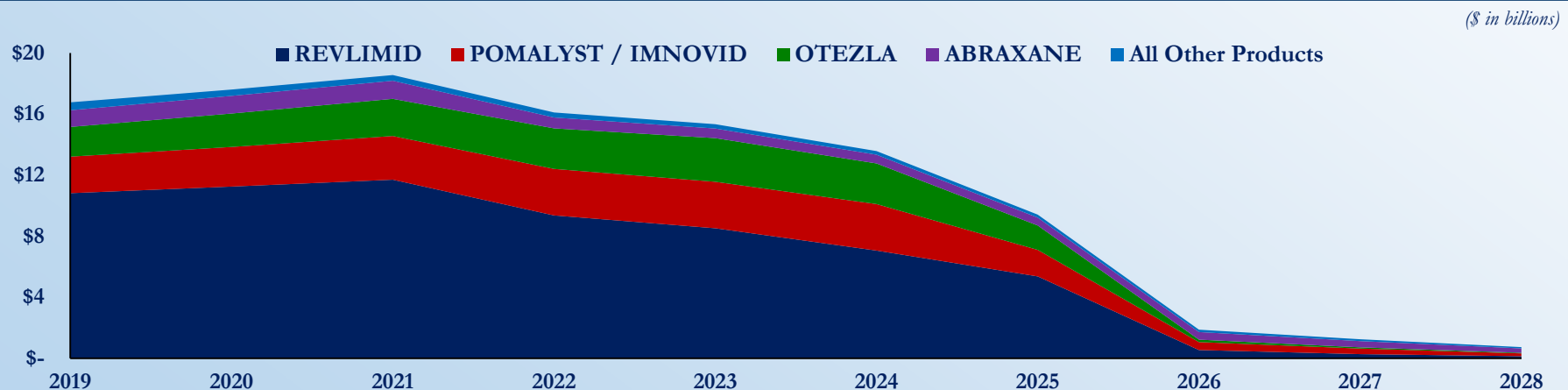
# Management Has Also Provided Us With a Detailed Walk-Through of Their Assumptions for Celgene's Marketed Products

Management has also provided us with a detailed walk through of their base case assumptions for Celgene's marketed products, which implies the marketed products will be in run-off by 2028, with no terminal value thereafter.

■ Bristol-Myers management makes the following assumptions:

- ① REVLIMID revenues begin to decline in 2022, tracking the low-end of Wall Street estimates through 2025, after which revenues will decline by 90% in 2026.
- ② POMALYST revenues remain stable through 2024, but decline to a residual amount by 2027.
- ③ OTEZLA and ABRAXANE revenues are both forecasted more conservatively than Wall Street estimates.
- ④ Operating expenses will be ~\$3.5 billion in 2019 and scale down proportionally such that only a “few hundred million dollars” is required by 2028.

Estimates for Celgene's Marketed Products Revenues





# We Understand How Bristol-Myers Arrives at Its \$55 Billion Valuation for Celgene's Marketed Products Business

Bristol-Myers management communicated to us that they are assuming initial operating costs of \$3.5 billion for marketed products, which will then scale down over time as the products go generic.

- When using Bristol-Myers' cost estimates, we can arrive at their ~\$55 billion valuation for Celgene's marketed products business.

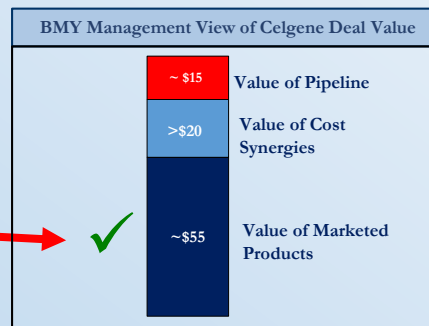
## Bristol-Myers Management Assumptions for Celgene's Marketed Products

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	(\$ in billions)
Total Marketed Products Revenues	\$ 16.8	\$ 17.8	\$ 18.8	\$ 16.6	\$ 15.8	\$ 14.0	\$ 9.7	\$ 1.9	\$ 1.3	\$ 0.8	
Gross Profit	\$ 16.2	\$ 17.2	\$ 18.2	\$ 16.1	\$ 15.3	\$ 13.5	\$ 9.4	\$ 1.8	\$ 1.2	\$ 0.7	
Gross Margin (%)	97%	97%	97%	97%	97%	97%	97%	95%	95%	95%	
Operating Expense	3.5	3.2	2.8	2.5	2.1	1.8	1.4	1.1	0.8	0.3	
Adj. EBITDA	\$ 12.7	\$ 14.0	\$ 15.4	\$ 13.6	\$ 13.2	\$ 11.7	\$ 7.9	\$ 0.7	\$ 0.4	\$ 0.4	
Adj. EBITDA Margin (%)	76%	79%	82%	82%	83%	84%	82%	38%	36%	56%	
Unlevered FCF	\$ 10.5	\$ 11.6	\$ 12.8	\$ 11.3	\$ 11.0	\$ 9.8	\$ 6.6	\$ 0.6	\$ 0.4	\$ 0.4	
Discount Rate @ 9.0%	92%	84%	77%	71%	65%	60%	55%	50%	46%	42%	
Discounted FCF	\$ 9.6	\$ 9.8	\$ 9.9	\$ 8.0	\$ 7.1	\$ 5.8	\$ 3.6	\$ 0.3	\$ 0.2	\$ 0.2	

**Bristol-Myers management assumptions on operating costs**

### DCF Value

Value of Discounted FCF	\$ 54.5
Value of Terminal Value	-
Total Value of Marketed Products	\$ 54.5



**We understand how Bristol-Myers arrives at a ~\$55 billion valuation for Celgene's marketed products**

While we understand management's math, we believe there is still risk to these assumptions

# We Also Understand How Bristol-Myers Arrives at Its >\$20 Billion Valuation for Cost Synergies

- In Bristol-Myers' S-4 filing, management presents their estimate of cost synergies, which ramps to \$2.5 billion by 2022.

	2019E	2020E	2021E	2022E
	(dollars in billions)			
Cost Synergies (pre-tax)	\$ 0.2	\$ 1.1	\$ 1.8	\$ 2.5

- In our conversations with the Company, management stated that post-2022, synergies are assumed to be \$2.5 billion into perpetuity.
- When using Bristol-Myers' synergy estimates, which ramp to \$2.5 billion by 2022, we can calculate the greater than \$20 billion in synergy value that management references.

## Bristol-Myers Management Assumptions for Cost Synergies

(\$ in billions)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Synergies	\$ 0.2	\$ 1.1	\$ 1.8	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5
Unlevered FCF	\$ 0.2	\$ 0.9	\$ 1.5	\$ 2.1	\$ 2.1	\$ 2.1	\$ 2.1	\$ 2.1	\$ 2.1	\$ 2.1
Discount Rate @ 9.0%	92%	84%	77%	71%	65%	60%	55%	50%	46%	42%
Discounted FCF	\$ 0.2	\$ 0.8	\$ 1.2	\$ 1.5	\$ 1.4	\$ 1.3	\$ 1.1	\$ 1.1	\$ 1.0	\$ 0.9

## DCF Value

Value of Discounted FCF

\$ 10.3

Value of Terminal Value @ 13.1x<sup>(1)</sup>

11.6

Total Value of Synergies

\$ 21.8

BMY Management View of Celgene Deal Value	
~ \$15	Value of Pipeline
>\$20	Value of Cost Synergies
~\$55	Value of Marketed Products

**We understand how Bristol-Myers arrives at a greater than \$20 billion valuation for cost synergies**

# However, These Synergies Need To Be Allocated Appropriately

It is important to note the full value of these cost synergies cannot be achieved from Celgene's existing marketed products cost base.

- As shown earlier, management is using the ~\$55 billion of value attributed to marketed products and the ~\$20 billion of value attributed to cost synergies to back into an implied value for the pipeline of ~\$15 billion.
- However, these synergies are not fully achievable from the current cost base of Celgene's marketed products.
  - If we apply the full value of synergies per Bristol-Myers' S-4 filing against the expected future operating expenses for marketed products, we would have synergies greater than total costs – or EBITDA greater than revenue – which is obviously impossible.

Announced Synergies vs Celgene's Marketed Products SG&A Expenses

(\$ in billions)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Marketed Products OpEx	\$ 3.5	\$ 3.2	\$ 2.8	\$ 2.5	\$ 2.1	\$ 1.8	\$ 1.4	\$ 1.1	\$ 0.8	\$ 0.3
Total Synergies	\$ 0.2	\$ 1.1	\$ 1.8	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5

**Synergies cannot be greater than costs! Therefore, the synergies cannot be fully allocated to marketed products.**

The synergies need to be allocated between Celgene's marketed products and its pipeline

# Implying to Shareholders That Bristol-Myers Is Only Paying ~\$15 Billion for Celgene's Pipeline Is Misleading

- Below, we show financial projections for Celgene's marketed products assuming ALL of the synergies, as communicated in the S-4 filing, are allocated to that portion of the business.
- The resulting financial projections are nonsensical – one would be implying that Celgene's marketed products will generate EBITDA that is approximately four times greater than revenues in 2028.

## Financial Projections For Celgene's Marketed Products Assuming 100% Synergies

(\$ in billions)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Marketed Products Revenues	\$ 16.8	\$ 17.8	\$ 18.8	\$ 16.6	\$ 15.8	\$ 14.0	\$ 9.7	\$ 1.9	\$ 1.3	\$ 0.8
Gross Profit	\$ 16.2	\$ 17.2	\$ 18.2	\$ 16.1	\$ 15.3	\$ 13.5	\$ 9.4	\$ 1.8	\$ 1.2	\$ 0.7
Gross Margin (%)	97%	97%	97%	97%	97%	97%	97%	95%	95%	95%
Operating Expense	\$ 3.5	\$ 3.2	\$ 2.8	\$ 2.5	\$ 2.1	\$ 1.8	\$ 1.4	\$ 1.1	\$ 0.8	\$ 0.3
Cost Synergies per S-4 Filing	(0.2)	(1.1)	(1.8)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)
Pro Forma Operating Expense	\$ 3.3	\$ 2.1	\$ 1.0	\$ (0.0)	\$ (0.4)	\$ (0.7)	\$ (1.1)	\$ (1.4)	\$ (1.8)	\$ (2.2)
Adj. EBITDA	\$ 12.9	\$ 15.1	\$ 17.2	\$ 16.1	\$ 15.7	\$ 14.2	\$ 10.4	\$ 3.2	\$ 2.9	\$ 2.9
Adj. EBITDA Margin (%)	77%	85%	91%	97%	99%	102%	108%	169%	234%	376%
Unlevered FCF	\$ 10.7	\$ 12.6	\$ 14.3	\$ 13.4	\$ 13.1	\$ 11.9	\$ 8.7	\$ 2.7	\$ 2.5	\$ 2.5
Discount Rate @ 9.0%	92%	84%	77%	71%	65%	60%	55%	50%	46%	42%
Discounted FCF	\$ 9.8	\$ 10.6	\$ 11.1	\$ 9.5	\$ 8.5	\$ 7.1	\$ 4.8	\$ 1.3	\$ 1.1	\$ 1.0

Applying 100% of cost synergies to marketed products would imply EBITDA is higher than revenue from 2024 - 2028...

But this is impossible!

- Clearly, these synergies should not all be associated with Celgene's marketed products business, as the most Bristol-Myers could possibly achieve in marketed products-related synergies is 100% of the associated operating expenses.

Applying ALL cost synergies to Celgene's marketed products results in nonsensical financial projections

# Appropriately Allocating Cost Synergies to Marketed Products Would Imply a Maximum Value of \$7 Billion

At a maximum, we believe \$7 billion of the total synergy value should be allocated to marketed products.

- In the calculation below, we apply management's cost synergy ramp as presented in the S-4, which assumes full synergies are realized by 2022. We then cap realized synergies at 100% of Celgene's marketed products-related operating costs.
  - We cap realized synergies at 100% of Celgene's marketed products-related operating costs because it is impossible to have negative operating expenses.
- Using the same DCF assumptions for Celgene's marketed products, we arrive at a maximum synergy valuation of \$7 billion.
  - **To be clear, \$7 billion is a MAXIMUM value, as 100% of operating costs cannot actually be eliminated**, since the Company will still need dedicated sales, marketing, and support functions for these marketed products.

## Value for Celgene's Marketed Products-Related Cost Synergies

(\$ in billions)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Marketed Products OpEx	\$ 3.5	\$ 3.2	\$ 2.8	\$ 2.5	\$ 2.1	\$ 1.8	\$ 1.4	\$ 1.1	\$ 0.8	\$ 0.3
Total Synergies	\$ 0.2	\$ 1.1	\$ 1.8	\$ 2.5	\$ 2.1	\$ 1.8	\$ 1.4	\$ 1.1	\$ 0.8	\$ 0.3
Unlevered FCF	\$ 0.2	\$ 0.9	\$ 1.5	\$ 2.1	\$ 1.8	\$ 1.5	\$ 1.2	\$ 0.9	\$ 0.6	\$ 0.3
Discount Rate @ 9.0%	92%	84%	77%	71%	65%	60%	55%	50%	46%	42%
Discounted FCF	\$ 0.2	\$ 0.8	\$ 1.2	\$ 1.5	\$ 1.2	\$ 0.9	\$ 0.7	\$ 0.5	\$ 0.3	\$ 0.1

## DCF Value

Value of Discounted FCF	\$ 7.1
Value of Terminal Value	-
Total Value of Synergies	\$ 7.1

## THEORETICAL MAXIMUM VALUE

**In reality, the value will be less as it is highly improbable that 100% of operating costs can be eliminated**

**We believe a maximum of \$7 billion in synergy value should be allocated to Celgene's marketed products**



# We Calculate a Maximum Valuation of \$62 Billion for Celgene's Marketed Products and Associated Cost Synergies

By appropriately allocating cost synergies to Celgene's marketed products, we arrive at a maximum valuation of \$62 billion for the marketed products business plus directly related synergies.

## Value for Celgene's Marketed Products Assuming Properly Allocated Synergies

(\$ in billions)

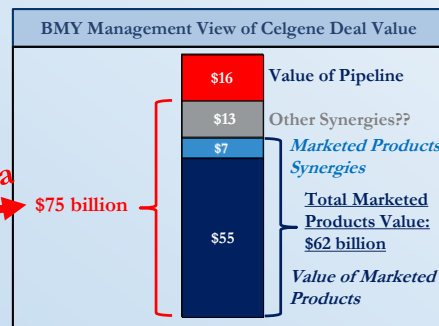
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Marketed Products Revenues	\$ 16.8	\$ 17.8	\$ 18.8	\$ 16.6	\$ 15.8	\$ 14.0	\$ 9.7	\$ 1.9	\$ 1.3	\$ 0.8
Gross Profit	\$ 16.2	\$ 17.2	\$ 18.2	\$ 16.1	\$ 15.3	\$ 13.5	\$ 9.4	\$ 1.8	\$ 1.2	\$ 0.7
Gross Margin (%)	97%	97%	97%	97%	97%	97%	97%	95%	95%	95%
Operating Expense	\$ 3.5	\$ 3.2	\$ 2.8	\$ 2.5	\$ 2.1	\$ 1.8	\$ 1.4	\$ 1.1	\$ 0.8	\$ 0.3
Cost Synergies per S-4 Filing	(0.2)	(1.1)	(1.8)	(2.5)	(2.1)	(1.8)	(1.4)	(1.1)	(0.8)	(0.3)
Pro Forma Operating Expense	\$ 3.3	\$ 2.1	\$ 1.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Adj. EBITDA	\$ 12.9	\$ 15.1	\$ 17.2	\$ 16.1	\$ 15.3	\$ 13.5	\$ 9.4	\$ 1.8	\$ 1.2	\$ 0.7
Adj. EBITDA Margin (%)	77%	85%	91%	97%	97%	97%	97%	95%	95%	95%
Unlevered FCF	\$ 10.7	\$ 12.6	\$ 14.3	\$ 13.4	\$ 12.7	\$ 11.3	\$ 7.8	\$ 1.5	\$ 1.0	\$ 0.6
Discount Rate @ 9.0%	92%	84%	77%	71%	65%	60%	55%	50%	46%	42%
Discounted FCF	\$ 9.8	\$ 10.6	\$ 11.1	\$ 9.5	\$ 8.3	\$ 6.7	\$ 4.3	\$ 0.7	\$ 0.5	\$ 0.3

Properly allocated cost synergies

### DCF Value

Value of Discounted FCF	\$ 61.6
Terminal Value of Marketed Products	-
Total Value of Marketed Products	\$ 61.6

~\$13 Billion Delta



Rather than \$75 billion, we believe Celgene's marketed products and associated cost synergies should be valued at \$62 billion.

So what's the other \$13 billion?

Celgene's marketed products and associated cost synergies should have a maximum valuation of \$62 billion

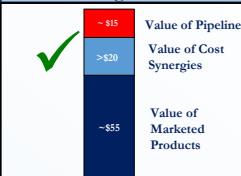
# Below, We Present Our View on How Cost Synergies Should Be Allocated to Celgene's Marketed Products and Pipeline

## Total Cost Synergies per S-4 Filing

	(\$ in billions)											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Total Synergies per S-4 Filing	\$ 0.2	\$ 1.1	\$ 1.8	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5		

**Total Synergy DCF Value:**  
~\$22 Billion

### Bristol-Myers Management View of Celgene Deal Value



## Projections For Celgene's Marketed Products Assuming Properly Allocated Synergies

	(\$ in billions)											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Total Marketed Products Revenues	\$ 16.8	\$ 17.8	\$ 18.8	\$ 16.6	\$ 15.8	\$ 14.0	\$ 9.7	\$ 1.9	\$ 1.3	\$ 0.8		
Gross Profit	\$ 16.2	\$ 17.2	\$ 18.2	\$ 16.1	\$ 15.3	\$ 13.5	\$ 9.4	\$ 1.8	\$ 1.2	\$ 0.7		
Gross Margin (%)	97%	97%	97%	97%	97%	97%	97%	95%	95%	95%		
Operating Expense	\$ 3.5	\$ 3.2	\$ 2.8	\$ 2.5	\$ 2.1	\$ 1.8	\$ 1.4	\$ 1.1	\$ 0.8	\$ 0.3		
Cost Synergies per S-4 Filing	(0.2)	(1.1)	(1.8)	(2.5)	(2.1)	(1.8)	(1.4)	(1.1)	(0.8)	(0.3)		
Pro Forma Operating Expense	\$ 3.3	\$ 2.1	\$ 1.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
Adj. EBITDA	\$ 12.9	\$ 15.1	\$ 17.2	\$ 16.1	\$ 15.3	\$ 13.5	\$ 9.4	\$ 1.8	\$ 1.2	\$ 0.7		
Adj. EBITDA Margin (%)	77%	85%	91%	97%	97%	97%	97%	95%	95%	95%		

**Marketed Products Synergy DCF Value:**  
~\$7 Billion

## Projections For Celgene's Pipeline Products Assuming Properly Allocated Synergies

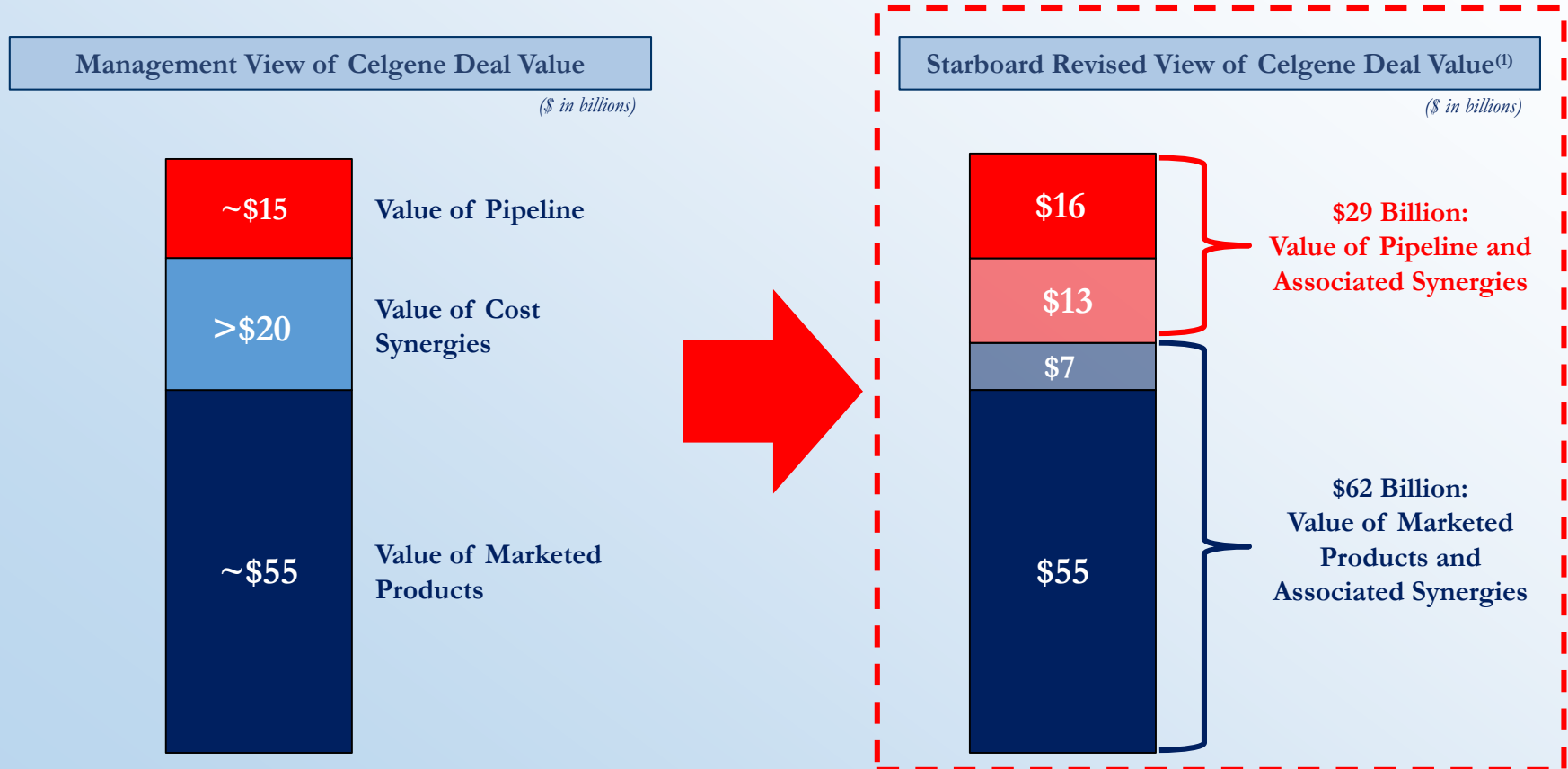
	(\$ in billions)											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Total Pipeline Products Revenues	\$ 0.0	\$ 1.1	\$ 2.8	\$ 3.3	\$ 3.7	\$ 4.2	\$ 8.3	\$ 14.4	\$ 16.4	\$ 18.0		
Gross Profit	\$ 0.0	\$ 1.0	\$ 2.4	\$ 2.8	\$ 3.1	\$ 3.6	\$ 7.0	\$ 12.2	\$ 14.0	\$ 15.3		
Gross Margin (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%		
SG&A Expense	\$ 4.1	\$ 4.9	\$ 5.9	\$ 6.4	\$ 6.8	\$ 6.6	\$ 6.9	\$ 5.8	\$ 6.4	\$ 7.0		
Cost Synergies per S-4 Filing	-	-	-	(0.0)	(0.4)	(0.7)	(1.1)	(1.4)	(1.8)	(2.2)		
Pro Forma SG&A Expense	\$ 4.1	\$ 4.9	\$ 5.9	\$ 6.4	\$ 6.4	\$ 5.9	\$ 5.8	\$ 4.4	\$ 4.7	\$ 4.8		
Adj. EBITDA	\$ (4.0)	\$ (3.9)	\$ (3.5)	\$ (3.6)	\$ (3.3)	\$ (2.3)	\$ 1.2	\$ 7.9	\$ 9.3	\$ 10.6		
Adj. EBITDA Margin (%)	NM	-342%	-126%	-109%	-89%	-54%	15%	55%	57%	59%		

**Pipeline Products Future Revenue Synergy DCF Value:** ~\$15 Billion

Synergies can only be recognized if there is continued investment in Celgene's pipeline

# As a Result, We Believe Bristol-Myers Is Paying Twice as Much for a Risky Pipeline as Management Has Led Shareholders to Believe

We believe that Bristol-Myers is actually paying almost \$30 billion for the Celgene pipeline – not the ~\$15 billion communicated to shareholders – based on appropriately allocating synergies to Celgene’s marketed products in order to isolate the true value ascribed to the pipeline.



**Bristol-Myers is paying ~\$30 billion for Celgene’s product pipeline, not ~\$15 billion**

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**V. We Do Not Believe Celgene's Pipeline Will  
Generate Bristol-Myers Base Case Projections**

# Celgene Will Need to Effectively Reinvent Itself by 2028 in Order to Reach Bristol-Myers' Base Case Assumptions

Bristol-Myers' base case for the acquisition assumes that Celgene's pipeline will generate ~\$18 billion of revenue in 2028 to replace the company's patent cliff.

Bristol-Myers Management Revenue Expectations For Celgene Pipeline Products

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028									
Celgene Revenue Per S-4 Filing	\$	16.8	\$	18.9	\$	21.6	\$	19.9	\$	19.5	\$	18.2	\$	18.0	\$	16.3	\$	17.7	\$	18.8
Less: Marketed Products Revenue	\$	16.8	\$	17.8	\$	18.8	\$	16.6	\$	15.8	\$	14.0	\$	9.7	\$	1.9	\$	1.3	\$	-0.8
Implied Celgene Pipeline Revenue	\$	0.0	\$	1.1	\$	2.8	\$	3.3	\$	3.7	\$	4.2	\$	8.3	\$	14.4	\$	16.4	\$	18.0

Bristol-Myers' Financial Assumptions for Celgene Standalone

	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
	Year Ending December 31, (dollars in billions)										
Celgene net sales	\$ 15.3	\$ 16.8	\$ 18.9	\$ 21.6	\$ 19.9	\$ 19.5	\$ 18.2	\$ 18.0	\$ 16.3	\$ 17.7	\$ 18.8
Celgene operating income	8.6	9.3	10.9	12.9	10.9	10.2	9.3	8.7	7.9	8.8	9.5
Celgene operating income (post-SBC) <sup>(1)</sup>	7.8	8.6	9.9	11.7	9.8	9.3	8.6	7.9	7.1	7.9	8.6
Celgene EBITDA (post-SBC) <sup>(1)(2)</sup>	7.9	8.7	10.1	11.9	10.0	9.5	8.7	8.1	7.2	8.0	8.8
Celgene unlevered free cash flow <sup>(2)</sup>	—	6.6	7.6	9.4	8.1	7.6	7.1	6.5	6.0	6.2	6.9

Based on our many conversations with Bristol-Myers management, we believe management is assuming ~\$18 billion revenue contribution from Celgene's pipeline products in 2028

However, the reality is that Celgene has not brought a significant product to market in the last five years, and its pipeline has continuously failed to live up to expectations



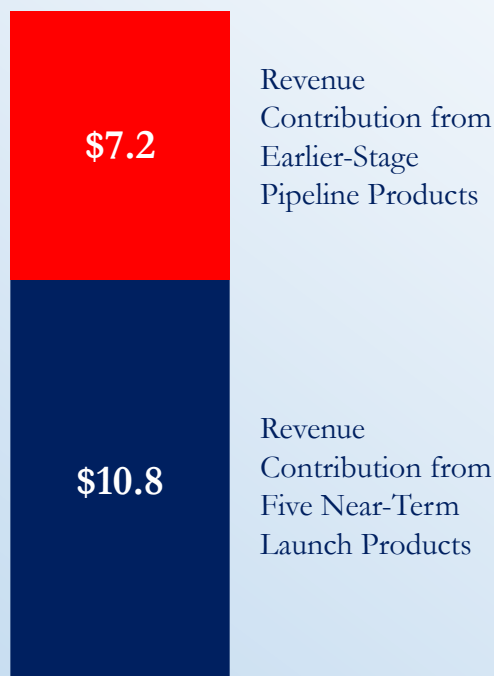
# Celgene Will Need to Effectively Reinvent Itself by 2028 in Order to Reach Bristol-Myers' Base Case Assumptions (cont'd)

We estimate that the ~\$18 billion base case pipeline revenue for 2028 is broken down into near-term launch opportunities of ~\$11 billion and earlier-stage opportunities of ~\$7 billion.

## Bristol-Myers Management View of Celgene Pipeline Revenue Contribution in 2028

(\$ in billions)

**This is a massive bet on Celgene's pipeline made with just two weeks of full due diligence!**



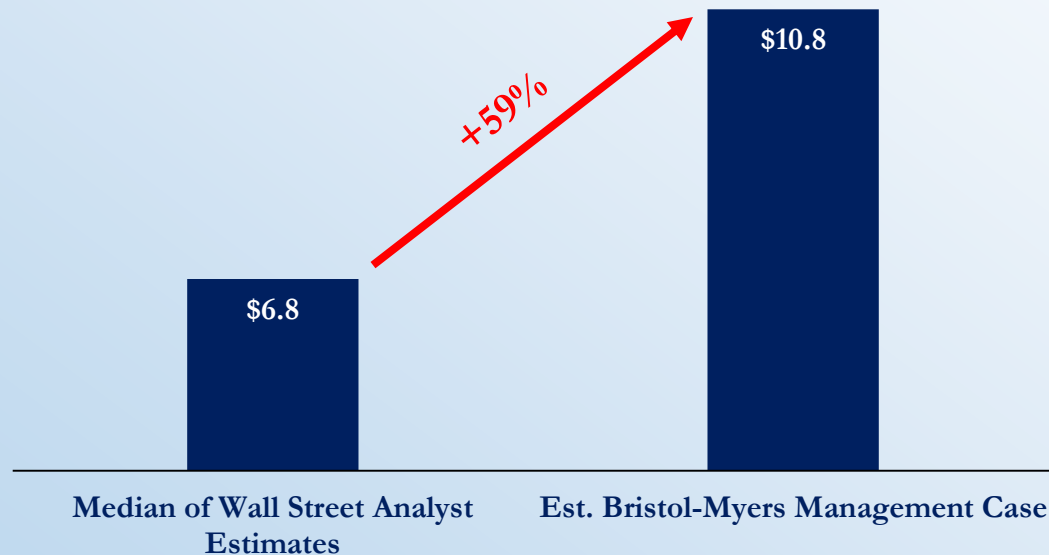
Bristol-Myers management believes Celgene can reinvent itself through the company's existing pipeline

# Relative to Wall Street Analysts' Estimates, Bristol-Myers Base Case 2028 Revenues for Celgene's Near-Term Product Launches Are Aggressive

Bristol-Myers is estimating Celgene's five near-term product launch opportunities will generate base case 2028 revenues that are 59% higher than the median of Wall Street analysts' research estimates.

2028 Bristol-Myers Management vs. Wall Street Analysts' Median Estimate for Celgene Near-Term Product Launches

(\$ in billions)



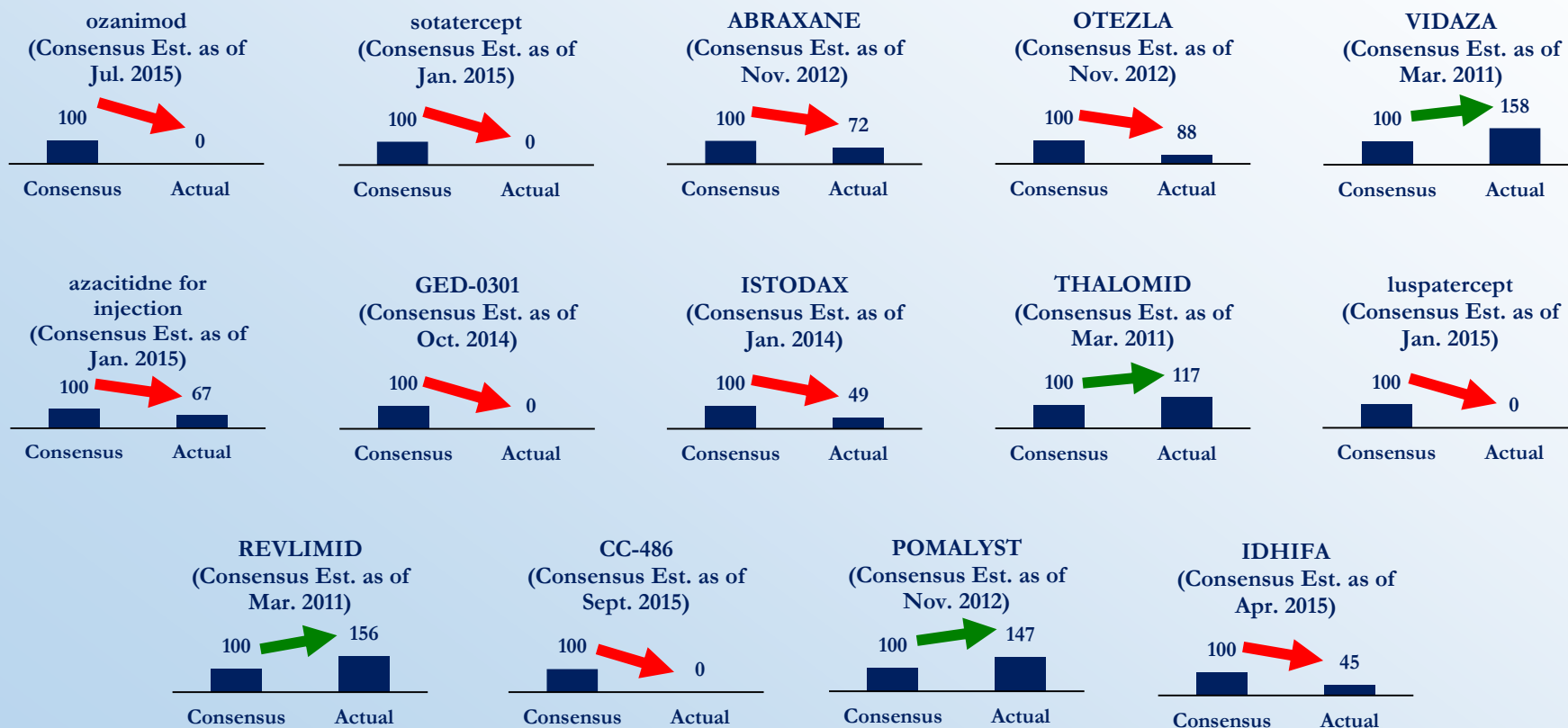
**In its base case scenario, Bristol-Myers is assuming extremely bullish 2028 revenue for Celgene's five near-term product launches relative to Wall Street analysts for 2028**

# Historically, Consensus Estimates for Celgene Have Generally Been Too Optimistic

Wall Street analysts have historically been overly optimistic in their estimates for Celgene's products.

- Below, we index actual 2018 Celgene product revenues against initial Wall Street consensus estimates for 2018.<sup>(1)</sup>

Indexed 2018 Actual Revenue by Product vs. Wall Street Consensus Estimates<sup>(1)</sup>



Source: Public company filings, Bloomberg, Wall Street research.

(1) We compared actual 2018 Celgene revenues by product to the earliest Wall Street consensus estimates available on Bloomberg. Bloomberg lists consensus estimates for 23 Celgene products, of which 14 had 2018 revenue estimates. The chart above compares those 14 products to actual performance.

# We Believe the Math Surrounding Bristol-Myers Early Stage Pipeline Expectations Is Also Highly Aggressive

According to Bristol-Myers, not only does a typical research & development process take 14 years, with >80% of the time spent on early-stage development, but Phase I studies also have a 90 - 92% failure rate.

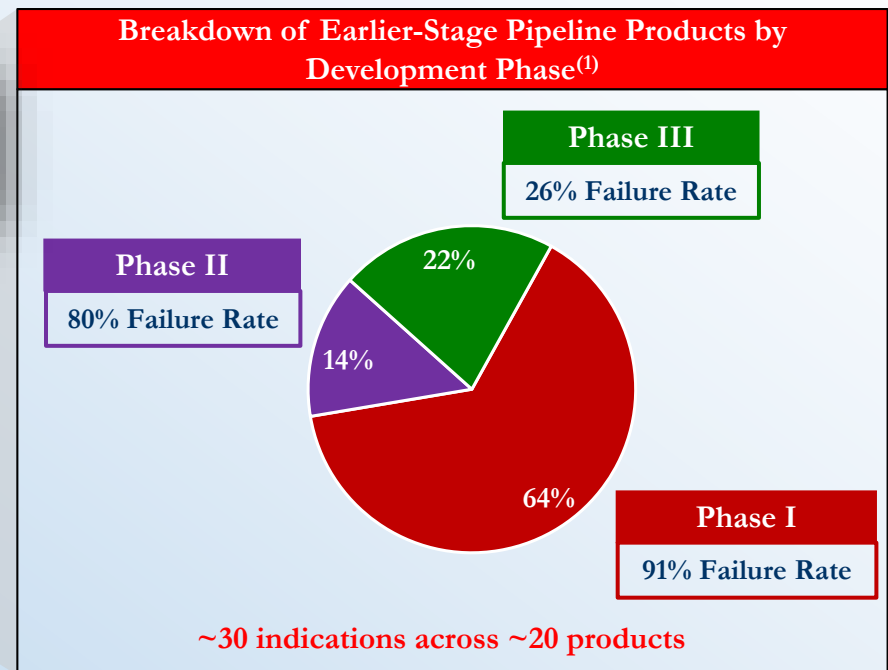
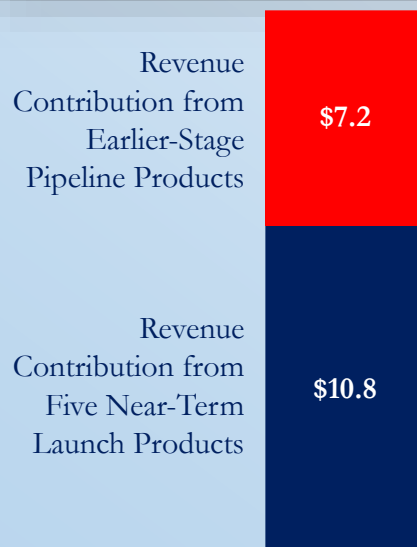
## Bristol-Myers Management View of Celgene Pipeline

(\$ in billions)

### Relevant Excerpt from Bristol-Myers 10-K

Drug development is time consuming, expensive and risky. The R&D process typically takes about fourteen years, with approximately two and a half years often spent in Phase III, or late-stage, development. On average, only about one in 10,000 molecules discovered by pharmaceutical industry researchers proves to be both medically effective and safe enough to become an approved medicine. Drug candidates can fail at any stage of the process, and even late-stage product candidates sometimes fail to receive regulatory approval. According to the KMR Group, based on industry success rates from 2013-2017, approximately 92% of small molecules that enter Phase I development fail to achieve regulatory approval. Small molecules that enter Phase II development have a failure rate of approximately 81% while approximately 32% fail Phase III development. For biologics, the failure rate is approximately 90% from Phase I development, approximately 78% from Phase II development and approximately 20% from Phase III development.

