CELGENE CORP /DE/
Form 10-Q
April 25, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q
(Mark one)

[x] QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended March 31, 2019

OR

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____to _____

Commission File Number 001-34912
CELGENE CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	22-2711928
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
86 Morris Avenue, Summit, NJ	07901
(Address of principal executive offices)	(Zip Code)

(908) 673-9000
(Registrant’s telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes X No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).
Yes X No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	X	Accelerated filer	
Non-accelerated filer		Smaller reporting company	
Emerging growth company			

If an emerging growth company, indicated by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to

Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes No X

As of April 22, 2019, 705,259,536 shares of Common Stock, par value $.01 per share, were outstanding.

CELGENE CORPORATION

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

CELGENE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(Unaudited)
(Dollars in millions, except per share amounts)

	Three-Month Periods Ended March 31,	
	2019	2018
Revenue:		
Net product sales	$4,024	$3,531
Other revenue	1	7
Total revenue	4,025	3,538
Expenses:		
Cost of goods sold (excluding amortization of acquired intangible assets)	140	135
Research and development	1,216	2,203
Selling, general and administrative	773	864
Amortization of acquired intangible assets	109	87
Acquisition/integration related charges and restructuring, net	77	31
Total costs and expenses	2,315	3,320
Operating income	1,710	218
Other income and (expense):		
Interest and investment income, net	34	13
Interest (expense)	(192)	(166)
Other income, net	262	965
Income before income taxes	1,814	1,030
Income tax provision	269	184
Net income	$1,545	$846
Net income per common share:		
Basic	$2.20	$1.13
Diluted	$2.14	$1.10
Weighted average shares:		
Basic	702.4	748.3
Diluted	720.5	768.3

See accompanying Notes to Unaudited Consolidated Financial Statements

CELGENE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)
(Dollars in millions)

	Three-Month Periods Ended March 31,	
	2019	2018
Net income	$1,545	$846
Other comprehensive income (loss):		
Foreign currency translation adjustments	(10)	16
Net unrealized gains (losses) related to cash flow hedges:		
Unrealized holding gains (losses)	51	(99)
Tax benefit	—	1
Unrealized holding gains (losses), net of tax	51	(98)
Reclassification adjustment for (gains) losses included in net income	(23)	27
Tax (benefit)	—	—
Reclassification adjustment for (gains) losses included in net income, net of tax	(23)	27
Excluded component related to cash flow hedges:		
Amortization of excluded component (gains)	(1)	(8)
Reclassification of realized excluded component losses to net income	1	11
Net reclassification adjustment included in net income	—	3
Net unrealized gains (losses) on debt securities available-for-sale:		
Unrealized holding (losses)	—	(9)
Tax benefit	—	2
Unrealized holding (losses), net of tax	—	(7)
Reclassification adjustment for losses included in net income	—	18
Tax (benefit)	—	(4)
Reclassification adjustment for losses included in net income, net of tax	—	14
Total other comprehensive income (loss)	18	(45)
Comprehensive income	$1,563	$801

See accompanying Notes to Unaudited Consolidated Financial Statements

CELGENE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Unaudited)
(Dollars in millions, except per share amounts)

	March 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 5,433	$ 4,234
Debt securities available-for-sale	664	496
Equity investments with readily determinable fair values	1,594	1,312
Accounts receivable, net of allowances of $43 and $38 as of March 31, 2019 and December 31, 2018, respectively	2,327	2,066
Inventory	442	458
Other current assets	521	501
Total current assets	10,981	9,067
Property, plant and equipment, net	1,383	1,367
Intangible assets, net	16,101	16,213
Goodwill	8,003	8,003
Other non-current assets	1,171	830
Total assets	$ 37,639	$ 35,480
Liabilities and Stockholders' Equity		
Current liabilities:		
Short-term borrowings and current portion of long-term debt	$ 500	$ 501
Accounts payable	340	418
Accrued expenses and other current liabilities	2,975	2,987
Income taxes payable	72	78
Current portion of deferred revenue	68	73
Total current liabilities	3,955	4,057
Deferred revenue, net of current portion	76	73
Income taxes payable	2,232	2,190
Deferred income tax liabilities	2,714	2,753
Other non-current liabilities	716	477
Long-term debt, net of discount	19,781	19,769
Total liabilities	29,474	29,319
Commitments and Contingencies (See Note 15)		
Stockholders' Equity		
Preferred stock, $.01 par value per share, 5.0 million shares authorized; none outstanding as of March 31, 2019 and December 31, 2018	—	—
Common stock, $.01 par value per share, 1,150.0 million shares authorized; issued 985.7 million and 981.5 million shares as of March 31, 2019 and December 31, 2018, respectively	10	10
Common stock in treasury, at cost; 280.9 million and 281.3 million shares as of March 31, 2019 and December 31, 2018, respectively	(26,298)	(26,336)
Additional paid-in capital	15,381	14,978
Retained earnings	19,104	17,559
Accumulated other comprehensive (loss)	(32)	(50)
Total stockholders' equity	8,165	6,161
Total liabilities and stockholders' equity	$ 37,639	$ 35,480

See accompanying Notes to Unaudited Consolidated Financial Statements

CELGENE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
(Dollars in millions)

	Three-Month Periods Ended March 31,	
	2019	2018
Cash flows from operating activities:		
Net income	$1,545	$846
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	47	38
Amortization	110	88
Deferred income taxes	(41)	(52)
Change in value of contingent consideration and success payments	30	(30)
Net loss on sales of debt securities available-for-sale	—	18
Fair value adjustments on equity investments	(269)	(959)
Share-based compensation expense	257	208
Share-based employee benefit plan expense	—	9
Derivative instruments	8	(22)
Other, net	2	2
Change in current assets and liabilities, excluding the effect of acquisitions and disposals:		
Accounts receivable	(271)	(47)
Inventory	16	6
Other operating assets	50	(171)
Accounts payable and other operating liabilities	(28)	(219)
Income tax payable	35	(10)
Payment of contingent consideration	(13)	(22)
Deferred revenue	(2)	(8)
Net cash provided by (used in) operating activities	1,476	(325)
Cash flows from investing activities:		
Proceeds from sales of debt securities available-for-sale	261	3,203
Purchases of debt securities available-for-sale	(428)	(62)
Capital expenditures	(69)	(88)
Proceeds from sales of equity investment securities	2	55
Purchases of equity investment securities	(61)	(118)
Payments for acquisition of business, net of cash acquired	—	(8,648)
Net cash (used in) investing activities	(295)	(5,658)
Cash flows from financing activities:		
Payment for treasury shares	—	(2,700)
Proceeds from short-term borrowing	—	1,815
Principal repayments on short-term borrowing	—	(1,815)
Proceeds from issuance of long-term debt	—	4,452
Payment of contingent consideration	(58)	(40)
Net proceeds from share-based compensation arrangements	84	44
Net cash provided by financing activities	26	1,756
Effect of currency rate changes on cash and cash equivalents	(8)	33
Net increase (decrease) in cash and cash equivalents	1,199	(4,194)
Cash and cash equivalents at beginning of period	4,234	7,013

Cash and cash equivalents at end of period	$5,433	$2,819

See accompanying Notes to Unaudited Consolidated Financial Statements

CELGENE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - (Continued)
(Unaudited)
(Dollars in millions)

	Three-Month Periods Ended March 31,	
	2019	2018
Supplemental schedule of non-cash investing and financing activity:		
Change in net unrealized loss on debt securities available-for-sale	$ —	$ 9
Supplemental disclosure of cash flow information:		
Interest paid	281	190
Income taxes paid	275	387

See accompanying Notes to Unaudited Consolidated Financial Statements

CELGENE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)
(Dollars in millions)

	Common Stock	Treasury Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Stockholders' Equity
Balances as of December 31, 2018	$ 10	$(26,336)	$ 14,978	$ 17,559	$ (50)	$ 6,161
Net income	—	—	—	1,545	—	1,545
Other comprehensive income	—	—	—	—	18	18
Exercise of stock options and conversion of restricted stock units	—	(12)	164	—	—	152
Issuance of common stock for employee benefit plans	—	50	(18)	—	—	32
Expense related to share-based compensation	—	—	257	—	—	257
Balances as of March 31, 2019	$ 10	$(26,298)	$ 15,381	$ 19,104	$ (32)	$ 8,165
Balances as of December 31, 2017	$ 10	$(20,243)	$ 13,806	$ 13,061	$ 287	$ 6,921
Net income	—	—	—	846	—	846
Other comprehensive (loss)	—	—	—	—	(45)	(45)
Exercise of stock options and conversion of restricted stock units	—	(9)	60	—	—	51
Shares purchased under share repurchase program	—	(2,725)	—	—	—	(2,725)
Issuance of common stock for employee benefit plans	—	31	3	—	—	34
Expense related to share-based compensation	—	—	208	—	—	208
Adoption of ASU 2014-09, ASU 2016-01, ASU 2018-03, ASU 2018-02, ASU 2016-16 (Note 1)	—	—	—	452	(570)	(118)
Balances as of March 31, 2018	$ 10	$(22,946)	$ 14,077	$ 14,359	$ (328)	$ 5,172

See accompanying Notes to Unaudited Consolidated Financial Statements

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS
(In all accompanying tables, amounts of dollars expressed in millions,
except per share amounts, unless otherwise indicated)

1. Nature of Business, Basis of Presentation and New Accounting Standards

Celgene Corporation, together with its subsidiaries (collectively “we,” “our,” “us,” “Celgene” or the “Company”), is an integrated global biopharmaceutical company engaged primarily in the discovery, development and commercialization of innovative therapies for the treatment of cancer and inflammatory diseases through next-generation solutions in protein homeostasis, immuno-oncology, epigenetics, immunology and neuro-inflammation. Celgene Corporation was incorporated in the State of Delaware in 1986.

Our primary commercial stage products include REVLIMID®, POMALYST®/IMNOVID®, OTEZLA®, ABRAXANE®, and VIDAZA®. In addition, we earn revenue from other product sales and licensing arrangements.

Merger Agreement with Bristol-Myers Squibb Company

On January 2, 2019, we entered into a definitive merger agreement with Bristol-Myers Squibb Company (Bristol-Myers Squibb) under which Bristol-Myers Squibb will acquire Celgene in a cash and stock transaction with an equity value of approximately $74 billion, based on the closing price of Bristol-Myers Squibb shares of $52.43 on January 2, 2019 (Bristol-Myers Squibb - Celgene Merger). On April 12, 2019, the stockholders of each of Bristol-Myers Squibb and Celgene approved the Bristol-Myers Squibb - Celgene Merger. The transaction remains subject to the satisfaction of customary closing conditions and regulatory approvals. The Bristol-Myers Squibb - Celgene Merger is expected to close in the third quarter of 2019.

The definitive merger agreement includes restrictions on the conduct of our business prior to the completion of the merger or termination of the merger agreement, generally requiring us to conduct our business in the ordinary course consistent with past practice. Without limiting the generality of the foregoing, we are subject to a variety of specified restrictions. Unless we obtain Bristol-Myers Squibb’s prior written consent (which consent may not be unreasonably withheld, conditioned or delayed) and except (i) as required or expressly contemplated by the merger agreement, (ii) as required by applicable law or (iii) as set forth in the confidential disclosure schedule delivered by Celgene to Bristol-Myers Squibb, we may not, among other things, incur additional indebtedness, issue additional shares of our common stock outside of our equity incentive plans, repurchase our common stock, pay dividends, acquire assets, securities or property (subject to certain exceptions, including without limitation, acquisitions up to a specified individual amount and an aggregate limitation), dispose of businesses or assets, enter into material contracts or make certain additional capital expenditures.