### Breakdown of Earlier-Stage Pipeline Products by Development Phase<sup>(1)</sup>



**On a per drug basis, Celgene's earlier-stage assets may have to be just as productive as its later-stage assets!**

# Bristol-Myers' Base Case Assumes, on Average, Every Successful Earlier-Stage Pipeline Product Would Have to Be a Blockbuster

Based on Bristol-Myers' own failure rate expectations, in order to hit Bristol-Myers base case assumptions for Celgene's early-stage pipeline, on average, every successfully commercialized product launch would have to be a blockbuster.

- We find Bristol-Myers' implied assumptions for the early-stage pipeline to be highly unrealistic.

## Implied Bristol-Myers Assumption For Celgene's Earlier-Stage Pipeline Assets

(\$ in billions)

	Phase I	Phase II	Phase III	Total
Total Indications	18	4	6	28
Probability of Commercialization <sup>(1)</sup>	9%	20%	74%	25%
# of Indications Commercialized	2	1	4	7
Average Indications Per Product				1.5
# of Products Commercialized				5
Total 2028 Expected Revenue				\$ 7.2
Average Expected Revenue Per Product				\$ 1.4

**On average, every product commercialized from Celgene's non-near-term launch pipeline products would need to be a blockbuster!**

**We believe it is unreasonable to assume that, on average, all of Celgene's successfully commercialized earlier-stage assets will be blockbusters**

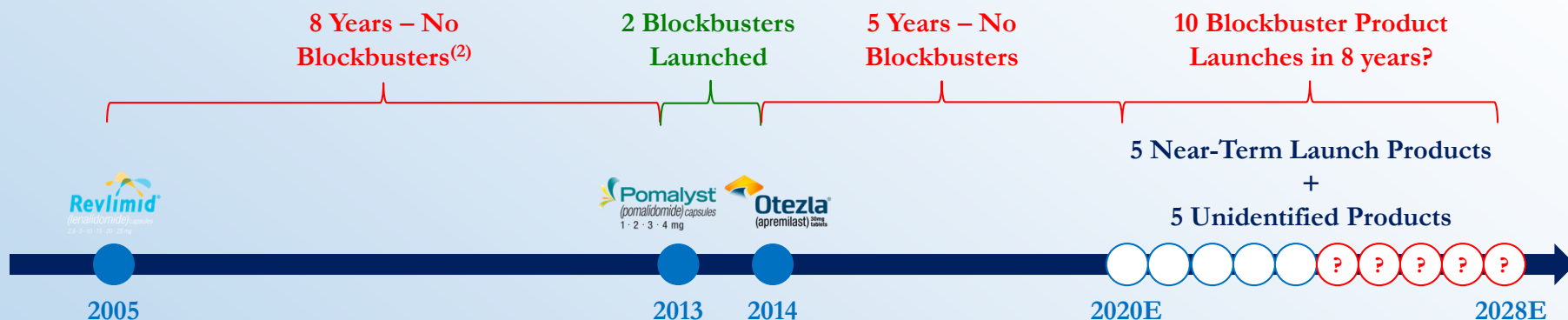


# Celgene Has Only Developed 3 Blockbusters In 15 Years, But Bristol-Myers' Base Case Assumes, On Average, 10 Blockbusters in the Next 8 Years

In its base case, Bristol-Myers is assuming Celgene can generate blockbuster drugs at a pace completely out-of-line with historical performance, adding substantial risk to the deal.

- We find Bristol-Myers' implied assumptions for the early-stage pipeline to be highly unrealistic.

## Launch Date For All Celgene Blockbuster Products Since REVLIMID<sup>(1)</sup>



Assuming Celgene's near-term launch products can generate \$10.8 billion revenue by 2028, another 5, on average, blockbuster products would be needed to reach Bristol-Myers' 2028 revenue base case<sup>(2)</sup>

This means that Bristol-Myers is assuming that Celgene can produce, on average, 10 blockbuster drugs in 8 years...after only producing 3 in the last 15 years!

Why should shareholders underwrite such aggressive assumptions and take on so much risk??

**Bristol-Myers needs Celgene's pipeline to churn out blockbusters at an unprecedented rate**

Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) While ABAXANE has achieved blockbuster drug status, it was originally launched by Abraxis BioScience prior to Celgene's acquisition of the company in 2010. As such, we do not give credit to Celgene for launching ABAXANE.

(2) Ten blockbusters includes five near-term product launches highlighted by Bristol-Myers management plus an additional five products assuming average revenue per product of \$1.4 billion.

# Celgene Has a History of Being Overly Optimistic With Its Pipeline

In 2017, Celgene communicated to shareholders that the company had FOURTEEN significant product launches over the next five years – most of which would be blockbusters.

- Whereas Celgene management had only given vague guidance in early 2016 as to how attractive their pipeline might be, by early 2017, management had gained sufficient confidence to give guidance on specific pipeline products, targeted launch dates, and estimated peak revenues.

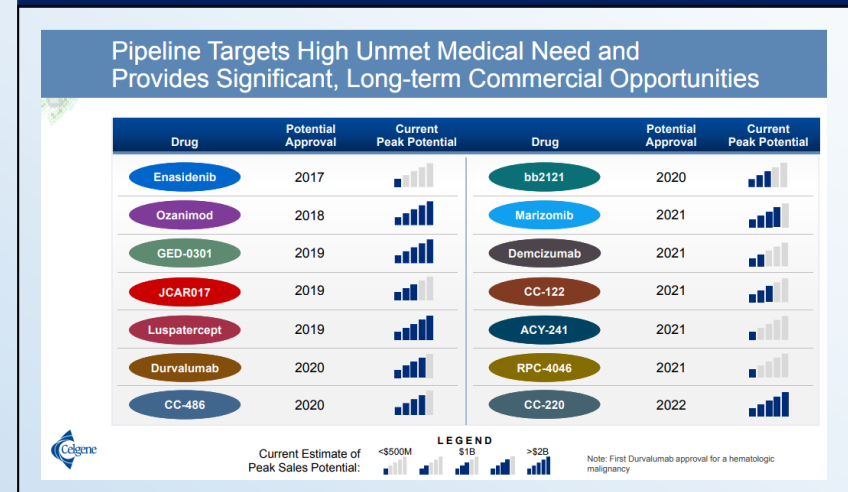
## Celgene Management Presentations

## Early 2016 Celgene Management Presentation



## Non-Specific But Bullish Product Outlook

## Early 2017 Celgene Management Presentation



## Enthusiasm For Specific Products

Celgene set investor expectations that FOURTEEN significant products could launch between 2017 and 2022

# Celgene Has a History of Being Overly Optimistic With Its Pipeline (cont'd)

In early 2018, less than a year after indicating that the company had fourteen significant drugs, Celgene management suddenly switched to promoting only ten blockbusters.

## Celgene Management Presentations

### Early 2017 Celgene Management Presentation

Pipeline Targets High Unmet Medical Need and Provides Significant, Long-term Commercial Opportunities

Drug	Potential Approval	Current Peak Potential	Drug	Potential Approval	Current Peak Potential
Enasidenib	2017		bb2121	2020	
Ozanimod	2018		Marizomib	2021	
GED-0301	2019		Demcizumab	2021	
JCAR017	2019		CC-122	2021	
Luspatercept	2019		ACY-241	2021	
Durvalumab	2020		RPC-4046	2021	
CC-486	2020		CC-220	2022	



Current Estimate of Peak Sales Potential:



Note: First Durvalumab approval for a hematologic malignancy

### Early 2018 Celgene Management Presentation

Late-stage Pipeline with Potential to Add Over \$15B in Incremental Peak Revenue Through 2030

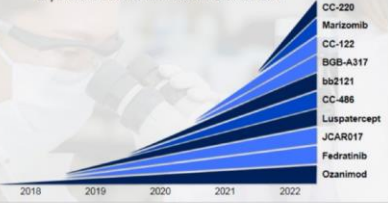
Delivering Industry-Leading Growth Through 2020...

Revenue 14.5% CAGR

Adj. Diluted EPS ~19% CAGR

...And Positioned to Grow Beyond 2020

Expected to Launch Ten Potential Blockbusters



Current Estimate of Peak Sales Potential: \$1B >\$2B



Note: CAGR calculation is from preliminary and unaudited 2017 measurements to the midpoint of the 2020 total revenue range. \$10 billion represents sum of individual potential peak sales for each illustrated product, which may not coincide. Peak sales for each product may not occur during illustrated timeframe. Graph is not to scale.

27

**In less than twelve months, durvalumab, demcizumab, ACY-241, and RPC-4046 had all been removed from the list. While fedratinib was added to the list, current Wall Street analysts' estimates expect fedratinib to generate peak revenues of <\$500 million.**

Celgene management scaled back their enthusiasm only twelve months after projecting strong confidence

# Celgene Has a History of Being Overly Optimistic With Its Pipeline (cont'd)

In June 2018, Celgene management scaled back their initial enthusiasm even further by removing all launch date expectations.

## Celgene Management Presentations

### Early 2017 Celgene Management Presentation

Pipeline Targets High Unmet Medical Need and Provides Significant, Long-term Commercial Opportunities

Drug	Potential Approval	Current Peak Potential	Drug	Potential Approval	Current Peak Potential
Enasidenib	2017		bb2121	2020	
Ozanimod	2018		Marizomib	2021	
GED-0301	2019		Demiczumab	2021	
JCAR017	2019		CC-122	2021	
Luspatercept	2019		ACY-241	2021	
Durvalumab	2020		RPC-4046	2021	
CC-486	2020		CC-220	2022	

Current Estimate of Peak Sales Potential:

LEGEND

\$1B

>\$2B

Note: First Durvalumab approval for a hematologic malignancy

### Early 2018 Celgene Management Presentation

Late-stage Pipeline with Potential to Add Over \$15B in Incremental Peak Revenue Through 2030

Delivering Industry-Leading Growth Through 2020...

Revenue

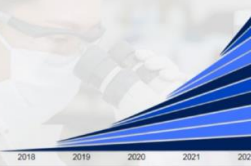
14.5% CAGR

Adj. Diluted EPS

~19% CAGR

...And Positioned to Grow Beyond 2020

Expected to Launch Ten Potential Blockbusters



Current Estimate of Peak Sales Potential:

Note: CAGR calculation is from preliminary and unaudited 2017 measurements to the midpoint of the 2020 total revenue range. \$1B represents sum of individual potential peak sales for each illustrated product, which may not coincide. Peak sales for each product may not occur during illustrated timeframe. Graph is not to scale.

27

### June 2018 Celgene Management Presentation

Late-stage Pipeline with Potential to Add Over \$16B in Incremental Peak Revenue Through 2030

Delivering Industry-Leading Growth Through 2020...

Revenue

14.5% CAGR

Adj. Diluted EPS

~19% CAGR

...And Positioned to Grow Beyond 2020

Expected to Launch Ten Potential Blockbusters

Drug	Current Peak Potential	Drug	Current Peak Potential
Ozanimod		bb2121	
Fedratinib		Tiseltzumab	
Liso-Cel		CC-122	
Luspatercept		Marizomib	
CC-486		CC-220	

LEGEND

Current Estimate of Peak Sales Potential:

\$1B

>\$2B

Note: CAGR calculation is from 2017 measurements to the midpoint of the 2020 total revenue range. \$16 billion represents sum of individual potential peak sales for each illustrated product, which may not coincide.

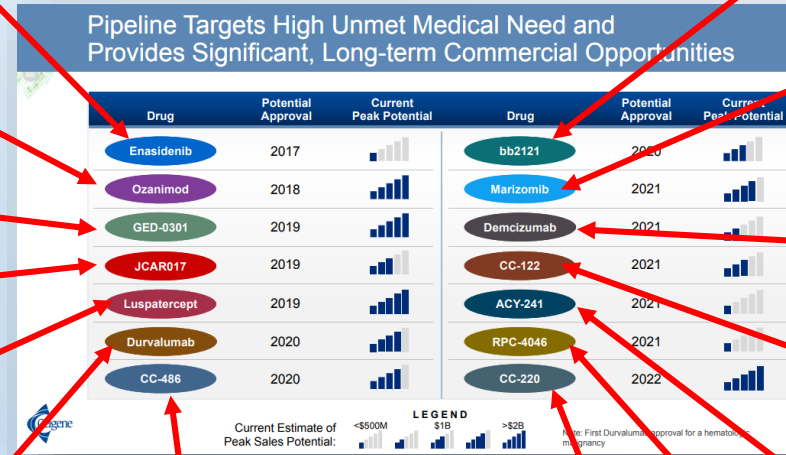
Since promoting fourteen significant products in early 2017, Celgene management has steadily scaled back their enthusiasm and eliminated milestones



# Celgene Has a History of Being Overly Optimistic With Its Pipeline (cont'd)

In addition, of the fourteen significant products highlighted in early 2017, most have either been terminated, delayed or have had expectations materially lowered.

Early 2017 Celgene Management Presentation



Launched as IDHIFA, Wall Street consensus peak sales estimate of \$500 million, in line with original guidance

Received RTF, expected to resubmit March 2019, potential launch now delayed until 2020

Study terminated in October 2017

Expected approval delayed until 2020

Now expected to submit in 1H 2019, approval not likely until 2020

6 trials placed on partial or full clinical hold in 2017 due to safety concerns. Latest 10-K makes no mention of the study or drug. Assumed to be terminated

Unclear timeline for completion of Phase 3 study. Barely mentioned by management. Wall Street consensus peak sales estimates now less than \$1 billion

Wall Street consensus peak sales estimates now at \$800 million in 2028, well below >\$2 billion guidance originally provided by management

Latest management guidance expects approval in 2H 2020

Just entered Phase III trials. Not highlighted by Bristol-Myers as a "high potential agent" in acquisition presentations. No Wall Street analyst estimates available on Bloomberg.

Trials halted in May 2017 after two Phase II trials failed to meet primary endpoints

Management has "de-prioritized" as of December 2018

Unclear timeline. No mention of study progression in 10-K, and has not been discussed publicly by management since December 2016

Been in Phase II since 2014, no mention on any analyst calls



Terminated / De-Prioritized



Delayed / Lowered Guidance



Launched / On-Track



# Celgene Has a History of Being Overly Optimistic With Its Pipeline (cont'd)

Since Celgene management first highlighted fourteen significant products to their shareholders only two years ago, nearly one third of those products have already been terminated or de-prioritized, which represents greater than \$5.5 billion of previously stated peak revenues.

## Current Status of Fourteen Significant Products Highlighted in Early 2017

Drug	Status	Celgene Stated Peak Revenue Potential	Current 2028 Wall Street Estimates <sup>(1)</sup>
GED-0301	Terminated	>\$2.0	\$0.0
Durvalumab	Terminated	1.5	0.0
Demcizumab	Terminated	1.0	0.0
CC-122	De-Prioritized	1.0	0.0
ACY-241	Indefinitely Delayed	\$0.5	???
RPC-046	Indefinitely Delayed	0.5	???
CC-486	Delayed / Reduced Estimates	1.5	1.0
Marizomib	Delayed / Reduced Estimates	1.5	???
CC-220	Delayed / Reduced Estimates	>\$2.0	0.8
Ozanimod	Delayed	>\$2.0	2.5
JCAR017	Delayed	1.0	1.4
Luspatercept	Delayed	2.0	1.6
bb2121	On-Track	\$1.0	\$1.0
IDHIFA	Launched	0.5	0.5
Total Revenue		>\$18.0	\$8.7

~30% of total drugs highlighted and greater than \$5.5 billion of peak sales has been terminated or de-prioritized

~55% of total drugs highlighted have been delayed, and peak sales potential has declined by greater than \$4 billion (~40% discount)

Only 15% of total drugs highlighted in early 2017 by Celgene have been approved or remain on-track

Source: Public company filings, Wall Street research, Starboard estimates.

(1) We use Wall Street consensus estimates for CC-486, CC-220, and IDHIFA. For ozanimod, JCAR017, luspatercept, and bb2121, we take the median of Bank of America Merrill Lynch, Barclays, Morgan Stanley, Goldman Sachs, and Cantor Fitzgerald.

# Most Recently, Celgene Overhyped GED-0301...We Are Skeptical of Celgene Management's Expectations

Celgene management expected GED-0301 to be a blockbuster drug.

- In April 2014, Celgene paid \$710 million to Nogra Pharma for the exclusive right to develop and commercialize GED-0301 for the treatment of Crohn's disease and other indications – this was one of the largest upfront payments Celgene had made.
- Celgene management was extremely excited about the drug's potential while Wall Street analysts' reactions were more mixed.

## Post-Deal Celgene Management Commentary

“Deal terms, a \$710mm upfront payment that we believe reflects certainly the value of this drug...So for us a very exciting opportunity, one that we believe will contribute significantly to the building of our I&I franchise...”

*COO Perry Karsen, May 2014*

“We had some thought leaders in the U.S., top-top thought leaders help us do the diligence and look at the data...We've done a tremendous diligence about it. We're very excited about it, and that's where Celgene should be.”

*Chairman & CEO Robert Hugin, June 2014*

“Relative to GED, I think again, just to reiterate, we feel very strongly about the program, GED. It's our lead program in the Crohn's portion of IBD. We feel very strong about our ability to execute on it. We're excited. We're moving forward as fast as we can with all aspects of that program.”

*Chairman & CEO Robert Hugin, July 2015*

## Post-Deal Wall Street Analyst Commentary

“Key questions around the path to Ph3, the reproducibility of the data due to clinical site concentration and activity in broader set of patients remain unanswered.”

*Morgan Stanley, October 2014*

“Expect upside for CELG as data support long-term \$1.5-2B revenue promise as novel oral entrant in unmet Crohn's market.”

*Wells Fargo, October 2014*

“We believe at peak GED-0301 could reach \$3B++ in peak WW sales. Although Wall Street consensus includes very little for the drug, we believe investor expectations are much, much higher than zero.”

*Evercore ISI, October 2014*

**Celgene management was extremely excited about the prospects for GED-0301**

# Most Recently, Celgene Overhyped GED-0301...We Are Skeptical of Celgene Management's Expectations (cont'd)

Management showed conviction in GED-0301 right up until its failure.

- Celgene abandoned Phase III studies for GED-0301 in October 2017 after failing to clear an interim futility review.
- However, in the 12 months leading up to the termination, management remained extremely optimistic, and by then, consensus estimates were also forecasting GED-0301 to be a blockbuster drug.

## Management Commentary 12-Months Leading Up To Failure

“And then you have ozanimod, GED-0301. Both of those – as I mentioned before, ozanimod is a we think \$4bn to \$6bn asset; GED-0301 for Crohn's disease could be transformational as well. In our opinion, it's probably a multi-billion dollar asset, as well.”

*Corporate VP – Investor Relations Patrick Flanigan, March 2017*

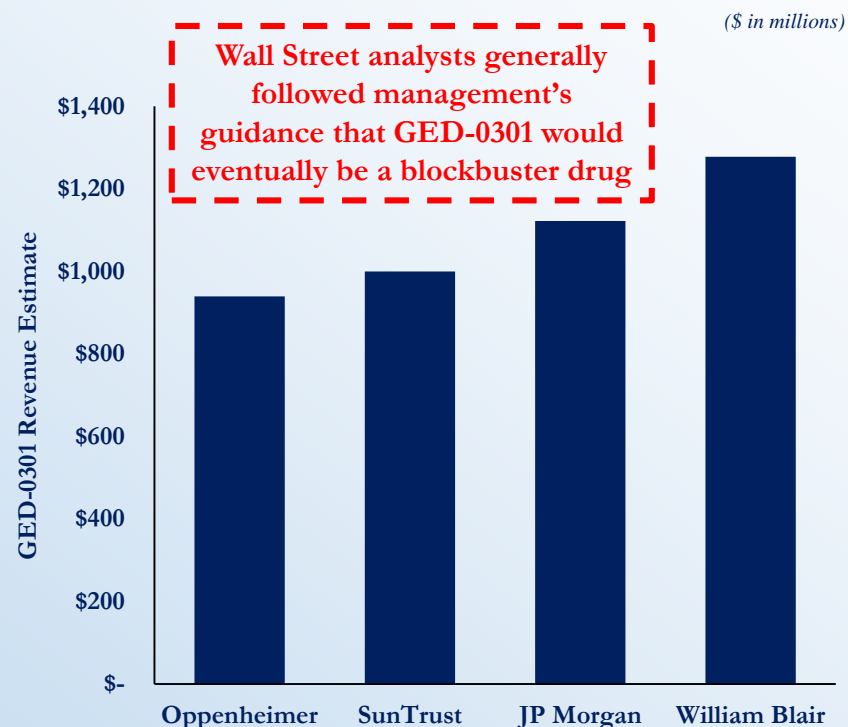
“We aggressively advanced the development of two potential future blockbuster products, ozanimod and GED-0301. Several important data readouts will follow throughout the year.”

*President & COO Scott Smith, April 2017*

“So beginning with GED-0301...we've had some great Phase II data for the products. It's in Phase III now for Crohn's disease. We think that's an enormous opportunity, and we'll wait to see what the data says and then we have high hopes for it commercially”

*CEO Mark Alles, May 2017*

## Select Wall Street Analyst Estimates 3-Months Leading Up to Failure<sup>(1)</sup>



Wall Street analysts were very surprised with the failure following the bullish management commentary

Source: Public company filings, Wall Street research.

(1) Revenue estimates shown for GED-0301 are based on furthest published estimates as follows: Oppenheimer (2021), SunTrust (2021), JP Morgan (2021), William Blair (2020). All estimates from reports published within 3-months prior to termination announcement.

# Most Recently, Celgene Overhyped GED-0301...We Are Skeptical of Celgene Management Expectations (cont'd)

After hitting an all-time high just weeks earlier, Celgene's stock fell by 28% following termination of the GED-0301 study.

Celgene Stock Price Performance Pre- and Post-GED-0301 Termination Announcement



GED-0301 marked the near peak of Celgene's stock price and a big hit to management's credibility

# We Believe Celgene's Pipeline Has Massive Risk

Below, we provide an overview of the key risks related to the five near-term product launch opportunities in Celgene's pipeline that Bristol-Myers has highlighted to shareholders, and is expecting to generate \$10 billion in revenue by 2028.

## Overview of Celgene's Near-Term Product Launch Opportunities

Name	Development Phase	Key Risks
<b>fedratinib</b>	Phase III (completed)	<ul style="list-style-type: none"> <li>Trials were halted by Sanofi in 2013 due to adverse patient response</li> <li>Up to \$1.4 billion contingent payment tied to regulatory approvals, but consensus peak sales estimate is approximately \$400 million (this may become a lose-lose situation)</li> </ul>
<b>ozanimod</b>	Phase III (completed)	<ul style="list-style-type: none"> <li>Multiple sclerosis market is occupied by numerous, effective, and well-characterized products with more competition coming</li> <li>Potential IP issues that management admitted could be a roadblock to commercialization</li> </ul>
<b>liso-cel (JCAR017)</b>	Phase II / Pivotal (ongoing)	<ul style="list-style-type: none"> <li>Small niche market and high total cost of care limits total revenue potential</li> <li>Limited clinical data creates questions around sustainability of patient response</li> <li>Significant risk of complications due to neurotoxicity</li> </ul>
<b>bb2121</b>	Phase II / Pivotal (ongoing)	<ul style="list-style-type: none"> <li>Crowded market with many potential CAR-T therapies; some are even lower cost</li> <li>Lack of longer-term survival data, potentially non-curative due to declining PFS curve</li> </ul>
<b>luspatercept</b>	Phase III (completed)	<ul style="list-style-type: none"> <li>Well established competitors (Epogen, Procrit, Aranesp) that have been in the market for decades and limited published head-to-head data</li> </ul>

## Earlier-Stage Pipeline Products



In addition, Bristol-Myers management seems to be expecting five unidentified products to each generate average revenues of \$1.4 billion

**On average, Bristol-Myers is assuming each Celgene pipeline product launched will be a blockbuster**

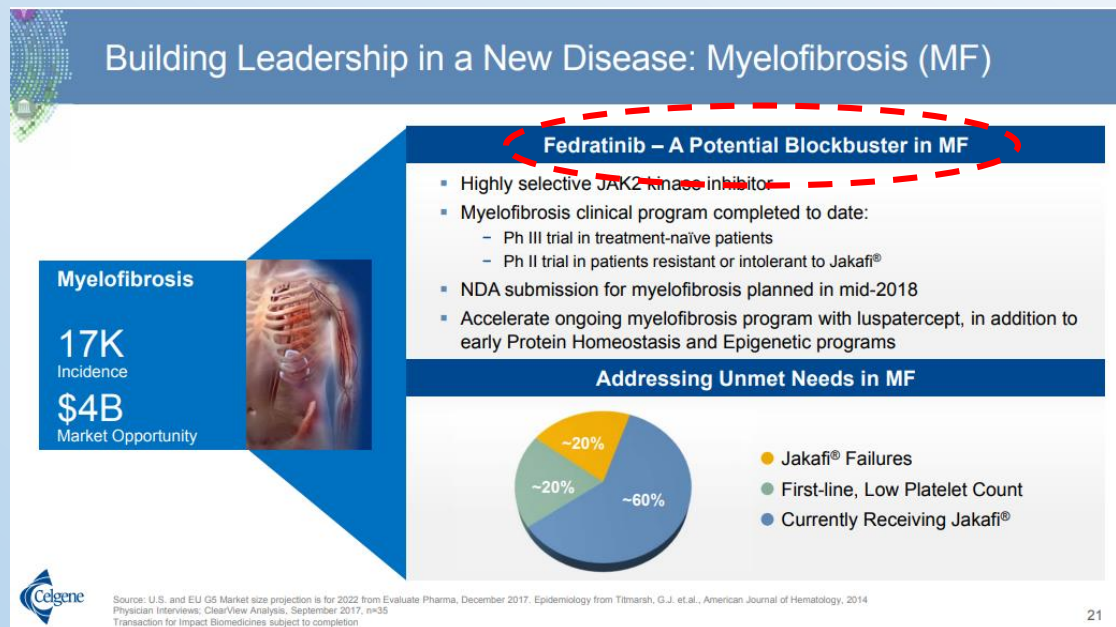


# Fedratinib Appears to Be Far Smaller and Riskier Than Initially Expected

Celgene has been consistently bullish about the prospects for fedratinib.

- In January 2018, Celgene acquired fedratinib through its \$1.1 billion acquisition of Impact Biomedicines.
- Fedratinib is a JAK2 kinase inhibitor that can potentially be used to treat patients with myelofibrosis as a 1L treatment or as an alternative to JAKAFI, the current standard of care.

## Celgene Q4 2017 Management Presentation



“Currently a significant segment of patients, approximately 40%, are not eligible to receive ruxolitinib [JAKAFI] due to progression on treatment or low platelet counts. These patients would be available immediately at launch for treatment with fedratinib. **We believe fedratinib represents a significant opportunity for patients and has the potential to be a billion-dollar blockbuster for Celgene.**”

*Nadim Ahmed, Celgene President of Hematology and Oncology  
January 2018*

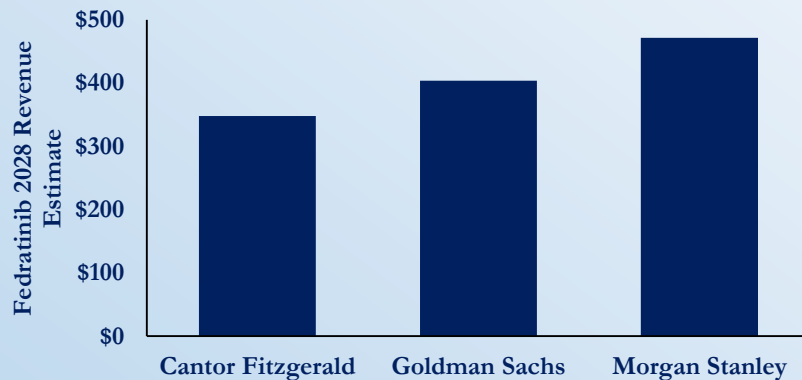
We are unclear why Celgene management is so bullish on fedratinib

# Fedratinib Appears to Be Far Smaller and Riskier Than Initially Expected (cont'd)

However, Wall Street analysts' estimates are remarkably in agreement that this will be a small drug.

Select Wall Street Analyst Estimates for Fedratinib 2028 Revenue

(\$ in millions)



“We believe fedratinib represents a significant opportunity for patients and has the potential to be a billion-dollar blockbuster for Celgene.”

Nadim Ahmed, Celgene President of Hematology and Oncology  
January 2018

Despite repeated, bullish commentary from management on fedratinib, Wall Street analysts have overwhelmingly lower expectations for the drug

Select Wall Street Analyst Commentary on Fedratinib

“In our view, the drug will be a more modest seller and we model \$400mm peak sales as there are several JAK inhibitors entering late stage development for MF.”

Cowen  
February 2019

“We have not included any sales impact to Celgene from Juno’s JCAR017 or Impact’s fedratinib through 2022 at this time...”

Oppenheimer  
May 2018

“Investors are likely to again focus on risks to fedratinib with mgt. delaying the filing to confirm with FDA the information communicated to Impact.”

Morgan Stanley  
May 2018

“Approval and launch of fedratinib in MF will likely only provide incremental growth.”

Barclays  
January 2018

Wall Street analysts are essentially in unanimous agreement that fedratinib will be a small drug

# Incyte Appears Wholly Unconcerned by Fedratinib's Potential Entry into the Market

Incyte Corporation (“Incyte”) owns JAKAFI – the current standard of care for myelofibrosis (“MF”) – and is wholly unconcerned by fedratinib’s potential entry into the market.

- On March 13, 2019, at the Barclays Global Healthcare Conference, Incyte’s CEO was asked for his views on fedratinib’s potential entry into the MF market (excerpt below).

## Question and Response From Incyte’s CEO on Fedratinib’s Potential Entry Into MF Market

**Q:** And when you think about the landscape here, you have Celgene’s fedratinib, which is – which now has a priority review. I think most investors kind of view this as refractory to JAKAFI, but maybe just help us with how you would view the landscape.

**A:** I don’t think having another of the same product with other issues in terms of safety versus JAKAFI is really changing fundamentally the big picture, because the big picture is JAKAFI has probably the best profile in terms of safety, efficacy for the disease.

- Below is the key takeaway published by the Barclays analyst conducting the interview.

“With JAKAFI well-positioned to remain the primary treatment option, management questioned the potential of a second line option with the same mechanism of action for patients who had advanced beyond JAKAFI.”

*Barclays  
March 2019*

There are questions around whether fedratinib adds any incremental value to existing MF treatments

# Despite Multiple Years of Investment, Sanofi Previously Terminated Fedratinib Due to Patient Safety Concerns

Sanofi had originally acquired fedratinib in a deal valued at \$635 million, but following years of development, chose to terminate clinical trials as a result of questionable patient safety.

In 2010, Sanofi acquired fedratinib through a \$635 million acquisition of TargeGen

Biotech

## On a spree, Sanofi scoops up TargeGen in \$635M deal

by John Carroll | Jun 30, 2010 7:46am

Continuing its global deal-making spree, Sanofi-Aventis has forged a deal to buy San Diego-based TargeGen for \$75 million down and up to \$560 million in milestones based on the success of its small molecule kinase inhibitors for leukemia, lymphoma and other blood diseases.

The deal gives Sanofi control over TargeGen's lead program, TG 101348, a JAK-2 inhibitor which has completed a multicenter clinical Phase I/II trial in patients with myelofibrosis. Myelofibrosis is characterized by a proliferation of an abnormal type of bone marrow stem cells. More trials are scheduled to get underway in the second half of this year.

In 2013, Sanofi terminated clinical trials for fedratinib after patients developed Wernicke's Encephalopathy

Share  

## Sanofi Discontinues Fedratinib Development

Nov 26, 2013 By Melanie Sena

Sanofi has decided to stop all clinical trials and cancel plans for regulatory filings for its investigational JAK2 inhibitor, fedratinib.

Following a risk-benefit analysis, including consultation with FDA, study investigators, independent expert neurologists, and neuroradiologists, Sanofi determined that the risk to patient safety outweighed the benefit that fedratinib would bring to patients.

This decision follows recent reports of cases consistent with Wernicke's encephalopathy in patients participating in fedratinib clinical trials. FDA directed Sanofi to put all fedratinib trials on clinical hold while the company investigated these cases. Sanofi took immediate action requesting that study investigators discontinue fedratinib treatment for patients in the trials.

Sanofi has notified investigators of all ongoing fedratinib trials, as well as health authorities, of its decision to halt the trials.

Source: [Sanofi](#)

Sanofi terminated fedratinib in 2013 after 3 years of investment due to concerns with patient safety

# Yet, Celgene Paid More Than \$1 Billion Upfront For Fedratinib

Impact Biomedicines resurrected fedratinib in 2017 with ~\$110 million of venture funding, and sold the company to Celgene less than two years later in a deal potentially worth \$7 billion.

In 2017, Impact Biomedicines raised ~\$110 million in venture funding to resurrect fedratinib

Biotech

## Impact bags \$22M to save ex-Sanofi drug from trial limbo

by Nick Paul Taylor | Oct 13, 2017 8:00am



### Impact Biomedicines Closes \$90 Million Financing with Oberland Capital to Fund Fedratinib Program Advancement

*Financing follows successful study of fedratinib in patients with myelofibrosis who were resistant or intolerant of ruxotinib published in The Lancet Haematology*

October 26, 2017 08:00 AM Eastern Daylight Time

In early 2018, Celgene acquired Impact Biomedicines at a \$7 billion valuation

BUSINESS

## Celgene to Buy Impact Biomedicines

Deal could be worth as much as \$7 billion if milestones are hit

Celgene Corp. agreed to buy blood-disease biotechnology company Impact Biomedicines for as much as \$7 billion.

Celgene will make an upfront payment of \$1.1 billion for the privately held San Diego company, the companies said in a statement Sunday, confirming an earlier report in The Wall Street Journal.

Assuming Impact hits regulatory-approval milestones, another payment of as much as \$1.4 billion could be forthcoming, the companies said. Should global net sales surpass \$5 billion, there could be another payment of as much as \$4.5 billion.

Celgene paid more than \$1 billion upfront plus contingent payments for fedratinib after Sanofi discontinued it due to concerns around patient safety



# If Fedratinib Is Approved, Celgene May Owe Impact Biomedicines Contingent Payments Nearly 4x Greater Than Expected Peak Sales

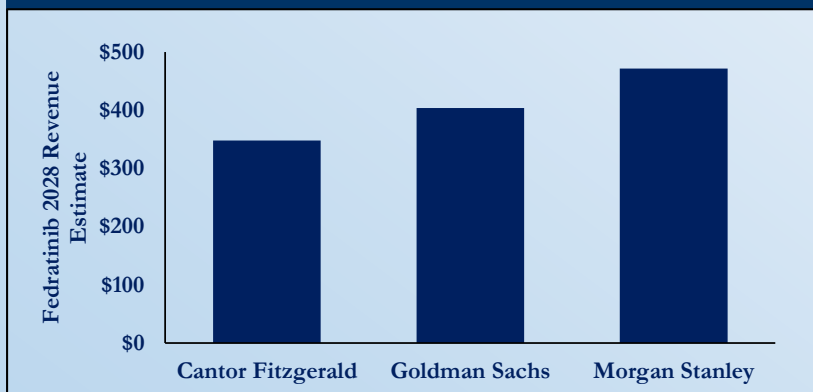
According to Celgene's 10-K filing, the company could owe Impact Biomedicines a contingent payment of \$1.4 billion if fedratinib receives regulatory approval (excerpt below).

## Excerpt from Celgene 2018 10-K Filing Regarding Impact Biomedicines

*Impact Biomedicines, Inc. (Impact):* On February 12, 2018, we acquired all of the outstanding shares of Impact, a privately held biotechnology company which was developing fedratinib, a highly selective JAK2 kinase inhibitor, for myelofibrosis.

The consideration included an initial payment of approximately \$1.1 billion. In addition, the sellers of Impact are eligible to receive contingent consideration based upon regulatory approvals of up to \$1.4 billion and contingent consideration of up to \$4.5 billion based upon the achievement of sales in any four consecutive calendar quarters between \$1.0 billion and \$5.0 billion. The acquisition of Impact was concentrated in one single identifiable asset and thus, for accounting purposes, we have concluded that the acquired assets do not meet the accounting definition of a business. The initial payment was allocated primarily to fedratinib, resulting in a \$1.1 billion research and development asset acquisition expense and the balance of approximately \$7 million was allocated to the remaining net assets acquired.

## Fedratinib – 2028 Wall Street Analyst Revenue Estimates



Wall Street analysts uniformly expect fedratinib to generate modest peak revenues


If Bristol-Myers successfully commercializes fedratinib, the Company may owe Impact Biomedicines contingent payments nearly 4x greater than fedratinib's peak sales – is fedratinib even worth commercializing?

# Celgene Management Set High Expectations For Ozanimod

Celgene management communicated to shareholders that ozanimod would generate \$4 - 6 billion peak sales.

- In July 2015, Celgene gained access to ozanimod through a \$7.2 billion acquisition of Receptos.
- Management declared that ozanimod could be a blockbuster and best-in-class drug with applications across ulcerative colitis, multiple sclerosis, Crohn's disease, psoriasis, atopic dermatitis, and systemic lupus erythematosus.

## Celgene Management Presentation Announcing Receptos Acquisition



### Receptos is a Strong Strategic Fit for Celgene I&I

<b>Disruptive I&amp;I Products</b>	<ul style="list-style-type: none"> <li>Ozanimod is a potential best-in-class oral S1P receptor modulator in late-stage development presenting a <b>\$4B - \$6B peak sales opportunity</b></li> <li>Ozanimod advancing in Phase III for Ulcerative Colitis and Relapsing Multiple Sclerosis with tremendous potential across multiple indications</li> <li>Second product candidate, RPC4046, an IL-13 antibody in Phase II for Eosinophilic Esophagitis, an orphan disorder with no FDA approved drugs</li> </ul>
<b>Robust Ozanimod Clinical Data</b>	<ul style="list-style-type: none"> <li>Phase II TOUCHSTONE trial in UC, met key clinical and endoscopic endpoints for both induction and maintenance</li> <li>Phase II RADIANCE trial in RMS, met the primary efficacy endpoint and all key secondary endpoints</li> <li>Potential to offer an improved cardiac profile, reduced hepatotoxicity and faster lymphocyte recovery versus currently marketed S1P drugs</li> </ul>
<b>Differentiated Asset Targeting Large Markets</b>	<ul style="list-style-type: none"> <li>IBD is a \$9B market today with very few effective treatment options, especially for moderate-to-severe disease</li> <li>Ozanimod could be the first S1P receptor modulator approved for IBD</li> <li>RMS is a \$20B market today and Ozanimod has the potential to be highly differentiated versus current therapies</li> </ul>

**Receptos Enhances our I&I Franchise with Additional Cornerstone Product**

**“Based on our confidence in ozanimod’s potential, we are raising our 2020 revenue targets to more than \$21 billion...it’s an incredibly exciting time for Celgene as we continue to invest in our future and accelerate growth potential through 2020 and beyond.”**

*Bob Hugin, Chairman & CEO  
July 2015*

**“We believe that ozanimod has the potential to generate peak sales in the range of \$4 billion to \$6 billion annually in just the initial indications.”**

*Scott Smith, President – Global Inflammation & Immunology  
July 2015*

Celgene management was extremely excited about the prospects for ozanimod

# Despite Consistent Bullish Commentary From Celgene Management, Ozanimod Already Received an RTF

Ozanimod received a refusal-to-file (“RTF”) from the FDA despite continuous bullish commentary, heavily damaging the credibility of Celgene’s management team.

- In February 2018, Celgene announced that the company had received an RTF letter from the FDA because the non-clinical and clinical pharmacology sections were insufficient to permit a complete review.
- Based on conversations with industry experts, we believe ozanimod may have had certain issues with its safety profile.

## Management Commentary Leading Up to the RTF

“Turning to ozanimod. We are highly encouraged by the results we’ve seen to date in both SUNBEAM and RADIANCE pivotal trials for RMS. We remain focused on preparing for a world-class launch in the RMS market...and we remain on track for launch readiness by Q4 this year.”

*Terrie Curran, President – Inflammation & Immunology  
January 2018*

## Management Commentary Post-RTF

“I think that 99% of folks at Celgene wouldn’t have submitted, but we had Receptos out on the West Coast and, for whatever reason, the decision was made to submit. We learned a lesson of humility and that when you do an acquisition it’s better to be more integrated rather than be completely away from the mothership.”

*Nadim Ahmed, President – Hematology & Oncology  
June 2018 – Speaking to Financial Times*

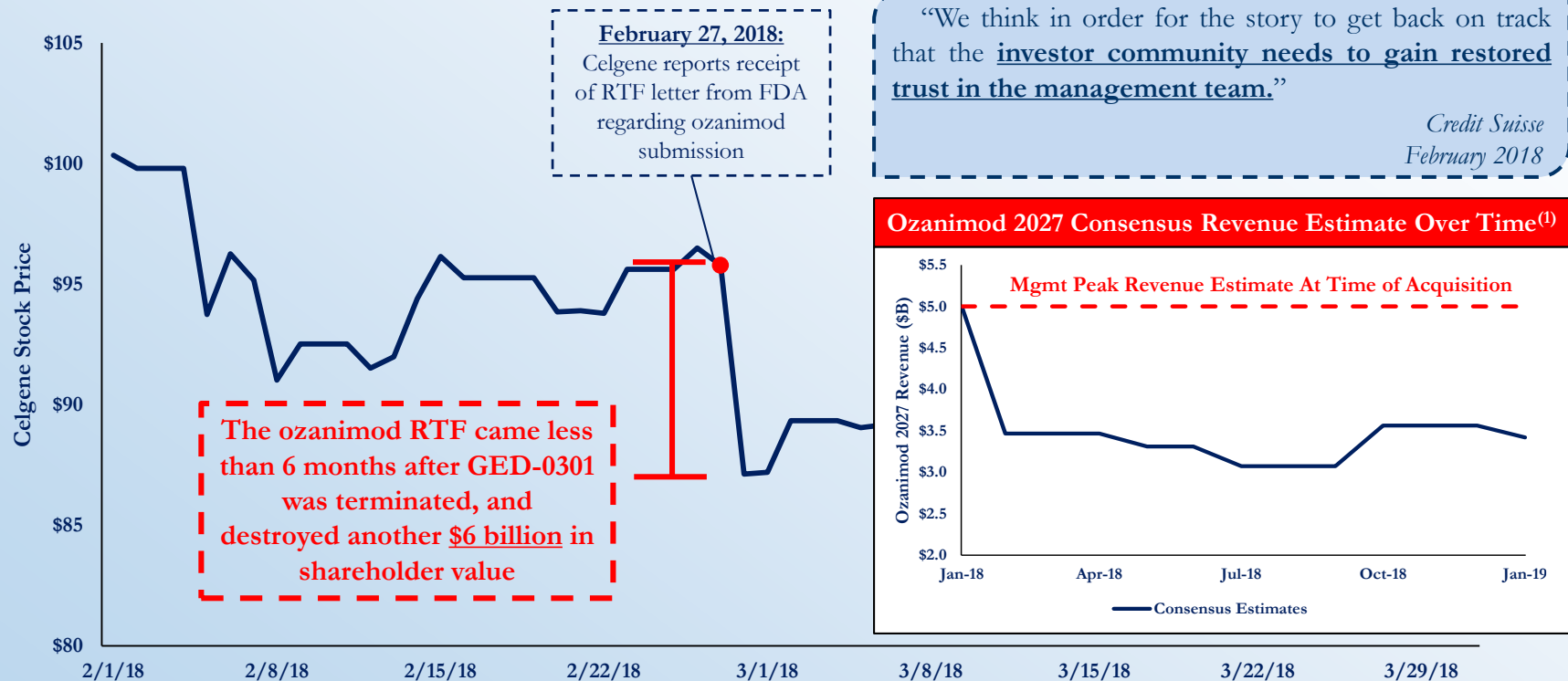
**Celgene was hyper focused on the ozanimod launch but didn’t care enough to double-check that the FDA filing was adequate?**

An RTF for Celgene’s next potential blockbuster drug was followed by finger pointing and attempts to avoid responsibility, yet Celgene still wants shareholders to trust that ozanimod has bullish prospects

# The Initial Excitement on Ozanimod Has Already Moderated

Since the acquisition of ozanimod in July 2015, revenue expectations have already declined by 31%.

Celgene Stock Price Performance Pre- and Post-Ozanimod RTF Announcement



Latest consensus estimates for ozanimod in 2025, the year before REVLIMID goes generic, is nowhere close to peak sales estimates communicated to shareholders at the time of acquisition

# Ozanimod Will Likely Face Significant Competition in the Market

The multiple sclerosis (“MS”) market is currently occupied by numerous safe, effective, and well-characterized products with more competition coming.

## Competitive Landscape for Ozanimod

**AVONEX**  
(interferón beta-1a)

**BETASERON**  
(INTERFERON BETA-1b) 0.5g/1.5g

**COPAXONE**  
(Glatiramer acetate)

**EXTAVIA**  
interferon beta-1b FOR SC INJECTION

Once-daily  
**AUBAGIO**  
(teriflunomide) 14mg tablets

EVERY 2 WEEKS  
**plegridy**  
(peginterferon beta-1a)  
125 mcg SUBCUTANEOUS INJECTION

**Rebif**

**LEMTRADA**  
alemtuzumab 12mg

**GILENYA**  
(fingolimod) 0.5mg capsules  
Experience the Power

**Tecfidera**  
(dimethyl fumarate) delayed-release capsules 240mg

EVERY 4 WEEKS  
300mg IV  
**TYSABRI**  
(natalizumab)

**OCREVUS**  
ocrelizumab 150mg/150mg

“...we expect most potential users of the drug will see this issue as a curious safety issue and another reason to ignore the drug.”

BTIG  
December 2018

## Both Physicians and Wall Street Analysts Remain Skeptical

“At our 2017 annual Cowen Health Care Conference, most polled physicians (60%) indicated that ozanimod’s profile appears differentiated but not necessarily a ‘game changer’ in ulcerative colitis.”

Cowen  
February 2019

“Ozanimod for MS was always a tough sell based on the entrenchment of Tecfidera and Gilenya. The high-profile delay at the FDA based on a poorly characterized metabolite won’t help ...”

BTIG  
December 2018

“Our point of contention for ozanimod has generally been the ‘lymphocytic rebound’ effect that has been an overhang for the entire S1P class within multiple sclerosis.”

Raymond James  
December 2018

The multiple sclerosis market is highly competitive with numerous approved therapies



# Arena Pharmaceuticals Has a Competing Product That May Be Superior Across a Number of Factors

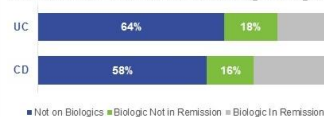
Arena Pharmaceuticals is also developing a S1P receptor modulator – the same mechanism of action as ozanimod – that the company believes outcompetes ozanimod across a number of factors.

## Arena Pharmaceuticals Company Presentation

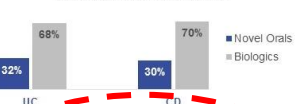
### 100 GI Physicians Quantitative Conjoint Study Shows Etrasimod Emerging as Potential Market Leader in IBD

ARENA PHARMACEUTICALS

#### Mod/Severe Patients Not Receiving Biologics



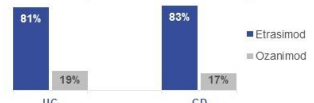
#### Oral Market Increasing (Estimated Future Preference)



#### S1P vs. JAK (Estimated Preference)



#### Etrasimod vs. Ozanimod (Estimated Future Preference)



Source: Arena data on file

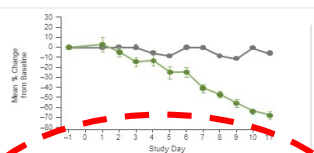
January 2019 | 8

### Etrasimod Has a Quick Onset of Action

Phase 1 Data

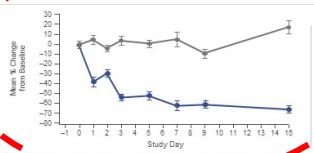
ARENA PHARMACEUTICALS

Ozanimod<sup>1</sup>



At Day 3, ozanimod showed ~15% lymphocyte reduction

Etrasimod



At Day 3, etrasimod showed ~53% lymphocyte reduction

\*Data Collected from Separate Studies – Cannot be Directly Compared

<sup>1</sup>After dose escalation of ozanimod (0.3 mg on days 1-2, 0.6 mg on days 4 and 5, 1 mg on days 6 and 7, and 3 mg on days 8-10. Data truncated at day 11 (ozanimod) and 15 (etrasimod) to show on-treatment onset effects. Source: 1-1701-22 at J. Clin. Pharmacol. 2017;37:988-995. 31-AUG-2014 P1 Data on File

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## Commentary From Arena Pharmaceuticals

“Importantly, physicians are moving more and more to oral therapies, are looking more and more to oral therapies. And in those oral therapies, routinely, physicians select S1P modulators over JAK inhibitors. And when we put blinded profiles in front of physicians, they routinely select etrasimod over ozanimod.”

*Amit Munshi, CEO & President of Arena Pharma  
January 2019*

“We have very quick onset of action. We lower lymphocytes 3x faster than ozanimod. We’ll be doing a lot of work in Phase III to elucidate how this maps to symptom relief.”

*Amit Munshi, CEO & President of Arena Pharma  
January 2019*

“We also have an extremely fast offset of action...clinicians like to be able to get out in the event there’s a problem...we actually don’t know how long it takes to get ozanimod [out] because that data has never been presented.”

*Amit Munshi, CEO & President of Arena Pharma  
January 2019*

Arena Pharmaceuticals may be coming to market with a product that is superior to ozanimod

# In Addition, Ozanimod May Have a Serious Intellectual Property (“IP”) Issue

Bristol-Myers shareholders only recently learned that Novartis may potentially have blocking IP on ozanimod.

- We believe a Credit-Suisse report published this month is the first time that Bristol-Myers shareholders have been made aware of a potential IP issue with ozanimod.

Excerpt From Credit Suisse Research Report (March 2019)

## US Pharma and Biotech

COMMENT

### Ozanimod May Have an IP Issue, but Likely Manageable

- **Potential Ozanimod Patent Issue:** A key concern surrounding the Bristol/Celgene deal has been around the ability for Bristol to execute on Celgene's pipeline, which includes the S1P modulator ozanimod. We recently learned that Novartis holds the dose-titration class patent to S1P modulators/agonists (US8492441B2), a critical component of ozanimod's product profile as all three proposed indications currently require dose titration. We think this issue has been under investors' radar, and we highlight it here as a potential concern for the deal. With that said, we spoke with Bristol, which indicated it is aware that this class patent could be a roadblock to ozanimod commercialization and believes it will be able to manage through this hurdle.

Bristol-Myers management was “aware that this class patent could be a roadblock to ozanimod commercialization,” yet has continued to promote the product’s blockbuster potential to shareholders, even going as far as to call ozanimod “de-risked”

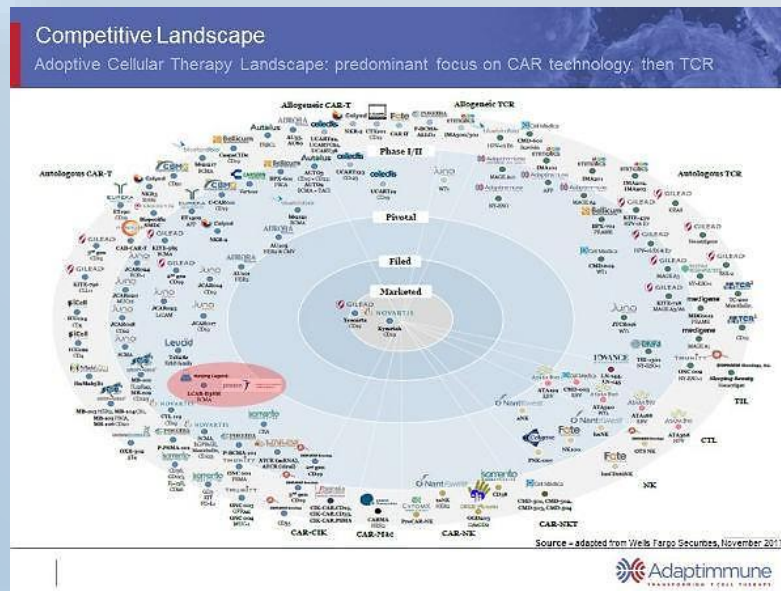
Did Bristol-Myers miss the IP issues with ozanimod during their two weeks of full data room access? Why did management not disclose this risk to shareholders given the significance of ozanimod to Celgene’s pipeline?

# The CAR-T Therapy Market Is Likely to Become Increasingly Crowded

While there are only two chimeric antigen receptor T-cell (“CAR-T”) therapies currently approved, the market is likely to become increasingly crowded as there are numerous studies currently underway.

- Celgene has highlighted two CAR-T therapies in its pipeline – JCAR017 and bb2121.
  - CAR-T therapy is a type of treatment that alters a patient’s T-cells so that they will attack cancer cells.
  - JCAR017 uses the CD-19 protein to target diffuse large B-cell lymphoma (DLBCL), while bb2121 targets the BCMA protein on the surface of multiple myeloma cells

## CAR-T Competitor Landscape In Mid-2018



## Currently Approved CAR-T Therapies



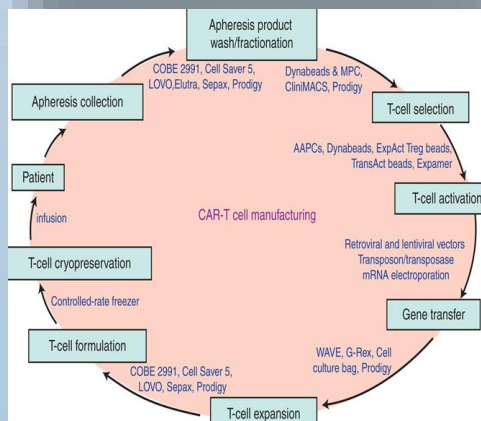
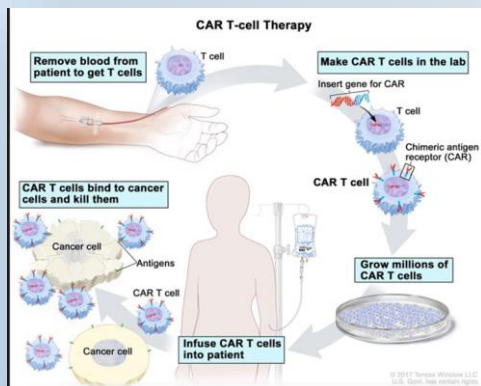
While there are only two approved CAR-T therapies currently on the market, there are hundreds of pre-clinical and clinical studies underway

The CAR-T therapy market could become extremely crowded due to the number of drug candidates in development

# CAR-T Manufacturing Processes Are Highly Complex

The CAR-T manufacturing processes are extremely complex and existing entrants have already run into issues.

## Overview of CAR-T Manufacturing



## Commentary on the Difficulties of Manufacturing CAR-T Therapies

“I’d say it’s early days and we’ve always said this is going to be a 5-year journey with KYMRIAHA to really get it to be the globally successful brand we want it to be. On manufacturing, we have seen some variability in our product specifications.”

*Vasant Narsimhan, Novartis CEO  
July 2018*

“Let’s first make a comment about manufacturing and gene therapy of CAR-Ts. I think we all need to be aware, this is an extremely new field. A lot of manufacturing technologies are under development.”

*Richard Ridinger, Lonza CEO  
July 2018*

The complexity of CAR-T manufacturing processes injects additional risks into the commercialization of CAR-T therapies



# Pricing and Reimbursement for CAR-T Products Could Also Be Challenging

CAR-T therapy pricing has already generated negative media headlines while reimbursement has been rejected in certain geographies.

## Does the Cost Outweigh the Benefit for CAR T-Cell Therapy?

Samantha Hitchcock

Published Online: Jan 09, 2019

HEALTH NEWS AUGUST 28, 2018 / 7:08 AM / 7 MONTHS AGO

### UK rejects Gilead's CAR-T cancer cell therapy as too expensive

Ben Hirschler

3 MIN READ



13,867 views | Feb 8, 2018, 08:50am

## Patient Advocate Says Novartis' \$475,000 Breakthrough Should Cost Just \$160,000



**Matthew Herper** Forbes Staff

Pharma & Healthcare

*I covered science and medicine, and believe this is biology's century.*

### Potential CAR-T Risks

- There is already increasing government concern and media coverage of CAR-T pricing, indicating that many believe the price is too high.
- In addition, several leading industry consultants that we have spoken with believe that a significant increase in affordability can only be achieved with industrial-scale manufacturing – a feat that current technologies are incapable of achieving.

Given today's drug pricing environment, we believe that CAR-T pricing will remain a headwind



# Celgene Has Been Very Bullish on JCAR017, Even Though the Company Would Be at Least 3<sup>rd</sup> to Market

Celgene management has repeatedly provided bullish commentary about their CAR-T programs.

- In March 2013, Celgene made an undisclosed upfront payment to bluebird bio (“bluebird”, “BLUE”) in order to collaborate on the discovery, development and commercialization of CAR T-cell products.
- In June 2015, Celgene invested \$1 billion for a 9% equity stake in Juno Therapeutics (“JUNO”) in order to collaborate on the development and commercialization of cell therapy auto-immune product candidates.
  - After years of collaboration, in January 2018, Celgene fully acquired Juno Therapeutics for \$9 billion due to management’s belief that JCAR017 had strong blockbuster potential, and in the process, doubled-down on CAR-T.

## Celgene Management Presentation Announcing Juno Therapeutics Acquisition

**There Are Significant Advantages in Acquiring Juno Now**

Key Developments Driving Acquisition	Strategic Rationale for Acquiring Juno
<ul style="list-style-type: none"><li>✓ Near-term pipeline is complementary with our existing Hematology &amp; Oncology portfolio</li><li>✓ JCAR017 clinical data supports a potentially best-in-class profile providing an anchor therapy in NHL</li><li>✓ JCARH125 adds to our campaign against BCMA, a key target in multiple myeloma</li><li>✓ Solidifies Celgene's long-term commitment to cellular immunotherapy</li><li>✓ US tax reform enables improved visibility into after-tax cash flows and access to ex-US cash to fund transaction</li></ul>	<ul style="list-style-type: none"><li>✓ Enables Celgene to immediately capitalize on future advances in cellular immunotherapy</li><li>✓ Accelerates Juno's pipeline development to capture the full potential of cellular immunotherapy</li><li>✓ Captures 100% of global economics on all Juno cellular immunotherapy assets, including BCMA</li><li>✓ <b>Builds a global leadership position in NHL with JCAR017, which has an estimated global peak sales of ~\$3B</b></li><li>✓ 2020 targets: additive to revenue; no change to adj. EPS</li><li>✓ <b>Accelerates diversification with the potential to be a meaningful growth driver beyond 2020</b></li></ul>

**Celgene estimated peak sales potential of \$3 billion for JCAR017 when announcing the acquisition of Juno Therapeutics**

**Celgene made a large bet with its acquisition of Juno Therapeutics**

# Celgene Made a Large and Questionable Bet on a CAR-T Company With a Checkered History

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Juno Therapeutics has multiple yellow flags in its background related to promoting ultimately disappointing products.

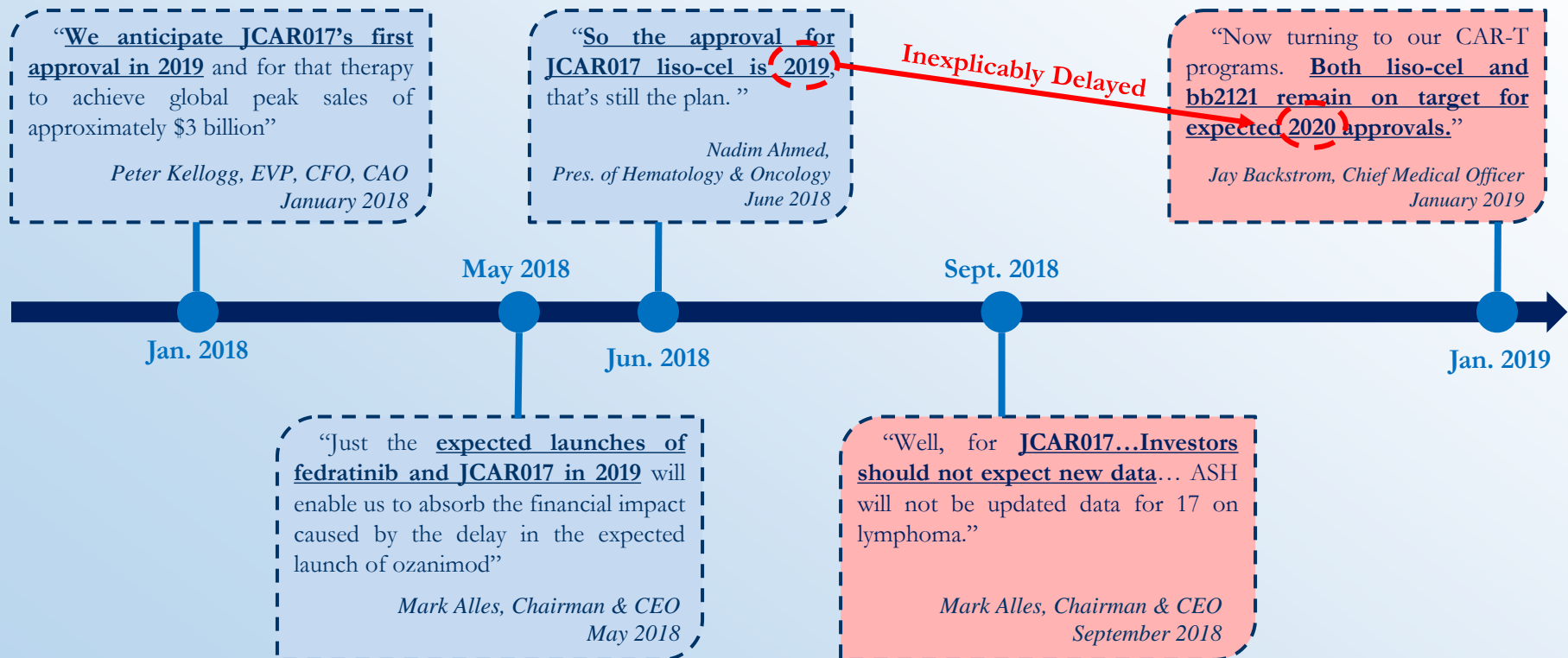
- Juno Therapeutics was founded in 2013 to develop CAR-T products.
  - Three of the most promising drug candidates were JCAR014, JCAR015, and JCAR017, of which JCAR015 was the most advanced.
- In July 2016, the FDA placed JCAR015 on clinical hold after three patients died from the treatment.
  - JCAR015 was ultimately terminated in March 2017.
- Shareholder lawsuits that were later settled by the company allege that certain members of Juno's management team sold shares worth millions of dollars in June 2016 – an amount that was multiples of what was sold in 2015 by those same members of management.
  - The stock sales were particularly controversial because the company had not disclosed to shareholders that an initial patient had died in May 2016, a data point that came to light only after the FDA placed JCAR015 on clinical hold.
- Shockingly, certain members of Juno management had previously been accused of similar activities while in senior management roles at Dendreon Corporation.
  - In the Dendreon shareholder lawsuit, which was also later settled, shareholders accused the company of providing bullish guidance for the sale of Provenge, the company's main product, despite knowing that those sales targets were likely unachievable.
  - Dendreon ultimately filed for bankruptcy protection in 2014 and was eventually purchased by Valeant Pharmaceuticals.

**Juno Therapeutics management had multiple yellow flags in its background**

# The Approval Timeline For JCAR017 Has Already Been Delayed...

Despite yellow flags, Celgene acquired Juno Therapeutics in January 2018 and confidently targeted a 2019 FDA first approval for JCAR017. However, after bullish commentary through June 2018, the company, without warning, changed the targeted first approval date to 2H 2020.

## Timeline of Celgene Management Commentary on JCAR017



We have serious concerns about the ability of Celgene to bring blockbuster CAR-T therapies to market

# Which Further Exacerbates Celgene's Disadvantage From Being at Least 3<sup>rd</sup> to Market if JCAR017 Is Launched

If Celgene's therapies make it to market, they will be years behind the current therapies from Gilead (YESCARTA) and Novartis (KYMRIAH).

## Historical and Estimated Approval Timeline for CAR-T Therapies



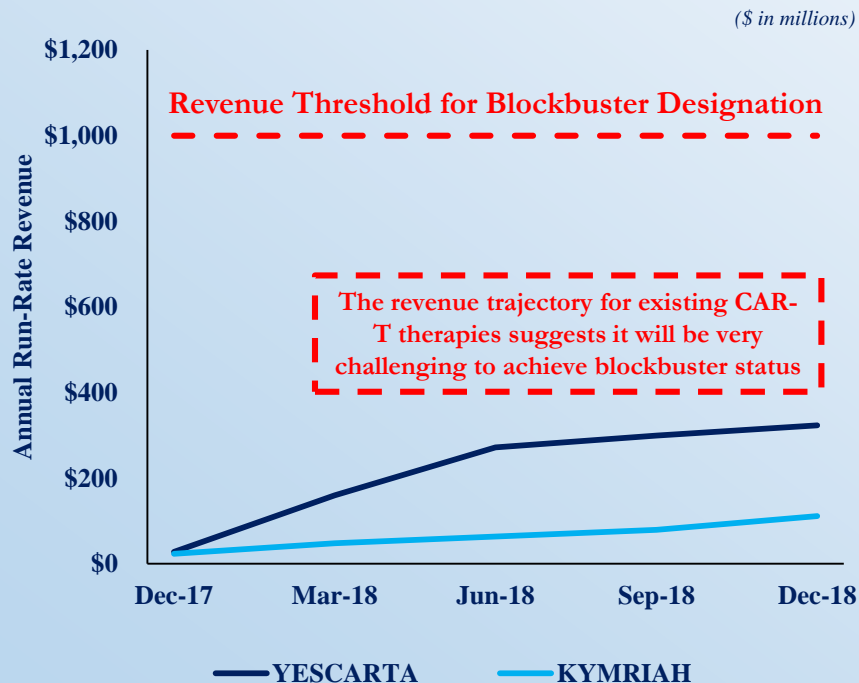
Given the required education of the medical community on new CAR-T therapies, speed to market is key

# Currently Approved CAR-T Therapies Have Underwhelmed

Despite the interest in CAR-T therapies, the launches have severely disappointed, and Wall Street analysts' estimates continue to decline.

- While CAR-T is certainly an innovative science, the commercial prospects are far from certain, and initial lofty expectations from the investor community have been tempered over the past few years.

Annual Run-Rate Revenues for Approved CAR-T Therapies



Wall Street Analyst and Management Commentary on CAR-T

“Because CAR-T is a personalized therapy, the launch of the product is likely to be limited by (a) the medical centers which can administer the therapy and (b) the complex manufacturing process...we would expect initial revenues in the hundreds of millions, not the billions.”

*Morgan Stanley, August 2017  
Commentary on Gilead acquisition of Kite Pharma (Yescarta)*

“Now both KISQALI and KYMRIAH have had slower starts, but we remain confident that with KISQALI, over time, we can build this into a blockbuster medicine...and with KYMRIAH...we feel confident...we can drive KYMRIAH’s growth well into the future.”

*Vasant Narasimhan, CEO of Novartis  
Commentary on KYMRIAH on Q4 2018 Earnings Call*

**Even Novartis’ CEO has shied away from proclaiming KYMRIAH, one of two CAR-Ts on the market, as a blockbuster**

Neither YESCARTA nor KYMRIAH may become blockbuster drugs despite being first to market; will JCAR017 and bb2121 really BOTH be large blockbusters?



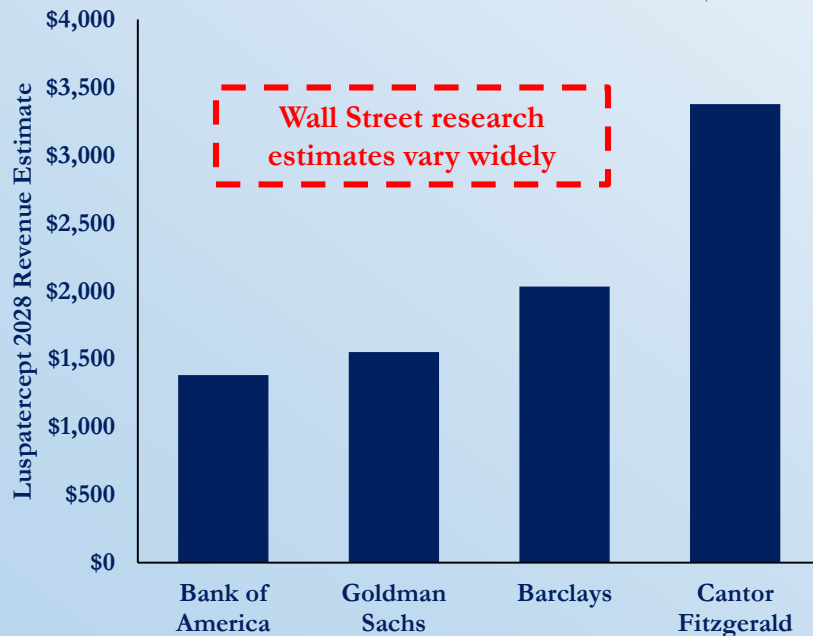
# While Luspatercept May Commercialize, We Believe There Are Also a Number of Concerns

Wall Street analysts' estimates for luspatercept vary widely, and a number of key thought leaders we have spoken to have voiced concerns.

- In addition, the targeted patient populations are relatively small, which could limit total revenue potential.
- There are also already well established competitors (Epogen, Procrit, Aranesp) that have been in the market for decades and limited published head-to-head data exists, so it remains unknown how luspatercept compares to current treatments.

Select Wall Street Analyst Estimates for Luspatercept 2028 Revenue

(\$ in millions)



Quotes from Key Thought Leaders We Interviewed

“Interesting, but definitely not a blockbuster. Can’t make long-term judgements based on a short study.”

“From the clinical perspective, somewhat useful, but does not eliminate the need for transfusions or influence the underlying biology of the disease.”

“GLEEVAC, an oral lifesaving drug for the treatment of leukemia with a 50% mortality rate at three years, has a compliance rate of only 75%. Luspatercept, a palliative drug is likely to have a lower compliance rate consistent with statins [25 – 50%].”

The prospects for luspatercept are still unknown

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**VI. We Believe the Celgene Deal Carries A Lot of Risk and Will Destroy Value for Bristol-Myers Shareholders**

# Bristol-Myers Does Not Expect Celgene's Pipeline Products to Generate Positive Adj. EBITDA Until 2025

Celgene's pipeline products will require substantial upfront investment with little visibility into potential payoff. We believe Bristol-Myers management does not expect Celgene's pipeline products to be profitable until 2025.

- Based on our discussions with Bristol-Myers management, even with properly allocated cost synergies, we believe management is forecasting ~\$4 - 5 billion of operating expenses for Celgene's pipeline products every year beginning in 2019.

## Financial Projections For Celgene's Pipeline Products Assuming Properly Allocated Synergies

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Pipeline Products Revenues	\$ 0.0	\$ 1.1	\$ 2.8	\$ 3.3	\$ 3.7	\$ 4.2	\$ 8.3	\$ 14.4	\$ 16.4	\$ 18.0
Gross Profit	\$ 0.0	\$ 1.0	\$ 2.4	\$ 2.8	\$ 3.1	\$ 3.6	\$ 7.0	\$ 12.2	\$ 14.0	\$ 15.3
<i>Gross Margin (%)</i>	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
SG&A Expense	\$ 4.1	\$ 4.9	\$ 5.9	\$ 6.4	\$ 6.8	\$ 6.6	\$ 6.9	\$ 5.8	\$ 6.4	\$ 7.0
Cost Synergies per S-4 Filing	-	-	-	(0.0)	(0.4)	(0.7)	(1.1)	(1.4)	(1.8)	(2.2)
Pro Forma SG&A Expense	\$ 4.1	\$ 4.9	\$ 5.9	\$ 6.4	\$ 6.4	\$ 5.9	\$ 5.8	\$ 4.4	\$ 4.7	\$ 4.8
Adj. EBITDA	\$ (4.0)	\$ (3.9)	\$ (3.5)	\$ (3.6)	\$ (3.3)	\$ (2.3)	\$ 1.2	\$ 7.9	\$ 9.3	\$ 10.6
<i>Adj. EBITDA Margin (%)</i>	NM	-342%	-126%	-109%	-89%	-54%	15%	55%	57%	59%

**In Bristol-Myers base case projections for Celgene's pipeline products, Adjusted EBITDA is negative for the first SIX years of the forecasted period**

**Celgene's pipeline products will require substantial upfront investment from Bristol-Myers**

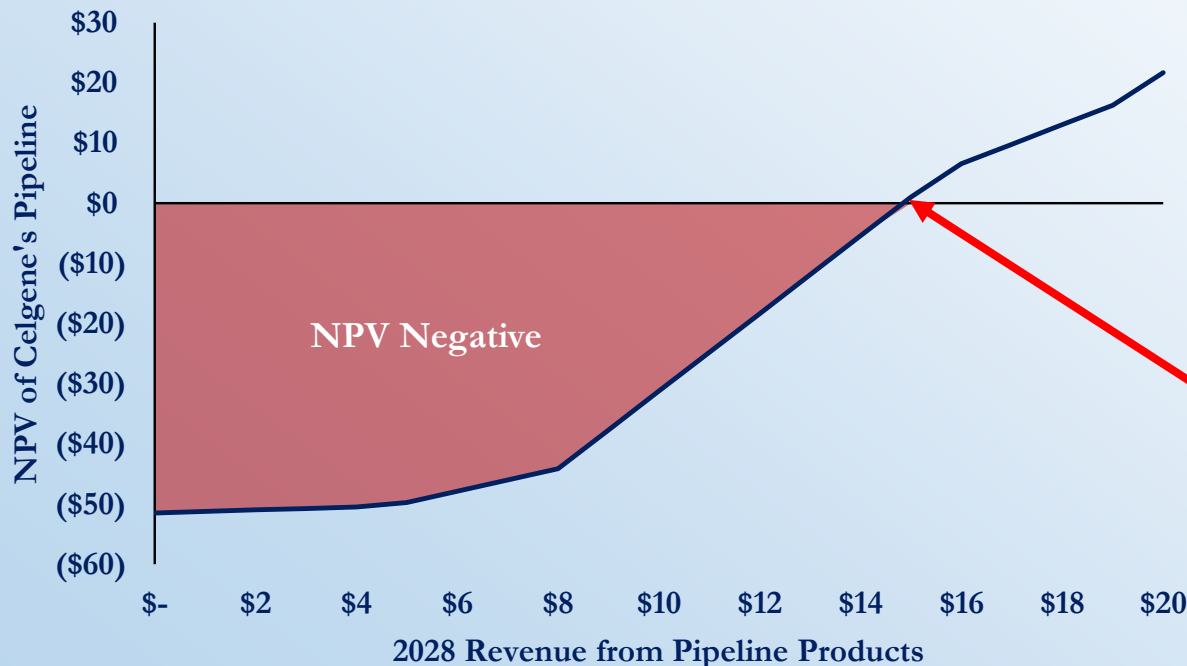
# We Believe Celgene's Pipeline Could Destroy Substantial Value for Bristol-Myers Shareholders

While Bristol-Myers' base case assumes Celgene's pipeline products will generate ~\$18 billion revenue by 2028, we believe there is substantial risk to Bristol-Myers' forecast.