Based on the closing price of Bristol-Myers Squibb stock of $52.43 on January 2, 2019, the cash and stock consideration to be received by Celgene stockholders at closing is valued at $102.43 per Celgene share and one Contingent Value Right (Bristol-Myers Squibb CVR). The Bristol-Myers Squibb CVR will entitle its holder to receive a one-time potential payment of $9.00 in cash upon U.S. Food and Drug Administration (FDA) approval of all three of ozanimod (by December 31, 2020), liso-cel (JCAR017) (by December 31, 2020) and bb2121 (by March 31, 2021), in each case for a specified indication. When completed, Bristol-Myers Squibb stockholders are expected to own approximately 69% of the company, and Celgene stockholders are expected to own approximately 31%.

The transaction is not subject to a financing condition. The cash portion will be funded through a combination of cash on hand and debt financing. Bristol-Myers Squibb has obtained fully committed debt financing from Morgan Stanley Senior Funding, Inc. and MUFG Bank, Ltd.

On April 17, 2019, in connection with the Bristol-Myers Squibb - Celgene Merger, Bristol-Myers Squibb commenced an exchange offer for any and all outstanding notes issued by us (the "Celgene Notes") for up to $19,850,000,000 aggregate principal amount of new notes to be issued by Bristol-Myers Squibb and cash. In conjunction with the exchange offer, Bristol-Myers Squibb is concurrently soliciting consents to adopt certain proposed amendments to each of the indentures governing the Celgene Notes to eliminate substantially all of the restrictive covenants in such indentures. The exchange offers and consent solicitations are conditioned upon, among other things, the closing of the Bristol-Myers Squibb - Celgene Merger. The exchange offers are expected to close on or about the closing date for the Bristol-Myers Squibb - Celgene Merger.

In connection with the Bristol-Myers Squibb - Celgene Merger, we have incurred, and will continue to incur, merger-related and integration-related preparation costs. A significant portion of those costs are contingent on the merger closing, such as investment

banking fees, legal fees, and other employee related costs. We incurred $47 million of such costs during the three-month period ended March 31, 2019, which were recorded in Acquisition/integration related charges and restructuring, net within the Consolidated Statement of Income. We will incur approximately $171 million of professional fees due upon closing and approximately $205 million of employee-related costs, a portion of which is due upon closing with the remainder subject to satisfaction of a specified service period.

Basis of Presentation

The consolidated financial statements include the accounts of Celgene Corporation and its subsidiaries. Investments in limited partnerships and interests where we have an equity interest of 50% or less and do not otherwise have a controlling financial interest are accounted for by one of three methods: the equity method, as an investment without a readily determinable fair value or as an investment with a readily determinable fair value.

We operate in a single segment engaged in the discovery, development, manufacturing, marketing, distribution and sale of innovative therapies for the treatment of cancer and inflammatory diseases. Consistent with our operational structure, our Chief Executive Officer (CEO), as the chief operating decision maker, manages and allocates resources at the global corporate level. Our global research and development organization is responsible for discovery of new product candidates and supports development and registration efforts for potential future products. Our global supply chain organization is responsible for the manufacturing and supply of products. Regional/therapeutic area commercial organizations market, distribute and sell our products. The business is also supported by global corporate staff functions. Managing and allocating resources at the global corporate level enables our CEO to assess both the overall level of resources available and how to best deploy these resources across functions, therapeutic areas, regional commercial organizations and research and development projects in line with our overarching long-term corporate-wide strategic goals, rather than on a product or franchise basis. Consistent with this decision-making process, our CEO uses consolidated, single-segment financial information for purposes of evaluating performance, allocating resources, setting incentive compensation targets, as well as forecasting future period financial results.

The preparation of the consolidated financial statements requires management to make estimates and assumptions that affect reported amounts and disclosures. Actual results could differ from those estimates. We are subject to certain risks and uncertainties related to, among other things, product development, regulatory approval, market acceptance, scope of patent and proprietary rights, competition, outcome of legal and governmental proceedings, credit risk, technological change and product liability.

Interim results may not be indicative of the results that may be expected for the full year. In the opinion of management, these unaudited consolidated financial statements include all normal and recurring adjustments considered necessary for a fair presentation of these interim unaudited consolidated financial statements. Certain prior year amounts have been reclassified to conform to the current year's presentation.
Our significant accounting policies are described in Note 1 of Notes to Consolidated Financial Statements included in our 2018 Annual Report on Form 10-K. Such significant accounting policies are applicable for periods prior to the adoption of the following new accounting standards. Effective January 1, 2019, we changed our approach to lease accounting in conjunction with our adoption of Accounting Standards Update No. 2016-02, "Leases" (ASU 2016-02) and subsequent amendments to ASU 2016-02, including Accounting Standards Update No. 2018-11 “Leases: Targeted Improvements” (ASU 2018-11 and, when taken together with ASU 2016-02, the “New Lease Accounting Standard”). As a result of the adoption of the New Lease Accounting Standard, we have updated our lease accounting policies as detailed below. There were no other changes to our significant accounting policies from those disclosed in our 2018 Annual Report on Form 10-K. See Note 16 for additional details related to our adoption of the New Lease Accounting Standard.

Leases: In accordance with the guidance pursuant to the New Lease Accounting Standard, the determination of whether an arrangement is, or contains, a lease is based on the substance of the arrangement at inception date and includes considerations such as whether there is an identified asset, whether we have the right to obtain substantially all of the economic benefits from use of the identified asset and whether we have the right to direct the use of the identified asset. Leases are included in our Consolidated Balance Sheet as follows:

Asset/Liability	Operating Leases	Finance Leases[(1)]
Right of use (ROU) assets	Other non-current assets	Property, plant and equipment, net
Current lease liabilities	Accrued expenses and other current liabilities	Short-term borrowings and current portion of long-term debt
Non-current lease liabilities	Other non-current liabilities	Long-term debt, net of discount

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

(1) As of March 31, 2019, Celgene did not have any leases classified as finance leases.

ROU assets represent our right to use an underlying asset for the expected lease term and lease liabilities represent our obligation to make lease payments arising from the lease. ROU assets and related lease liabilities are recognized at commencement date based on the present value of lease payments over the expected lease term, including contractually specified annual rent increases. When determinable, we use the rate implicit in the lease to determine the present value of lease payments. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option.

Our leasing portfolio is comprised entirely of operating leases, which we account for at the asset level. Additionally, our lease agreements may include both lease and non-lease components, which we account for as a single lease component when the payments are fixed. Lease expense for operating lease payments is recognized on a straight-line basis over the expected lease term.

We do not recognize ROU assets or related lease liabilities with a lease term of twelve months or less on our Consolidated Balance Sheet. Such lease payments are recorded in our Consolidated Statements of Income in the period in which the obligation for those payments was incurred. All of our leases are with unaffiliated parties.

New accounting standards which have been adopted

In February 2016, the Financial Accounting Standards Board (FASB) issued ASU 2016-02 and has subsequently issued a number of amendments to ASU 2016-02, including ASU 2018-11, which offers a transition option to entities adopting the New Lease Accounting Standard. Under the transition option, entities can elect to apply the new guidance using a modified retrospective approach at the beginning of the year in which New Lease Accounting Standard is adopted, rather than to the earliest comparative period presented in their financial statements. The New Lease Accounting Standard was effective for us as of January 1, 2019. The New Lease Accounting Standard provides accounting guidance for both lessee and lessor accounting models. Among other things, lessees will recognize on their balance sheet a ROU asset and a lease liability, based on the characterization of the lease as either an operating or finance lease. For income statement purposes, operating leases will result in the recognition of straight-line rent expense, while finance leases will result in a front-loaded expense pattern made up of both interest expense and amortization of the ROU asset.

We have elected to adopt the New Lease Accounting Standard using the modified retrospective method and, therefore, have not recast comparative periods presented in our unaudited consolidated financial statements. We have elected the package of transition practical expedients for our existing leases and therefore we have not reassessed the following: lease classification for existing leases, whether any existing contracts contained leases, if any initial direct costs were incurred and whether existing land easements should be accounted for as leases. As permitted under the New Lease Accounting Standard, we have elected as accounting policy elections to not recognize ROU assets and related lease liabilities for leases with terms of twelve months or less and to not separate lease and non-lease components, and instead account for the non-lease components together with the lease components as a single lease component.

The New Lease Accounting Standard had an impact on our Consolidated Balance Sheets as of January 1, 2019 and March 31, 2019, with the recognition of ROU assets in the amount of $293 million and $286 million, respectively, and the recognition of operating lease liabilities of $323 million and $313 million, respectively. However, the New Lease Accounting Standard did not have any significant impact on our Consolidated Statements of Income for any period. There was no material tax impact of adopting the New Lease Accounting Standard.

Accounting Standards Adopted in 2018

On January 1, 2018, we adopted several new accounting standards, including the following which required cumulative effect adjustments to Retained earnings and Accumulated Other Comprehensive Income (AOCI):

- ASU 2014-09 "Revenue from Contracts with Customers" (ASU 2014-09);
- ASU 2016-01 "Financial Instruments-Overall: Recognition and Measurement of Financial Assets and Financial Liabilities" (ASU 2016-01);
- ASU 2018-03 "Technical Corrections and Improvements to Financial Instruments-Overall: Recognition and Measurement of Financial Assets and Financial Liabilities" (ASU 2018-03);
- ASU 2018-02 "Income Statement-Reporting Comprehensive Income: Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income" (ASU 2018-02); and
- ASU 2016-16 "Intra-Entity Transfers of Assets Other Than Inventory" (ASU 2016-16).

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Additional information related to the adoption of these accounting standards is disclosed in Note 1 of Notes to Consolidated Financial Statements contained in our 2018 Annual Report on Form 10-K. The following table presents a summary of cumulative effect adjustments to Retained earnings and AOCI due to the adoption of new accounting standards on January 1, 2018 as noted above:

	Retained Earnings Increase / (Decrease)	AOCI (Decrease) / Increase
ASU 2014-09	$ 4	$ —
ASU 2016-01	687	(687)
ASU 2018-03	44	—
ASU 2018-02	(117)	117
ASU 2016-16	(166)	—
Net cumulative effect adjustments to Retained earnings and AOCI on January 1, 2018 due to the adoption of new accounting standards	$ 452	$ (570)

New accounting standards which have not yet been adopted

In June 2016, the FASB issued Accounting Standards Update No. 2016-13, "Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments" (ASU 2016-13). ASU 2016-13 requires that expected credit losses relating to financial assets measured on an amortized cost basis and available-for-sale debt securities be recorded through an allowance for credit losses. ASU 2016-13 limits the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and also requires the reversal of previously recognized credit losses if fair value increases. The new standard will be effective for us on January 1, 2020. We are currently evaluating the effect that the updated standard will have on our consolidated financial statements and related disclosures.

In November 2018, the FASB issued Accounting Standards Update No. 2018-18, “Collaboration Arrangements: Clarifying the Interaction between Topic 808 and Topic 606” (ASU 2018-18). The issuance of ASU 2014-09 raised questions about the interaction between the guidance on collaborative arrangements and revenue recognition. ASU 2018-18 addresses this uncertainty by (1) clarifying that certain transactions between collaborative arrangement participants should be accounted for as revenue under ASU 2014-09 when the collaboration arrangement participant is a customer, (2) adding unit of account guidance to assess whether the collaboration arrangement or a part of the arrangement is with a customer and (3) precluding a company from presenting transactions with collaboration arrangement participants that are not directly related to sales to third parties together with revenue from contracts with customers. The new standard will be effective for us on January 1, 2020 with early adoption permitted. We are currently evaluating the effect that the updated standard will have on our consolidated financial statements and related disclosures.

2. Revenue

The majority of our revenue is derived from product sales. Our primary commercial stage products include REVLIMID®, POMALYST®/IMNOVID®, OTEZLA®, ABRAXANE®, and VIDAZA®. In addition, we recognize revenue from other product sales and royalties based on licensees’ sales of our products or products using our technologies. We do not consider royalty revenue to be a material source of our consolidated revenue. As such, the following disclosure only relates to revenue associated with net product sales.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the unit of account in the current revenue standard. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied.