- In order to just be NPV-neutral, we believe that Celgene's pipeline would have to generate \$15 billion of revenue in 2028.

Estimated NPV Value of Celgene's Pipeline Products Including Synergies<sup>(1)</sup>

(\$ in billions)



Assuming an implied purchase price of ~\$30 billion, we estimate pipeline products will need to generate ~\$15 billion of revenue to be NPV neutral!

In subsequent pages, we detail the substantial risk in Bristol-Myers' revenue forecast for Celgene's pipeline products

Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) NPV is based on \$30 billion purchase price for Celgene's pipeline products. Assumes discount rate of 9.0% and terminal unlevered free cash flow multiple of 13.1x derived using Gordon Growth Method assuming 1.25% terminal growth – where terminal unlevered free cash flow is negative, we assume no terminal multiple. Financial projections derived based on S-4 filing.

# We Believe There Are Three Main Reasons Why the Proposed Celgene Acquisition May Destroy Value for Bristol-Myers Shareholders

There are three ways that the proposed Celgene acquisition could destroy substantial value for Bristol-Myers shareholders – we summarize each below.

- ① Some, or all, of the five near-term product launches or five yet-to-be-identified earlier-stage pipeline products in Celgene's portfolio may ultimately fail to commercialize.
  - GED-0301 is a prime example of a highly-anticipated product with blockbuster potential that unexpectedly failed at the eleventh hour.
  - Four previously disclosed significant / blockbuster products have failed or been de-prioritized in the last two years alone.
- ② Sales for Celgene's five near-term product launches may fall below Bristol-Myers expectations.
  - The median of Wall Street analysts' estimates for Celgene's five near-term product launches is approximately 40% below Bristol-Myers management's expectations.
- ③ Bristol-Myers is less successful than expected at defending against generic challenges on REVLIMID, and the drug fully genericizes earlier than 2026.
  - This is a significant risk given the number of pending lawsuits already filed by generic challengers.

**We believe there are three obvious and credible ways for Bristol-Myers shareholders to lose significant value if the Celgene acquisition is consummated**

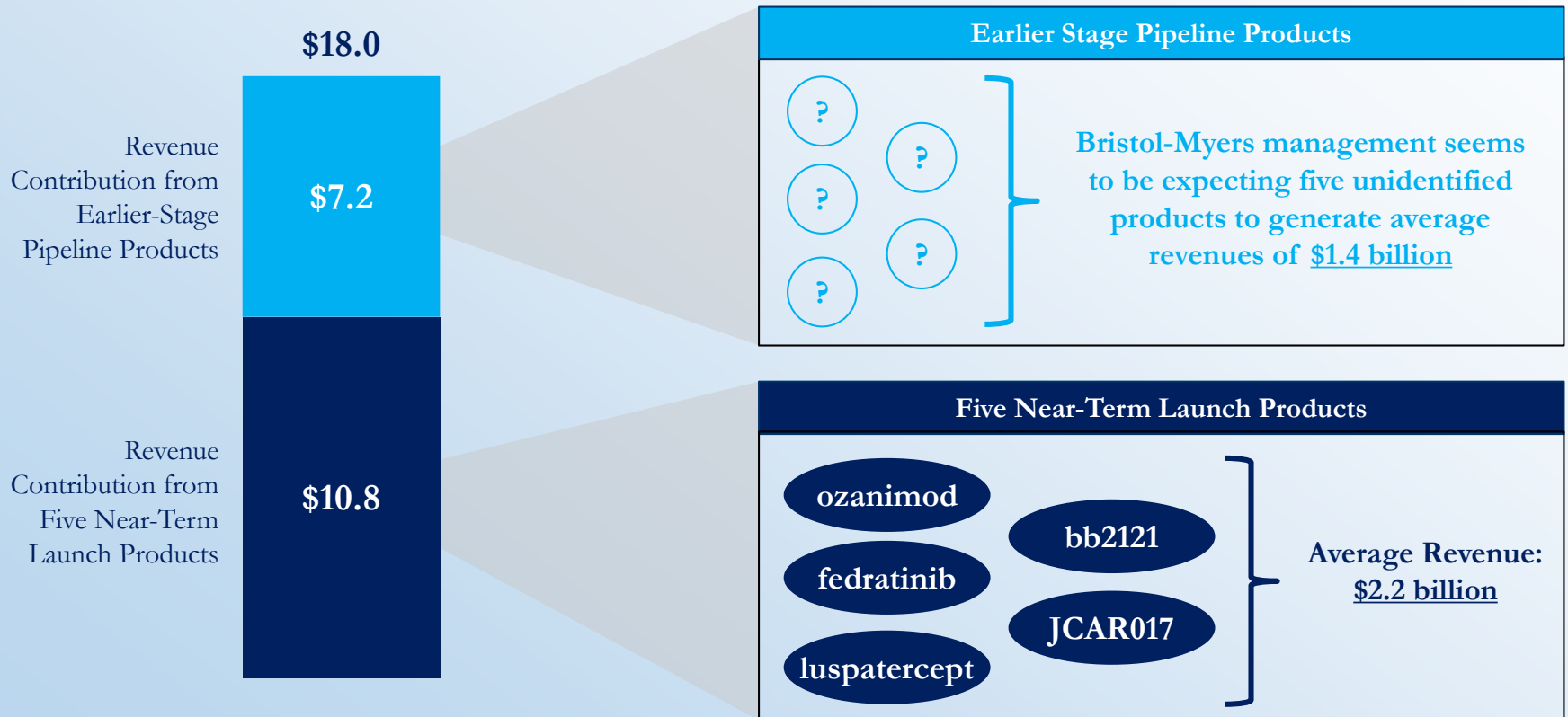


# 1 Some, or all, of the Five Near-Term Product Launches In Celgene's Pipeline Portfolio May Ultimately Fail to Commercialize

Bristol-Myers is assuming pipeline products launched over the next decade will almost all be blockbusters, which completely ignores Celgene's recent history.

## Bristol-Myers Management View of Celgene Pipeline Revenue Contribution in 2028

(\$ in billions)



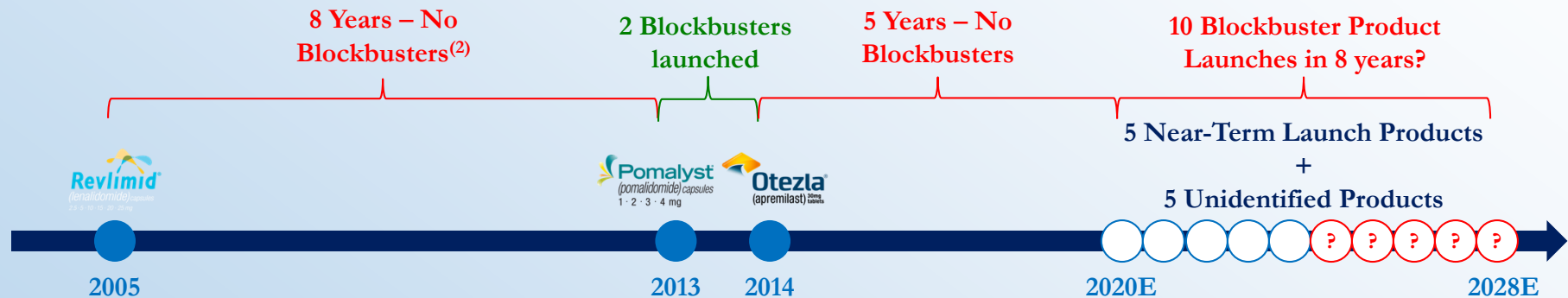
Bristol-Myers is assuming, on average, each Celgene pipeline product launched will be a blockbuster

# 1 Some, or all, of the Five Near-Term Product Launches In Celgene's Pipeline Portfolio May Ultimately Fail to Commercialize (cont'd)

In its base case, Bristol-Myers is assuming Celgene can generate blockbuster drugs at a pace completely out-of-line with historical performance, adding substantial risk to the deal.

- Based on the lack of recent Celgene product launches, we find Bristol-Myers' assumption for Celgene's new product launch productivity to be overly optimistic.

## Launch Date For All Celgene Blockbuster Products Since REVLIMID<sup>(1)</sup>



Assuming Celgene's near-term launch products can generate \$10.8 billion revenue by 2028, another 5, on average, blockbuster products would be needed to reach Bristol-Myers' 2028 revenue base case<sup>(2)</sup>

This means that Bristol-Myers is assuming that Celgene can produce, on average, 10 blockbuster drugs in 8 years...after only producing 3 in the last 15 years!

Why should shareholders underwrite such aggressive assumptions and take on so much risk??

**Bristol-Myers needs Celgene's pipeline to churn out blockbusters at an unprecedented rate**

Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) While ABRIXANE has achieved blockbuster drug status, it was originally launched by Abraxis BioScience prior to Celgene's acquisition of the company in 2010. As such, we do not give credit to Celgene for launching ABRIXANE.

(2) Ten blockbusters includes five near-term product launches highlighted by Bristol-Myers management plus an additional five products assuming average revenue per product of \$1.4 billion.

# 1 Some, or all, of the Five Near-Term Product Launches In Celgene's Pipeline Portfolio May Ultimately Fail to Commercialize (cont'd)

In addition, recent history suggests that Celgene management is inaccurate at predicting pipeline product success.

- Celgene management highlighted fourteen significant products to their shareholders in early 2017, but only two of those products have launched or remain on track to launch.

## Current Status of Fourteen Significant Products Highlighted in Early 2017

Drug	Status	Celgene Stated Peak Revenue Potential	Current 2028 Wall Street Estimates <sup>(1)</sup>	
GED-0301	Terminated	>\$2.0	\$0.0	} ~30% of total drugs highlighted and <u>greater than \$5.5 billion of peak sales has been terminated or de-prioritized</u>
Durvalumab	Terminated	1.5	0.0	
Demcizumab	Terminated	1.0	0.0	
CC-122	De-Prioritized	1.0	0.0	
ACY-241	Indefinitely Delayed	\$0.5	???	} ~55% of total drugs highlighted have been delayed, and peak sales potential has declined by greater than \$4 billion (~40% discount)
RPC-046	Indefinitely Delayed	0.5	???	
CC-486	Delayed / Reduced Estimates	1.5	1.0	
Marizomib	Delayed / Reduced Estimates	1.5	???	
CC-220	Delayed / Reduced Estimates	>\$2.0	0.8	
Ozanimod	Delayed	>\$2.0	2.5	
JCAR017	Delayed	1.0	1.4	
Luspatercept	Delayed	2.0	1.6	
bb2121	On-Track	\$1.0	\$1.0	
IDHIFA	Launched	0.5	0.5	
Total Revenue		>\$18.0	\$8.7	

Only 15% of total drugs highlighted in early 2017 by Celgene have been approved or remain on-track

Source: Public company filings, Wall Street research, Starboard estimates.

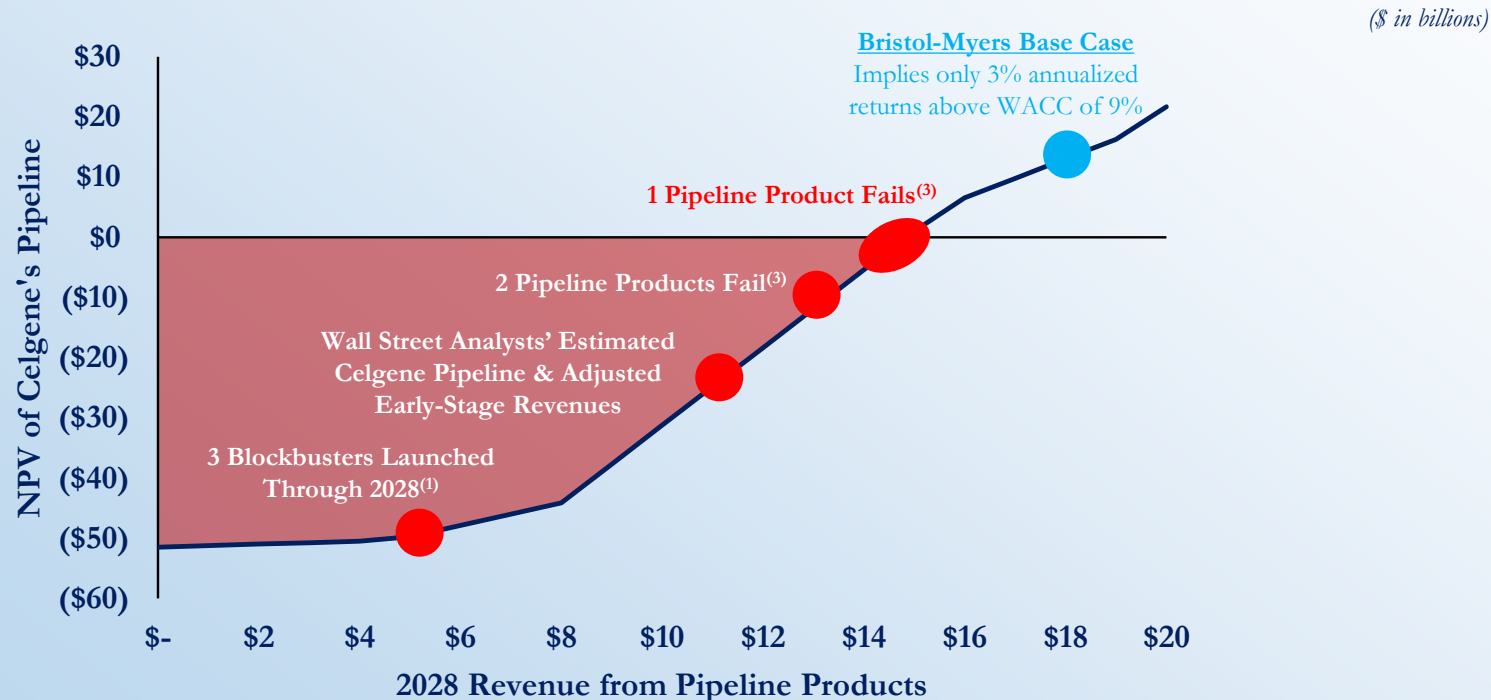
(1) We use Wall Street consensus estimates for CC-486, CC-220, and IDHIFA. For ozanimod, JCAR017, luspatercept, and bb2121, we take the median of Bank of America Merrill Lynch, Barclays, Morgan Stanley, Goldman Sachs, and Cantor Fitzgerald.

# 1 Some, or all, of the Five Near-Term Product Launches in Celgene's Pipeline Portfolio May Ultimately Fail to Commercialize (cont'd)

We estimate Bristol-Myers is paying ~\$30 billion for Celgene's pipeline products with an extremely thin margin for error – even if just one or two products fail to commercialize, Celgene's pipeline could destroy significant value for Bristol-Myers shareholders.

- If Celgene's pipeline commercializes only three blockbuster products, similar to the number it has commercialized over the last 15 years, \$46 billion of value could be destroyed.<sup>(1)</sup>

## Estimated NPV Value of Pipeline Products Including Synergies<sup>(2)</sup>



**A single Celgene pipeline product failure could result in value destruction for Bristol-Myers shareholders**

Source: Public company filings, Starboard estimates.

(1) Three blockbuster products are assumed to generate \$1.8 billion each in 2028.

(2) NPV is based on \$30 billion purchase price for Celgene's pipeline products. Assumes discount rate of 9.0% and terminal unlevered free cash flow multiple of 13.1x derived using Gordon Growth Method assuming 1.25% terminal growth – where terminal unlevered free cash flow is negative, we assume no terminal multiple. Financial projections derived based on S-4 filing.

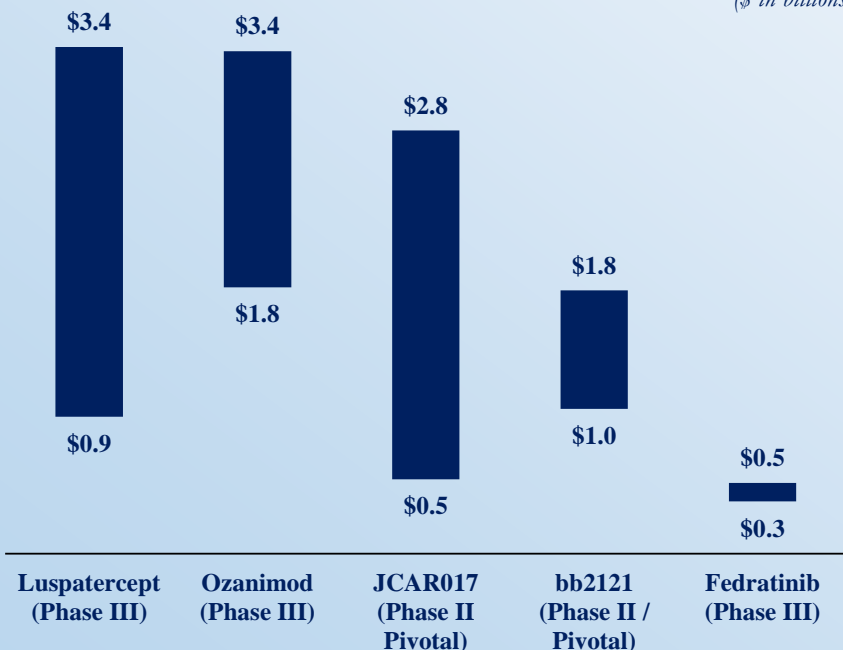
(3) Assumes first product failure is ozanimod or luspatercept. High-end of 2028 Wall Street analysts' estimates for both exceed \$3.0 billion. Subsequent product failures are assumed to be \$1.8 billion each (i.e. \$18 billion / 10 products).

## 2 Sales for Celgene's Five Near-Term Product Launches May Fall Below Bristol-Myers Expectations

With the exception of fedratinib, there is not only significant variance in Wall Street analysts' revenue projections for Celgene's five near-term product launches, but the median of Wall Street analysts' projections is also ~40% below Bristol-Myers management expectations.

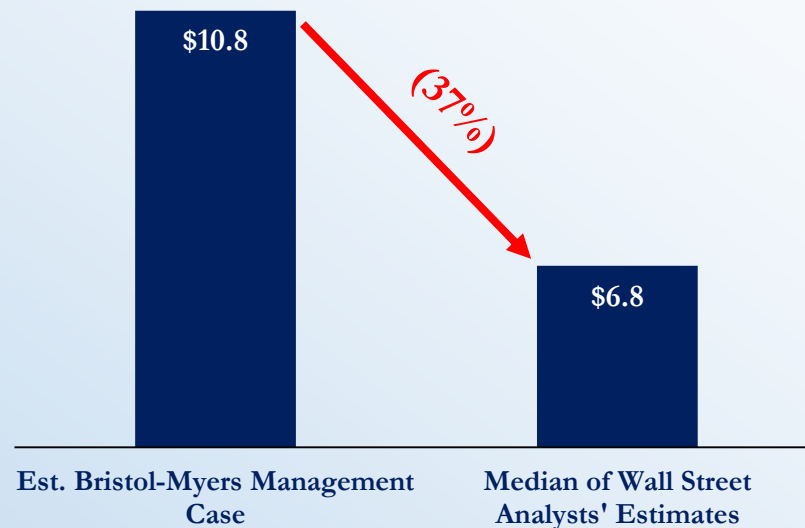
2028 Wall Street Analysts' Revenue Estimates for Celgene Near-Term Pipeline Product Launches

(\$ in billions)



2028 Bristol-Myers Management vs. Wall Street Analysts' Median Revenue Estimates for Celgene Near-Term Pipeline Product Launches

(\$ in billions)



Relative to the significant uncertainty regarding future revenue potential for Celgene's five near-term product launches, we believe Bristol-Myers' revenue expectations seem aggressive

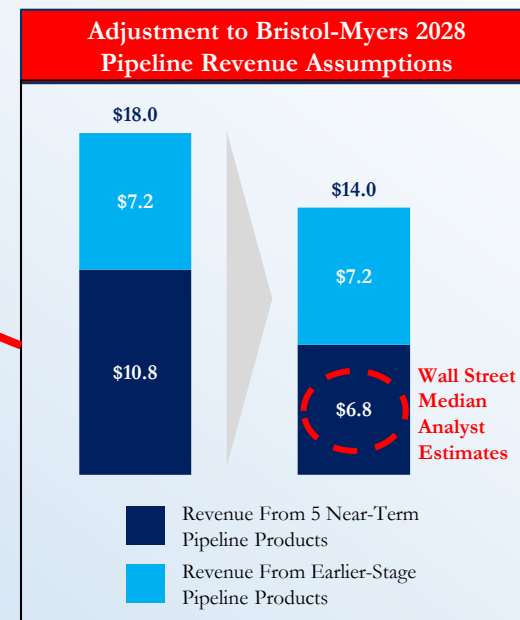
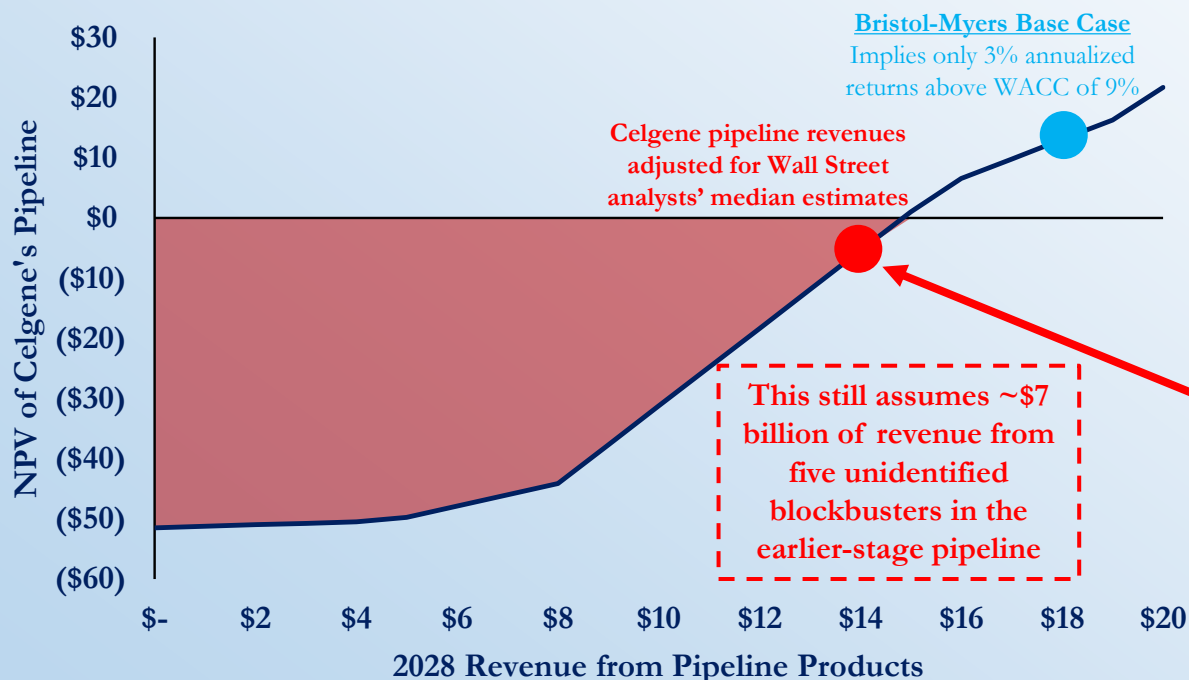


## ② Sales for Celgene's Five Near-Term Product Launches May Fall Below Bristol-Myers Expectations (cont'd)

If we adjust Bristol-Myers 2028 near-term pipeline products revenue down to the median of Wall Street analysts' estimates, Celgene's pipeline would be value destructive for Bristol-Myers shareholders.

Estimated NPV Value of Pipeline Products Including Synergies<sup>(1)</sup>

(\$ in billions)



**With a ~\$30 billion purchase price, Celgene's pipeline destroys shareholder value when using the median of Wall Street analysts' estimates for 2028 Celgene pipeline revenue**

Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) NPV is based on \$30 billion purchase price for Celgene's pipeline products. Assumes discount rate of 9.0% and terminal unlevered free cash flow multiple of 13.1x derived using Gordon Growth Method assuming 1.25% terminal growth – where terminal unlevered free cash flow is negative, we assume no terminal multiple. Financial projections derived based on S-4 filing.

## ② Sales for Celgene's Five Near-Term Product Launches May Fall Below Bristol-Myers Expectations (cont'd)

Yet that still assumes Bristol-Myers will generate, on average, five additional blockbusters in its early-stage pipeline from yet to be identified products.

- We find Bristol-Myers' implied assumption for the early-stage pipeline to be highly unrealistic.

Implied Bristol-Myers Assumption For Celgene's Earlier-Stage Pipeline Assets

(\$ in billions)

	Phase I	Phase II	Phase III	Total
Total Indications	18	4	6	28
Probability of Commercialization <sup>(1)</sup>	9%	20%	74%	25%
# of Indications Commercialized	2	1	4	7
Average Indications Per Product				1.5
# of Products Commercialized				5
Total 2028 Expected Revenue				\$ 7.2
Average Expected Revenue Per Product				\$ 1.4

On average, every product commercialized from Celgene's non-near-term launch pipeline products would need to be a blockbuster!

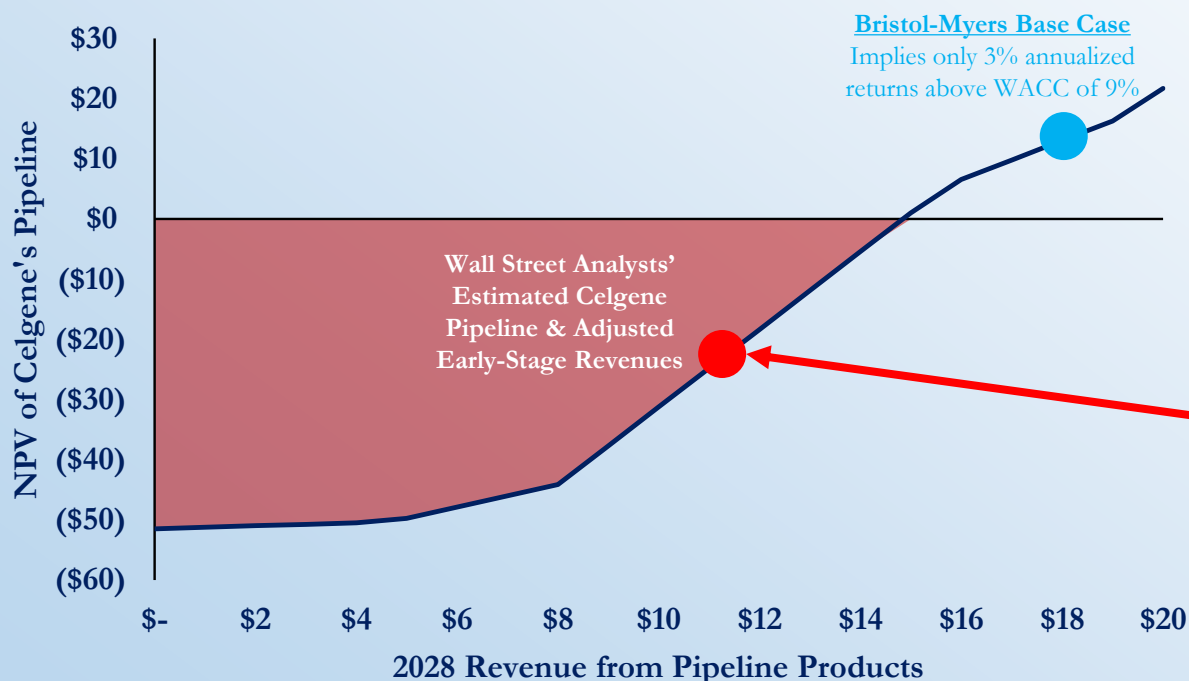
We believe it is unreasonable to assume that, on average, all of Celgene's successfully commercialized earlier stage assets will be blockbusters

## ② Sales for Celgene's Five Near-Term Product Launches May Fall Below Bristol-Myers Expectations (cont'd)

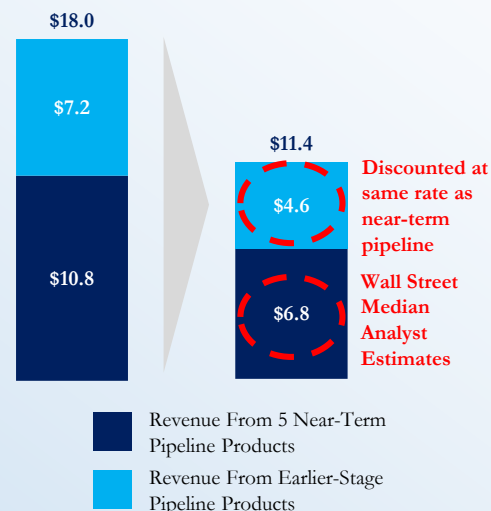
If we adjust Bristol-Myers 2028 near-term pipeline products revenue down to the median of Wall Street analysts' estimates, and apply a similar discount for the earlier-stage, yet-to-be-identified assets, Celgene's pipeline would be significantly value destructive for Bristol-Myers shareholders.

Estimated NPV Value of Pipeline Products Including Synergies<sup>(1)</sup>

(\$ in billions)



Adjustment to Bristol-Myers 2028 Pipeline Revenue Assumptions



With a ~\$30 billion purchase price, Celgene's pipeline destroys shareholder value when using the median of Wall Street analysts' estimates for 2028 Celgene pipeline revenue and a similar discount for earlier-stage pipeline assets

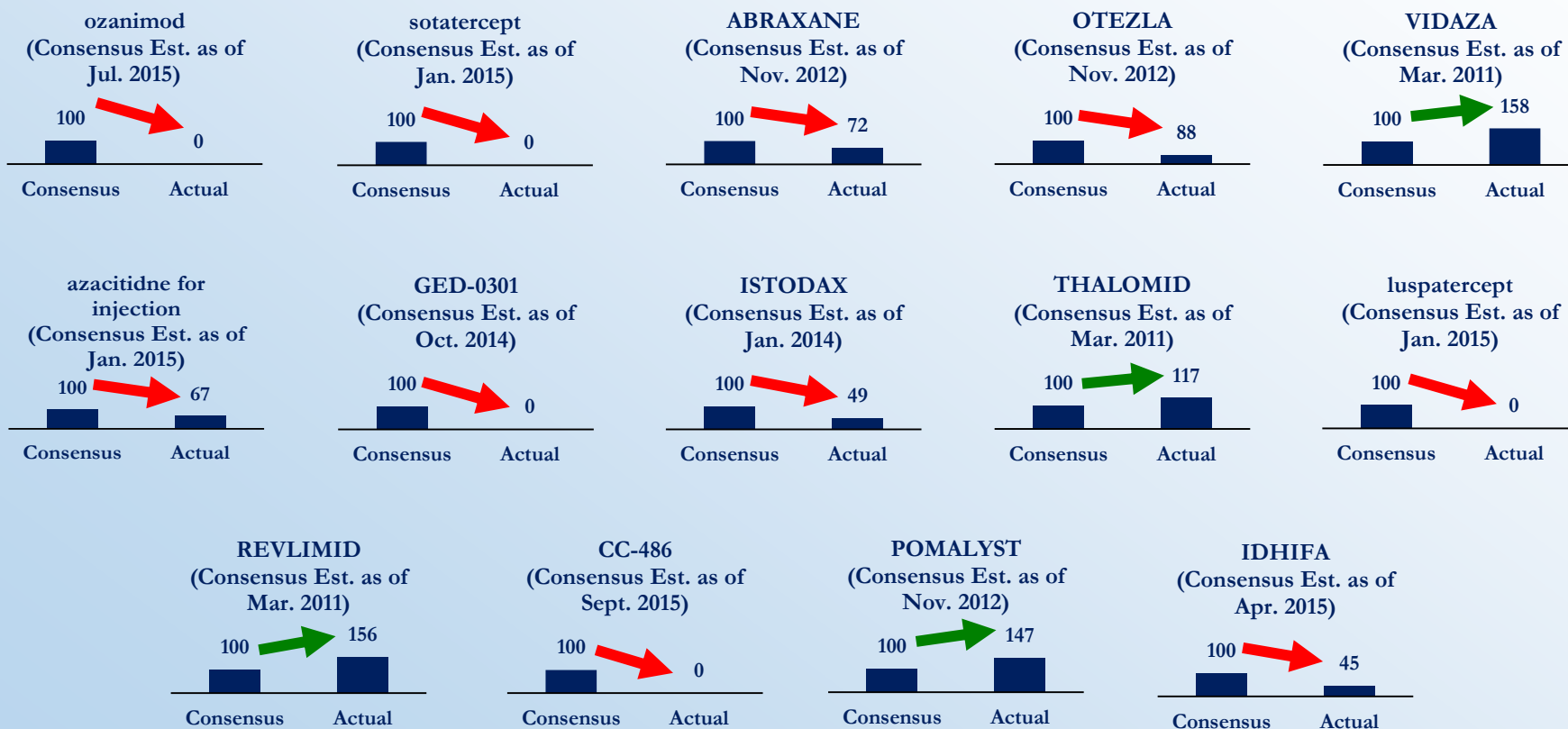
Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) NPV is based on \$30 billion purchase price for Celgene's pipeline products. Assumes discount rate of 9.0% and terminal unlevered free cash flow multiple of 13.1x derived using Gordon Growth Method assuming 1.25% terminal growth – where terminal unlevered free cash flow is negative, we assume no terminal multiple. Financial projections derived based on S-4 filing.

## 2 Sales for Celgene's Five Near-Term Product Launches May Fall Below Bristol-Myers Expectations (cont'd)

However, Wall Street analysts have historically been overly optimistic in their estimates for both Celgene's marketed and pipeline products.

Indexed 2018 Actual Revenue by Product vs. Wall Street Consensus Estimates<sup>(1)</sup>



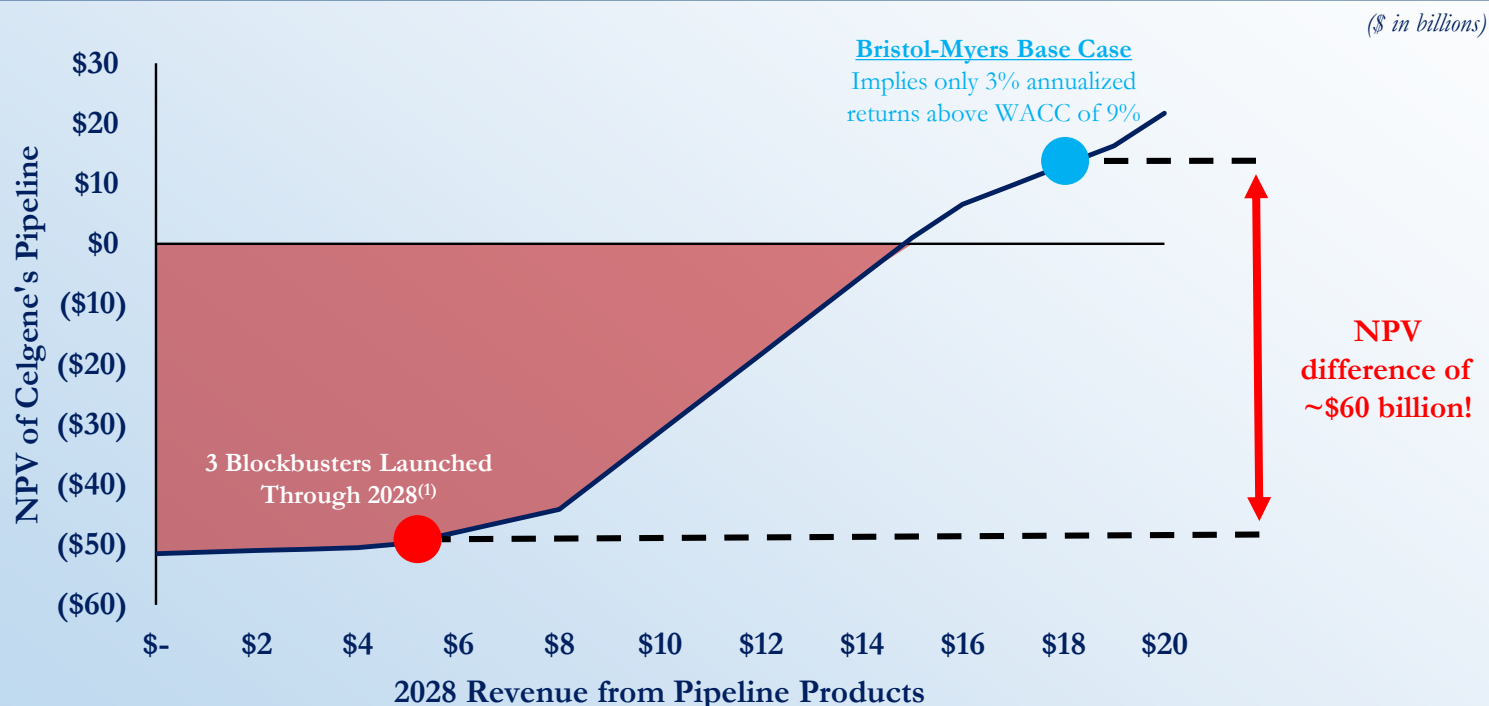
Source: Public company filings, Bloomberg, Wall Street research.

(1) We compared actual 2018 Celgene revenues by product to the earliest Wall Street consensus estimates available on Bloomberg. Bloomberg lists consensus estimates for 23 Celgene products, of which 14 had positive 2018 revenue estimates. The chart above compares those 14 products to actual performance.

## 2 Sales for Celgene's Five Near-Term Product Launches May Fall Below Bristol-Myers Expectations (cont'd)

If Celgene's pipeline commercializes only three blockbuster products, similar to the number it has commercialized over the last 15 years, \$46 billion of value could be destroyed.<sup>(1)</sup>

Estimated NPV Value of Pipeline Products Including Synergies<sup>(2)</sup>



**If Celgene's pipeline produces blockbuster products at a rate consistent with the last 15 years, Bristol-Myers shareholders could lose significant value**

Source: Public company filings, Starboard estimates.

(1) Three blockbuster products are assumed to generate \$1.8 billion each in 2028.

(2) NPV is based on \$30 billion purchase price for Celgene's pipeline products. Assumes discount rate of 9.0% and terminal unlevered free cash flow multiple of 13.1x derived using Gordon Growth Method assuming 1.25% terminal growth – where terminal unlevered free cash flow is negative, we assume no terminal multiple. Financial projections derived based on S-4 filing.



### 3 REVLIMID Fully Genericizes Earlier Than 2026

Celgene is currently engaged in litigation with nine generic manufacturers over its REVLIMID patents, and has already settled with two. It is reasonable to believe additional generic challengers will emerge.

#### Landscape of Generic Challengers for REVLIMID

##### List of Companies That Have Filed Generic Challenges on REVLIMID



##### Settled In 2015



Settlement allows for phased genericization beginning in 2022 with full genericization by 2026

##### Settled In 2018



Settlement allows for entry into U.K. and EU in 2022

##### Launched in 2019 in Eastern Europe With No Settlement



##### FiercePharma

MANUFACTURING MARKETING PHARMA VACCINES

Pharma

Just as it's enjoying a reprieve in the U.S., Celgene's Revlimid gets generic rival in Europe

by Eric Sagonowsky | Feb 13, 2019 11:45am

As one of the world's best-selling drugs, REVLIMID faces significant pressure from generic challengers, pressure that we believe will continue to increase as REVLIMID nears full genericization in 2026

### 3 REVLIMID Fully Genericizes Earlier Than 2026 (cont'd)

If REVLIMID is fully genericized even two years earlier than expected, the Celgene acquisition could be NPV-negative for Bristol-Myers shareholders.

Value of Celgene's Marketed Products Assuming Earlier REVLIMID Genericization

(\$ in billions)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Marketed Products Revenues	\$ 16.8	\$ 17.8	\$ 18.8	\$ 16.6	\$ 15.8	\$ 7.5	\$ 4.5	\$ 1.6	\$ 1.1	\$ 0.7
Gross Profit	\$ 16.2	\$ 17.2	\$ 18.2	\$ 16.1	\$ 15.3	\$ 7.1	\$ 4.3	\$ 1.5	\$ 1.0	\$ 0.7
Gross Margin (%)	97%	97%	97%	97%	97%	95%	95%	95%	95%	94%
SG&A Expense	3.5	3.0	2.6	2.1	1.7	1.2	0.8	0.3	0.2	0.1
Adj. EBITDA	\$ 12.7	\$ 14.1	\$ 15.6	\$ 13.9	\$ 13.6	\$ 5.9	\$ 3.5	\$ 1.2	\$ 0.8	\$ 0.6
Adj. EBITDA Margin (%)	76%	80%	83%	84%	86%	79%	78%	76%	76%	80%
Unlevered FCF	\$ 10.5	\$ 11.7	\$ 13.0	\$ 11.6	\$ 11.3	\$ 4.9	\$ 2.9	\$ 1.0	\$ 0.7	\$ 0.5
Discount Rate @ 9.0%	92%	84%	77%	71%	65%	60%	55%	50%	46%	42%
Discounted FCF	\$ 9.6	\$ 9.9	\$ 10.0	\$ 8.2	\$ 7.4	\$ 2.9	\$ 1.6	\$ 0.5	\$ 0.3	\$ 0.2

**REVLIMID genericizes two years earlier than expected**

#### DCF Value

Value of Discounted FCF \$ 50.6  
 Value of Terminal Value  
 Total Value of Marketed Products **\$ 50.6**

BMJ Management View of Celgene Deal Value

~ \$15	Value of Pipeline
>\$20	Value of Cost Synergies
~\$55	Value of Marketed Products

**~\$4 billion of Bristol-Myers shareholder value could be destroyed if REVLIMID fully genericizes only two years earlier than expected**

**If REVLIMID fully genericizes two years earlier than expected, Bristol-Myers shareholders could lose value on the Celgene transaction**

# Bristol-Myers Must Realize Its Base Case Projections to Realize Even a Small Amount of Value for Shareholders

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Even if Bristol-Myers realizes its aggressive base case assumptions, shareholders will only realize a 3% annualized return above the Company's WACC.

- We believe Bristol-Myers management is making the following assumptions in its base case:
  - REVLIMID does not fully genericize prior to 2026.
  - Bristol-Myers successfully commercializes all five of Celgene's near-term launch pipeline products, which will generate combined revenues that are 59% above Wall Street consensus.
  - Assuming pipeline success rates in-line with industry standards, Bristol-Myers could successfully commercialize five products from Celgene's earlier-stage pipeline, but all five products will, on average, have to generate ~\$1.4 billion in revenue to meet Bristol-Myers 2028 base case assumptions.
- If any of the three assumptions listed above is not successfully realized, even if the remaining assumptions are achieved, Bristol-Myers shareholders could lose substantial value from the Celgene acquisition.

**The Celgene acquisition has little margin for error as Bristol-Myers must realize its aggressive base case assumptions**

# We Do Not Believe the Proposed Acquisition of Celgene Will Create Value for Bristol-Myers Shareholders

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After adjusting Bristol-Myers' standalone financial assumptions in the S-4 for the capital structure of the combined entity, we believe standalone Bristol-Myers would generate higher earnings per share on a standalone basis (analysis on following page).

- Our analysis uses both Bristol-Myers' standalone and combined Company projections as presented in the S-4 filing, but increases leverage for the standalone Company to be consistent with the combined Company on a Debt / EBIT basis.
- After normalizing the capital structure between standalone and combined Bristol-Myers, we show that standalone Bristol-Myers will generate higher earnings per share by 2023.
- While we are not advocating for a levered recapitalization of Bristol-Myers, we are simply illustrating that the earnings per share improvement for the combined company results from taking on debt and ultimately buying back stock – a path that is also available for standalone Bristol-Myers.
- In addition, we believe a standalone Bristol-Myers that is free from an impending REVLIMID patent cliff may also trade at a higher multiple than the combined entity.

**We do not believe the proposed combination will create value for shareholders**

# We Do Not Believe the Proposed Acquisition of Celgene Will Create Value for Bristol-Myers Shareholders (cont'd)

After adjusting Bristol-Myers' standalone financial assumptions in the S-4 for the capital structure of the combined entity, we believe standalone Bristol-Myers would generate higher earnings per share on a standalone basis.

## Bristol-Myers Standalone

		FY2019	FY2020	FY2021	FY2022	FY2023
1	Revenue	\$ 24.5	\$ 25.3	\$ 25.9	\$ 28.6	\$ 31.9
	Growth (%)		3%	2%	10%	12%
	Operating Income	\$ 8.5	\$ 8.5	\$ 8.7	\$ 10.7	\$ 12.9
	Margin (%)	35%	34%	33%	37%	40%
	Growth (%)		0%	2%	23%	21%
1	Cash Net Income	\$ 7.0	\$ 7.1	\$ 7.3	\$ 9.1	\$ 11.0
	Growth (%)		1%	3%	24%	22%
	Cash Net Income Adj. For Higher Leverage	\$ 6.8	\$ 6.6	\$ 6.8	\$ 8.6	\$ 10.5
	Growth (%)		(3%)	4%	25%	22%
2	Non-GAAP Diluted EPS	\$ 5.89	\$ 5.63	\$ 5.92	\$ 7.93	\$ 10.43
	Growth (%)		(4%)	5%	34%	31%
	Net Debt / EBIT	2.2x	1.6x	1.1x	0.7x	0.5x

## Key Assumptions

- 1 Financials in-line with Bristol-Myers management estimates in the Company's S-4 filing
- 2 We adjust the capital structure for Bristol-Myers standalone such that Net Debt / EBIT is consistent with that of the combined company

## Bristol-Myers + Celgene Combined ("PF Bristol-Myers")

		FY2019	FY2020	FY2021	FY2022	FY2023
	Revenue	\$ 41.3	\$ 44.2	\$ 47.5	\$ 48.5	\$ 51.4
	Growth (%)		7%	7%	2%	6%
	Operating Income	\$ 17.3	\$ 19.5	\$ 22.2	\$ 23.0	\$ 24.7
	Margin (%)	42%	44%	47%	47%	48%
	Growth (%)		13%	14%	4%	8%
1	Cash Net Income	\$ 12.7	\$ 14.7	\$ 17.0	\$ 17.8	\$ 19.5
	Growth (%)		16%	16%	4%	10%
	Non-GAAP Diluted EPS	\$ 5.45	\$ 6.40	\$ 7.73	\$ 8.44	\$ 9.83
	Growth (%)		18%	21%	9%	16%
2	Net Debt / EBIT	2.2x	1.6x	1.1x	0.7x	0.5x

After normalizing for capital structure, we believe Bristol-Myers would generate greater earnings per share on a standalone basis than the combined entity by 2023



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## VII. The Timing of the Transaction Raises Many Questions

# Bristol-Myers Appears to Have Completed Only 2 Weeks of Full Due Diligence on a Complex Pipeline of ~25 Compounds

Based on the S-4, it appears that Bristol-Myers only had approximately two weeks of full data room access, which we believe may have been severely inadequate to properly analyze and value Celgene's pipeline.

- While discussions between the two companies commenced in early September 2018, as the Company's S-4 filing states, this diligence was merely based on "publicly available information."
- Further, while there is also a mention on November 16, 2018 of a "...request for limited due diligence relating to certain Celgene intellectual property..." we understand from speaking with Bristol-Myers management that this was primarily related to REVLIMID IP.

## Critical Celgene Deal Elements

Celgene Deal Value	REVLIMID Patent Cliff
\$91 Billion	63% of 2018 Revenue
# of Celgene Pipeline Products	Revenue Needed From Celgene Pipeline In 2028
~25	\$18 Billion

=

**HOW COULD  
2 WEEKS BE  
SUFFICIENT  
FOR FULL DUE  
DILIGENCE???**

Given Celgene's historical track record of pipeline failures, we believe that properly analyzing all of the critical diligence documents would have taken significantly longer than two weeks

# We Question the Integrity of the Due Diligence Process

On December 16, 2018, Bristol-Myers and Celgene uploaded documentation to a data room for the first time. Therefore, Bristol-Myers only had slightly more than two weeks of full access before announcing the transaction.

- The timeline suggests that within 12 days of documentation being uploaded to a data room, Bristol-Myers management felt it had completed sufficient diligence to begin engaging in advanced price discussions.
- The deal was completed 5 days after these advanced price discussions began.
- **We find it difficult to believe Bristol-Myers continued to effectively execute on its daily operations while thoroughly evaluating approximately 30 highly-technical products with the required scrutiny on:**
  - ① Regulatory;
  - ② Commercial;
  - ③ Manufacturing;
  - ④ Intellectual Property; and
  - ⑤ Legal, among other considerations.

December 2018						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16 Data Room Access Granted	17	18	19	20	21	22
23	24	25	26	27 Advanced Price Negotiations	28	29
30	31	January 1	January 2 Deal Approved			

The Celgene acquisition diligence timing appears extremely troubling

# Celgene Appeared Willing to Allow a Longer Diligence Process Due to a Lack of Competing Interest

In this situation, unlike a typical M&A process, it appears that the buyer forced a rushed process with limited diligence, in order to complete the deal by an arbitrary deadline.

- Typically, it is the seller that tries to speed up the process in order to make potential buyers believe that the process is competitive.
- Celgene has been rumored to be for sale for years given its patent cliff issues and pipeline failures.
  - Despite these recurring rumors, Celgene had not sold itself, suggesting a lack of interest from potential buyers.
- During the pendency of the process, Celgene only reached out to one additional party to see if that company had interest in acquiring Celgene.
  - This unnamed company quickly informed Celgene that it was not interested in pursuing an acquisition.
- We believe this shows that Celgene already knew there was no additional interest in the company, which is why Celgene was willing to extend the due diligence process.
  - But why did Bristol-Myers feel the need to rush?

## Bristol-Myers S-4: Background of Merger

On December 17, 2018, at the direction of and on behalf of Celgene, a representative of J.P. Morgan contacted the chief executive officer of Party A, explained that Celgene was considering a change-of-control transaction and asked if Party A would be interested in presenting a proposal.

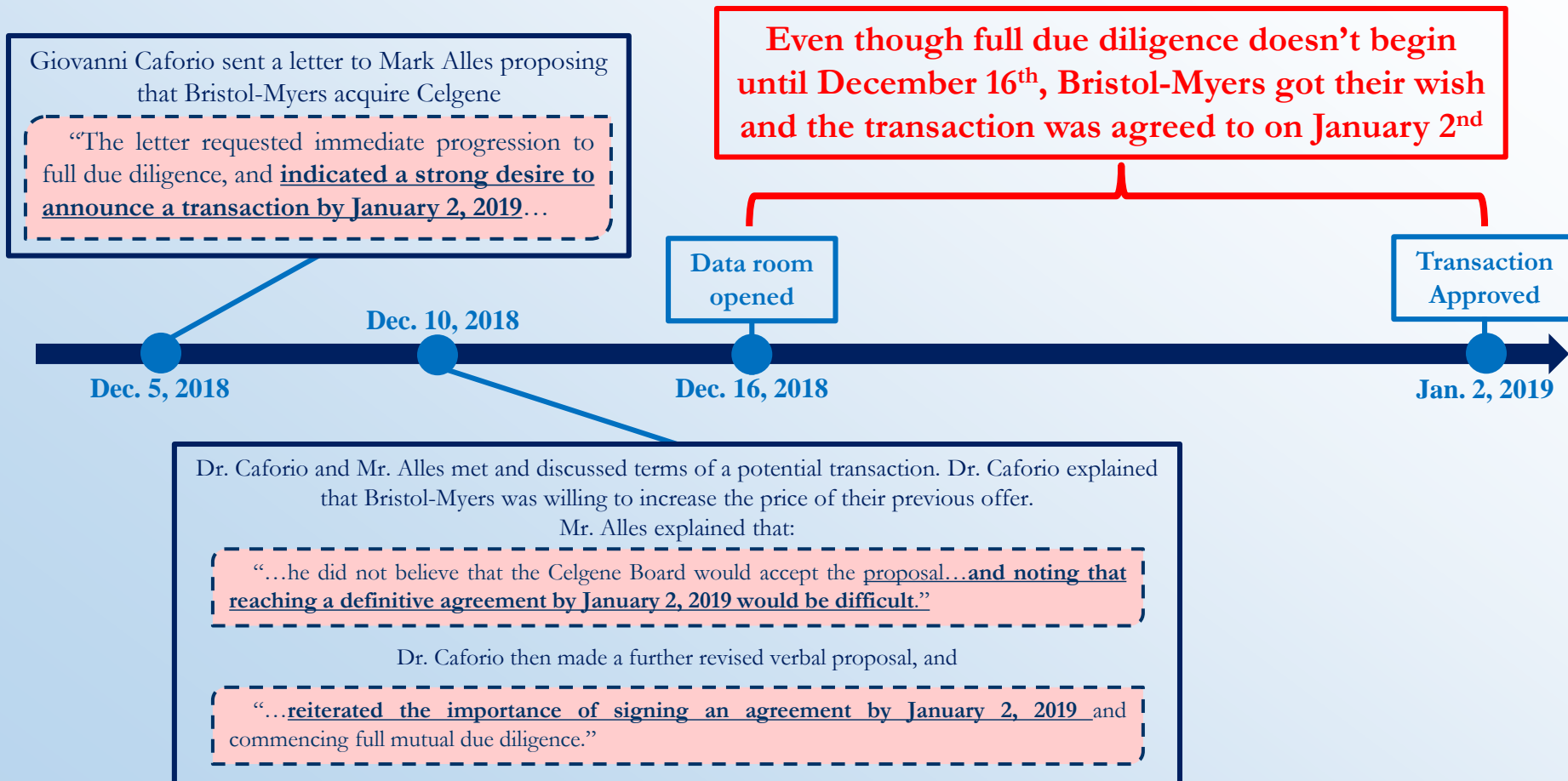
On December 18, 2018, the chief executive officer of Party A contacted the representative of J.P. Morgan and indicated that Party A had determined not to make a proposal for a potential strategic transaction with Celgene.

**It only took one day for the only other potential buyer to decide it had no interest in Celgene**

**Bristol-Myers' insistence on a limited due diligence process raises questions and adds risks for shareholders**

# Celgene Appeared Willing to Allow a Longer Diligence Process But Bristol-Myers Appeared Obsessed with Announcing a Deal Quickly

The Bristol-Myers management team seemed incredibly insistent upon announcing the deal with Celgene by January 2<sup>nd</sup> even though Celgene appeared willing to allow a longer process.



Why was Bristol-Myers so insistent upon announcing a transaction by January 2, 2019?



# The Science and Technology Committee Does Not Appear to Have Been Properly Involved During the Deal Process

Per Bristol-Myers' S-4, the Science and Technology Committee of the Bristol-Myers Board met only once during the Celgene acquisition process, which was on the day the deal was approved.

- Per the Charter for the Science and Technology Committee, the Committee is responsible for “periodically reviewing and advising the Board on the Company’s strategic direction and investment in research and development and technology (“R&D”). Such oversight **shall include key aspects of internal and external investments.**”
  - In fact, the Charter goes on to state, “The Committee shall...review and make recommendations to the Board on the Company’s internal and external investments in science and technology. **For any external investments in R&D (e.g., potential acquisitions, alliances, collaborations, equity investments, contracts and grants) that require approval by the full Board, the Committee shall provide the Board with its recommendation prior to Board action unless time does not permit.**”
- However, per the S-4, the first and only time the Science and Technology Committee met with management to discuss Celgene was on January 2, 2019, the day the acquisition was approved by the Board.
  - While we recognize that the full Board met several times during the process, we believe it would have been appropriate for the Committee to meet separately, as well, given the potential issues with REVLIMID IP and Bristol-Myers’ aggressive base case assumption of \$18 billion in 2028 revenue from Celgene’s pipeline.
  - **The Charter specifically seems to indicate that the Committee should be involved with all acquisitions,** unless time does not permit – time would have permitted here if not for management’s arbitrary deadline.
  - This is the Committee that is supposed to provide advice and oversight into the Company’s key investments, so why did they meet only immediately prior to the Board approving the acquisition?
- As such, this meeting appears to have been held simply for the sake of optics, given that “immediately following” this Committee meeting, the full Bristol-Myers Board held a special meeting to approve the merger.

**The unnecessarily rushed deal process led to the Science and Technology Committee meeting only once, which was the day the deal was approved**

# It Does Not Appear That Bristol-Myers Considered Other Alternatives

Before making the decision to do one of the largest pharmaceutical deals in history, Bristol-Myers appears to not have considered any alternatives.

- In May 2017, at Bristol-Myers' Annual Shareholder Meeting, management completely side-stepped a shareholder question as to whether Bristol-Myers would become an acquisition target (excerpt of response below).

"I'm wondering whether Bristol-Myers will become an acquisition target in the next year."

*Unidentified Shareholder  
May 2017*

"Thank you. So let me answer 2 of your important questions. The first one with respect to your comments about acquisitions. My comment and answer is that our company has very strong performance for our marketed medicines. We have an extraordinary, exciting pipeline that has the potential to develop into really important medicines in the future. And so as a management team, we are very focused on delivering on the value of our products in our pipeline and that's really our focus and our objective in executing a strategy and delivering long-term value to shareholders."

*Giovanni Caforio, Chairman & CEO  
May 2017*

- In the S-4 filing, we also find no mention of the Company having considered any alternatives other than a merger with Celgene, even though "potential strategic considerations...were reviewed from time to time with its financial advisors..."

Members of management and the board of directors of each of Celgene and Bristol-Myers Squibb regularly review and assess their respective company's performance and operations, financial condition, and industry and regulatory developments in the context of each company's long-term strategic goals and plans. These reviews have included consideration, from time to time, of potential opportunities to enhance stockholder value, including potential strategic acquisitions and divestitures, collaborations, investments and other strategic transactions and opportunities. In the case of Bristol-Myers Squibb, potential strategic considerations, including

On June 14, 2018, the BMS Board held a regularly scheduled meeting, with members of Bristol-Myers Squibb management in attendance. At this meeting, members of the BMS Board and management discussed potential strategic business development plans and opportunities, including potential strategic transactions. At the conclusion of the meeting, the BMS Board determined to revisit the evaluation of strategic business development plans and opportunities and discuss at a regularly scheduled meeting of the BMS Board in September potential next steps and directed members of Bristol-Myers Squibb management to, in conjunction with appropriate external advisors, continue the evaluation of potential strategic business development plans and opportunities, including potential strategic transactions.

**While the Board tasked management with considering a range of strategic alternatives, it appears that management never seriously considered alternatives outside of an acquisition of Celgene**

**We believe that Bristol-Myers was solely focused on consummating a large transaction**

# Bristol-Myers Has Been Rumored to Be a Potential Acquisition Target for Years

Despite repeated headlines over the years that Bristol-Myers may be for sale, it does not appear that the Company ever explored a sale as a means of maximizing shareholder value.

## Select Commentary and Headlines From Media and Wall Street Analysts

2003

**The New York Times**  
March 11, 2003

As Bristol-Myers' difficulties come closer to being resolved, many analysts say the company is becoming a more likely takeover target.

2007

**Citi Research Report**  
January 29, 2007

“We believe BMY is the most likely acquisition candidate in our coverage universe...”

2009

**Nasdaq**  
March 20, 2009

**Bristol-Myers Squibb (BMY) — the Next Health Care Sector Buyout?**  
By [Louis Navellier](#)

2016

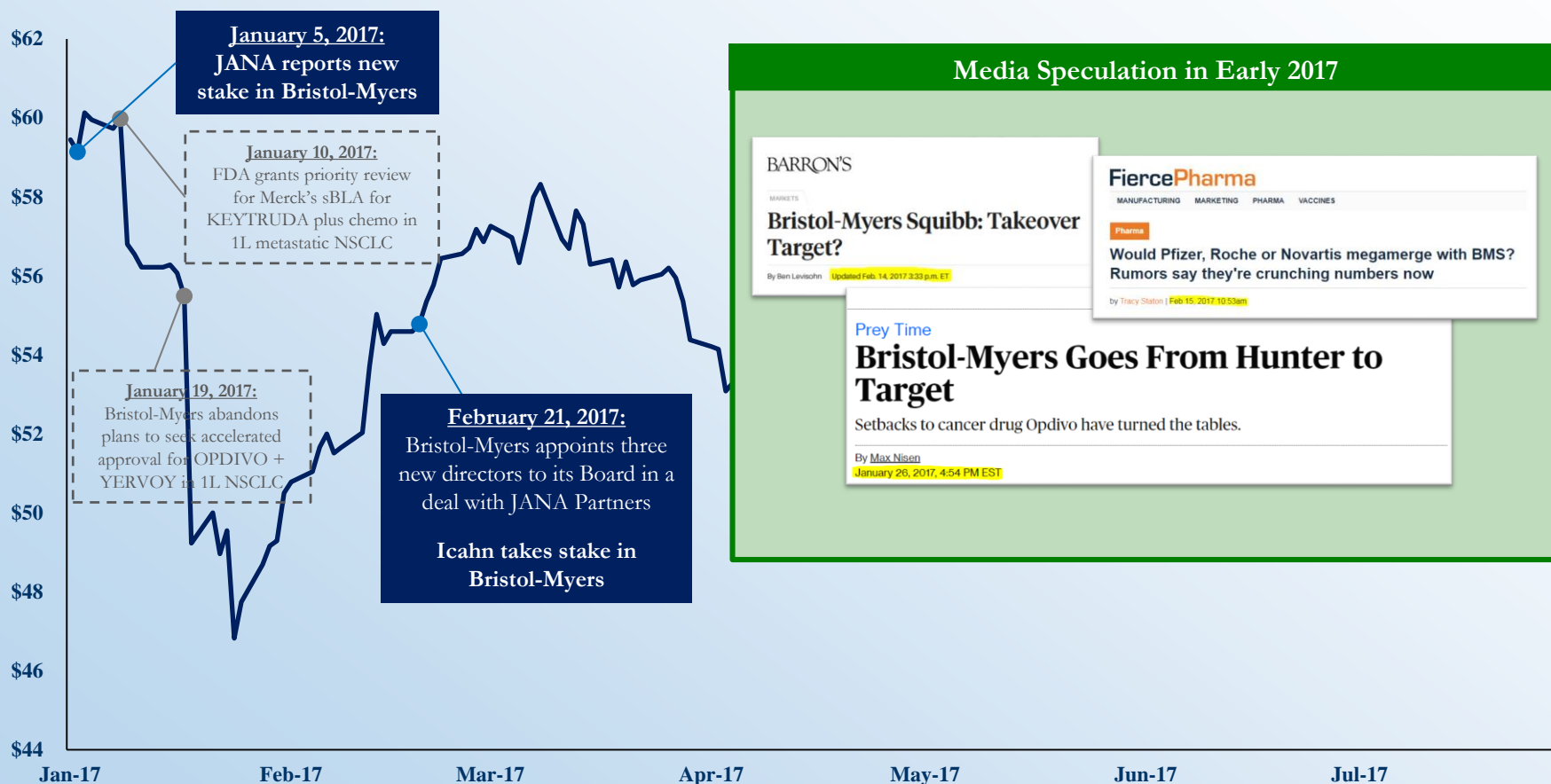
**Goldman Sachs Research Report**  
October 13, 2016

“We believe BMY could be an attractive acquisition candidate...”

Many industry observers believe Bristol-Myers would be an attractive acquisition target due to the Company's leading position in oncology

# We Believe This Transaction May Have Been Motivated by Defensive Purposes

Following the failure of CHECKMATE-026 in August 2016, active shareholders emerged and several news outlets commented on potential strategic interest in Bristol-Myers.



Bristol-Myers appointed several new, Company-friendly directors to appease an active shareholder, but we believe that management may have felt vulnerable



# Following the Agreement With an Active Shareholder, Bristol-Myers Management Immediately Focused on a Large Transaction

One could easily infer from the timeline below that Bristol-Myers decided to attempt a large transaction to avoid potentially being acquired.

- Bristol-Myers initiated merger discussions with Celgene just as rumors were swirling and pressure was intensifying for Bristol-Myers management to look for a buyer.
- A combination between Bristol-Myers and Celgene would create one of the largest pharmaceutical companies and almost certainly remove any chance of the Company ever being acquired.

## Bristol-Myers S-4: Background of Merger

In early 2017, members of Celgene management and members of Bristol-Myers Squibb management engaged in preliminary discussions regarding a possible stock for stock merger of equals between the two companies. In connection with these discussions, Bristol-Myers Squibb and Celgene entered into a mutual confidentiality agreement on April 4, 2017 to enable the sharing of limited, initial diligence materials between the companies. However, following these exploratory conversations and prior to commencing full due diligence, in June 2017 the parties decided to end further consideration of the potential transaction, and accordingly ceased discussions relating thereto.

JANA reports new stake in Bristol-Myers

January 5, 2017

Bristol-Myers appoints three new directors to its Board in an agreement with JANA Partners  
Icahn takes stake in Bristol-Myers

February 21, 2017

Bristol-Myers & Celgene enter into mutual confidentiality agreement

April 4, 2017

While we are not solely advocating for a sale of the Company, we strongly believe that management should be open to any option that maximizes value for shareholders



# Management Appears to Have Finally Acknowledged Previous Discussions Prior to the Celgene Process

At a recent investor event, Bristol-Myers CEO Giovanni Caforio finally acknowledged past discussions about a potential acquisition of Bristol-Myers following several attempts to avoid answering the question.

“While mgmt would not directly respond to whether it had received prior “informal” interest, the company reiterated its position that any serious approach would have been required disclosure in S-4.”

*- Bank of America, March 8, 2019*

“... So as any CEO in any industry, I have conversations with other CEOs. The few discussions and conversations that I've had in the past have all been at a very high level. There has been no discussion about economic terms. There has been no offer. And I'd like to add more. There has been no discussion whatsoever since 2017. ”

*- Giovanni Caforio, Cowen Health Care Conference, March 12, 2019*

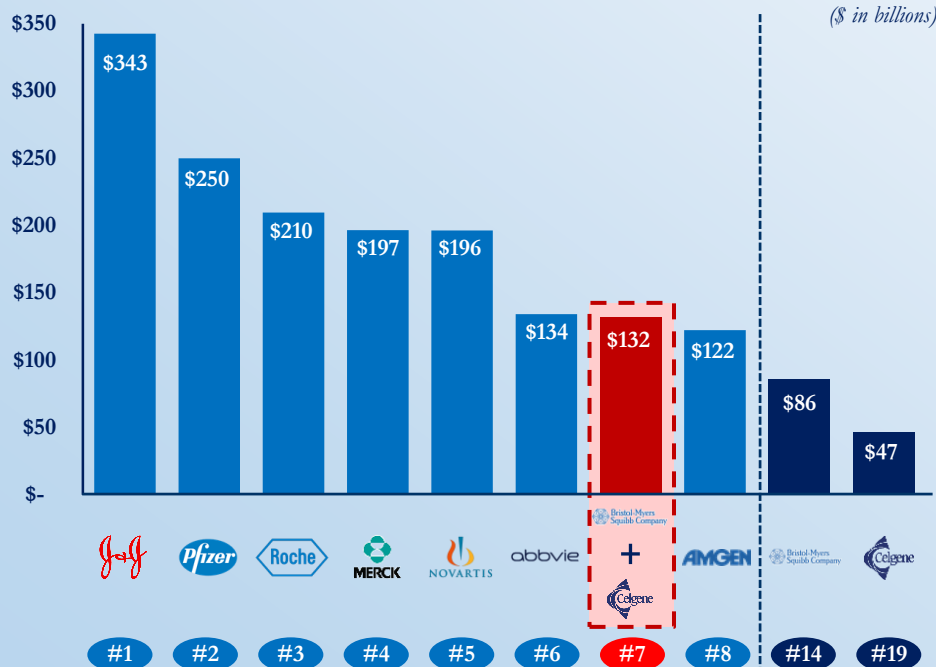
**It appears that there may have been prior strategic interest in Bristol-Myers**

# Buying Celgene Would Effectively Serve as a Poison Pill Against Potential Strategic Interest

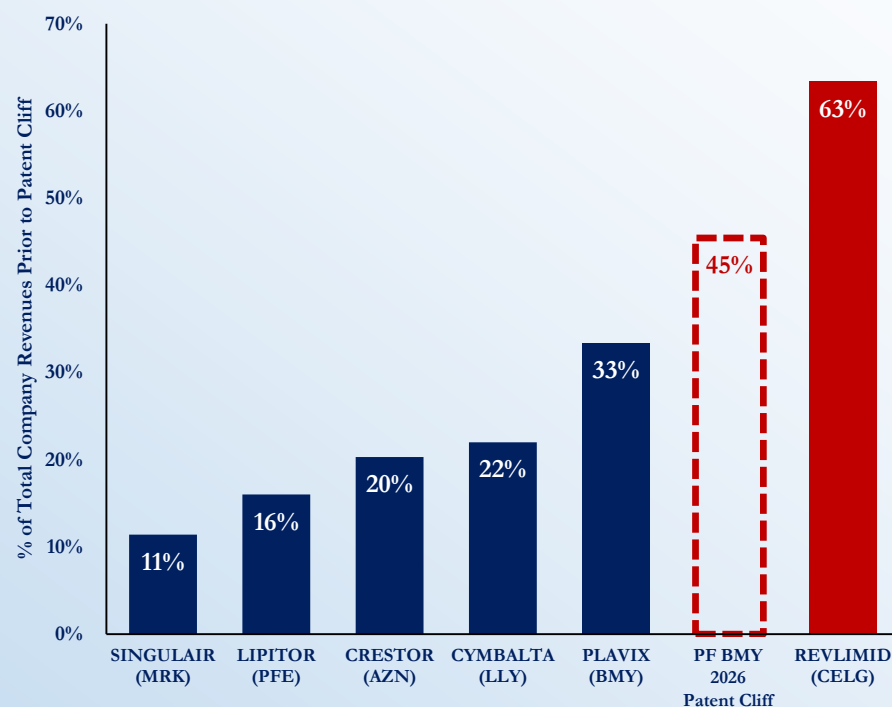
A combined Bristol-Myers / Celgene would effectively become too large to acquire, with the added complication of having one of the largest patent cliffs in pharmaceutical history.

- The sheer size of the pro forma company created by this transaction produces what essentially amounts to a “poison pill” that would drastically reduce, if not altogether prevent, the opportunity for any potential value-maximizing sale outcome for shareholders.

Largest Global Pharmaceutical Companies – Market Capitalization<sup>(1)</sup>



Select Blockbuster Drugs – % Revenue Contribution Prior to Loss-of-Exclusivity<sup>(2)</sup>



Shareholders must be absolutely certain before allowing management to take all other options off the table

Source: Public company filings, CapitalIQ

(1) Market capitalization as of January 2, 2019 (closing price before announcement of Celgene merger).

(2) % of total revenues for SINGULAIR, LIPTOR, CRESTOR, CYMBALTA, PLAVIX, and REVLIMID as of 2011, 2010, 2015, 2013, 2011, and 2018, respectively.

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## **VIII. There Is A Better Path Forward For Bristol-Myers**

# Amgen's Margin Improvement Plan Provides a Blueprint for Bristol-Myers

In 2014, Amgen announced a business transformation in order to increase margins 1,500bps by 2018.

"In terms of value creation for shareholders, it's really a multi-pronged approach. So, topline growth around the product launches, biosimilars and the global expansion, as well as delivering operating leverage for the company, we expect here over the next several years to deliver a 15 point operating margin improvement for the business."

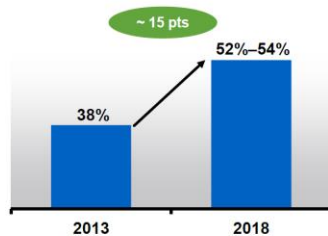
David Meline, Amgen EVP and CFO  
November 2014

## 2014 Amgen Management Presentation

### Improving Operating Margin by ~ 15 Points While Investing In Global Product Launches

#### Adjusted Operating Margin\*

#### Key Drivers



- Savings from focused operating model
- Improved Enbrel® profitability
- Reduce total OPEX\* by at least \$800M in 2018 vs 2013

\*Adjusted, non-GAAP financial measure—if this slide is in hard copy, see reconciliations accompanying the presentation, or if this slide is delivered electronically, or amounts pertain to previously issued financial guidance, see reconciliations available at: [www.amgen.com](http://www.amgen.com) within the Investors section. Provided November 11, 2014, as part of an oral presentation and is qualified by such, contains forward-looking statements, actual results may vary materially. Amgen disclaims any duty to update.

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AMGEN

## 2019 Amgen Management Presentation

### WE EXPECT TO EXCEED OUR LONG-TERM FINANCIAL COMMITMENTS FOR 2018 AIDED BY OUR SUCCESSFUL TRANSFORMATION PROGRAM

2018 Commitments	Outlook	Progress
Double-digit EPS* growth**	~ 13%†	✓ +
Operating margin* of 52%–54% vs. 38% in 2013	~ 53%†	✓ +
\$1.5B gross cost savings	~ \$1.8B	✓ +
Return of ~ 60% of net income* to shareholders†	~ 95%	✓ +

\*Non-GAAP financial measure—if this slide is in hard copy, see reconciliations accompanying the presentation, or if this slide is delivered electronically, see reconciliations available at: [www.amgen.com](http://www.amgen.com) within the Investors section. \*\*On average, between 2013–2018. †On average, between 2014–Q3 2018. ‡Non-GAAP EPS and operating margin outlook based on guidance provided Oct. 30, 2018. Provided January 8, 2019, as part of an oral presentation and is qualified by such, contains forward-looking statements, actual results may vary materially. Amgen disclaims any duty to update.

AMGEN

Between 2014 – 2018, Amgen successfully improved operating margins by 1,500bps

There is recent precedent for tremendous operational improvement within large biopharma companies

# Amgen's Margin Improvement Plan Provides a Blueprint for Bristol-Myers (cont'd)

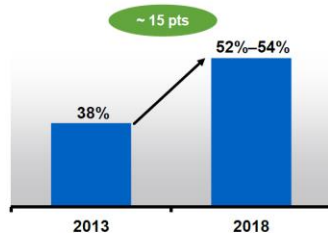
Due to Amgen's execution of a margin improvement plan over the past several years, its margins are now significantly higher than Bristol-Myers'.