At contract inception, we assess the goods promised in our contracts with customers and identify a performance obligation for each promise to transfer to the customer a good that is distinct. When identifying our performance obligations, we consider all goods promised in the contract regardless of whether explicitly stated in the customer contract or implied by customary business practices. Generally, our contracts with customers require us to transfer an individual distinct product, which would represent a single performance obligation. In limited situations, our contracts with customers will require us to transfer two or more distinct

products, which would represent multiple performance obligations for each distinct product. For contracts with multiple performance obligations, we allocate the contract's transaction price to each performance obligation on a relative standalone selling price basis. In determining our standalone selling prices for our products, we utilize observable prices for our goods sold separately in similar circumstances and to customers in the same geographical region or market. Our performance obligations with respect to our product sales are satisfied at a point in time, which transfer control upon delivery of product to our customers. We consider control to have transferred upon delivery because the customer has legal title to the asset, we have transferred physical possession of the asset, the customer has significant risks and rewards of ownership of the asset, and in most instances we have a present right to payment at that time. The aggregate dollar value of unfulfilled orders as of March 31, 2019 was not material.

Distribution

REVLIMID® and POMALYST® are distributed in the United States primarily through contracted pharmacies under the REVLIMID Risk Evaluation and Mitigation Strategy (REMS) and POMALYST REMS® programs, respectively. These are proprietary risk-management distribution programs tailored specifically to provide for the safe and appropriate distribution and use of REVLIMID® and POMALYST®. Internationally, REVLIMID® and IMNOVID® are distributed under mandatory risk-management distribution programs tailored to meet local authorities' specifications to provide for the product's safe and appropriate distribution and use. These programs may vary by country and, depending upon the country and the design of the risk-management program, the product may be sold through hospitals or retail pharmacies. OTEZLA®, ABRAXANE® and VIDAZA® are distributed through the more traditional pharmaceutical industry supply chain and are not subject to the same risk-management distribution programs as REVLIMID® and POMALYST®/IMNOVID®.

Significant Payment Terms

Our contracts with our customers state the terms of the sale including the description, quantity, and price for each product purchased, as well as the payment and shipping terms. Our contractual payment terms vary by jurisdiction. In the United States, our contractual payment terms are typically due in no more than 30 days. Sales made outside the United States typically have payment terms that are greater than 60 days, thereby extending collection periods beyond those in the United States. The period between when we transfer control of the promised goods to a customer and when we receive payment from such customer is expected to be one year or less. Any exceptions to this are either not material or we collect interest from the customer for the time period between the invoice due date and the payment date. As such, we do not adjust the invoice amount for the effects of a significant financing component as the impact is not material to our consolidated financial statements.

Contract Balances

When the timing of our delivery of product is different from the timing of payments made by the customers, we recognize either a contract asset (performance precedes the contractual due date) or a contract liability (customer payment precedes performance). There were no significant changes in our contract asset or liability balances during the three-month periods ended March 31, 2019 and March 31, 2018 other than from transactions in the ordinary course of operating activities as described above.

Contract Assets

In limited situations, certain customer contractual payment terms require us to bill in arrears; thus, we satisfy some or all of our performance obligations before we are contractually entitled to bill the customer. In these situations, billing

occurs subsequent to revenue recognition, which results in a contract asset. We reflect these contract assets as a component of Other current assets on the Consolidated Balance Sheet. For example, certain of our contractual arrangements do not permit us to bill until the product is sold through to the end-customer. As of March 31, 2019 and December 31, 2018, such contract assets were $36 million.

Contract Liabilities

In other limited situations, certain customer contractual payment terms allow us to bill in advance; thus, we receive customer cash payment before satisfying some or all of its performance obligations. In these situations, billing occurs in advance of revenue recognition, which results in contract liabilities. We reflect these contract liabilities as Deferred revenue on our Consolidated Balance Sheet. For example, certain of our contractual arrangements provide the customer with free product after the customer has purchased a contractual minimum amount of product. We concluded the free product represents a future performance obligation in the form of a contractual material right. As such, we defer a portion of the transaction price as a contract liability upon each sale of product until the contractual minimum volume is achieved. As we satisfy our remaining performance obligations, we release a portion of the deferred revenue balance. As of March 31, 2019 and December 31, 2018, such contract liabilities were $138 million and $137 million, respectively. Revenue recognized for the three-month period ended March 31, 2019 that was reflected in the

deferred revenue balance as of December 31, 2018 was $12 million. Revenue recognized for the three-month period ended March 31, 2018 that was reflected in the deferred revenue balance at the beginning of 2018 was $16 million.

Gross-to-Net Sales Adjustments

We record gross-to-net sales accruals for government rebates, chargebacks, distributor service fees, other rebates and administrative fees, sales returns and allowances, and sales discounts. Provisions for discounts, early payments, rebates, sales returns, distributor service fees and chargebacks under terms customary in the industry are provided for in the same period the related sales are recorded. We record estimated reductions to revenue for volume-based discounts and rebates at the time of the initial sale based upon the sales terms, historical experience and trend analysis. We estimate these accruals using an expected value approach based primarily upon our historical rebate and discount payments made and the provisions included in current customer contracts and government regulations.

Government Rebates, including Medicaid and Medicare Rebates

Government rebate accruals are based on estimated payments due to governmental agencies for purchases made by third parties under various governmental programs. In the U.S., we participate in state government Medicaid programs and other Federal and state government programs, which require rebates to participating government entities. U.S. Medicaid rebate accruals are generally based on historical payment data and estimates of future Medicaid beneficiary utilization applied to the Medicaid unit rebate formula established by the Center for Medicaid and Medicare Services. The Medicaid rebate percentage was increased and extended to Medicaid Managed Care Organizations in March 2010. The accrual of the rebates associated with Medicaid Managed Care Organizations is calculated based on estimated historical patient data related to Medicaid Managed Care Organizations. We also analyze actual billings received from the states to further support the accrual rates. Effective in 2019, manufacturers of pharmaceutical products are responsible for 70% of the patient's cost of branded prescription drugs related to the Medicare Part D Coverage Gap, an increase of 20 percentage points from 2018. In order to estimate the cost to us of this coverage gap responsibility, we analyze data for eligible Medicare Part D patients against data for eligible Medicare Part D patients treated with our products, as well as the historical invoices. This expense is recognized throughout the year as costs are incurred. In certain international markets, government-sponsored programs require rebates to be paid based on program specific rules and, accordingly, the rebate accruals are determined primarily on estimated eligible sales.

Chargebacks, Distributor Service Fees, Other Rebates and Administrative Fees

Chargeback accruals are based on the differentials between product acquisition prices paid by wholesalers and lower government contract pricing paid by eligible customers covered under federally qualified programs. Distributor service fee accruals are based on contractual fees to be paid to the wholesale distributor for services provided. TRICARE is a health care program of the U.S. Department of Defense Military Health System that provides civilian health benefits for military personnel, military retirees and their dependents. TRICARE rebate accruals are included in chargeback accruals and are based on estimated Department of Defense eligible sales multiplied by the TRICARE rebate formula.

Rebates or administrative fees are offered to certain wholesale customers, group purchasing organizations and end-user customers, consistent with pharmaceutical industry practices. Settlement of rebates and administrative fees may generally occur from one to 15 months from the date of sale. We record a provision for rebates at the time of sale based on contracted rates and historical redemption rates. Assumptions used to establish the provision include level of wholesaler inventories, contract sales volumes and average contract pricing. We regularly review the information related to these estimates and adjust the provision accordingly.

Returns, Refunds and Warranties

We base our sales returns allowance on estimated on-hand retail/hospital inventories, measured end-customer demand as reported by third-party sources, actual returns history and other factors, such as the trend experience for lots where product is still being returned or inventory centralization and rationalization initiatives conducted by major pharmacy chains, as applicable. If the historical data we use to calculate these estimates do not properly reflect future returns, then a change in the allowance would be made in the period in which such a determination is made and revenues in that period could be materially affected. Under this methodology, we track actual returns by individual production lots. Returns on closed lots, that is, lots no longer eligible for return credits, are analyzed to determine historical returns experience. Returns on open lots, that is, lots still eligible for return credits, are monitored and compared with historical return trend rates. Any changes from the historical trend rates are considered in determining the current sales return allowance. We do not provide warranties on our products to our customers unless the product is defective as manufactured or damaged in transit within a reasonable period of time after receipt of the product by the customer.

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Sales Discounts

Sales discounts are based on payment terms extended to customers, which are generally offered as an incentive for prompt payment. We record our best estimate of sales discounts to which customers are likely to be entitled based on both historical information and current trends.

The reconciliation of gross product sales to net product sales by each significant category of gross-to-net adjustments was as follows:

	Three-Month Periods Ended March 31,	
	2019	2018
Gross Product Sales	$5,028	$4,247
Gross-to-Net Adjustments:		
Government Rebates	(383)	(291)
Chargebacks and Distributor Services Fees	(543)	(367)
Sales Discounts	(68)	(56)
Sales Returns and Allowances	(10)	(2)
Total Gross-to-Net Adjustments	(1,004)	(716)
Net Product Sales	$4,024	$3,531

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Total revenues from external customers by our franchises (Hematology / Oncology and Inflammation & Immunology), product and geography for the three-month periods ended March 31, 2019 and 2018 were as follows:

		Three-Month Periods Ended March 31,	
		2019	2018
Hematology / Oncology:			
REVLIMID®			
	U.S.	$1,686	$1,487
	International	891	747
	Worldwide	2,577	2,234
POMALYST®/IMNOVID®			
	U.S.	390	300
	International	167	153
	Worldwide	557	453
ABRAXANE®			
	U.S.	196	159
	International	90	103
	Worldwide	286	262
VIDAZA®			
	U.S.	3	2
	International	148	155
	Worldwide	151	157
All Other			
	U.S.	45	55
	International	19	17
	Worldwide	64	72
Total Hematology / Oncology:			
	U.S.	2,320	2,003
	International	1,315	1,175
	Worldwide	3,635	3,178
Inflammation & Immunology:			
OTEZLA®			
	U.S.	301	276
	International	88	77
	Worldwide	389	353
Total net product sales			
	U.S.	2,621	2,279
	International	1,403	1,252
	Worldwide	4,024	3,531
Other revenue		1	7
Total revenue		$4,025	$3,538

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CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

3. Acquisitions and Divestitures

Acquisitions in Fiscal 2018:

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.

Juno Therapeutics, Inc. (Juno): On March 6, 2018, we acquired all of the outstanding shares of Juno (Juno Acquisition), resulting in Juno becoming our wholly-owned subsidiary. Juno is developing CAR (chimeric antigen receptor) T and TCR (T cell receptor) therapeutics with a broad, novel portfolio evaluating multiple targets and cancer indications. The acquisition added a novel scientific platform and scalable manufacturing capabilities including JCAR017 and JCARH125, both directed CAR T therapeutics currently in programs for relapsed and/or refractory diffuse large B-cell lymphoma and relapsed and/or refractory multiple myeloma, respectively.

Total consideration for the acquisition was approximately $10.4 billion, consisting of $9.1 billion for common stock outstanding, $966 million for the fair value of our investment in Juno and $367 million for the portion of equity compensation attributable to the pre-combination service period. In addition, the fair value of the awards attributed to post-combination service period was $666 million, which will be recognized as compensation expense over the requisite service period in our post-combination financial statements. We recognized $28 million and $250 million of post combination share-based compensation for the three-month periods ended March 31, 2019 and 2018, respectively.

The acquisition has been accounted for as a business combination using the acquisition method of accounting which requires that assets acquired and liabilities assumed be recognized at their fair values as of the acquisition date and requires the fair value of acquired in-process research and development (IPR&D) to be classified as indefinite-lived assets until the successful completion or abandonment of the associated research and development efforts.

The total consideration for the acquisition of Juno was $10.4 billion, which consisted of the following:

	Total Consideration
Cash paid for outstanding common stock at $87.00 per share	$ 9,101
Celgene investment in Juno at $87.00 per share [(1)]	966
Cash for equity compensation attributable to pre-combination service [(2)]	367
Total consideration	$ 10,434

[(1)] The Company recognized a gain of $458 million during the first quarter of 2018, as a result of remeasuring to fair value the equity interest in Juno held by us before the business combination, which was recorded in Other income, net

within the Consolidated Statement of Income.