## 2014 Amgen Management Presentation

### Improving Operating Margin by ~ 15 Points While Investing In Global Product Launches

#### Adjusted Operating Margin\*

#### Key Drivers



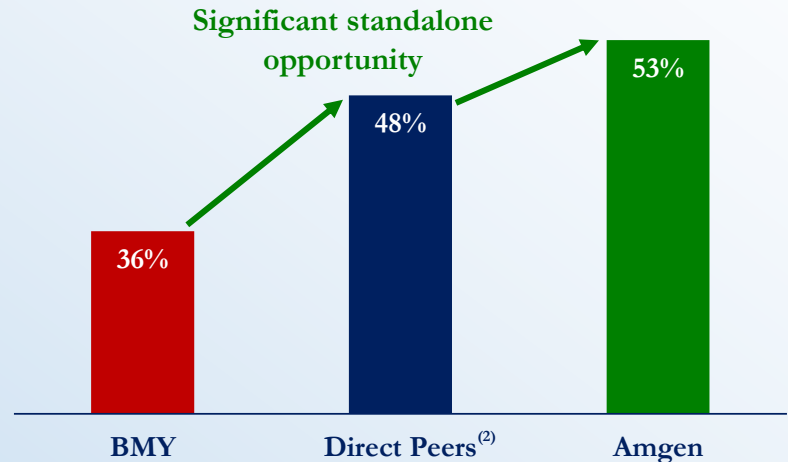
- Savings from focused operating model
- Improved Enbrel® profitability
- Reduce total OPEX\* by at least \$800M in 2018 vs 2013

\*Adjusted, non-GAAP financial measure—if this slide is in hard copy, see reconciliations accompanying the presentation, or if this slide is delivered electronically, or amounts pertain to previously issued financial guidance, see reconciliations available at: [www.amgen.com](http://www.amgen.com) within the Investors section. Provided November 11, 2014, as part of an oral presentation and is qualified by such, contains forward-looking statements, actual results may vary materially. Amgen disclaims any duty to update.

12

AMGEN

## LTM Adj. EBITDA Margins<sup>(1)</sup>



We believe Bristol-Myers may have an opportunity to embark upon a similar margin improvement plan

Source: Public company filings.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of ELIQUIS revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

(2) Starboard selected Direct Peers include: ABBV, AMGN, BIIB, MRK, CPSE:NOVO.B, SWX:ROG.



# Amgen's Margin Improvement Plan Provides a Blueprint for Bristol-Myers (cont'd)

Amgen primarily targeted three operating functions for improvement, which are consistent with what we are advocating for at Bristol-Myers.

## Amgen Management Commentary on Business Improvement Plan by Operating Function

### Cost of Goods Sold

"So the benefits to this are immense. We can generate the same throughput at one-third of the operating expense with much more flexibility and we expect through time that we will be able to reduce the cost per gram of our proteins by some 60% or more and that enables us to achieve hundreds of millions of dollars of savings versus conventional technology. Now let me just point out again, these are technologies which we will use to produce bulk protein and for those who are interested, bulk protein is about 30% of our cost of sales costs. So these are technologies which give us tremendous leverage for that 30% of our cost of sales."

*Bob Bradway, Chairman & CEO  
October 2014*

### Selling, General & Administrative

"In the G&A area, we're setting up a series of shared service activities for non-core areas and we've created what we call a Global Business Services group, which is serving then as a centralized point to serve the Company. So if you look at IT, sits in here, and importantly our sourcing activity is being used to really leverage the efficiency throughout the enterprise."

*David Meline, Amgen EVP and CFO  
November 2014*

### Research & Development

"Things like rationalizing our process development organizations between manufacturing and research and development. That is a significant decision that we've made, a decisive decision that we've made that we think favors cycle time improvement and also favors reducing the capital that we have to invest in new molecules so success rate, cycle time and eliminating capital that we don't have to commit to advance innovation. So operational efficiencies in research and development are real and we are consolidating as you saw for example in the announcement that we made in July, consolidating therapeutic areas, consolidating sites again to try to maximize utilization and do all that we can to improve return on our invested capital in research and development."

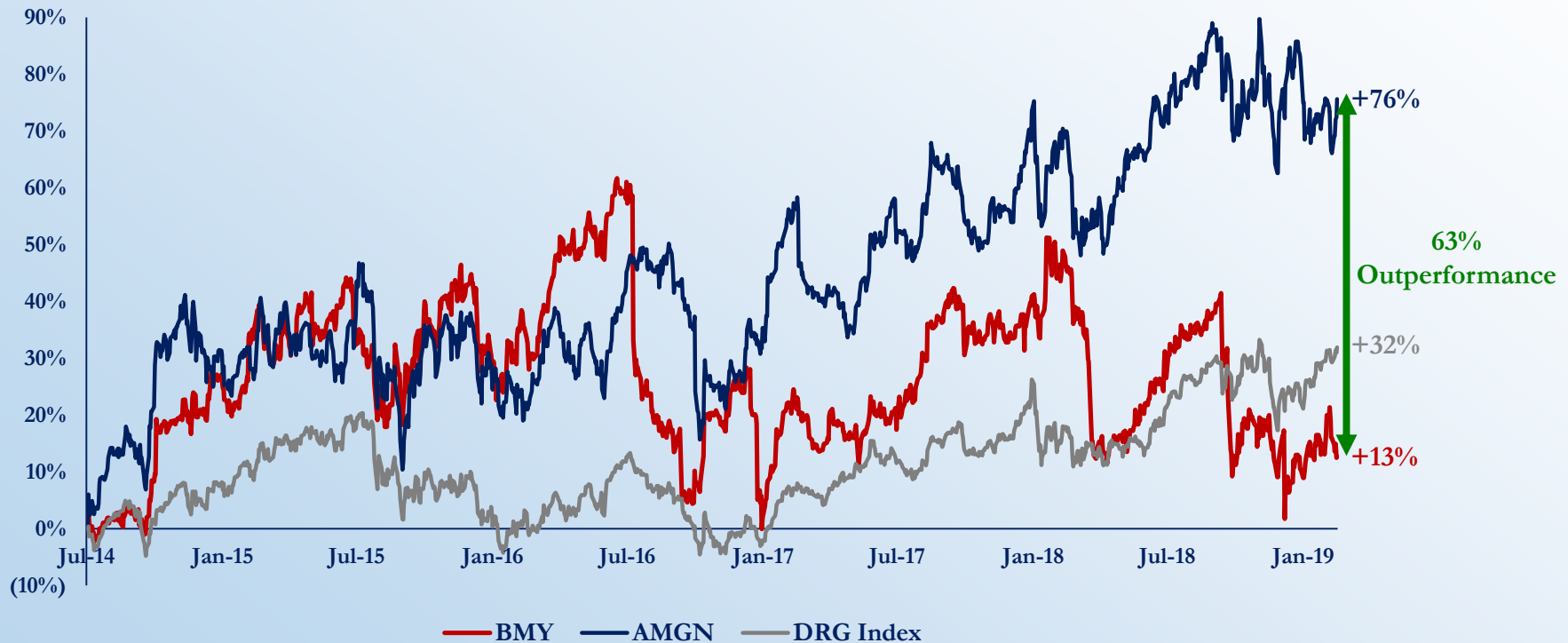
*Bob Bradway, Chairman & CEO  
October 2014*

Amgen has successfully executed a business transformation that targets the same areas as our plan

# Amgen's Margin Improvement Plan Provides a Blueprint for Bristol-Myers (cont'd)

By successfully delivering on the business transformation plan and increasing operating margins by 1,500bps, Amgen has unlocked significant value for its shareholders.

Stock Price Performance Since Amgen Announced Business Transformation On July 28, 2014



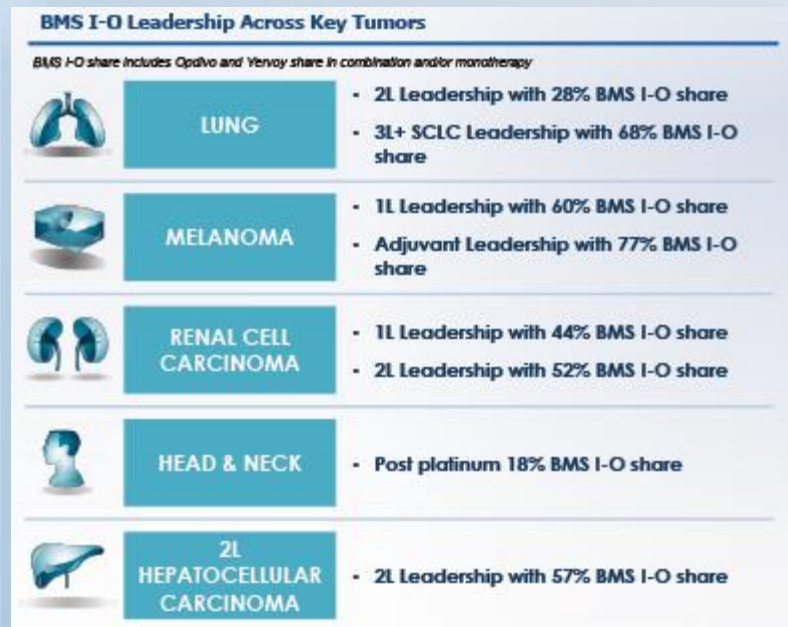
Since embarking on this plan, Amgen has significantly outperformed both Bristol-Myers and its peers

# Bristol-Myers Continues to Exhibit Strong Performance and an Attractive Growth Profile

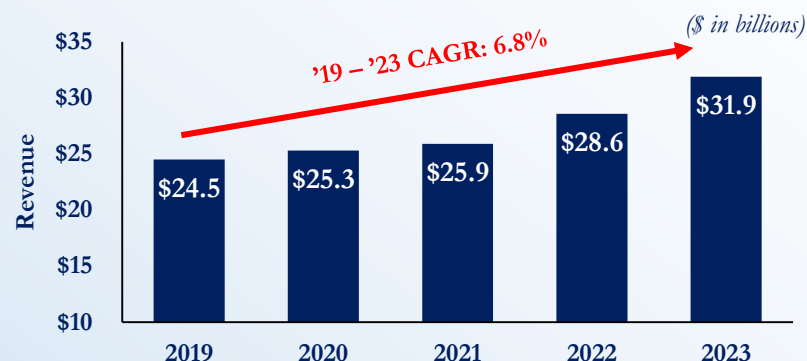
Bristol-Myers has a highly attractive immuno-oncology franchise with leading market share across multiple categories.

- Per the Company's S-4 filing, Bristol-Myers management is expecting strong growth over the next several years.

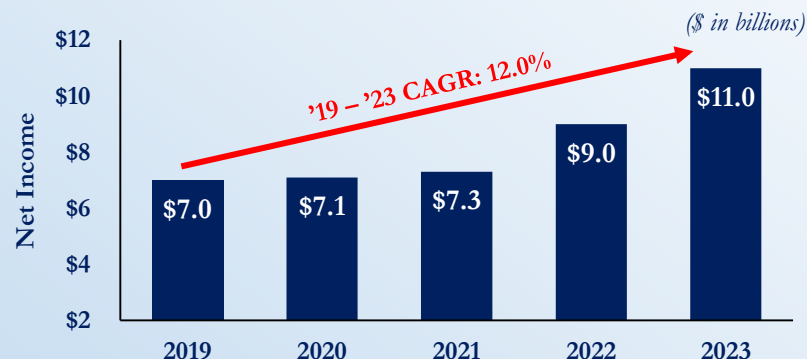
## Bristol-Myers Leads in Multiple Categories Across Immuno-Oncology



## Bristol-Myers Management Estimated Revenue (S-4)



## Bristol-Myers Management Estimated Cash Net Income (S-4)



Bristol-Myers is a strong company with enviable products and attractive growth prospects

# Bristol-Myers' Core Product Franchises Are Expected to Generate Strong Revenue Growth

Bristol-Myers' two core franchises, OPDIVO and ELIQUIS, are projected by Wall Street analysts to generate continued strong growth.

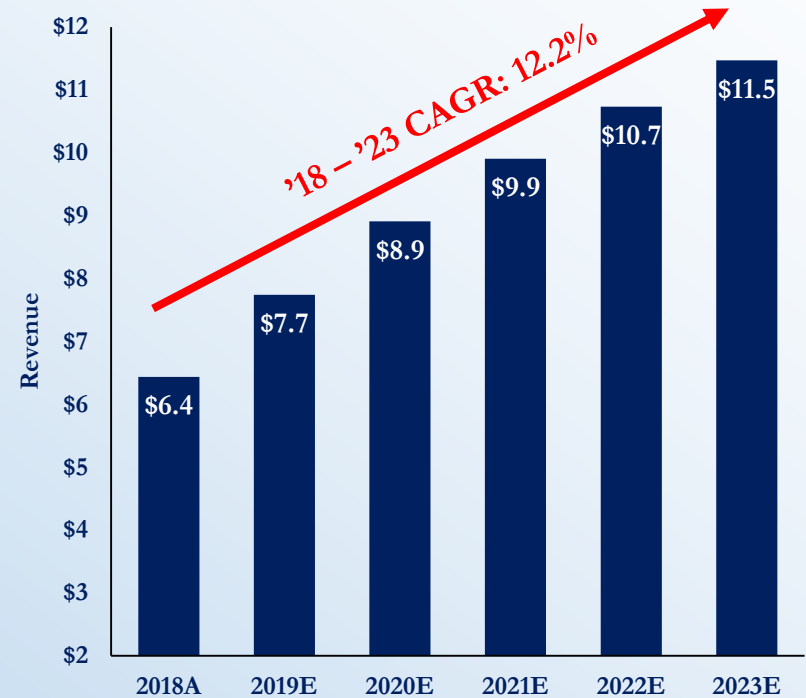
Wall Street Consensus OPDIVO Revenue Estimates

(\$ in billions)



Wall Street Consensus ELIQUIS Revenue Estimates

(\$ in billions)



Bristol-Myers possesses numerous leading product franchises

# Wall Street Consensus Expectations Predict Continued Revenue and Earnings Growth for Standalone Bristol-Myers

Wall Street analysts expect Bristol-Myers to continue to grow revenue and leverage it into faster adjusted EPS growth.

Wall Street Consensus Bristol-Myers Revenue Estimates

(\$ in billions)



Wall Street Consensus Bristol-Myers Adj. EPS Estimates



Wall Street analysts predict continued growth in revenue and adjusted EPS for Bristol-Myers



# We Agree With Bristol-Myers Management's and Wall Street Analysts' Confidence in Its Product Franchises

Bristol-Myers management has continued to emphasize to investors that its product franchises are strong.

## Bristol-Myers Management and Wall Street Analyst Core Franchise Commentary

"...I am very proud of what we have accomplished with Opdivo. It's an important franchise, Opdivo is a foundational medicine. We have been approved in 16 new indications with Opdivo everywhere. We have leading market shares and when I look ahead with Opdivo we have over 20 registrational trials coming in multiple tumor types... I see Opdivo as a growing franchise and we are in a very strong position."

*Giovanni Caforio, Chairman & CEO  
Bloomberg TV Interview, March 2019*

"So first of all, our business as Bristol-Myers Squibb is in a really strong position. We had a very good year in 2018 with respect to commercial execution...we're in a very strong position...As a company, we have always thought about how to think about the future when we are in a position of strength."

*Giovanni Caforio, Chairman & CEO  
Guggenheim Healthcare Talks Idea, February 2019*

"We continue see a clear path to growth for Opdivo from here (~\$9.5bn peak) driven by a range of indications. Opdivo already holds an established presence in a broad range of tumors including melanoma, RCC, and 2L lung cancer and has shown promising activity in several additional tumor types. While Keytruda has clearly moved into a leadership position in NSCLC, PD-1s have shown activity in a wide range of indications and we see a \$35bn+ market opportunity for these products and we continue to see broad applicability for Opdivo over time."

*JP Morgan, December 2018*

"But what we are doing in order to generate long-term value for shareholders is a number of things. So first of all, our commercial performance is very, very strong. And we are growing every one of our franchises."

*Giovanni Caforio, Chairman & CEO  
Annual Shareholders Meeting, May 2018*

**Bristol-Myers management is adamant that their core franchises are strong**

# Bristol-Myers' IO Franchises Have Numerous Growth Opportunities

Bristol-Myers' IO franchises have opportunities to drive significant growth in the future.

## Growth Opportunities for Opdivo & Yervoy

### 1L NSCLC

Trial	Expected Timing
<b>CM-227 (Part 1a)</b>	1H 2019
<b>CM-227 (Part 2)</b>	Mid 2019
<b>CM-9LA</b>	2020

### Adjuvant

Tumor/ Trial	Expected Timing*
<b>Melanoma</b> CM-915	2020
<b>Bladder</b> CM-274	2020
<b>Esophageal</b> CM-577	2020
<b>Renal</b> CM-914	2022
<b>Lung</b> CM-816	2023

### Other Tumors

Tumor/ Trial	Expected Timing*
<b>HCC</b> CM-459	1H 2019
<b>GBM</b> CM-548	2H 2019
CM-498	2H 2019
<b>Gastric</b> CM-649	1H 2020
<b>Head &amp; Neck</b> CM-651	1H 2020
CM-714	2H 2019

Tumor/ Trial	Expected Timing*
<b>Bladder</b> CM-901	1H 2020
<b>Esophageal</b> CM-648	1H 2020
<b>Mesothelioma</b> CM-743	2H 2019
<b>RCC</b> CM-9ER	2H 2019

\*Per clinicaltrials.gov

Bristol-Myers has many opportunities to continue to grow its IO franchise

# We Agree With Bristol-Myers Management's and Wall Street Analysts' Confidence in Its Pipeline

Bristol-Myers management has continued to emphasize to investors that its pipeline is robust.

## Bristol-Myers Management and Wall Street Analyst Pipeline Commentary

"I do belong to the camp where I think there is clear space for a product that is oral and has the tolerability that we believe our TYK2 agent has and has a efficacy that is comparable to biologics to carve a really important space in the market. And we do look at that opportunity as a really meaningful opportunity for us."

*Giovanni Caforio, Chairman & CEO  
Guggenheim Partner Oncology Day, February 2019*

"We see **Bristol's TYK-2 inhibitor (BMS-986165)** representing a potentially meaningful (and perhaps underappreciated) pipeline opportunity. The product's phase 2 data showed biologic-like efficacy in an oral dosing format, which could represent a significant commercial opportunity..."

*JP Morgan, December 2018*

"**BMS also has several pipeline assets in the exciting immunotherapy space that is likely to have a paradigm-changing impact on treatment of several cancers.**"

*Citi, October 2018*

"I'm quite happy that as we think about the long-term growth opportunities for the company in the pipeline, it is increasingly a diversified story with a strong core in oncology but emerging interesting programs in our other innovative medicines businesses."

*Giovanni Caforio, CEO  
Morgan Stanley Healthcare Conference, September 2018*

"And the third comment I'd like to say, that our pipeline has probably never been more promising and stronger, with a number of programs that are advancing towards registrational studies, both in oncology and outside of oncology."

*Giovanni Caforio, Chairman & CEO  
Cohen Healthcare Conference, March 2018*

**Bristol-Myers is adamant that its pipeline is promising**

# Bristol-Myers Management Continues to Be Confident in Further Margin Expansion

Bristol-Myers management believes that gross margins have troughed and that operating margins will continue to improve.

## Bristol-Myers Management Margin Commentary

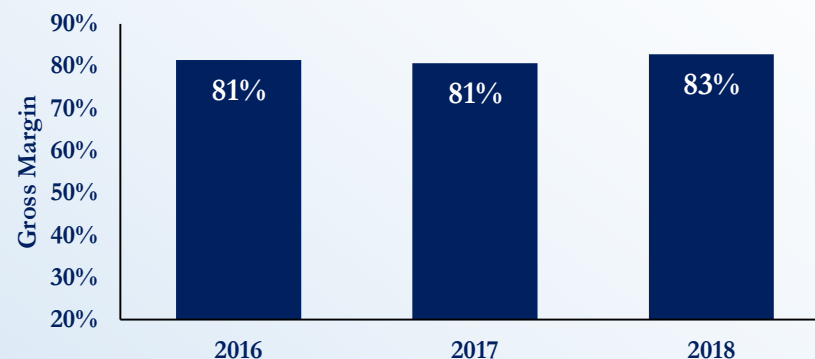
“...as I mentioned in the last quarter, we're predicting now that our gross margin going forward, we're sort of at the trough now of gross margin. So as you've seen over the last several years, we've had, primarily because of mix, the strong growth of Eliquis, we've had margin degradation, but we feel that we're now bottoming out on that gross margin.”

*Charles Bancroft, CFO  
Q2 2018 Earnings Call, July 26, 2018*

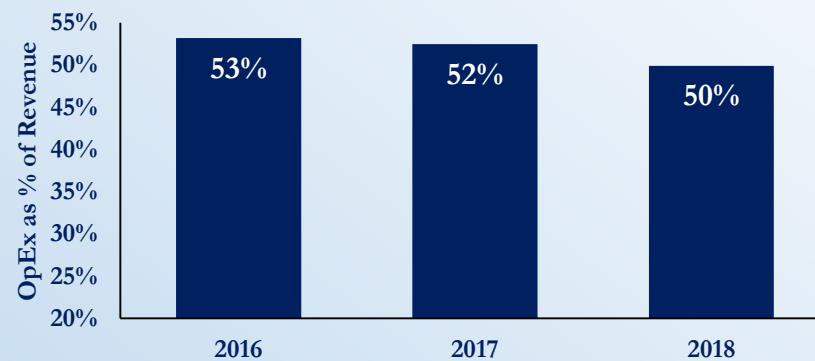
“And if you look back last year and again this year, we've continued to up-invest in R&D, while we have reductions in MS&A. So, we've continued to leverage our operating margin and we continue to see operating margin favorability going forward.”

*Charles Bancroft, CFO  
UBS Global Healthcare and Life Sciences Conference, May 22, 2018*

## Bristol-Myers Gross Margin<sup>(1)</sup>



## Bristol-Myers Operating Expense as % of Sales<sup>(1)</sup>



**We believe that numerous initiatives exist for Bristol-Myers to further improve its margins**

Source: Public company filings and transcripts.

(1) Cost of products sold and operating expense adjusted for non-GAAP financial measures disclosed in the Bristol-Myers 10-K, which includes adjustments for one-time payments, impairments, accelerated depreciation, etc. In addition, we have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue.

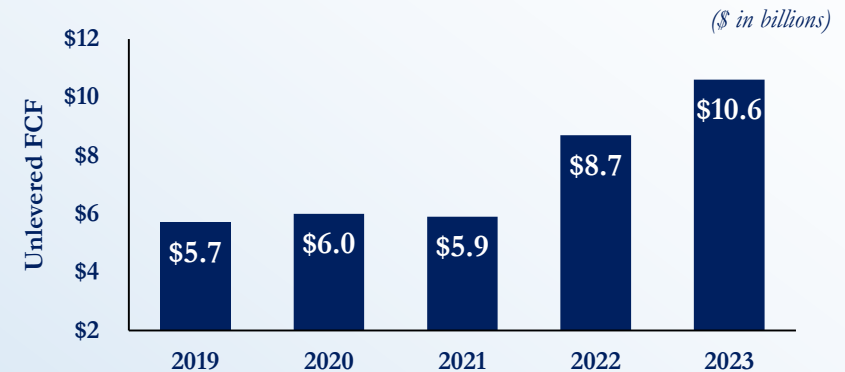
# Bristol-Myers Is Well-Positioned on a Standalone Basis to Continue Its Previously Successful “String of Pearls” Strategy

Bristol-Myers has a strong balance sheet and significant expected unlevered free cash flow generation potential, which will allow management to execute on a “String of Pearls” growth strategy.

2018 Net Cash for Bristol-Myers and Direct Peers<sup>(1)</sup>



Bristol-Myers Management Estimates for Unlevered FCF (S-4)<sup>(2)</sup>



Without taking on any debt or implementing any additional operational improvements, Bristol-Myers will have the ability to use ~\$37 billion of cumulative unlevered free cash flow over the next five years to execute a “String of Pearls” strategy (i.e. in-licenses, partnerships, small acquisitions)

**Bristol-Myers is well positioned to continue growing on a standalone basis**

Source: Public company filings, CapitalIQ.

(1) Starboard selected Direct Peers include: ABBV, AMGN, BIIB, MRK, CPSE:NOVO.B, SWX:ROG.

(2) Per Bristol-Myers S-4 filing dated February 20, 2019.

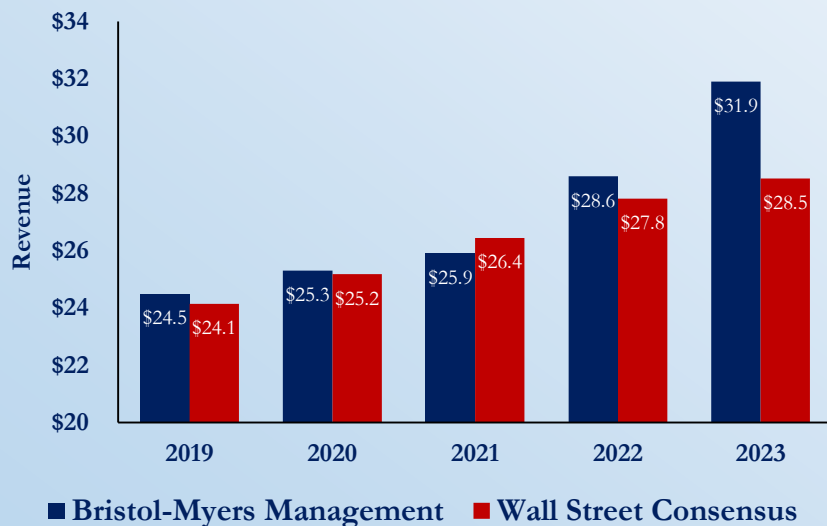


# Bristol-Myers Management Clearly Has Faith in Its Standalone Business

In the Company's S-4 filing, Bristol-Myers management provides 2019 – 2023 estimates for standalone Company performance, which are significantly better over the long term than Wall Street consensus estimates, and suggests that management has faith in the standalone business.

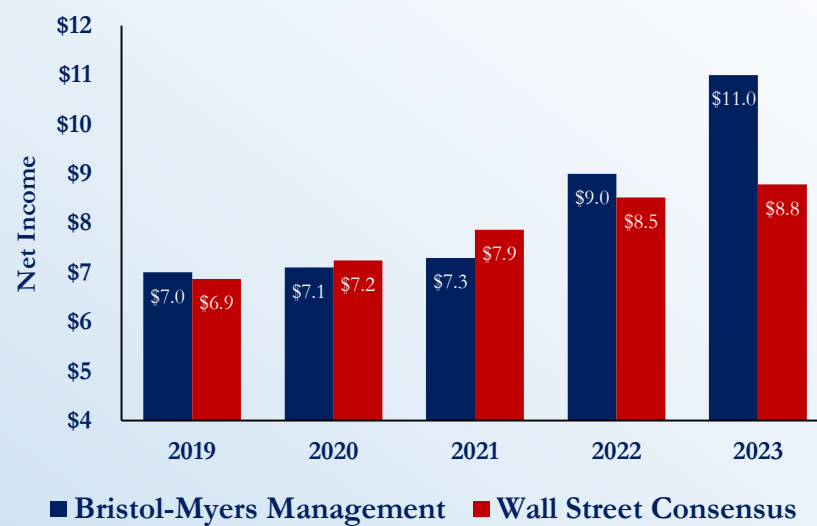
Bristol-Myers Management vs. Wall Street Consensus  
Revenue Estimates for Standalone Bristol-Myers

(\$ in billions)



Bristol-Myers Management vs. Wall Street Consensus Net  
Income Estimates for Standalone Bristol-Myers

(\$ in billions)



Bristol-Myers management projections for the Company on a standalone business are significantly better than Wall Street consensus estimates

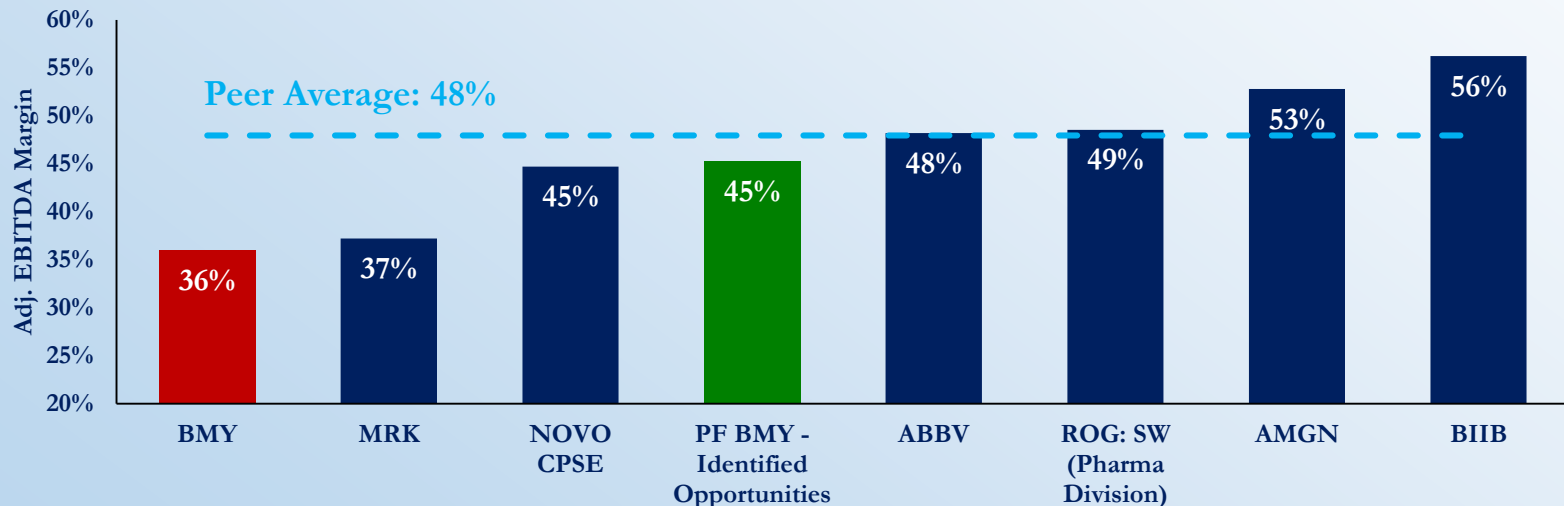
Bristol-Myers management seems confident in the Company's future on a standalone basis

# However, We Believe Bristol-Myers Can Be Even Better and That There Is a Significant Operational Improvement Opportunity

We believe Bristol-Myers standalone adjusted EBITDA margins could improve from 36% to 45%, with an opportunity to potentially expand margins further over time.

- Through our work with industry experts and a leading consulting firm, based on publicly available information, we believe Bristol-Myers has an opportunity to improve adjusted EBITDA margins to more closely align with its Direct Peers.
- Over a longer-term period, with a best-in-class management team and perfect information, we believe the opportunity exists to reach peer average margins and potentially further close the margin gap with Amgen.

2018 Adjusted EBITDA Margin for Bristol-Myers vs. Direct Peers<sup>(1,2)</sup>



We believe there are specific actions within Bristol-Myers' control that may result in significant margin improvement

Source: Public company filings, Starboard estimates and analysis from leading consulting firm.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

(2) Starboard selected Direct Peers include: ABBV, AMGN, BIIB, MRK, CPSE:NOVO.B, SWX:ROG.

# We Believe There Are Specific Margin Improvement Opportunities at Bristol-Myers

We believe that significant cost savings opportunities exist across various functional areas at Bristol-Myers to substantially improve EBITDA.

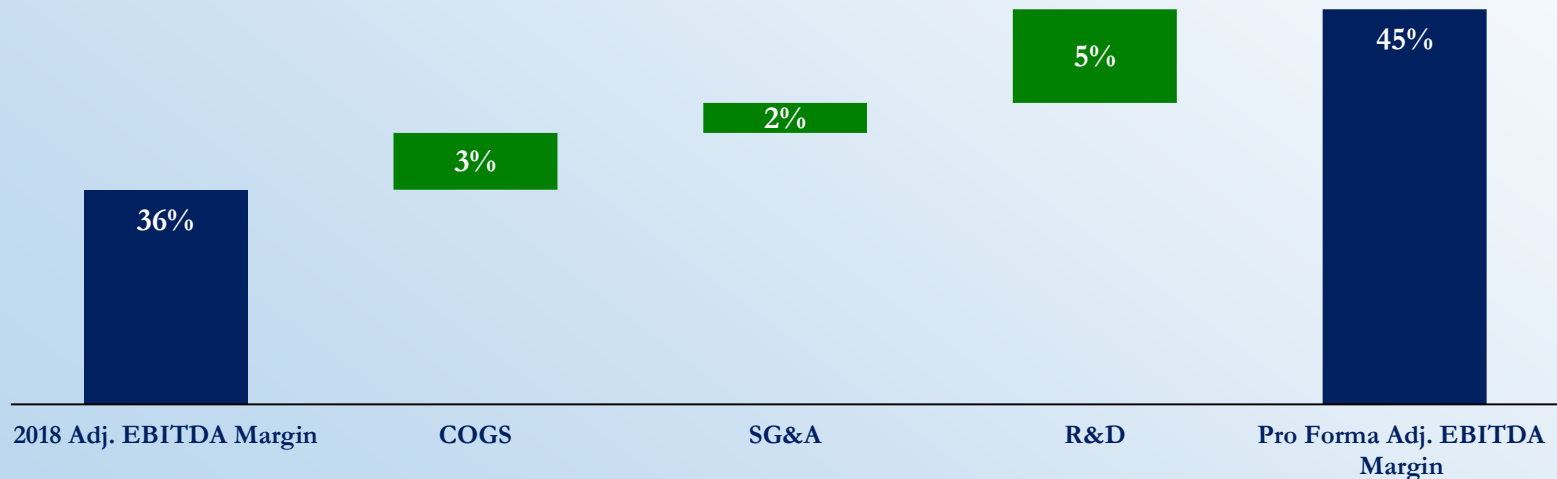
Expense Category	Opportunities
Cost of Goods Sold	<ul style="list-style-type: none"><li>■ Bristol-Myers' gross margins are well below peer levels.</li><li>■ We believe the Company has an opportunity to optimize facility footprint away from high-cost labor and high-cost tax regions towards more efficient locations.</li><li>■ We believe Bristol-Myers has an opportunity to improve manufacturing processes through reductions in cycle times and improvements in cell yields.</li></ul>
Selling, General and Administrative Expenses	<ul style="list-style-type: none"><li>■ Bristol-Myers' SG&amp;A spending is above the peer average.</li><li>■ We believe Bristol-Myers has an opportunity to significantly reduce expenses in SG&amp;A, primarily in General and Administrative and Sales and Marketing functions.</li><li>■ We believe the total cost savings opportunity is approximately \$275 million – \$325 million.</li></ul>
Research & Development Expenses	<ul style="list-style-type: none"><li>■ Bristol-Myers' elevated level of R&amp;D spending has not translated into tremendous pipeline development and value realization.</li><li>■ The Company operates more facilities than larger peers and may have an opportunity to consolidate its footprint.</li><li>■ Bristol-Myers has excessive layers of management that lead to inefficiency in its R&amp;D process.</li><li>■ Management has not delivered increased research speed and innovation from the R&amp;D transformation announced in 2016.</li><li>■ We believe that Bristol-Myers has an opportunity to reallocate or rationalize R&amp;D spending to improve R&amp;D as a percentage of revenue by ~400bps.</li></ul>

# We Believe There Are Opportunities to Significantly Improve Adjusted EBITDA Margins

We believe that there is an opportunity to significantly improve profitability at Bristol-Myers.

- We believe there are significant opportunities within SG&A, R&D and COGS to improve margins at Bristol-Myers.
- Over a longer term period, with a best-in-class management team and perfect information, we believe the opportunity exists to reach peer average margins of 48% and potentially further close the margin gap with Amgen.

## 2018 Bristol-Myers Standalone Adj. EBITDA Bridge to Post-Transformation EBITDA



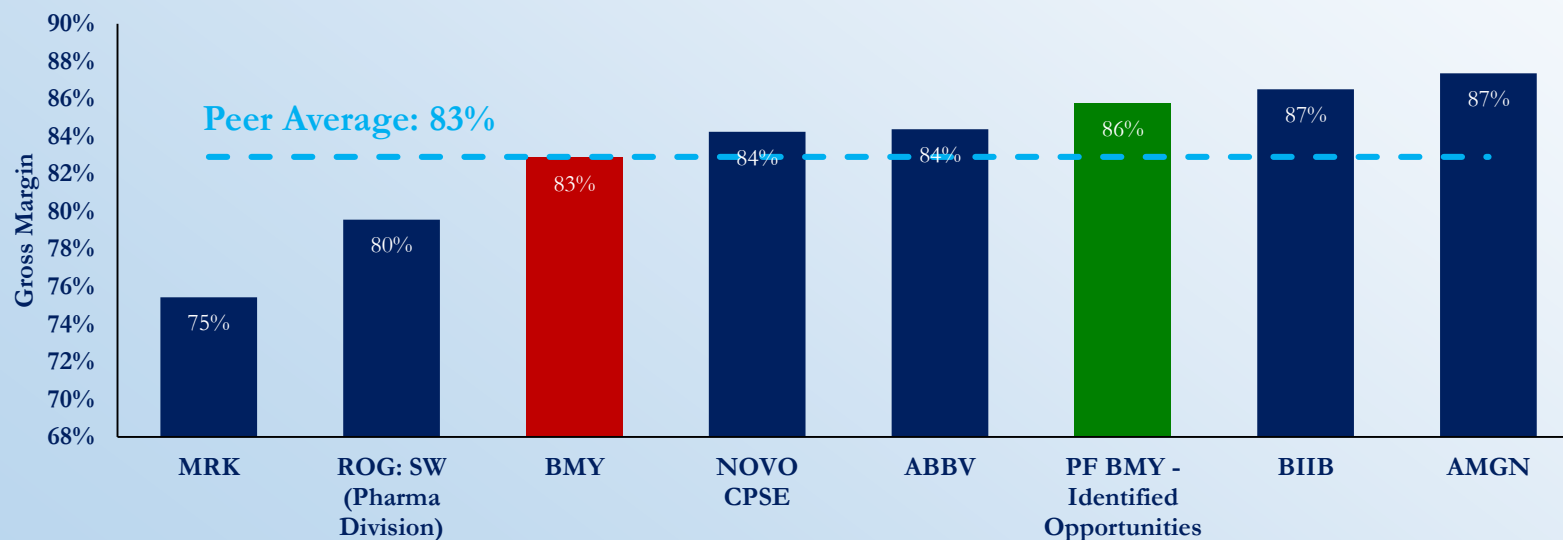
We believe that there are both short-term and long-term margin improvement opportunities at Bristol-Myers

# Bristol-Myers' Gross Margins Are Below Peer Levels

We believe Bristol-Myers has a potential opportunity to improve its gross margins.

- We believe Bristol-Myers has opportunities to improve gross margins through improvements in capacity utilization, streamlining of high-cost geographies, and improvements in manufacturing process.
- Longer term, we believe Bristol-Myers could reach gross margins of 86%, roughly in-line with best-in class-peers, through process improvements to decrease cycle times and enhance cell yields, similar to the initiatives executed by best-in-class biologics peers.

2018 Adjusted Gross Margin for Bristol-Myers vs. Direct Biopharmaceutical Peers<sup>(1)</sup>



We believe Bristol-Myers can improve its gross margins

Source: Public company filings, Starboard estimates and analysis from leading consulting firm.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.



# Bristol-Myers Has a Significant Facility Footprint

Rationalization opportunities may exist in manufacturing, distribution and packaging plants.

## Bristol-Myers Global Facility Footprint



- We believe there may be an opportunity to improve Bristol-Myers' capacity utilization.
- Bristol-Myers appears to be operating its facility footprint less efficiently than peers.
  - We believe the Company may have an opportunity to optimize its footprint away from high-cost labor and high-cost tax regions towards more efficient locations.
    - We also believe that Bristol-Myers continues to operate in legacy manufacturing facilities with opportunities to consolidate into its larger plants.
- We believe rationalizing Bristol-Myers footprint to improve capacity utilization and streamline geographic cost areas could result in over \$100 million in total savings.

**Bristol-Myers has an opportunity to rationalize its facility footprint**

# There Are Opportunities to Improve the Manufacturing Process That Could Result in Substantial Margin Improvement

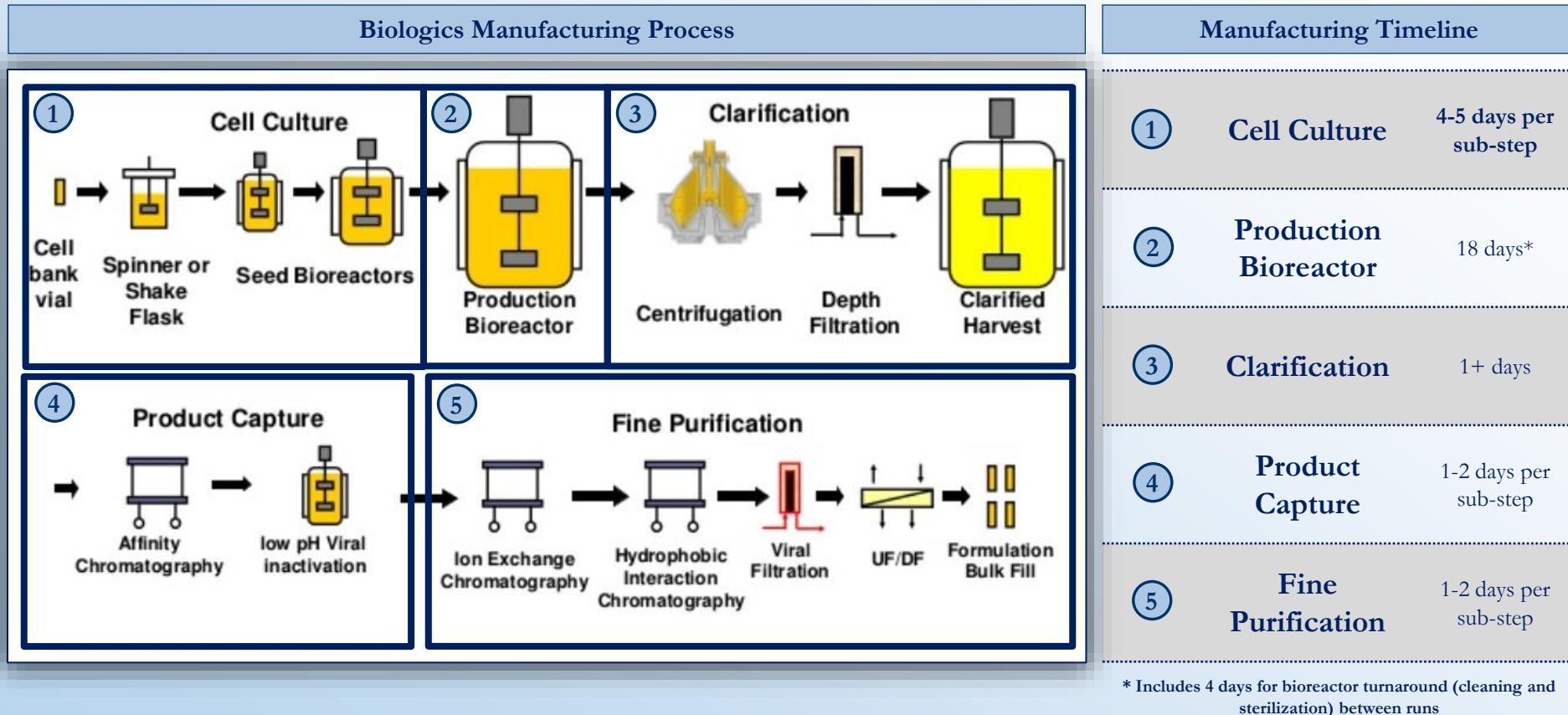
We believe there are significant opportunities within the Company to substantially improve cycle times and enhance cell yields within the manufacturing process to drive future margin improvement.

- While each strategy described in the following pages (1) has the opportunity to generate substantial savings for Bristol-Myers and (2) are actions that have been taken by the Company's peers, they are programs that require prudent and rigorous examination.
- The Company must perform a diligent cost/benefit analysis to determine each opportunity's regulatory requirements upon implementation, as well as calculating the associated risk/reward of each program's capital requirements vs. cost savings.
- Depending on the process implemented, these regulatory requirements can range from:
  - **Provided in Annual Report:** notification of a change after implementation
  - **CBE-0 Supplement** ("Changes Being Effected"): submitting a supplement at the time of distribution
  - **CBE-30 Supplement:** submitting a supplement at least 30 days before the product is distributed
  - **Prior Approval Supplement (PAS):** submitting and receiving FDA approval before the product made with the change is distributed
- We have had the opportunity to work with some of the leading pharmaceutical development and manufacturing experts, who have been able to implement these processes in peer companies to produce substantial improvements in cost of goods sold.

**We believe Bristol-Myers has the opportunity to significantly improve its manufacturing operations**

# A General Overview of the Biologics Manufacturing Process

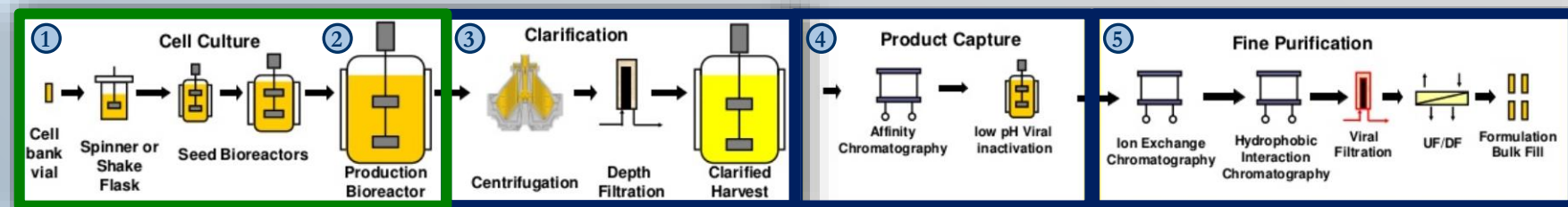
Below is a general overview of the biologics manufacturing process.



The complexity of the biologics manufacturing process is a key driver of cost of goods sold

# Opportunities to Improve the Manufacturing Process

We believe there is an opportunity to optimize cell culture to improve manufacturing yields.



- A cell culture medium (essentially a “nutritional broth” for cells) consists of a blend of nutrients, vitamins, amino acids, and soy hydrolysate, among other contents.
- Peers have found the most important ingredient in the formulation of this media to be the **soy hydrolysate**.
  - It has been discovered that different batches of soy hydrolysate can, depending on the molecule, substantially affect ultimate cell yields (cell density and production of protein).
- Peers have implemented a process of soy hydrolysate screening before incorporation into the cell culture medium.
  - By screening the soy hydrolysate in mini-batches prior to initiating the bioreactor process, an optimal cell culture media is produced without changing the formulation.
- The end result for peers (for certain molecules where soy hydrolysate has substantial impact) has been an improvement in yields of up to 30%, which has an almost direct flow through to COGS since there is no additional columns needed as there is with other process improvements.
- Importantly, this implementation has not required those peers to make any filing changes with the FDA.
- We believe there is an opportunity for Bristol-Myers to employ these best-in-class manufacturing processes.

We believe implementation of cell culture optimization could result in a meaningful cost improvement



# Strategies to Improve Cycle Time

## Key Considerations For Understanding Cycle Time in a Typical Biologics Manufacturing Process

- A batch is the filled drug substance resulting from a single production bioreactor run/lot.
- Unit operations are run consecutively for a single production run/lot but unit operations are run in parallel with different lots being processed at different stages throughout the facility.
- If only one Production Bioreactor (Stage ②) is available, the “Process Cycle Time” would be 18 days.
- Facilities are built to reduce Process Cycle Time, thus, typically facilities have 6 Production Bioreactors.

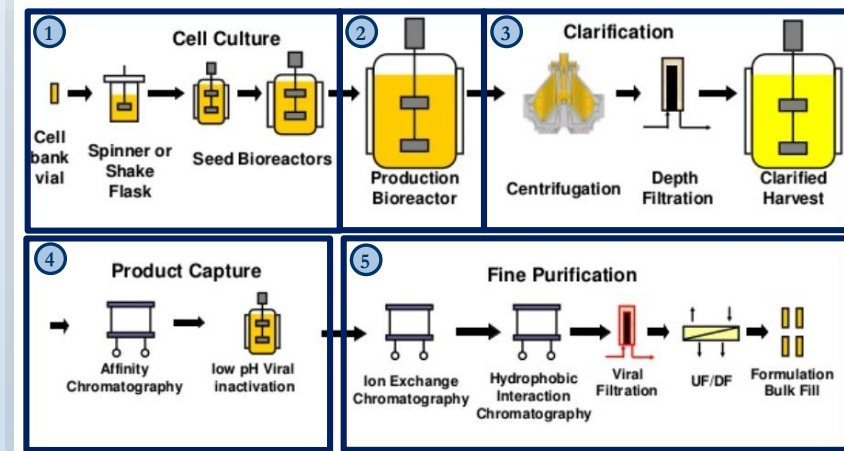
$$\max \left\{ \frac{\text{Unit Operation Cycle Time}}{\text{Number Parallel Units}} \right\} = \text{Process Cycle Time}$$

– So...Process Cycle Time would be:  $\left\{ \frac{18 \text{ days per prod. bioreactor}}{6 \text{ production bioreactors}} \right\} = 3 \text{ Days}$

- This is similar for Inoculum Expansion Bioreactors (i.e. “N-1” or “Seed” bioreactors – Stage ①) - it is common to have at least 3-4 parallel units.

– This results in a Cycle Time of:  $\left\{ \frac{4 \text{ days per Seed Bioreactor}}{4 \text{ Seed Bioreactors}} \right\} = 1 \text{ Day}$

- **Therefore, Overall Process Cycle Time will likely be dependent on the total bioreactor process time.**
- A facility can run as many production lots as allowed by the unit operation/stage with the longest cycle time [i.e. because the production bioreactor process (Stage ②) takes 3 days, the Overall Process Cycle Time is restrained by this stage].
  - Assuming only 300 days of production in a single year, this facility can at most run 100 lots per year.



**Efficiency and optimization are essential to maintain targeted overall process cycle time**

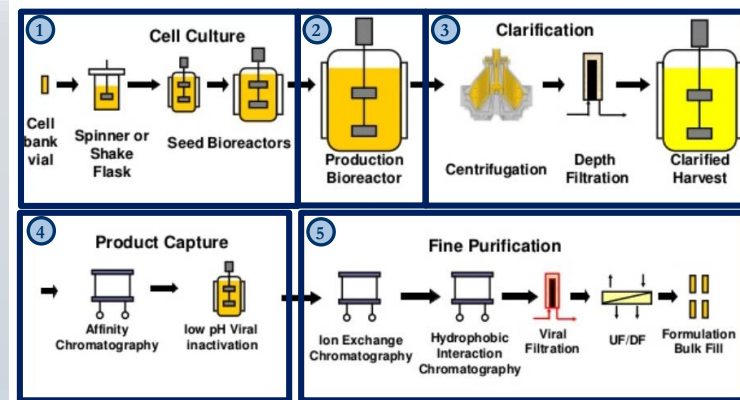


# Strategies to Improve Cycle Time (cont'd)

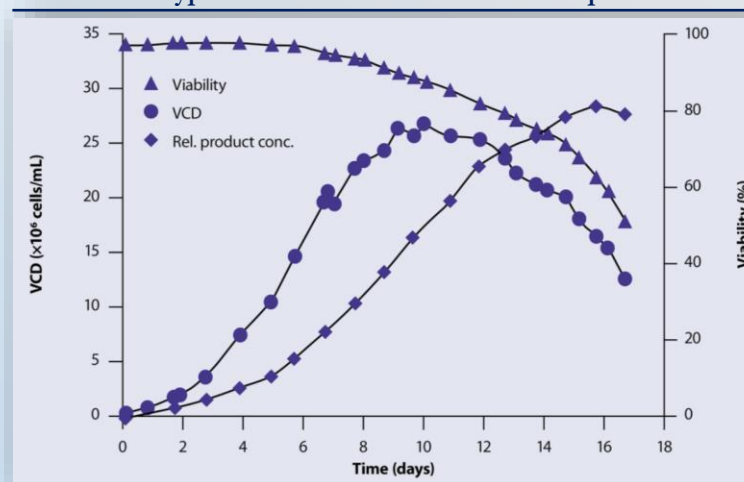
We believe there are opportunities to significantly improve Cycle Time without drastically changing the manufacturing process.

- The Production Bioreactor (Stage ②) has the longest Unit Operation Cycle Time (3 days); the N-1 (“Seed” – Stage ①) Bioreactor Unit Operation Cycle Time is much lower (1 Day).
- There is an opportunity to rebalance the Overall Cycle Time between these two different steps without massively changing the manufacturing process.
- With over-capacity in the Seed Bioreactor and under-capacity in the Production Bioreactor, the Company can implement a strategy of running the Seed Bioreactor for a longer period of time and achieve a higher cell density to inoculate the Production Bioreactor which could, in theory, result in a lower Cycle Time.
- The goal would be to eliminate the first 4-6 days from the Production Bioreactor, thus reducing Cycle Time (see Fed-Batch Time Course Graph)
- If the Company can inoculate the Production Bioreactor at a much higher cell density (e.g.  $5\text{-}10 \times 10^6$  cell/mL) the Production Bioreactor time could be reduced to just 12 days per Bioreactor.
  - With 6 Bioreactors, the Process Cycle Time:  $\left\{ \frac{12 \text{ days per Prod. Bioreactor}}{6 \text{ Production Bioreactors}} \right\} = 2 \text{ Days}$
  - Total number of batches per year can grow to 150 (50% increase)
- The Cycle Time in the Seed Bioreactor will increase to accommodate the need for increased cell density before transferring to the Production Bioreactor.
- However, even if the time in the Seed Bioreactor doubles to 8 days (below), the unit operation Cycle Time would still match that of the Production Bioreactor.

$$\left\{ \frac{8 \text{ days per Seed Bioreactor}}{4 \text{ Seed Bioreactors}} \right\} = 2 \text{ Days}$$



Typical Fed-Batch Time Course Graph



Peers have seen improvements of greater than 20% in cost of goods sold with minimal supplementation

# Opportunities to Enhance Cell Yields

In addition to improving Cycle Times, we believe there is a significant opportunity to enhance Cell Yields.

When trying to improve volumetric product concentration in the Production Bioreactor, three typical strategies are employed:

- 1 Generate a new Cell Line that is more productive (due to its genetic programming);
- 2 Optimize the cell culture media/nutrients to increase the maximum number of cells obtained in a Production Bioreactor;
- 3 Use larger Production Bioreactors

- Each Cell Line produces a specific amount of protein per cell, under specific culture medium conditions.
- The average biologic currently in production at Bristol-Myers is most likely using older technology.
  - This older technology typically generates Cell Lines of 0.5 - 2.0g/L.
- New molecular biology engineering and media have led to improvements in product concentration within the Production Bioreactors.
  - **These improved technologies generate Cell Lines of 4 - 6g/L (and can even reach 10g/L).**
- By switching the process biologics manufacturing process from current (older) technology to newer technology, Bristol-Myers has the opportunity to dramatically reduce the Company's cost of goods sold.

Biologics Development Expert estimates for Improvements in Cell Yields

**By moving to newer Cell Line processes, peers have seen cost of goods improvements of >35%**

- While peers have done this, it would require the Company to re-file with the FDA; therefore, significant consideration to the risk/reward analysis must be weighed.

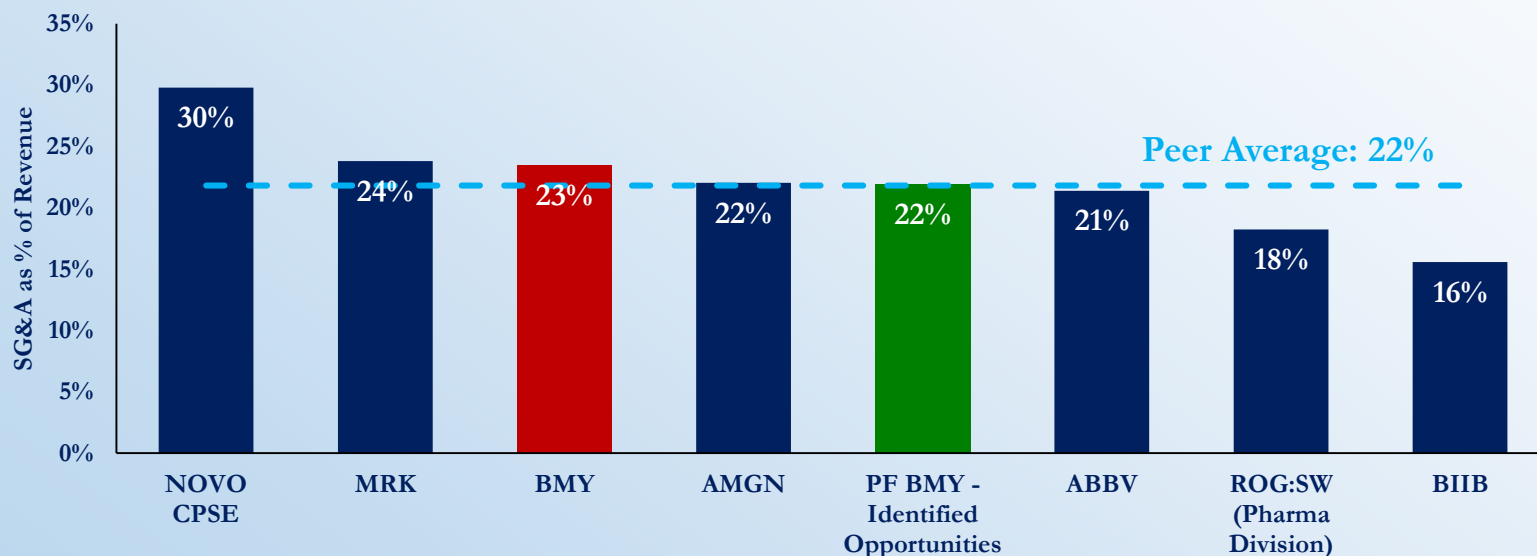
**By migrating the biologics manufacturing process to a newer technology, Bristol-Myers may be able to significantly reduce cost of goods sold**

# We Also Believe There Is an Opportunity to Improve SG&A Expense to Peer Levels

We believe that there is an opportunity to lower Bristol-Myers' SG&A to peer levels through numerous cost reduction initiatives.

- We believe Bristol-Myers may have an opportunity to reduce its S&GA expense ratios to be more in-line with peers.

SG&A Expense as % of Total Revenue<sup>(1)</sup>



If properly managed, we believe that Bristol-Myers can reduce its SG&A expense

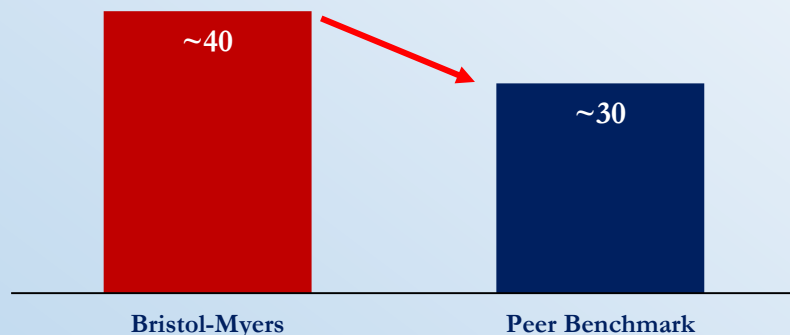
Source: Public company filings, Starboard estimates and analysis from leading consulting firm.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

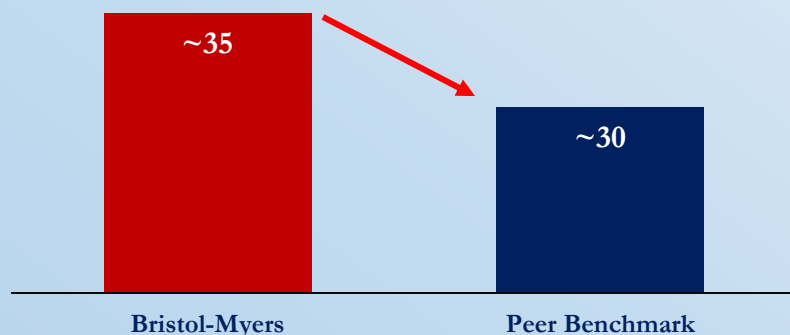
# We Believe Bristol-Myers Is Less Efficient than Peers in Its Finance and Human Resources Functions

Bristol-Myers appears to have higher levels of staffing than peers in its Finance and Human Resources functions.

Finance FTEs Per \$1 Billion in Revenue



Human Resources FTEs Per \$1 Billion in Revenue



Observations

- Bristol-Myers has multiple extra layers of management (e.g. finance director for each region).
- Finance department operates in a silo from which information is not always shared with other departments, resulting in poor communication.
- Bristol-Myers has an opportunity to streamline systems and optimize staffing ratios across regional markets and the corporate office.

Observations

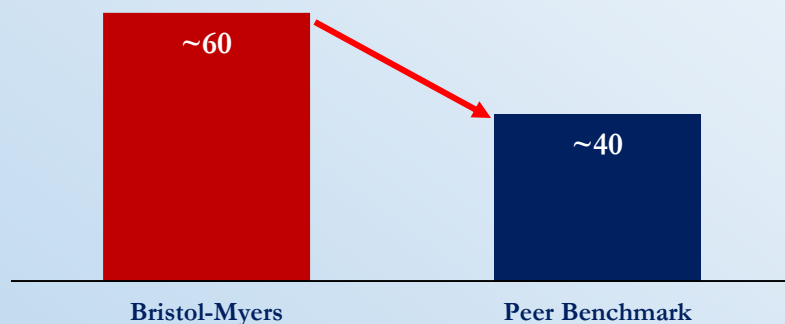
- Bristol-Myers' HR function has excessive layers which results in inefficiencies.
- Bristol-Myers has an opportunity to reduce layers in the HR function in order to optimize processes.
- Bristol-Myers has experienced significant turnover, which results in increased disruption throughout the organization.

We believe Bristol-Myers has opportunities to streamline its Finance and HR organizations

# We Believe Bristol-Myers Is Less Efficient than Peers in Its IT and Procurement Functions

Bristol-Myers appears to have an opportunity to reduce spending in its Information Technology and Corporate Services functions.

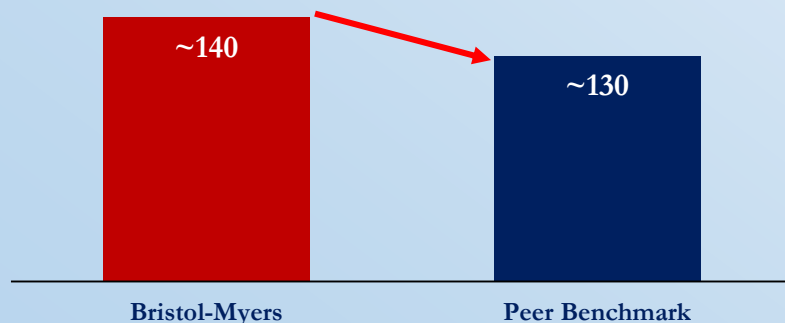
## Information Technology FTEs Per \$1 Billion in Revenue



## Observations

- Bristol-Myers is moving slower than peers in shifting its technology infrastructure to the cloud, which could reduce IT spending.
- Bristol-Myers could reduce the customization it demands in IT platforms to reduce expenditures.
- In addition, Bristol-Myers has an opportunity to outsource more routine IT support functions.

## Corporate Services FTEs Per \$1 Billion in Revenue



## Observations

- Bristol-Myers has excessive layers of management in its Corporate Services function.
- Bristol-Myers does not maximize its capability to outsource corporate functions.
- Bristol-Myers has an opportunity to optimize staffing ratios and reduce layers of management.
- Bristol-Myers has an opportunity to potentially centralize its data analytics and inside sales functions, which would likely result in significant savings.

We believe Bristol-Myers also has opportunities to streamline its IT and Corporate Services organizations



# We Believe There May Also Be an Opportunity to Reduce Sales and Marketing Spending

We believe Bristol-Myers has an opportunity to improve the efficiency of its Sales & Marketing organization.

- We believe Bristol-Myers has an inefficient Sales & Marketing organization due to excess layers of management.
- By streamlining the organization similar to best-in-class peers, we believe Bristol-Myers's Sales & Marketing organization could become more productive and generate better returns on its spending.
- Based on conversations with former employees, it appears as if excess sales and marketing spend may be going towards secondary products.
  - We believe this spend results in initiatives that have questionable ROI.
- In addition, in 2018, advertising and promotional spend was \$672 million, or 15% of SG&A expense.
  - While advertising and promotional expenses have moderated as a percentage of sales over time, we believe Bristol-Myers has an opportunity to reduce its spending, especially on its secondary products.
  - Given the limited patient universe for some of Bristol-Myers' key products, such as Opdivo, we believe direct-to-consumer advertising has questionable ROI.
    - We believe Bristol-Myers should closely scrutinize the ROI of every marketing campaign in order to ensure they are productive and the best use of capital.
- Best-in-class peers, such as Amgen, have implemented a similar strategy with significant success.

“We have implemented a zero-based budgeting process by brand with a sophisticated ROI analysis looking at every single piece of our marketing mix to ensure we are spending money only where we are getting the best returns.”

- Tony Hooper, EVP of Global Commercial Operations at Amgen  
Amgen 2014 Business Review Meeting, October 28, 2014

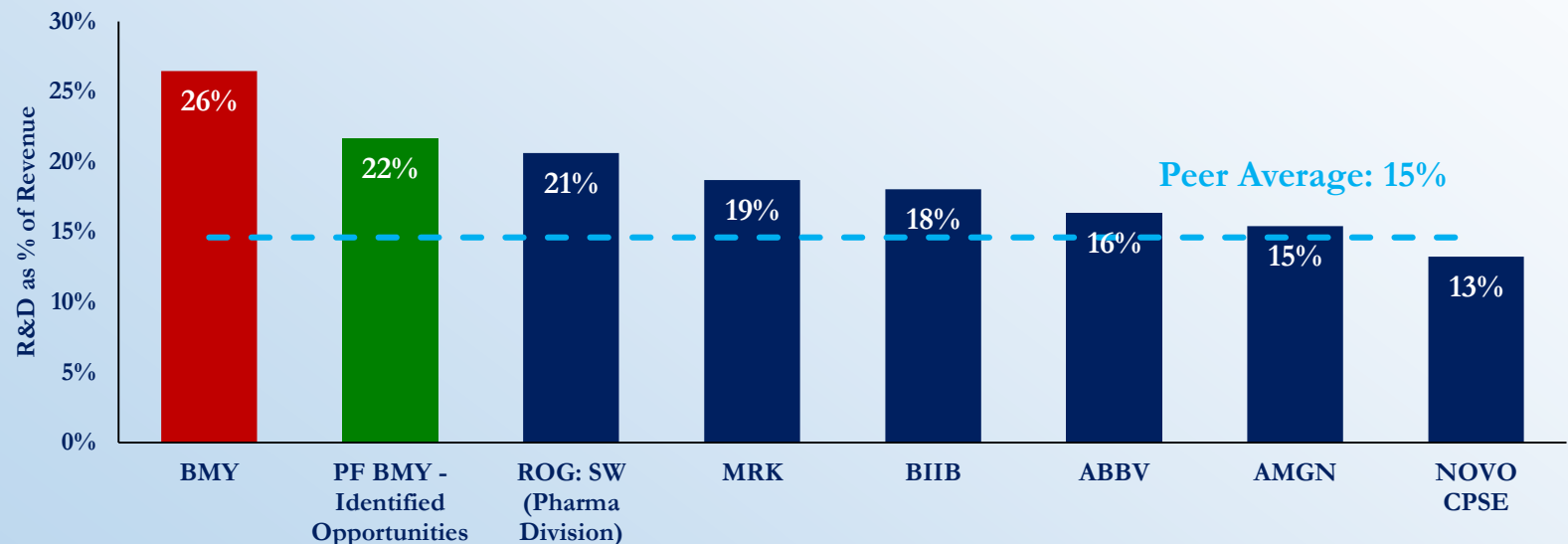
**We believe Bristol-Myers can reduce expenses in its Sales & Marketing organization**

# We Believe There Is an Opportunity to Improve Research & Development Efficiency

We believe that there is an opportunity to lower Bristol-Myers' research and development (R&D) expense closer to peer levels through numerous cost reduction initiatives.

- We believe Bristol-Myers currently spends a significantly higher percentage of revenue on research and development than its peers due to a high number of R&D facilities and multiple layers of management. This not only increases costs, but results in missed opportunities.
- We believe Bristol-Myers needs to be more productive and efficient in its R&D organization.

Research & Development Expense as % of Total Revenue<sup>(1)</sup>



**“Instead of four people managing four people, it should have been one person managing four people.”**

**- Former Bristol-Myers Executive**

We believe there are specific initiatives that Bristol-Myers can undertake to bring R&D spending more in-line with peers

Source: Public company filings, Starboard estimates and analysis from leading consulting firm, industry research and interviews.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

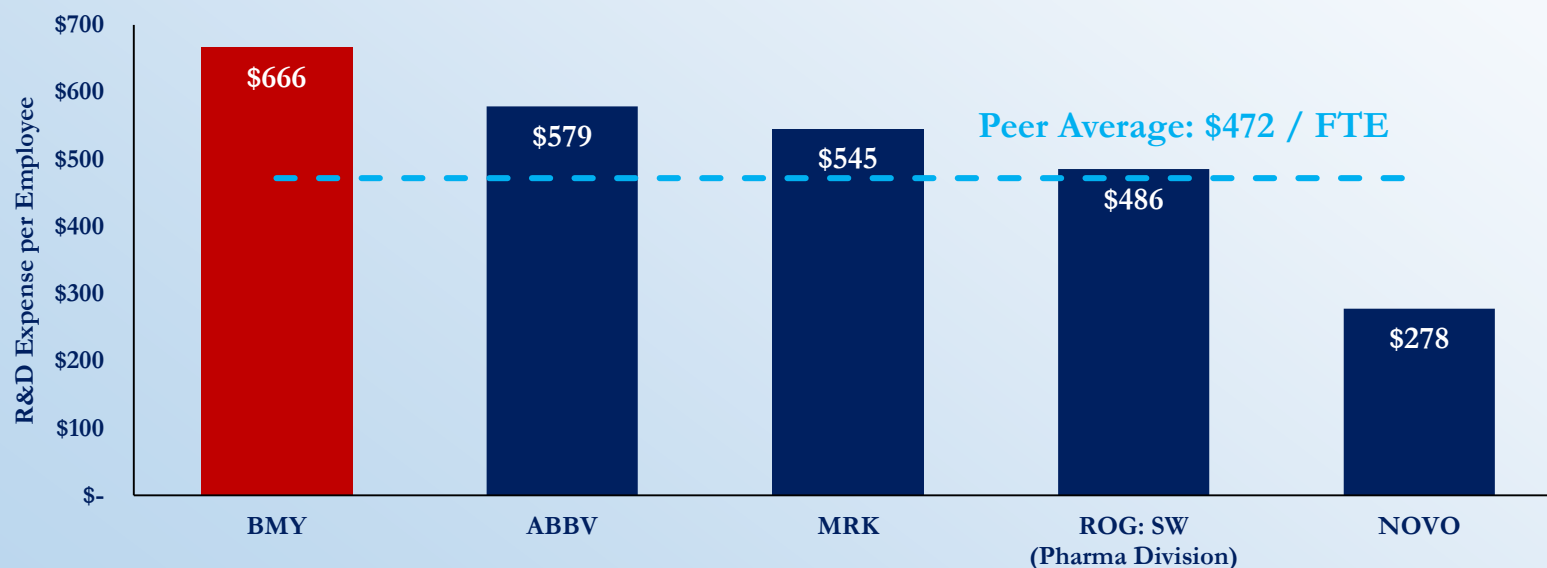
# Bristol-Myers Has Greater Research & Development Spending per Employee Than Peers

Bristol-Myers spends significantly more on research and development (R&D) per employee than peers.

- Despite reductions in its R&D employee base, Bristol-Myers still spends significantly more on research and development per employee than its peers.
- We believe that this is due to an overly cumbersome and inefficient decision-making process.

2018 Research & Development Expense per FTE<sup>(1)</sup>

(\$ in thousands)

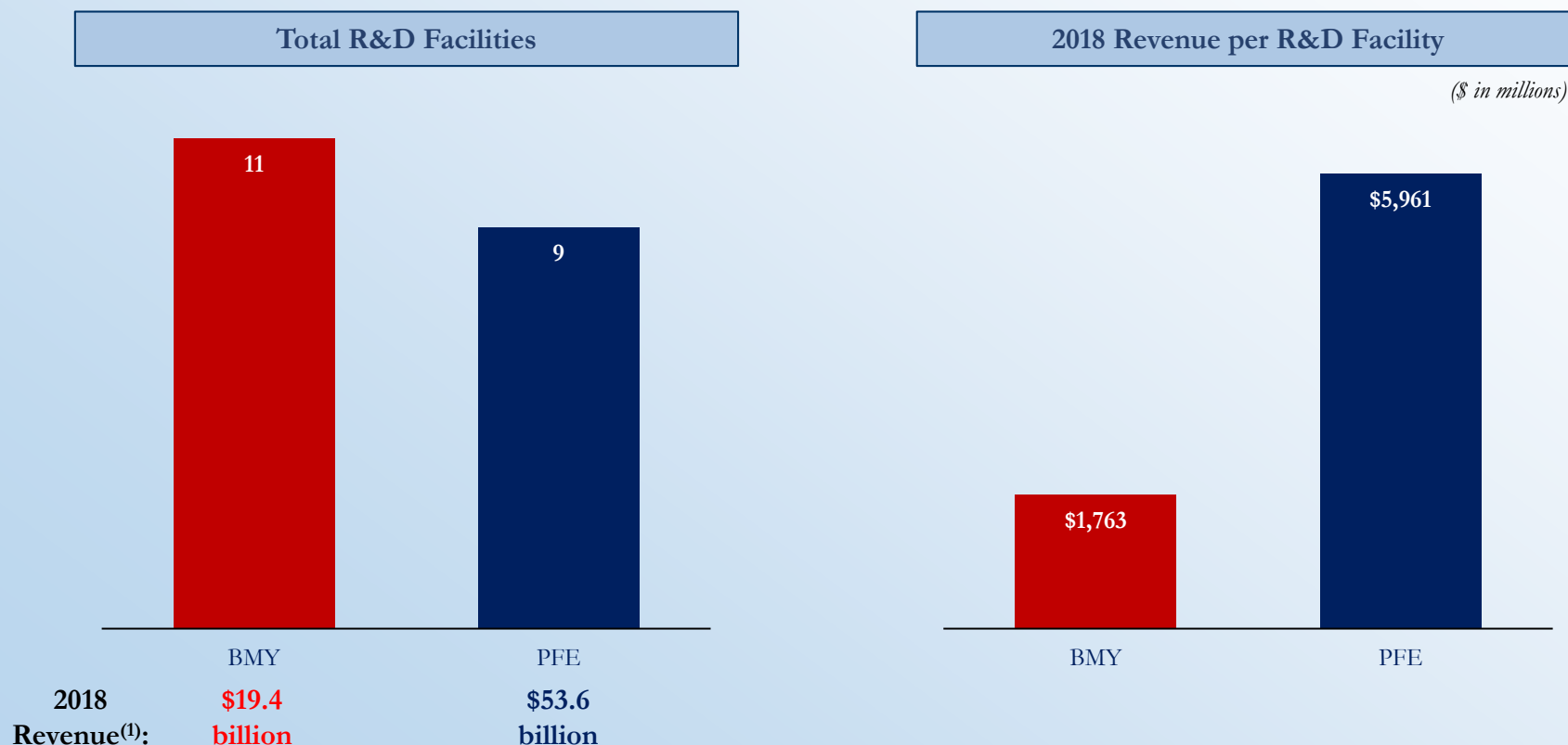


We believe that Bristol-Myers spending on R&D per employee needs to be reduced through organizational changes

# Bristol-Myers May Possess Excess R&D Facility Capacity

Despite generating less than half of Pfizer's revenue, Bristol-Myers operates more R&D facilities than Pfizer.