(2) All equity compensation attributable to pre-combination service was paid during the first quarter of 2018.

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

The purchase price allocation resulted in the following amounts being allocated to the assets acquired and liabilities assumed on March 6, 2018 based upon their respective fair values summarized below. The determination of fair value was finalized in the fourth quarter of 2018.

	Amounts Recognized as of the acquisition date of March 6, 2018
Working capital [(1)]	$ 452
IPR&D	6,980
Technology platform intangible asset	1,260
Property, plant and equipment, net	144
Other non-current assets	32
Deferred tax liabilities, net	(1,530)
Other non-current liabilities	(41)
Total identifiable net assets	7,297
Goodwill	3,137
Total net assets acquired	$ 10,434

[(1)] Includes cash and cash equivalents, debt securities available-for-sale, accounts receivable, net of allowances, other current assets, accounts payable, accrued expenses and other current liabilities (including accrued litigation). See Note 17 for litigation matters related to Juno.

The fair value assigned to acquired IPR&D was based on the present value of expected after-tax cash flows attributable to JCAR017, which is in a pivotal phase II trial and JCARH125. The present value of expected after-tax cash flows attributable to JCAR017 and JCARH125 assigned to IPR&D was determined by estimating the after-tax costs to complete development of JCAR017 and JCARH125 into commercially viable products, estimating future revenue and ongoing expenses to produce, support and sell JCAR017 and JCARH125, on an after-tax basis, and discounting the resulting net cash flows to present value. The revenue and costs projections used were reduced based on the probability that products at similar stages of development will become commercially viable products. The rate utilized to discount the net cash flows to their present value reflects the risk associated with the intangible asset and is benchmarked to the cost of equity. Acquired IPR&D will be accounted for as indefinite-lived intangible assets until regulatory approvals for JCAR017 and JCARH125 in a major market or discontinuation of development.

The fair value of the technology platform intangible asset is equal to the present value of the expected after-tax cash flows attributable to the intangible asset, which was calculated based on the multi-period excess earnings method of the income approach. The multi-period excess earnings method of the income approach included estimating probability adjusted annual after-tax net cash flows through the cycle of development and commercialization of potential products generated by the technology platform then discounting the resulting probability adjusted net post-tax cash flows using a discount rate commensurate with the risk of our overall business operations to arrive at the net present value.

The excess of purchase price over the fair value amounts assigned to identifiable assets acquired and liabilities assumed represents the goodwill amount resulting from the acquisition. The goodwill recorded as part of the acquisition is primarily attributable to the broadening of our product portfolio and research capabilities in the

hematology and oncology therapeutic area, the assembled workforce and the deferred tax consequences of the IPR&D asset recorded for financial statement purposes. We do not expect any portion of this goodwill to be deductible for tax purposes. The goodwill attributable to the acquisition has been recorded as a non-current asset in our Consolidated Balance Sheets and is not amortized, but is subject to review for impairment annually.

Juno's actual operating results represent a partial quarter in fiscal 2018, from the acquisition date of March 6, 2018 through the end of the quarter on March 31, 2018. There were no revenues reported for such period. However, a net loss of $304 million was included in such period, including share-based compensation charges of $250 million and $22 million of acquisition related charges.

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Pro Forma Financial Information for the Juno Acquisition:

The following table provides unaudited pro forma financial information for the three-month period ended March 31, 2018 as if the Juno Acquisition had occurred on January 1, 2017.

	Three-Month Period Ended March 31, 2018
Total revenue	$ 3,548
Net income	609
Net income per common share: basic	$ 0.81
Net income per common share: diluted	$ 0.79

The unaudited pro forma financial information was prepared using the acquisition method of accounting and was based on the historical financial information of Celgene and Juno. The supplemental pro forma financial information reflects primarily the following pro forma adjustments:

- Elimination of research related cost sharing transactions between Celgene and Juno;
- The pro forma financial information assumes that the acquisition related transaction fees and costs, including post combination share-based compensation related to the acquisition, were removed from the three-month period ended March 31, 2018 and were assumed to have been incurred during the first quarter of 2017;
- The pro forma financial information assumes that the gain recognized as a result of remeasuring to fair value the equity interest we held in Juno prior to the business combination was removed from the three-month period ended March 31, 2018 and was assumed to have been recognized during the first quarter of 2017;
- Additional interest expense and amortization of debt issuance costs for a portion of the $4.5 billion of debt that was issued in February 2018 to partially finance the acquisition;
- Additional amortization expense on the acquired technology platform asset; and
- Statutory tax rates were applied, as appropriate, to each pro forma adjustment based on the jurisdiction in which the adjustment occurred.

The unaudited pro forma results do not reflect any operating efficiencies or potential cost savings that may result from the combined operations of Celgene and Juno. Accordingly, these unaudited pro forma results are presented for illustrative purposes and are not intended to represent or be indicative of the actual results of operations of the combined company that would have been achieved had the acquisition occurred at the beginning of the periods presented, nor are they intended to represent or be indicative of future results of operations.

4. Earnings Per Share

	Three-Month Periods Ended March 31,	
(Amounts in millions, except per share)	2019	2018
Net income	$1,545	$846
Weighted-average shares:		

Basic	702.4	748.3
Effect of dilutive securities:		
Options, restricted stock units, performance stock units and other	18.1	20.0
Diluted	720.5	768.3
Net income per share:		
Basic	$2.20	$1.13
Diluted	$2.14	$1.10

The total number of potential shares of common stock excluded from the diluted earnings per share computation because their inclusion would have been anti-dilutive was 41.7 million and 35.7 million shares for the three-month periods ended March 31, 2019 and 2018, respectively.

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Share Repurchase Program: As of March 31, 2019, we had remaining availability under our authorized common stock share repurchase program of $2.8 billion. We did not repurchase any shares of our common stock during the three-month period ended March 31, 2019.

5. Accumulated Other Comprehensive (Loss) Income

The components of other comprehensive (loss) income consist of changes in pension liability, changes in net unrealized gains (losses) on debt securities available-for-sale, changes in net unrealized gains (losses) related to cash flow hedges, the amortization of the excluded component related to cash flow hedges and changes in foreign currency translation adjustments.

The accumulated balances related to each component of other comprehensive (loss) income, net of tax, are summarized as follows:

	Pension Liability Adjustment	Net Unrealized Gains (Losses) On Debt Securities Available-for-Sale[1]	Net Unrealized Gains (Losses) Related to Cash Flow Hedges	Amortization of Excluded Component Related to Cash Flow Hedges	Foreign Currency Translation Adjustments	Accumulated Other Comprehensive (Loss) Income
Balance as of December 31, 2018	$ (28)	$ 3	$ 42	$ (7)	$ (60)	$ (50)
Other comprehensive income (loss) before reclassifications, net of tax	—	—	51	(1)	(10)	40
Reclassified (gains) losses from accumulated other comprehensive income (loss), net of tax	—	—	(23)	1	—	(22)
Net current-period other comprehensive income (loss), net of tax	—	—	28	—	(10)	18
Balance as of March 31, 2019	$ (28)	$ 3	$ 70	$ (7)	$ (70)	$ (32)
Balance as of December 31, 2017	$ (22)	$ 562	$ (206)	$ (15)	$ (32)	$ 287
Cumulative effect adjustment for the adoption of ASU 2016-01 and ASU 2018-02	—	(566)	(4)	—	—	(570)
Other comprehensive (loss) income before reclassifications, net of tax	—	(7)	(98)	(8)	16	(97)
Reclassified losses from accumulated other comprehensive income (loss), net of tax	—	14	27	11	—	52
Net current-period other comprehensive income (loss), net of tax	—	7	(71)	3	16	(45)
Balance as of March 31, 2018	$ (22)	$ 3	$ (281)	$ (12)	$ (16)	$ (328)

[1] Balances as of December 31, 2017 are prior to the adoption of ASU 2016-01 and, as such, include equity securities with readily determinable fair values. Upon adoption of ASU 2016-01, we recorded a cumulative effect adjustment for our net unrealized gains related to our equity securities with readily determinable fair values as of January 1, 2018. Therefore, the unrealized gains (losses) position as of March 31, 2018 solely relate to debt securities available-for-sale.

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CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Accumulated Other Comprehensive (Loss) Income Components	Classification in the Consolidated Statements of Income	Gains (Losses) Reclassified Out of Accumulated Other Comprehensive (Loss) Income Three-Month Periods Ended March 31, 2019	2018
(Losses) gains related to cash-flow hedges:			
Foreign exchange contracts	Net product sales	$ 24	$ (26)
Treasury rate lock agreements	Interest (expense)	(1)	(1)
Excluded component related to cash-flow hedges:			
Foreign exchange contracts	Net product sales	—	(3)
(Losses) gains on debt securities available-for-sale:			
Realized gain (loss) on sales of debt securities available-for-sale	Interest and investment income, net[1]	—	(18)
	Income tax provision - (expense) benefit[1]	—	4
Total reclassification, net of tax		$ 23	$ (44)

[1] We use a specific identification approach to release the realized gain (loss) on sales of debt securities available-for-sale and income tax effects into Accumulated other comprehensive (loss).

6. Financial Instruments and Fair Value Measurement

The tables below present information about assets and liabilities that are measured at fair value on a recurring basis as of March 31, 2019 and December 31, 2018 and the valuation techniques we utilized to determine such fair value.

- Level 1 inputs utilize quoted prices (unadjusted) in active markets for identical assets or liabilities. Our level 1 assets consist of equity investments with readily determinable fair values. Our level 1 liability relates to our publicly traded Abraxis contingent value rights (Abraxis CVRs). See Note 19 of Notes to Consolidated Financial Statements included in our 2018 Annual Report on Form 10-K for a description of the Abraxis CVRs.
- Level 2 inputs utilize observable quoted prices for similar assets and liabilities in active markets and observable quoted prices for identical or similar assets in markets that are not very active. From time to time, our level 2 assets consist primarily of U.S. Treasury securities, U.S. government-sponsored agency securities, U.S. government-sponsored agency mortgage-backed securities (MBS), global corporate debt securities, asset backed securities, ultra short income fund investments, time deposits and repurchase agreements with original maturities of greater than three months. We also have derivative instruments including foreign currency forward contracts, purchased currency options, zero-cost collar currency contracts and interest rate swap contracts, which may be in an asset or liability position.
- Level 3 inputs utilize unobservable inputs and include valuations of assets or liabilities for which there is little, if any, market activity. We do not have any level 3 assets. Our level 3 liabilities consist of contingent consideration related to undeveloped product rights and technology platforms resulting from the acquisitions of Gloucester

Pharmaceuticals, Inc. (Gloucester), Nogra Pharma Limited (Nogra), Avila Therapeutics, Inc. (Avila) and Quanticel Pharmaceuticals, Inc. (Quanticel). In addition, in connection the Juno Acquisition, we assumed Juno's contingent consideration and success payment liabilities.

Our contingent consideration obligations are recorded at their estimated fair values and we revalue these obligations each reporting period until the related contingencies are resolved. The fair value measurements are estimated using probability-weighted discounted cash flow approaches that are based on significant unobservable inputs related to product candidates acquired in business combinations and are reviewed quarterly. These inputs include, as applicable, estimated probabilities and timing of achieving specified development and regulatory milestones, estimated annual sales and the discount rate used to calculate the present value of estimated future payments. Significant changes which increase or decrease the probabilities of achieving the related development and regulatory events, shorten or lengthen the time required to achieve such events, or increase or decrease estimated annual sales would result in corresponding increases or decreases in the fair values of these obligations. The fair value of our contingent consideration as of March 31, 2019 and December 31, 2018 was calculated using the following significant unobservable inputs:

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Inputs	Ranges (weighted average) utilized as of:	
	March 31, 2019	December 31, 2018
Discount rate	3.6% to 4.8% (4.3%)	3.6% to 4.8% (4.3%)
Probability of payment	0% to 68% (5%)	0% to 68% (5%)
Projected year of payment for development and regulatory milestones	2020 to 2029 (2024)	2020 to 2029 (2024)
Projected year of payment for sales-based milestones and other amounts calculated as a percentage of annual sales	N/A	N/A

The maximum remaining potential payments related to the contingent consideration from the acquisitions of Gloucester, Avila, Quanticel and those assumed in the Juno Acquisition are estimated to be $120 million, $475 million, $214 million and $283 million, respectively, and $1.8 billion plus other amounts calculated as a percentage of annual sales pursuant to the license agreement with Nogra.

Success payment obligations assumed through the Juno Acquisition are also recorded at their estimated fair values and are revalued quarterly. Changes in the fair value of contingent consideration and success payment obligations are recognized in Acquisition/integration related charges and restructuring, net in the Consolidated Statements of Income.

The following tables present the Company's hierarchy for its assets and liabilities measured at fair value on a recurring basis as of March 31, 2019 and December 31, 2018:

		Fair Value Measurements as of March 31, 2019		
	Balance as of March 31, 2019	Quoted Price in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Debt securities available-for-sale	$664	$—	$ 664	$ —
Equity investments with readily determinable fair values	1,594	1,594	—	—
Forward currency contracts	83	—	83	—
Zero-cost collar currency contracts	17	—	17	—
Interest rate swaps	2	—	2	—
Total assets	$2,360	$1,594	$ 766	$ —
Liabilities:				
Contingent value rights	$(48)	$(48)	$ —	$ —
Other acquisition related contingent consideration and success payments	(162)	—	—	(162)
Total liabilities	$(210)	$(48)	$ —	$ (162)

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CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

		Fair Value Measurements as of December 31, 2018		
	Balance as of December 31, 2018	Quoted Price in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Debt securities available-for-sale	$ 496	$—	$ 496	$ —
Equity investments with readily determinable fair values	1,312	1,312	—	—
Forward currency contracts	78	—	78	—
Total assets	$ 1,886	$1,312	$ 574	$ —
Liabilities:				
Contingent value rights	$ (19)	$(19)	$ —	$ —
Interest rate swaps	(10)	—	(10)	—
Zero-cost collar currency contracts	(1)	—	(1)	—
Other acquisition related contingent consideration and success payments	(163)	—	—	(163)
Total liabilities	$ (193)	$(19)	$ (11)	$ (163)

We measure equity investments without a readily determinable fair value at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer or at net asset value, as a practical expedient, if available. We record upward adjustments, downward adjustments and impairments of equity investments without readily determinable fair values within Other income, net on the Consolidated Statements of Income. The following table represents a roll-forward of equity investments without readily determinable fair values:

	Three-Month Period Ended March 31, 2019
Balance as of December 31, 2018	$ 545
Purchases	25
Upward adjustments	15
Downward adjustments and impairments	(1)
Balance as of March 31, 2019	$ 584

	Three-Month Period Ended March 31, 2018

Balance as of December 31, 2017	$ 513
Cumulative effect adjustment for the adoption of ASU 2018-03	59
Purchases	16
Upward adjustments	21
Sales	(3)
Downward adjustments and impairments	(1)
Transfer to readily determinable fair value	(10)
Balance as of March 31, 2018	$ 595

For equity investments without a readily determinable fair value held as of March 31, 2019, cumulative upward adjustments and downward adjustments and impairments since the adoption of ASU 2016-01 for the period January 1, 2018 through March 31, 2019 were $81 million and $135 million, respectively.

For equity investments with and without readily determinable fair values held as of March 31, 2019 and 2018, we recorded a net unrealized gain of $268 million and $449 million within Other income, net on the Consolidated Statements of Income for the three-month periods ended March 31, 2019 and 2018, respectively.

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There were no security transfers between levels 1, 2 and 3 during the three-month periods ended March 31, 2019 and 2018. The following tables represent a roll-forward of the fair value of level 3 instruments:

	Three-Month Period Ended March 31, 2019
Liabilities:	
Balance as of December 31, 2018	$ (163)
Net change in fair value	—
Balance as of March 31, 2019	$ (163)

	Three-Month Period Ended March 31, 2018
Liabilities:	
Balance as of December 31, 2017	$ (80)
Amounts acquired from Juno	(122)
Net change in fair value	1
Balance as of March 31, 2018	$ (201)

7. Derivative Instruments and Hedging Activities

Our revenue and earnings, cash flows and fair values of assets and liabilities can be impacted by fluctuations in foreign exchange rates and interest rates. We actively manage the impact of foreign exchange rate and interest rate movements through operational means and through the use of various financial instruments, including derivative instruments such as foreign currency option contracts, foreign currency forward contracts, treasury rate lock agreements and interest rate swap contracts. In instances where these financial instruments are accounted for as cash flow hedges or fair value hedges we may from time to time terminate the hedging relationship. If a hedging relationship is terminated, we generally either settle the instrument or enter into an offsetting instrument.

Foreign Currency Risk Management

We maintain a foreign exchange exposure management program to mitigate the impact of volatility in foreign exchange rates on future foreign currency cash flows, translation of foreign earnings and changes in the fair value of assets and liabilities denominated in foreign currencies.

Through our revenue hedging program, we endeavor to reduce the impact of possible unfavorable changes in foreign exchange rates on our future U.S. Dollar cash flows that are derived from foreign currency denominated sales. To achieve this objective, we hedge a portion of our forecasted foreign currency denominated sales that are expected to occur in the foreseeable future, typically within the next three years, with a maximum of five years. We manage our anticipated transaction exposure principally with foreign currency forward contracts, a combination of foreign currency zero-cost collars, and occasionally purchased foreign currency put options.

Foreign Currency Forward Contracts: We use foreign currency forward contracts to hedge specific forecasted transactions denominated in foreign currencies, manage exchange rate volatility in the translation of foreign earnings, and reduce exposures to foreign currency fluctuations of certain assets and liabilities denominated in foreign currencies.

We manage a portfolio of foreign currency forward contracts to protect against changes in anticipated foreign currency cash flows resulting from changes in foreign currency exchange rates, primarily associated with non-functional currency denominated revenues and expenses of foreign subsidiaries. The foreign currency forward hedging contracts outstanding as of March 31, 2019 and December 31, 2018 had settlement dates within 27 months and 30 months, respectively. The spot rate components of these foreign currency forward contracts are designated as cash flow hedges and any unrealized gains or losses are reported in Other Comprehensive Income (OCI) and reclassified to the Consolidated Statements of Income in the same periods during which the underlying hedged transactions affect earnings. If a hedging relationship is terminated with respect to a foreign currency forward contract, accumulated gains or losses associated with the contract remain in OCI until the hedged forecasted transaction occurs and are reclassified to operations in the same periods during which the underlying hedged transactions affect earnings. We recognize

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NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

in earnings the initial value of the forward point components on a straight-line basis over the life of the derivative instrument within the same line item in the Consolidated Statements of Income that is used to present the earnings effect of the hedged item.

Foreign currency forward contracts entered into to hedge forecasted revenue and expenses were as follows as of March 31, 2019 and December 31, 2018:

	Notional Amount	
Foreign Currency	March 31, 2019	December 31, 2018
Australian Dollar	$31	$ 46
British Pound	49	82
Canadian Dollar	112	158
Euro	887	1,381
Japanese Yen	320	424
Total	$1,399	$ 2,091

We consider the impact of our own and the counterparties' credit risk on the fair value of the contracts as well as the ability of each party to execute its obligations under the contract on an ongoing basis. As of March 31, 2019, credit risk did not materially change the fair value of our foreign currency forward contracts.

We also manage a portfolio of foreign currency contracts to reduce exposures to foreign currency fluctuations of certain recognized assets and liabilities denominated in foreign currencies and, from time to time, we enter into foreign currency contracts to manage exposure related to translation of foreign earnings. These foreign currency forward contracts have not been designated as hedges and, accordingly, any changes in their fair value are recognized on the Consolidated Statements of Income in Other income, net in the current period. The aggregate notional amount of the foreign currency forward non-designated hedging contracts outstanding as of March 31, 2019 and December 31, 2018 were $398 million and $347 million, respectively.

Foreign Currency Option Contracts: From time to time, we may hedge a portion of our future foreign currency exposure by utilizing a strategy that involves both a purchased local currency put option and a written local currency call option that are accounted for as hedges of future sales denominated in that local currency. Specifically, we sell (or write) a local currency call option and purchase a local currency put option with the same expiration dates and local currency notional amounts but with different strike prices. The premium collected from the sale of the call option is equal to the premium paid for the purchased put option, resulting in no net premium being paid. This combination of transactions is generally referred to as a "zero-cost collar." The expiration dates and notional amounts correspond to the amount and timing of forecasted foreign currency sales. The foreign currency zero-cost collar contracts outstanding as of March 31, 2019 and December 31, 2018 had settlement dates within 21 months and 24 months, respectively. If the U.S. Dollar weakens relative to the currency of the hedged anticipated sales, the purchased put option value reduces to zero and we benefit from the increase in the U.S. Dollar equivalent value of our anticipated foreign currency cash flows; however, this benefit would be capped at the strike level of the written call, which forms the upper end of the collar.

Outstanding foreign currency zero-cost collar contracts entered into to hedge forecasted revenue were as follows as of March 31, 2019 and December 31, 2018:

	Notional Amount [1]

	March 31, 2019	December 31, 2018
Foreign currency zero-cost collar contracts designated as hedging activity:		
Purchased Put	$1,893	$ 1,933
Written Call	2,171	2,216

(1) U.S. Dollar notional amounts are calculated as the hedged local currency amount multiplied by the strike value of the foreign currency option. The local currency notional amounts of our purchased put and written call that are designated as hedging activities are equal to each other.

We previously entered into foreign currency purchased put option contracts to hedge forecasted revenue which were not part of a collar strategy. Such purchased put option contracts had a notional value of nil as of March 31, 2019 and December 31, 2018. We de-designated all of our purchased put option contracts prior to March 31, 2019.

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NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Interest Rate Risk Management

Forward Starting Interest Rate Swaps and Treasury Rate Locks: In anticipation of issuing fixed-rate debt, we may use forward starting interest rate swaps (forward starting swaps) or treasury rate lock agreements (treasury rate locks) that are designated as cash flow hedges to hedge against changes in interest rates that could impact expected future issuances of debt. To the extent these hedges of cash flows related to anticipated debt are effective, any realized or unrealized gains or losses on the forward starting swaps or treasury rate locks are reported in OCI and are recognized in income over the life of the anticipated fixed-rate notes. As of March 31, 2019 and December 31, 2018, we did not have any outstanding forward starting swaps or treasury rate locks.

Interest Rate Swap Contracts: From time to time we hedge the fair value of certain debt obligations through the use of interest rate swap contracts. The interest rate swap contracts are designated hedges of the fair value changes in the notes attributable to changes in benchmark interest rates. Gains or losses resulting from changes in fair value of the underlying debt attributable to the hedged benchmark interest rate risk are recorded on the Consolidated Statements of Income within Interest (expense) with an associated offset to the carrying value of the notes recorded on the Consolidated Balance Sheets. Since the specific terms and notional amount of the swap are intended to match those of the debt being hedged all changes in fair value of the swap are recorded on the Consolidated Statements of Income within Interest (expense) with an associated offset to the derivative asset or liability on the Consolidated Balance Sheets. Consequently, there is no net impact recorded in income. Any net interest payments made or received on interest rate swap contracts are recognized as interest expense on the Consolidated Statements of Income. If a hedging relationship is terminated for an interest rate swap contract, accumulated gains or losses associated with the contract are measured and recorded as a reduction or increase of current and future interest expense associated with the previously hedged debt obligations.