- Through various restructurings and reorganizations, Pfizer has consolidated and reduced its R&D footprint. We believe that Bristol-Myers should consider similar consolidation options.



We believe Bristol-Myers may have an opportunity to consolidate its R&D facilities

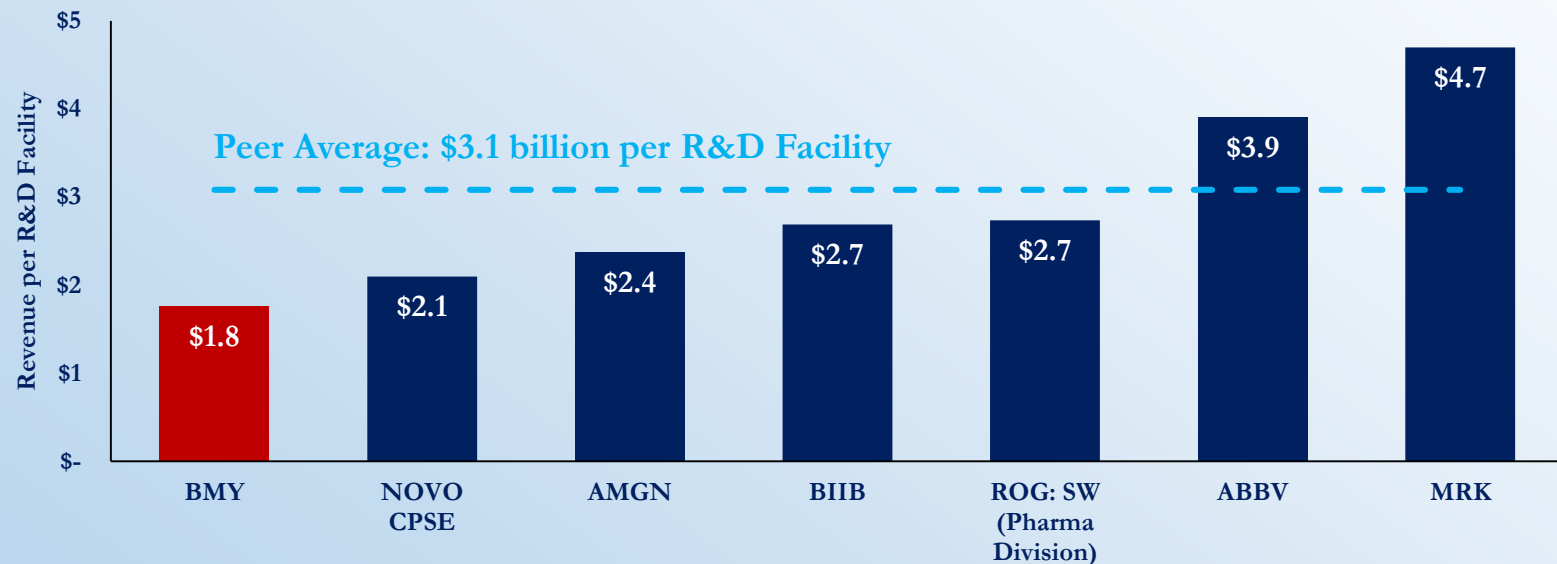
# Bristol-Myers Also Generates Less Revenue per Research & Development Facility Than Peers

Bristol-Myers generates significantly less revenue per R&D facility than peers.

- We believe that either Bristol-Myers' R&D facilities are not as productive as peers or the Company has too many R&D facilities...or both.

Revenue per Research & Development Facility<sup>(1)</sup>

(\$ in billions)



We believe that Bristol-Myers needs to improve the productivity of its R&D facilities

Source: Public company filings, Starboard estimates and analysis from leading consulting firm, industry research and interviews.

(1) We have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

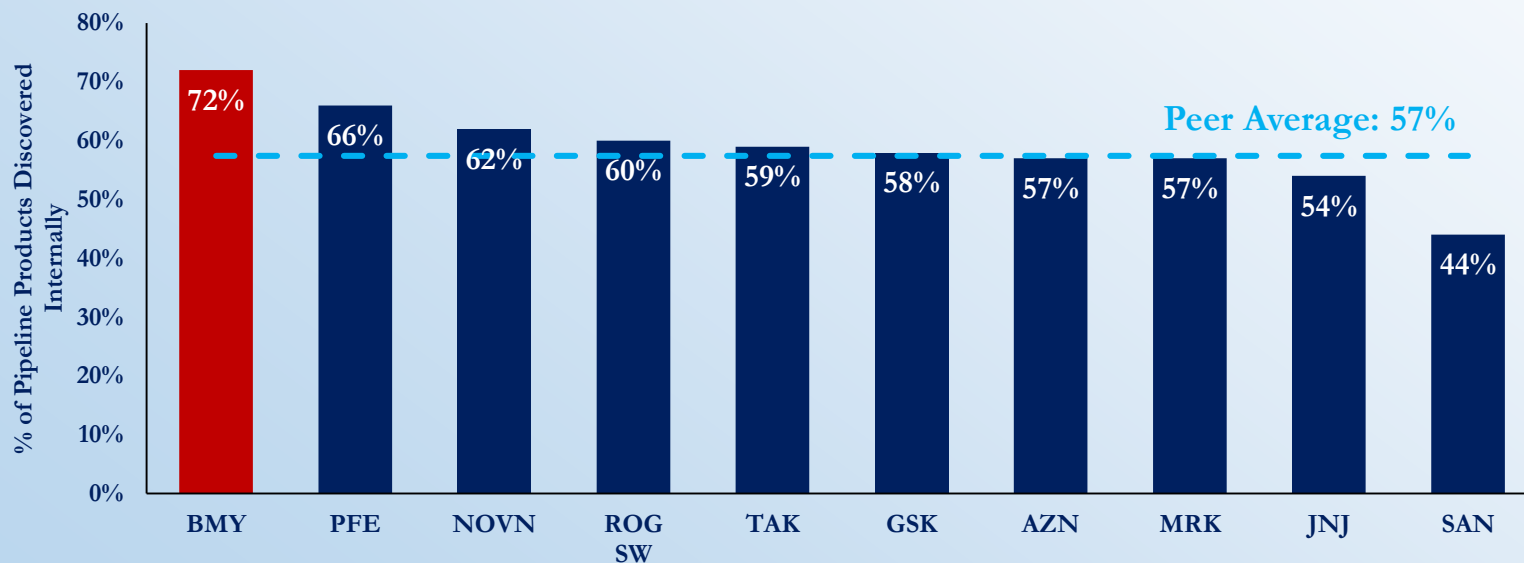


# We Believe Bristol-Myers Could Enhance Research & Development Through More External Partnerships

We believe Bristol-Myers could improve research and development productivity by increasing the Company's number of external partnerships.

- According to Bristol-Myers' 10-K filing, about 1 in 10,000 molecules discovered by pharmaceutical industry researchers proves to be both medically effective and safe enough to become an approved medicine.
- However, the Company's new product pipeline relies on internal discovery more heavily than peers, who tend to engage in more external partnerships.
- We believe Bristol-Myers has an opportunity to decrease the cost of discovery and early-stage development by engaging in more external partnerships.

% of Pipeline Drugs Discovered Internally



We believe Bristol-Myers can improve returns on R&D through more external partnerships

# Bristol-Myers' Elevated Research & Development Spending Has Not Translated Into Pipeline Success

Bristol-Myers' internally-focused research & development process, which has been very well funded, has failed to generate innovation to fill the Company's mid-to-late stage pipeline.

- Despite spending a significantly higher percentage of revenue on research and development than its peers, Bristol-Myers only possesses several late-stage new molecular entities ("NME") in its pipeline.

## Bristol-Myers Estimated Nearer-Term Product Launches<sup>(1)</sup>

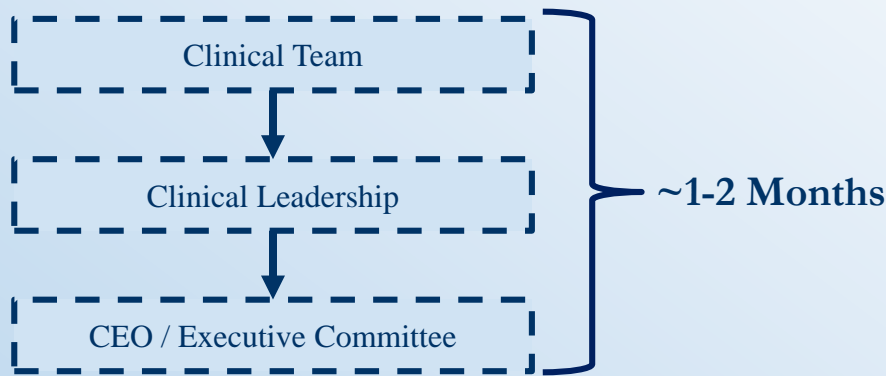
	Phase II	Phase III	Total
<b><u>Total NMEs Reported in 10-K</u></b>			
Oncology	2	3	5
Immunoscience	1	1	2
Cardiovascular	2	0	2
Fibrotic Diseases	2	0	2
<b>Total NMEs Reported in Pipeline</b>	<b>7</b>	<b>4</b>	<b>11</b>
Average Historical Success Rate	21%	74%	40%
<b>Total Nearer-Term Expected Product Launches</b>	<b>1</b>	<b>3</b>	<b>4</b>

We believe that Bristol-Myers' elevated R&D spending has not resulted in sufficient pipeline depth

# We Believe Bristol-Myers Could Streamline the Research & Development Decision-Making Process

Based on our conversations with former Bristol-Myers R&D executives, as well as former executives at best-in-class peers, we believe Bristol-Myers' R&D approval process results in too many unnecessary steps, resulting in inefficiencies and excess costs.

Best-In-Class Peers' R&D/Clinical Trial Approval Process



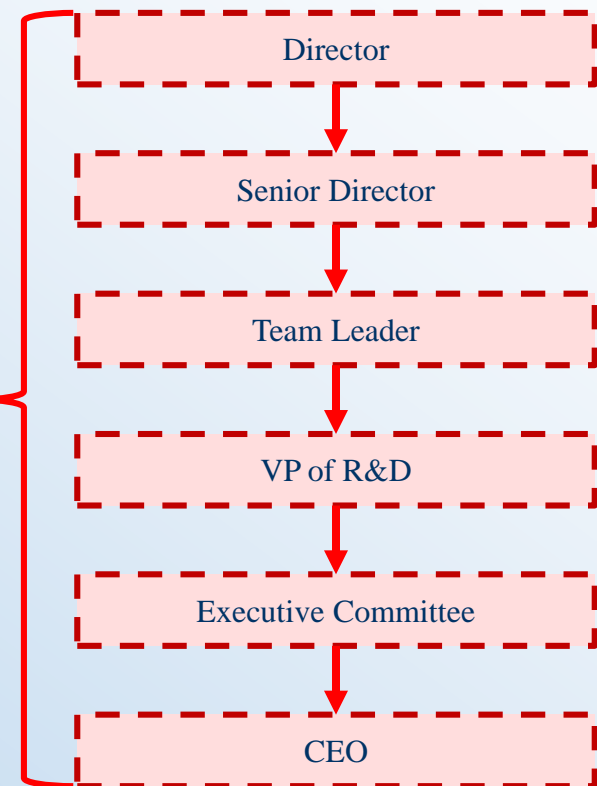
~1-2 Months

"I would have to go through at least five layers [at Bristol-Myers], whereas I would have to go through three layers at a different company to do the same thing."

"This would result in the same process taking 4-6 months at Bristol versus 1-2 months at [peers]."

- *Former Bristol-Myers Executive*

Bristol-Myers R&D/Clinical Trial Approval Process



With a more efficient R&D process, we believe Bristol-Myers could accelerate innovation and reduce costs

# We Believe Bristol-Myers Could Streamline the Research & Development Decision-Making Process (cont'd)

Not only do Bristol-Myers' extra R&D layers result in increased costs, we believe they also result in missed opportunities.

## Licensing Process

"It typically took over 12 months to make the decision on licensing, there were a lot of people involved. At other companies it would take half as long. Since it was a very long process, a number of times, especially small companies, would just move on."

- Former Bristol-Myers Executive

## Clinical Program Process

"Starting a clinical program took too long. By the time it took to write a protocol and committing to do a program, a lot of things had changed, some things had gotten approved, and some programs became obsolete. I remember one program took five years for us to complete."

- Former Bristol-Myers Executive

**Best-In-Class Peers  
Have Improved  
Efficiency By  
Reducing Costs**

"We are moving in a speed now in R&D that frankly, we had never contemplated before, and that's what has enabled us to, in some cases, already chop as much as 3 years off the life cycle of development of a project...from target selection to generating clinical data in some cases, inside of 7, 8 months for us is the kind of speed that we once dreamed about and we're now able to deliver against... And as I said in my remarks, for those of you who were there, like-for-like, we've had about a 3 percentage point improvement. So what we paid 19% of sales for in 2014, we now pay 16% of sales for. And that's real progress for us."

- Robert Bradway (Chairman & CEO of Amgen, January 2019)

**We believe streamlining the research process will lead to lower costs and enhanced productivity**

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## IX. Conclusion



# Management Is Asking Shareholders to Accept Substantial Risk Without Sufficient Reward

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Shareholders must be comfortable and supportive of the true merits of the deal – not simply trust management’s lofty expectations – given the size of the deal and risks it poses.

- Shareholders need to understand that they are investing in a transaction that values Celgene’s marketed products at \$55 billion.
  - We believe there is risk to this assumption due to the potential genericization of REVLIMID earlier than management expects.
- Shareholders also need to understand that Bristol-Myers is actually ascribing \$30 billion of value to the pipeline, not \$15 billion as is implied by the Company’s presentations.
- In order to generate \$30 billion of value from the pipeline, we must assume that, on average, the Celgene pipeline can generate 10 blockbuster products in 8 years, compared to 3 blockbusters in the past 15 years.
  - This level of success would be unprecedented and is exceedingly difficult to believe, especially since 3 of the Celgene pipeline products have already been delayed and 5 are yet to be identified.
  - In what we believe are more likely scenarios, even including the Company hitting Wall Street analysts’ revenue estimates for the pipeline, this deal would destroy value.
- Additionally, the Celgene acquisition process was rushed – seemingly unnecessarily, given Celgene’s apparent willingness to allow for more time – due to management’s fixation with an arbitrary deadline to announce a deal.
- **We believe this deal has too much risk. Shareholders should vote AGAINST this transaction.**

**Shareholders must be absolutely certain before allowing management to bet the Company’s future on Celgene**

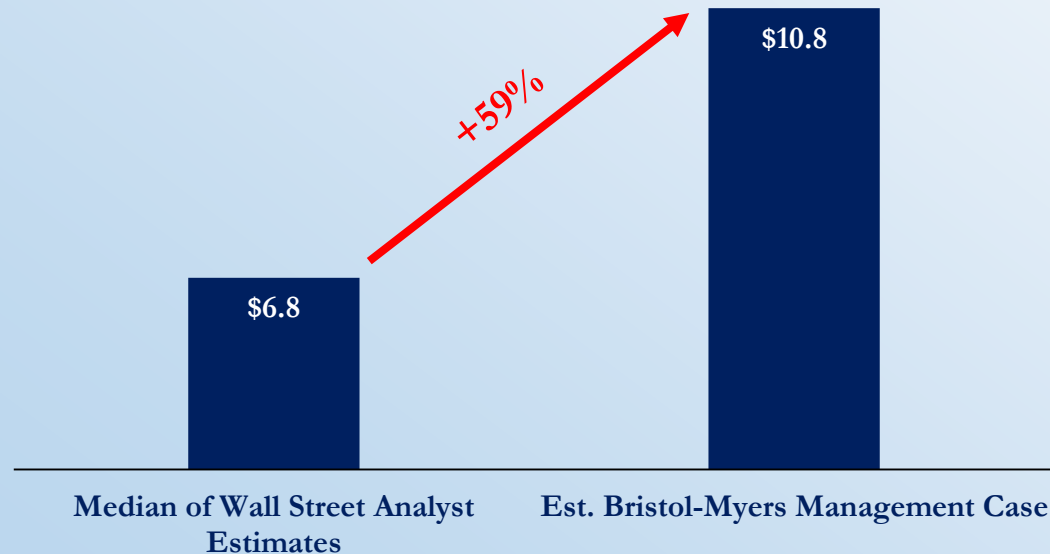
# Bristol-Myers' 2028 Base Case for Celgene's Pipeline

## Assumes Revenue Well Above Analyst Estimates

Bristol-Myers' 2028 base case assumptions for Celgene's pipeline products' revenues are significantly higher than Wall Street analysts' estimates.

2028 Bristol-Myers Management vs. Wall Street Median Estimate for Celgene Near-Term Product Launches

(\$ in billions)



If Bristol-Myers hits Wall Street analysts' estimates, rather than the Company's aggressive base case assumptions, the deal will be value destructive<sup>(1)</sup>

This adds incredible risk for shareholders given the inherent riskiness of pipeline drugs

The risk is amplified given Celgene's disappointing track record with its pipeline

**Bristol-Myers is assuming extremely bullish 2028 revenue targets for Celgene's five near-term product launches**

Source: Public company filings, Wall Street research, Bristol-Myers investor relations, Starboard estimates. Wall Street research include Bank of America Merrill Lynch, Barclays Capital, Morgan Stanley, Goldman Sachs, and Cantor Fitzgerald.

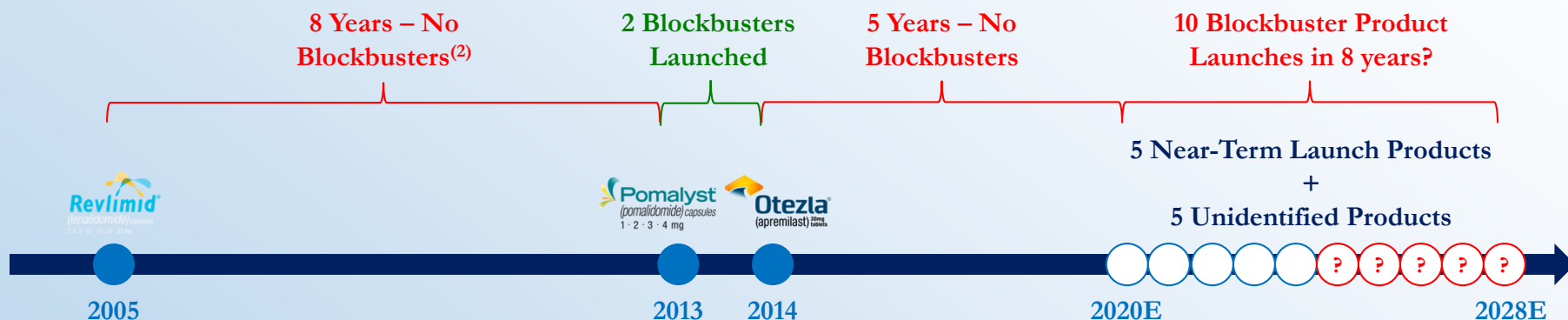
(1) Assumes Bristol-Myers is paying \$30 billion for Celgene's pipeline products. Also assumes median Wall Street estimates for 2028 near-term pipeline revenues and Bristol-Myers 2028 revenue estimates for earlier-stage pipeline products.

# Celgene Has Only Developed 3 Blockbusters In 15 Years, But Bristol-Myers' Base Case Assumes, On Average, 10 Blockbusters in the Next 8 Years

In its base case, Bristol-Myers is assuming Celgene can generate blockbuster drugs at a pace completely out-of-line with historical performance, adding substantial risk to the deal.

- We find Bristol-Myers' implied assumptions for the early-stage pipeline to be highly unrealistic.

## Launch Date For All Celgene Blockbuster Products Since REVLIMID<sup>(1)</sup>



Assuming Celgene's near-term launch products can generate \$10.8 billion revenue by 2028, another 5, on average, blockbuster products would be needed to reach Bristol-Myers' 2028 revenue base case<sup>(2)</sup>

This means that Bristol-Myers is assuming that Celgene can produce, on average, 10 blockbuster drugs in 8 years...after only producing 3 in the last 15 years!

Why should shareholders underwrite such aggressive assumptions and take on so much risk??

**Bristol-Myers needs Celgene's pipeline to churn out blockbusters at an unprecedented rate**

Source: Public company filings, Bristol-Myers investor relations, Starboard estimates.

(1) While ABRAXANE has achieved blockbuster drug status, it was originally launched by Abraxis BioScience prior to Celgene's acquisition of the company in 2010. As such, we do not give credit to Celgene for launching ABRAXANE.

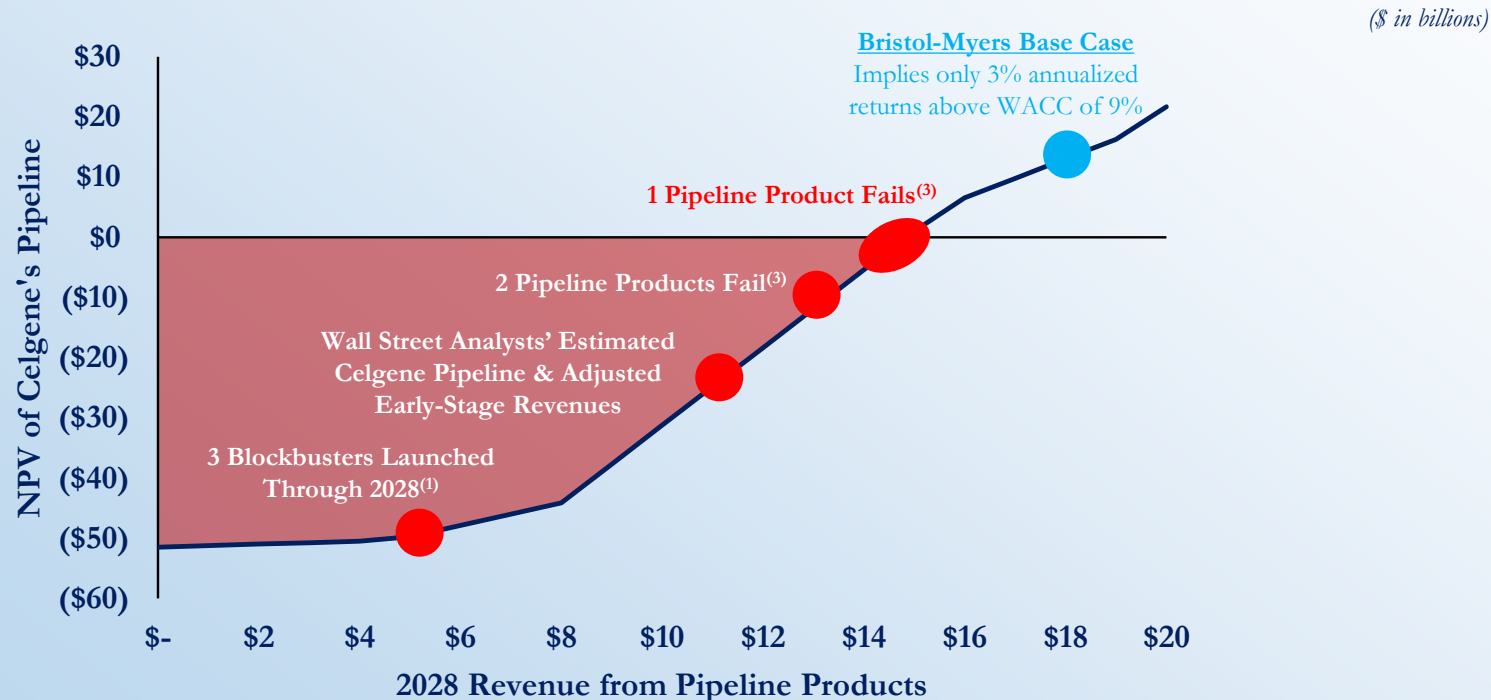
(2) Ten blockbusters includes five near-term product launches highlighted by Bristol-Myers management plus an additional five products assuming average revenue per product of \$1.4 billion.

# In What We Believe Are More Likely Scenarios, This Deal Would Destroy Value

We estimate Bristol-Myers is paying ~\$30 billion for Celgene's pipeline products with an extremely thin margin for error – even if just one or two products fail to commercialize, Celgene's pipeline could destroy significant value for Bristol-Myers shareholders.

- If Celgene's pipeline commercializes only three blockbuster products, similar to the number it has commercialized over the last 15 years, \$46 billion of value could be destroyed.<sup>(1)</sup>

## Estimated NPV Value of Pipeline Products Including Synergies<sup>(2)</sup>



**A single Celgene pipeline product failure could result in value destruction for Bristol-Myers shareholders**

Source: Public company filings, Starboard estimates.

(1) Three blockbuster products are assumed to generate \$1.8 billion each in 2028.

(2) NPV is based on \$30 billion purchase price for Celgene's pipeline products. Assumes discount rate of 9.0% and terminal unlevered free cash flow multiple of 13.1x derived using Gordon Growth Method assuming 1.25% terminal growth – where terminal unlevered free cash flow is negative, we assume no terminal multiple. Financial projections derived based on S-4 filing.

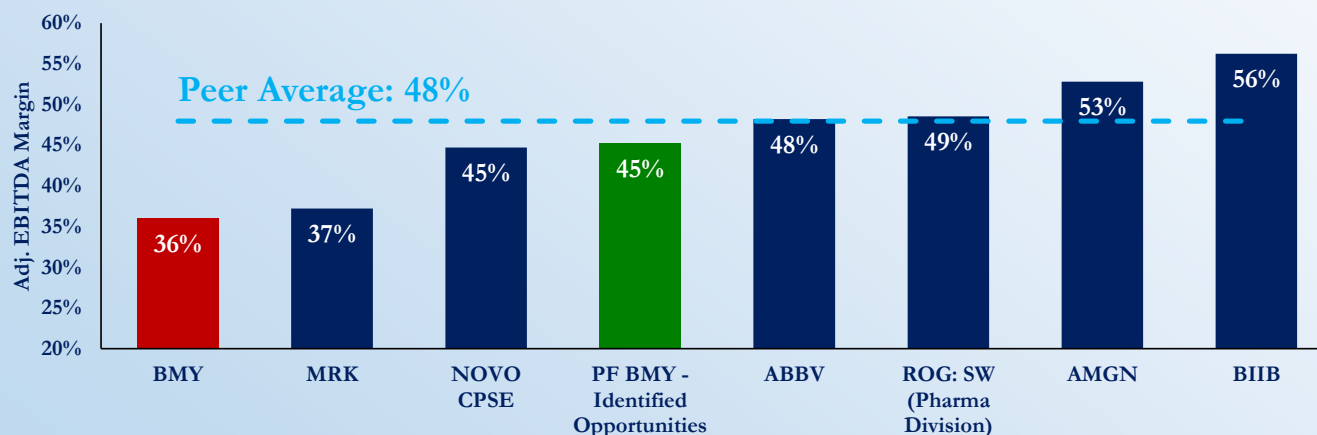
(3) Assumes first product failure is ozanimod or luspatercept. High-end of 2028 Wall Street analysts' estimates for both exceed \$3.0 billion. Subsequent product failures are assumed to be \$1.8 billion each (i.e. \$18 billion / 10 products).

# There Is a Better Path Forward for Bristol-Myers as a Standalone Company

Based on our research, we believe that there is an opportunity to significantly improve the operations of a standalone Bristol-Myers.

- We believe a standalone Bristol-Myers would have a stable and growing revenue base, with room for significant operational improvements.
- Our research has identified opportunities to significantly improve standalone Bristol-Myers' profitability by reducing Cost of Goods Sold, Research & Development, and Selling, General, & Administrative expenses.
  - We have identified opportunities that we believe would improve margins by approximately 900bps.
  - Over a longer-term period, with a best-in-class management team and perfect information, we believe the opportunity exists to reach peer average margins and potentially further close the margin gap with Amgen.

2018 Adjusted EBITDA Margin for Bristol-Myers vs. Direct Biopharmaceutical Peers<sup>(1)</sup>



- A standalone Bristol-Myers will also be better positioned to continue the historically successful “String of Pearls” strategy.
- We do not believe this deal is in the best interests of shareholders and in what we believe are more likely scenarios, this deal will destroy value for Bristol-Myers shareholders.

**The proposed acquisition of Celgene is not in the best interests of shareholders**

Source: Public company filings, Starboard estimates and analysis from national consulting firm.

(1) Bristol-Myers is adjusted for one-time items as disclosed by the Company. In addition, we have removed Pfizer's portion of Eliquis revenues from Bristol-Myers' revenue. Adjustments for other companies based on non-GAAP company disclosures.

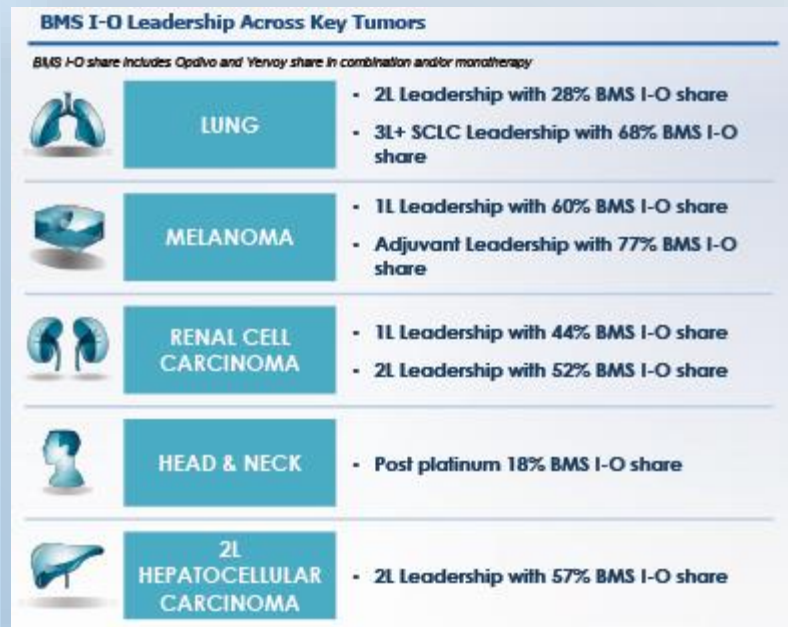


# Standalone Bristol-Myers Has a Strong and Growing IO Franchise

Bristol-Myers has a highly attractive immuno-oncology franchise with leading market share across multiple categories.

- Per the Company's S-4 filing, Bristol-Myers management is expecting strong growth over the next several years.

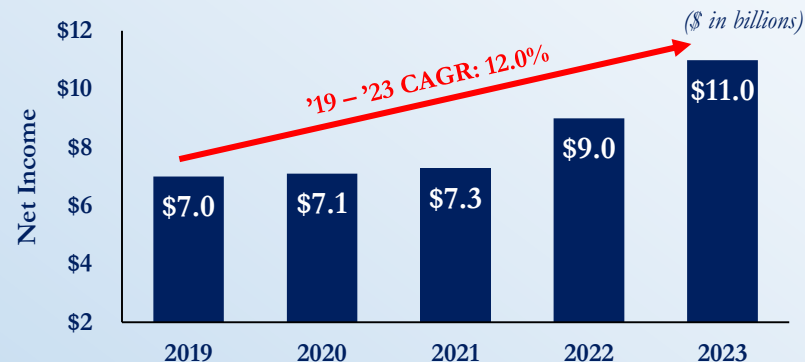
## Bristol-Myers Leads in Multiple Categories Across Immuno-Oncology



## Bristol-Myers Management Estimated Revenue



## Bristol-Myers Management Estimated Net Income



Bristol-Myers is a strong company with enviable products and attractive growth prospects

# Bristol-Myers Is Well-Positioned on a Standalone Basis to Continue Its Previously Successful “String of Pearls” Strategy

Bristol-Myers has a strong balance sheet and significant expected unlevered free cash flow generation potential, which will allow management to execute on a “String of Pearls” growth strategy.

2018 Net Cash for Bristol-Myers and Direct Peers<sup>(1)</sup>



Bristol-Myers Management Estimates for Unlevered FCF (S-4)<sup>(2)</sup>



Without taking on any debt or implementing any additional operational improvements, Bristol-Myers will have the ability to use ~\$37 billion of cumulative unlevered free cash flow over the next five years to execute a “String of Pearls” strategy (i.e. in-licenses, partnerships, small acquisitions)

**Bristol-Myers is well positioned to continue growing on a standalone basis**

Source: Public company filings, CapitalIQ.

(1) Starboard selected Direct Peers include: ABBV, AMGN, BIIB, MRK, CPSE:NOVO.B, SWX:ROG.

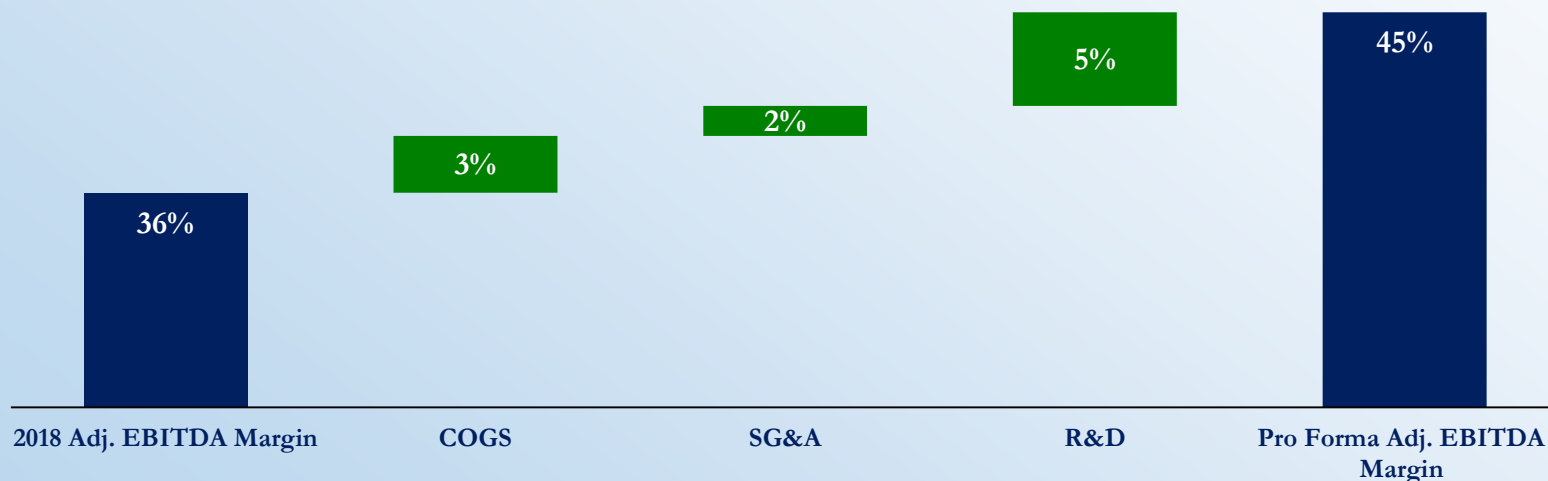
(2) Per Bristol-Myers S-4 filing dated February 20, 2019.

# We Believe Our Plan Can Improve Standalone Bristol-Myers' Profitability Significantly

We believe that there is an opportunity to significantly improve profitability at Bristol-Myers.

- We believe there are significant opportunities within SG&A, R&D and COGS to improve margins at Bristol-Myers.
- Over a longer-term period, with a best-in-class management team and perfect information, we believe the opportunity exists to reach peer average margins of 48% and potentially further close the margin gap with Amgen.

2018 Bristol-Myers Standalone Adj. EBITDA Bridge to Post-Transformation EBITDA<sup>(1)</sup>



We believe Bristol-Myers has an opportunity to significantly improve profitability

# Shareholders Should Not Feel Pressured to Support This Proposed Transaction

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**As we have clearly laid out in this presentation, standalone Bristol-Myers has an opportunity for substantial shareholder value creation.**

- The proposed acquisition of Celgene adds substantial risk for Bristol-Myers shareholders.
- We believe it is unnecessary that shareholders take on this risk, as Bristol-Myers has the opportunity to create significant value for shareholders on a standalone basis.
- Bristol-Myers has a strong and growing IO franchise that provides a stable base.
  - In addition, a standalone Bristol-Myers would be well-positioned to continue to execute on the historically successful “String of Pearls” strategy.
- As we have also laid out, we believe there is a significant operational improvement opportunity at standalone Bristol-Myers.
  - We believe EBITDA margins could be increased by 900bps based on identified opportunities, with potential to drive margins to the peer average of 48% and closer to best-in-class peers over time.
- We believe that these standalone improvements and a continuation of the “String of Pearls” strategy come with far less risk and far more reward for Bristol-Myers shareholders than the proposed acquisition of Celgene.
  - The proposed acquisition is based on aggressive assumptions on Celgene’s pipeline that are out-of-line with historical performance.
  - We believe that it is likely that the proposed acquisition of Celgene will destroy value for Bristol-Myers shareholders.

**We believe voting AGAINST the proposed acquisition of Celgene is in the best interests of shareholders**