The following table summarizes the notional amounts of our outstanding interest rate swap contracts as of March 31, 2019 and December 31, 2018:

	Notional Amount	
	March 31, 2019	December 31, 2018
Interest rate swap contracts entered into as fair value hedges of the following fixed-rate senior notes:		
3.875% senior notes due 2025	$200	$ 200
3.450% senior notes due 2027	450	450
3.900% senior notes due 2028	—	200
Total	$650	$ 850

We have entered into swap contracts that were designated as hedges of certain of our fixed rate notes in 2019 and 2018, and also terminated the hedging relationship by settling certain of those swap contracts during 2019 and 2018. In 2019, we settled $200 million notional amount of certain swap contracts. The settlement of swap contracts resulted in the receipt of net proceeds of $5 million during the three-month period ended March 31, 2019, which are accounted for as a reduction of current and future interest expense associated with these notes. During 2018, we settled $250 million notional amount of certain swap contracts. The settlement of swap contracts resulted in the receipt of net proceeds of $2 million during the year ended December 31, 2018, which were accounted for as a reduction of current and future interest expense associated with these notes. See Note 11 for additional details related to reductions of current and future interest expense.

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CELGENE CORPORATION AND SUBSIDIARIES
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The following tables summarize the fair value and presentation in the Consolidated Balance Sheets for derivative instruments as of March 31, 2019 and December 31, 2018:

		March 31, 2019 Fair Value	
Instrument	Balance Sheet Location	Asset Derivatives	Liability Derivatives
Derivatives designated as hedging instruments:			
Foreign exchange contracts [1]	Other current assets	$ 58	$ 7
	Other non-current assets	49	10
Interest rate swap agreements	Other current assets	6	—
	Other non-current assets	2	—
	Other non-current liabilities	2	8
Derivatives not designated as hedging instruments:			
Foreign exchange contracts [1]	Other current assets	21	1
	Accrued expenses and other current liabilities	1	11
Interest rate swap agreements	Other non-current assets	3	3
Total		$ 142	$ 40

[1] Derivative instruments in this category are subject to master netting arrangements and are presented on a net basis in the Consolidated Balance Sheet in accordance with ASC 210-20.

		December 31, 2018 Fair Value	
Instrument	Balance Sheet Location	Asset Derivatives	Liability Derivatives
Derivatives designated as hedging instruments:			
Foreign exchange contracts [1]	Other current assets	$ 63	$ 18
	Other non-current assets	45	16
	Other non-current liabilities	12	15
Interest rate swap agreements	Other current assets	7	—
	Other non-current assets	1	—
	Other non-current liabilities	1	19
Derivatives not designated as hedging instruments:			
Foreign exchange contracts [1]	Other current assets	21	5
	Accrued expenses and other current liabilities	2	12
Interest rate swap agreements	Other current assets	2	3
	Other non-current assets	5	4
Total		$ 159	$ 92

[1] Derivative instruments in this category are subject to master netting arrangements and are presented on a net basis in the Consolidated Balance Sheets in accordance with ASC 210-20.

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

As of March 31, 2019 and December 31, 2018, the following amounts were recorded on the Consolidated Balance Sheets related to cumulative basis adjustments for fair value hedges:

	Carrying Amount of the Hedged Liability		Cumulative Amount of Fair Value Hedging Adjustment Included in the Carrying Amount of the Hedged Liability	
Consolidated Balance Sheet Classification in Which the Hedged Item Is Included	March 31, 2019 [1]	December 31, 2018 [1]	March 31, 2019 [2]	December 31, 2018 [2]
Current portion of long-term debt, net of discount	$500	$ 501	$ 1	$ 2
Long-term debt, net of discount	8,237	8,227	98	90

[1] The current portion of long-term debt, net of discount, includes $500 million and $501 million of carrying value with discontinued hedging relationships as of March 31, 2019 and December 31, 2018, respectively. The Long-term debt, net of discount includes approximately $4.8 billion and $3.3 billion of carrying value with discontinued hedging relationships as of March 31, 2019 and December 31, 2018, respectively.

[2] The current portion of long-term debt, net of discount, includes $1 million and $2 million of discontinued hedging relationships at March 31, 2019 and December 31, 2018, respectively. The Long-term debt, net of discount includes $102 million and $107 million of hedging adjustment on discontinued hedging relationships on long-term debt as of March 31, 2019 and December 31, 2018, respectively.

The following tables summarize the effect of derivative instruments designated as cash flow hedging instruments in AOCI for the three-month periods ended March 31, 2019 and 2018:

	Three-Month Period Ended March 31, 2019				
Instrument	Amount of Gain/(Loss) Recognized in OCI on Derivative [1]	Classification of Gain/(Loss) Reclassified from Accumulated OCI into Income	Amount of Gain/(Loss) Reclassified from Accumulated OCI into Income	Classification of Gain/(Loss) Recognized in Income Related to Amount Excluded from Effectiveness Testing	Amount of Gain/(Loss) Recognized in Income on Derivative Related to Amount Excluded from Effectiveness Testing
Foreign exchange contracts	$51	Net product sales	$ 24	Net product sales	$ —
Treasury rate lock agreements	—	Interest (expense)	(1)	N/A	—

(1) Net gains of $53 million are expected to be reclassified from AOCI into income in the next 12 months.

	Three-Month Period Ended March 31, 2018				
Instrument	Amount of Gain/(Loss) Recognized in OCI on Derivative	Classification of Gain/(Loss) Reclassified from Accumulated OCI into Income	Amount of Gain/(Loss) Reclassified from Accumulated OCI into Income	Classification of Gain/(Loss) Recognized in Income Related to Amount Excluded from Effectiveness Testing	Amount of Gain/(Loss) Recognized in Income on Derivative Related to Amount Excluded from Effectiveness Testing
Foreign exchange contracts	$(95)	Net product sales	$ (26)	Net product sales	$ (2)
Treasury rate lock agreements	(4)	Interest (expense)	(1)	N/A	—

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

The following table summarizes the effect of derivative instruments which were designated as fair value hedging instruments on the Consolidated Statements of Income for the three-month periods ended March 31, 2019 and 2018:

Instrument	Classification of Gain/(Loss) Recognized in Income on Derivative	Amount of Gain/(Loss) Recognized in Income on Derivative Three-Month Periods Ended March 31, 2019 [1]	2018 [1]
Interest rate swap agreements	Interest (expense)	$ 20	$ (5)

[1] The amounts include a benefit of $8 million and $8 million for the three-month periods ending March 31, 2019 and 2018, respectively, relating to the amortization of the cumulative amount of fair value hedging adjustments included in the carrying amount of the hedged liability for discontinued hedging relationships.

The following table summarizes the effect of derivative instruments not designated as hedging instruments on the Consolidated Statements of Income for the three-month periods ended March 31, 2019 and 2018:

Instrument	Classification of Gain/(Loss) Recognized in Income on Derivative	Classification of Gain/(Loss) Recognized in Income on Derivative Three-Month Periods Ended March 31, 2019	2018
Foreign exchange contracts	Other income, net	$ 9	$ (13)

The impact of gains and losses on foreign exchange contracts not designated as hedging instruments related to changes in the fair value of assets and liabilities denominated in foreign currencies are generally offset by net foreign exchange gains and losses, which are also included on the Consolidated Statements of Income in Other income, net for all periods presented. When we enter into foreign exchange contracts not designated as hedging instruments to mitigate the impact of exchange rate volatility in the translation of foreign earnings, gains and losses will generally be offset by fluctuations in the U.S. Dollar translated amounts of each Consolidated Statements of Income account in current and/or future periods.

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

	Classification and Amount of Gain or (Loss) Recognized in Income on Fair Value and Cash Flow Hedging Relationships Three-Month Period Ended March 31, 2019		
	Net product sales	Interest (expense)	Other income, net
Total amounts of income and expense line items presented in the Consolidated Statements of Income in which the effects of fair value or cash flow hedges are recorded	$4,024	$ (192)	$ 262
The effects of fair value and cash flow hedging:			
(Loss) gain on fair value hedging relationships			
Interest rate swap agreements:			
Hedged items	—	(12)	—
Derivatives designated as hedging instruments [1]	—	20	—
Gain (loss) on cash flow hedging relationships			
Foreign exchange contracts:			
Amount of gain reclassified from AOCI into income	24	—	—
Amount excluded from effectiveness testing recognized using a systematic and rational amortization approach / changes in fair value	1	—	—
Reclassification adjustment for excluded component (loss)	(1)	—	—
Treasury rate lock agreements:			
Amount of (loss) reclassified from AOCI into income	—	(1)	—
Amount excluded from effectiveness testing recognized using a systematic and rational amortization approach / changes in fair value	—	—	—

[1] The amounts include a benefit of $8 million relating to the amortization of the cumulative amount of fair value hedging adjustments included in the carrying amount of the hedged liability for discontinued hedging relationships for the three-month period ending March 31, 2019.

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

	Classification and Amount of Gain or (Loss) Recognized in Income on Fair Value and Cash Flow Hedging Relationships Three-Month Period Ended March 31, 2018		
	Net product sales	Interest (expense)	Other income, net
Total amounts of income and expense line items presented in the Consolidated Statements of Income in which the effects of fair value or cash flow hedges are recorded	$3,531	$ (166)	$ 965
The effects of fair value and cash flow hedging:			
Gain (loss) on fair value hedging relationships			
Interest rate swap agreements:			
Hedged items	—	14	—
Derivatives designated as hedging instruments [1]	—	(5)	—
(Loss) gain on cash flow hedging relationships			
Foreign exchange contracts:			
Amount of (loss) reclassified from AOCI into income	(26)	—	—
Amount excluded from effectiveness testing recognized using a systematic and rational amortization approach / changes in fair value	8	—	—
Reclassification adjustment for excluded component (loss)	(11)		
Treasury rate lock agreements:			
Amount of (loss) reclassified from AOCI into income	—	(1)	—
Amount excluded from effectiveness testing recognized using a systematic and rational amortization approach / changes in fair value	—	—	—

[1] The amounts include a benefit of $8 million relating to the amortization of the cumulative amount of fair value hedging adjustments included in the carrying amount of the hedged liability for discontinued hedging relationships for the three-month period ending March 31, 2018.

8. Cash, Cash Equivalents and Debt Securities Available-for-Sale

Time deposits, repurchase agreements, and commercial paper instruments with original maturities less than three months and money market funds are included in Cash and cash equivalents. As of March 31, 2019, the carrying value of our time deposits and repurchase agreements was $2.0 billion and money market funds was $2.1 billion, all of which are included in Cash and cash equivalents. As of December 31, 2018, the carrying value of our time deposits and repurchase agreements was $276 million, and money market funds was $2.9 billion, all of which were included in Cash and cash equivalents. The carrying values approximated fair value as of March 31, 2019 and December 31, 2018.

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CELGENE CORPORATION AND SUBSIDIARIES
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The amortized cost, gross unrealized holding gains, gross unrealized holding losses and estimated fair value of debt securities available-for-sale by major security type and class of security as of March 31, 2019 and December 31, 2018 were as follows:

March 31, 2019	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Estimated Fair Value
Ultra short income fund	$ 526	$ —	$ —	$ 526
Time deposits [1] and Repurchase agreements [1]	138	—	—	138
Total debt securities available-for-sale	$ 664	$ —	$ —	$ 664

[1] Have original maturities of greater than three months.

December 31, 2018	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Estimated Fair Value
Ultra short income fund	$ 450	$ —	$ —	$ 450
Time deposits [1] and Repurchase agreements [1]	46	—	—	46
Total debt securities available-for-sale	$ 496	$ —	$ —	$ 496

[1] Have original maturities of greater than three months.

Ultra short income fund includes investments in certificates of deposit, repurchase agreements, commercial paper and corporate notes. Time deposits and repurchase agreements in the tables above have original maturities greater than three months. Our repurchase agreements are collateralized by U.S. government securities, cash, bonds, commercial paper and bank certificates of deposit. As of March 31, 2019, all of our time deposits and repurchase agreements had original maturities less than one year.

Duration periods of debt securities available-for-sale as of March 31, 2019 were as follows:

	Amortized Cost	Fair Value
Duration of one year or less	$ 664	$ 664

9. Inventory

Inventories as of March 31, 2019 and December 31, 2018 are summarized by major category as follows:

	March 31, 2019	December 31, 2018
Raw materials	$ 235	$ 252
Work in process	87	79
Finished goods	120	127
Total inventory	$ 442	$ 458

10. Intangible Assets and Goodwill

Intangible Assets: Our finite-lived intangible assets primarily consist of developed product rights and technology obtained from the acquisitions of Abraxis BioScience, Inc. (Abraxis) and Juno. The remaining weighted-average amortization period for finite-lived intangible assets not fully amortized is approximately 8.8 years. Our indefinite lived intangible assets consist of acquired IPR&D product rights from the acquisitions of Receptos Inc. (Receptos),

Gloucester and Juno.

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The gross carrying amount and accumulated amortization of intangible assets as of March 31, 2019 and December 31, 2018 are summarized as follows:

March 31, 2019	Gross Carrying Value	Accumulated Amortization	Intangible Assets, Net
Amortizable intangible assets:			
Acquired developed product rights	$ 3,414	$ (2,349)	$ 1,065
Technology	1,743	(573)	1,170
Licenses	66	(36)	30
Other	43	(38)	5
	5,266	(2,996)	2,270
Non-amortizable intangible assets:			
Acquired IPR&D product rights	13,831	—	13,831
Total intangible assets	$ 19,097	$ (2,996)	$ 16,101

December 31, 2018	Gross Carrying Value	Accumulated Amortization	Intangible Assets, Net
Amortizable intangible assets:			
Acquired developed product rights	$ 3,406	$ (2,261)	$ 1,145
Technology	1,743	(552)	1,191
Licenses	66	(35)	31
Other	54	(39)	15
	5,269	(2,887)	2,382
Non-amortizable intangible assets:			
Acquired IPR&D product rights	13,831	—	13,831
Total intangible assets	$ 19,100	$ (2,887)	$ 16,213

Amortization expense related to intangible assets was $110 million and $88 million for the three-month periods ended March 31, 2019 and 2018, respectively. Assuming no changes in the gross carrying amount of finite-lived intangible assets, the future annual amortization expense related to intangible assets is expected to be approximately $441 million in 2019, $440 million in 2020, $437 million in 2021, $178 million in 2022 and $92 million in 2023.

Goodwill: There was no change in the carrying value of the Company's goodwill from December 31, 2018 to March 31, 2019.

11. Debt

Short-Term Borrowings and Current Portion of Long-Term Debt: We had no outstanding short-term borrowings as of March 31, 2019 and December 31, 2018. The carrying value of the current portion of long-term debt as of March 31, 2019 and December 31, 2018 includes:

	March 31, 2019	December 31, 2018
2.250% senior notes due 2019	$ 500	$ 501

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NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Long-Term Debt: Our outstanding senior notes with maturity dates in excess of one year after March 31, 2019 have an aggregate principal amount of $19.850 billion with varying maturity dates and interest rates. The carrying values of the long-term portion of these senior notes as of March 31, 2019 and December 31, 2018 includes:

	March 31, 2019	December 31, 2018
2.875% senior notes due 2020	$1,497	$ 1,497
3.950% senior notes due 2020	508	509
2.250% senior notes due 2021	498	498
2.875% senior notes due 2021	499	498
3.250% senior notes due 2022	1,032	1,034
3.550% senior notes due 2022	996	996
2.750% senior notes due 2023	747	747
3.250% senior notes due 2023	994	994
4.000% senior notes due 2023	729	730
3.625% senior notes due 2024	1,000	1,000
3.875% senior notes due 2025	2,482	2,478
3.450% senior notes due 2027	997	986
3.900% senior notes due 2028	1,490	1,490
5.700% senior notes due 2040	247	247
5.250% senior notes due 2043	393	393
4.625% senior notes due 2044	987	987
5.000% senior notes due 2045	1,975	1,975
4.350% senior notes due 2047	1,234	1,234
4.550% senior notes due 2048	1,476	1,476
Total long-term debt	$19,781	$ 19,769

As of March 31, 2019 and December 31, 2018, the fair value of our outstanding Senior Notes was approximately $20.7 billion and $19.3 billion, respectively, and represented a level 2 measurement within the fair value measurement hierarchy.

Debt Issuance: In February 2018, we issued $500 million principal amount of 2.875% senior notes due 2021 (2021 Notes), $1.000 billion principal amount of 3.250% senior notes due 2023 (2023 Notes), $1.500 billion principal amount of 3.900% senior notes due 2028 (2028 Notes) and $1.500 billion principal amount of 4.550% senior notes due 2048 (2048 Notes). The 2021 Notes, 2023 Notes, 2028 Notes and 2048 Notes were issued at 99.954%, 99.758%, 99.656% and 99.400% of par, respectively, and the discount is being amortized as additional interest expense over the period from issuance through maturity. Offering costs of approximately $32 million were recorded as a direct deduction from the carrying amount of the 2021 Notes, 2023 Notes, 2028 Notes and 2048 Notes on our Consolidated Balance Sheets. The offering costs are being amortized as additional interest expense using the effective interest rate method over the period from issuance through maturity. Interest on the 2021 Notes is payable semi-annually in arrears on February 19 and August 19 of each year, beginning August 19, 2018 and the principal is due in full at the maturity date. Interest on the 2023 Notes, 2028 Notes and 2048 Notes is payable semi-annually in arrears on February 20 and August 20 of each year, beginning August 20, 2018 and the principal is due in full at the maturity date. The 2021 Notes, 2023 Notes, 2028 Notes and 2048 Notes may be redeemed at our option, in whole or in part, at any time at a redemption price equaling accrued and unpaid interest plus the greater of 100% of the principal amount of the Notes to be redeemed or the sum of the present values of the remaining schedule payments of interest and principal discounted to the date of redemption on a semi-annual basis plus 10 basis points for the 2021 Notes, 15 basis points

for the 2023 Notes, 20 basis points for the 2028 Notes and 25 basis points for the 2048 Notes. If we experience a change of control accompanied by a downgrade of the debt to below investment grade, we will be required to offer to repurchase the 2021 Notes, 2023 Notes, 2028 Notes and 2048 Notes at a purchase price equal to 101% of the principal amount plus accrued and unpaid interest. We are subject to covenants which limit our ability to pledge properties as security under borrowing arrangements and limit our ability to perform sale and leaseback transactions involving our property.

From time to time, we have used treasury rate locks and forward starting interest rate swap contracts to hedge against changes in interest rates in anticipation of issuing fixed-rate notes. As of March 31, 2019, and December 31, 2018 a balance of $29 million

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and $31 million, respectively, in net losses remained in AOCI related to the settlement of these derivative instruments and will be recognized as interest expense over the life of the notes.

As of March 31, 2019, we were party to pay-floating, receive-fixed interest rate swap contracts designated as fair value hedges of fixed-rate notes as described in Note 7. Our swap contracts outstanding as of March 31, 2019 effectively convert the hedged portion of our fixed-rate notes to floating rates. From time to time, we terminate the hedging relationship on certain of our swap contracts by settling the contracts or by entering into offsetting contracts. Any net proceeds received or paid in these settlements are accounted for as a reduction or increase of current and future interest expense associated with the previously hedged notes. As of March 31, 2019 and December 31, 2018, we had balances of $103 million and $109 million, respectively, of unamortized gains recorded as a component of our debt as a result of past swap contract settlements. See Note 7 for additional details related to interest rate swap contract activity.

Commercial Paper: As of March 31, 2019 and December 31, 2018, we had available capacity to issue up to $2.0 billion of commercial paper. As of March 31, 2019 and December 31, 2018, there were no borrowings under the program.

Senior Unsecured Credit Facility: We maintain a senior unsecured revolving credit facility (Credit Facility) that provides revolving credit in the aggregate amount of $2.0 billion. Amounts may be borrowed in U.S. Dollars for general corporate purposes. The Credit Facility currently serves as backup liquidity for our commercial paper borrowings and expires on April 25, 2023. As of March 31, 2019 and December 31, 2018, there were no outstanding borrowings against the Credit Facility. The Credit Facility contains affirmative and negative covenants, including certain customary financial covenants. We were in compliance with all financial covenants as of March 31, 2019.

12. Share-Based Compensation

We have stockholder-approved stock incentive plans, the Celgene Corporation 2017 Stock Incentive Plan and the 2014 Equity Incentive Plan (formerly known as the Juno Therapeutics, Inc. 2014 Equity Incentive Plan) (collectively, the Plans) that provide for the granting of options, restricted stock units (RSUs), performance stock units (PSUs) and other share-based and performance- based awards to our employees, officers and non-employee directors. The Management Compensation and Development Committee of the Board of Directors (Compensation Committee) may determine the type, amount and terms, including vesting, of any awards made under the Plans.

Share-based compensation expense recognized reflects an estimate of the number of awards expected to vest after taking into consideration an estimate of award forfeitures based on actual experience and is recognized on a straight-line basis over the requisite service period, which is generally the vesting period required to obtain full vesting. The following table summarizes the components of share-based compensation expense in the Consolidated Statements of Income for the three-month periods ended March 31, 2019 and 2018:

	Three-Month Periods Ended March 31,	
	2019	2018
Cost of goods sold (excluding amortization of acquired intangible assets)	$ 12	$ 9
Research and development [1]	126	199
Selling, general and administrative [2]	119	193
Total share-based compensation expense	257	401

Tax benefit related to share-based compensation expense [3]	49	37
Reduction in net income	$ 208	$ 364

[1] The three-month periods ended March 31, 2019 and 2018 include Juno related share-based compensation expense related to the post-combination service period of $17 million and $133 million, respectively.

[2] The three-month periods ended March 31, 2019 and 2018 include Juno related share-based compensation expense related to the post-combination service period of $11 million and $117 million, respectively.

[3] The tax benefit related to share-based compensation expense above excludes excess tax benefits of $16 million and $11 million from share-based compensation awards that vested or were exercised during the three-month periods ended March 31, 2019 and 2018, respectively.

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The following table summarizes the activity for stock options, RSUs and PSUs for the three-month period ended March 31, 2019 (in millions unless otherwise noted):

	Stock Options	RSUs	PSUs (in thousands)
Outstanding as of December 31, 2018	71.1	11.7	660
Changes during the Year:			
Granted	—	8.2	200
Exercised / Released	(3.8)	(0.4)	(73)
Forfeited	(0.9)	(0.3)	(40)
Outstanding as of March 31, 2019	66.4	19.2	747

Total compensation cost related to unvested awards not yet recognized and the weighted-average periods over which the awards are expected to be recognized as of March 31, 2019 were as follows:

	Stock Options	RSUs	PSUs
Unrecognized compensation cost	$ 386	$1,079	$ 35
Expected weighted-average period in years of compensation cost to be recognized	2.1	1.9	1.5

13. Income Taxes

We regularly evaluate the likelihood of the realization of our deferred tax assets and reduce the carrying amount of those deferred tax assets by a valuation allowance to the extent we believe a portion will not be realized. We consider many factors when assessing the likelihood of future realization of our deferred tax assets, including recent cumulative earnings experience by taxing jurisdiction, expectations of future taxable income, the carryforward periods available to us for tax reporting purposes and other relevant factors. Significant judgment is required in making this assessment.

Our tax returns are under routine examination in many taxing jurisdictions. The scope of these examinations includes, but is not limited to, the review of our taxable presence in a jurisdiction, our deduction of certain items, our claims for research and development credits, our compliance with transfer pricing rules and regulations and the inclusion or exclusion of amounts from our tax returns as filed. Our U.S. federal income tax returns have been audited by the Internal Revenue Service (IRS) through the year ended December 31, 2008. Tax returns for the years ended December 31, 2009, 2010 and 2011 are currently under examination by the IRS. We are also subject to audits by various state and foreign taxing authorities, including most U.S. states and countries where we have operations.

We regularly re-evaluate our tax positions and the associated interest and penalties, if applicable, resulting from audits of federal, state and foreign income tax filings, as well as changes in tax law (including regulations, administrative pronouncements, judicial precedents, etc.) that would reduce the technical merits of the position to below more likely than not. We believe that our accruals for tax liabilities are adequate for all open years. Many factors are considered in making these evaluations, including past history, recent interpretations of tax law and the specifics of each matter. Because tax regulations are subject to interpretation and tax litigation is inherently uncertain, these evaluations can involve a series of complex judgments about future events and can rely heavily on estimates and assumptions. We apply a variety of methodologies in making these estimates and assumptions, which include studies performed by independent economists, advice from industry and subject matter experts, evaluation of public actions taken by the IRS and other taxing authorities, as well as our industry experience. These evaluations are based on estimates and assumptions that have been deemed reasonable by management. However, if management’s estimates are not

representative of actual outcomes, our results of operations could be materially impacted.

Unrecognized tax benefits, generally represented by liabilities on the Consolidated Balance Sheets and all subject to tax examinations, arise when the estimated benefit recorded in the financial statements differs from the amounts taken or expected to be taken in a tax return because of the uncertainties described above. These unrecognized tax benefits relate primarily to issues common among multinational corporations. Virtually all of these unrecognized tax benefits, if recognized, would impact the effective income tax rate. We account for interest and potential penalties related to uncertain tax positions as part of our provision for income taxes. For the three-month period ended March 31, 2019 gross unrecognized tax benefits increased by $24 million, including interest, primarily due to current year tax positions. The liability for unrecognized tax benefits is expected to increase in the next 12 months relating to operations occurring in that period. Any settlements of examinations with taxing authorities or

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statute of limitations expirations would likely result in a decrease in our liability for unrecognized tax benefits and a corresponding increase in taxes paid or payable and/or a decrease in income tax expense. It is reasonably possible that the amount of the liability for unrecognized tax benefits could change by a significant amount during the next twelve-month period as a result of settlements or statute of limitations expirations. Finalizing examinations with the relevant taxing authorities can include formal administrative and legal proceedings and, as a result, it is difficult to estimate the timing and range of possible change related to the Company's unrecognized tax benefits. An estimate of the range of possible change cannot be made until issues are further developed or examinations close. Our estimates of tax benefits and potential tax benefits may not be representative of actual outcomes and variation from such estimates could materially affect our consolidated financial statements in the period of settlement or when the statutes of limitations expire.

14. Collaboration Arrangements

We enter into collaborative arrangements for the research and development, license, manufacture and/or commercialization of products and/or product candidates. In addition, we also acquire product candidates and research and development technology rights and establish research and development collaborations with third parties to enhance our strategic position within our industry by strengthening and diversifying our research and development capabilities, product pipeline and marketed product base. These arrangements may include non-refundable, upfront payments, payments by us for options to acquire rights to products and product candidates and other rights, as well as contingent obligations by us for potential development, regulatory and commercial performance milestone payments, cost sharing arrangements, royalty payments, profit sharing and equity investments (including equity investments in the event of an initial public offering of equity by our partners). Upfront and milestone payments made to third parties in connection with research and development collaborations are expensed as incurred up to the point of regulatory approval. Milestone payments made to third parties upon regulatory approval are capitalized and amortized over the remaining useful life of the related product. Upfront payments are recorded when incurred, and milestone payments are recorded when the specific milestone has been achieved. The activities under these collaboration agreements are performed with no guarantee of either technological or commercial success. Although we do not consider any individual alliance to be material, certain of the more notable alliances are described in Note 18 of Notes to Consolidated Financial Statements included in our 2018 Annual Report on Form 10-K. During the three-month period ended March 31, 2019, there were no new notable collaborations nor any significant activity related to those collaborations which we have described in detail in our 2018 Annual Report on Form 10-K. Amounts related to collaborations that are not specifically presented are included in the aggregate as Other Collaboration Arrangements.

Other Collaboration Arrangements in 2019:

A financial summary of certain period activity and the period-end balances related to our other collaboration arrangements is presented below [(1)]:

	Three-Month Periods Ended March 31,				
	Research and Development Expense				
	Upfront Fees	Milestones	Extension/Termination of Arrangements	Amortization of Prepaid Research and Development	Equity Investments Made During Period
2019	$216	$ 11	$ —	$ 2	$ 52
2018	245	—	—	2	101

Balances as of:	Intangible Asset Balance	Equity Investment Balance	Percentage of Outstanding Equity
March 31, 2019	$ 11	$ 1,581	N/A
December 31, 2018	13	1,280	N/A

(1) In addition to the expenses noted in the table above, we may also incur expenses for collaboration agreement related activities that are managed or funded by us.

15. Commitments and Contingencies

Collaboration Arrangements and Acquired Research and Development Assets: We have entered into certain research and development collaboration arrangements with third parties that include our funding of certain development, manufacturing and

commercialization efforts and the potential for making future milestone and royalty payments upon the achievement of pre-established developmental, regulatory and/or commercial targets. In addition, we have also made certain acquisitions that included potential future development, regulatory and commercial milestones. Our obligation to fund these efforts and make milestone payments is contingent upon our continued involvement in the programs and/or the lack of any adverse events which could cause the discontinuance of the programs. Due to the nature of these arrangements, the future potential payments are inherently uncertain, and accordingly no amounts have been recorded for the potential future achievement of these targets in our accompanying Consolidated Balance Sheets as of March 31, 2019 and December 31, 2018. See Note 3 and Note 14 for additional details related to our acquisitions and collaboration arrangements, respectively.

Contingencies: We believe we maintain insurance coverage adequate for our current needs. Our operations are subject to environmental laws and regulations which, among other things, impose limitations on the discharge of pollutants into the air and water and establish standards for the treatment, storage and disposal of solid and hazardous wastes. We review the effects of such laws and regulations on our operations and modify our operations as appropriate. We believe we are in substantial compliance with all applicable environmental laws and regulations.

We have ongoing customs, duties and value-added-tax examinations in various countries that have yet to be settled. Based on our knowledge of the claims and facts and circumstances to date, none of these matters, individually or in the aggregate, are deemed to be material to our financial condition.

16. Leases

We routinely enter into leases for the use of office and research facilities, which comprise the majority of our total lease obligation, as well as leases for the use of automobiles and certain equipment in various locations globally. Our leasing portfolio is comprised entirely of operating leases. A brief description of these leasing activities follows.

Our leases for the use of office and research facilities generally have minimum annual rents, which may be subject to specified annual rent increases or annual changes in the Consumer Price Index (CPI). While contractually specified minimum rent and annual rent increases are included in the measurement of the ROU asset and related lease liability, changes in CPI are treated as variable lease payments, and as such, are recognized in our Consolidated Statements of Income in the period in which the obligation for those payments is incurred. Additionally, under these lease arrangements, we may be required to pay directly, or reimburse the lessors, for real estate taxes, insurance, utilities, maintenance and other operating costs. Such amounts are generally variable and therefore not included in the measurement of the ROU asset and related lease liability but are instead recognized as variable lease expense in our Consolidated Statements of Income when they are incurred.

Our leases for the use of office and research facilities have remaining lease terms ranging from less than 1 year up to 10 years, some of which include options to extend the leases for subsequent periods ranging from 1 year to 9 years, and some of which include options to terminate the leases for a fee. Our lease terms include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Certain of our leases have options to extend the term at a future negotiated market rate. Such renewal periods are not included in the lease term as the future market rate is unknown at lease commencement.

We also lease automobiles for use by our sales force and other certain employees, primarily under several Master Lease Agreements (MLAs). Under these MLAs, we may be required to make additional lease payments for exceeding a specified mileage, as well as for other operating costs such as maintenance and repair services. These costs are generally variable in nature and therefore are not included in the measurement of the ROU asset and related lease

liability. Instead, such costs are recognized as variable lease expense in our Consolidated Statements of Income when they are incurred. Depending upon the country location of the automobile, each leased automobile has a term between 3 years and 4 years and are generally not renewed beyond that term.

With regards to our leases for the use of office and other equipment, these leases have remaining lease terms ranging from less than 1 year up to 8 years, some of which include options to extend and some of which include options to terminate the leases for an insignificant fee. For our equipment leases, we may be required to make additional lease payments based on exceeding a specified usage, such as pages copied/printed, as well as other operating costs such as maintenance and repair services. These costs are generally variable in nature and therefore are not included in the measurement of the ROU asset and related lease liability. Instead, such costs are recognized as variable lease expense in our Consolidated Statements of Income when they are incurred. Our leased equipment is an insignificant component of our ROU assets and lease liabilities.

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The components of lease expense were as follows:

	Three-Month Period Ended March 31, 2019
Operating lease cost	$ 23
Short-term lease cost	—
Variable lease cost	8
Sublease income	—
Total lease cost	$ 31

Supplemental cash flow information related to leases was as follows:

	Three-Month Period Ended March 31, 2019
Cash paid for amounts included in measurement of lease liabilities:	
Operating cash flows from operating leases	$ 27

Supplemental noncash information related to leases was as follows:

	Three-Month Period Ended March 31, 2019
ROU assets obtained in exchange for new operating liabilities	$ 18

Supplemental balance sheet information related to leases was as follows:

	March 31, 2019
Operating Leases	
Other non-current assets	$286
Accrued expenses and other current liabilities	79
Other non-current liabilities	234
Weighted-average remaining lease term - operating leases	4.47
Weighted-average discount rate - operating leases	3.98 %

Maturities of lease liabilities as of March 31, 2019 were as follows:

	Operating Leases
2019 (excluding the three-month period ended March 31, 2019)	$ 72
2020	85
2021	64

2022	54
2023	40
2024	17
Thereafter	11
Total undiscounted lease payments	$ 343
Less: imputed interest	(30)
Total discounted lease payments	$ 313

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NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

Future minimum lease payments under non-cancelable operating leases as of December 31, 2018 were:

	Operating Leases
2019	$ 92
2020	89
2021	70
2022	59
2023	45
Thereafter	68
Total minimum lease payments	$ 423

As of March 31, 2019, we have $286 million of aggregate ROU assets and $313 million of related lease liabilities. Additionally, we have an operating lease which has not yet commenced with total undiscounted lease obligations of $66 million. The agreement was entered into during the fourth quarter of 2018 to lease a portion of a building which will be used primarily for office and research facilities. The lessor is currently building this space and we do not have access to the building until construction is complete. The lease is expected to commence in early- to mid-2020 when construction of the asset is completed.

17. Legal Proceedings

Like many companies in our industry, we have, from time to time, received inquiries and subpoenas and other types of information requests from government authorities and others and we have been subject to claims and other actions related to our business activities. While the ultimate outcome of investigations, inquiries, information requests and legal proceedings is difficult to predict, adverse resolutions or settlements of those matters may result in, among other things, modification of our business practices, product recalls, costs and significant payments, which may have a material adverse effect on our results of operations, cash flows or financial condition.

Pending patent proceedings include challenges to the scope, validity and/or enforceability of our patents relating to certain of our products, uses of products or processes. Further, as certain of our products mature or they near the end of their regulatory exclusivity periods, it is more likely that we will receive challenges to our patents, and in some jurisdictions we have received such challenges. We are also subject, from time to time, to claims of third parties that we infringe their patents covering products or processes. Although we believe we have substantial defenses to these challenges and claims, there can be no assurance as to the outcome of these matters and an adverse decision in these proceedings could result in one or more of the following: (i) a loss of patent protection, which could lead to a significant reduction of sales that could materially affect our future results of operations, cash flows or financial condition; (ii) our inability to continue to engage in certain activities; and (iii) significant liabilities, including payment of damages, royalties and/or license fees to any such third party.

We record accruals for loss contingencies to the extent that we conclude it is probable that a liability has been incurred and the amount of the related loss can be reasonably estimated. We evaluate, on a quarterly basis, developments in legal proceedings and other matters that could cause an increase or decrease in the amount of the liability that has been accrued previously.

Among the principal matters pending are the following:

Patent-Related Proceedings:

REVLIMID®: In 2012, our European patent EP 1 667 682 (the ’682 patent) relating to certain polymorphic forms of lenalidomide expiring in 2024 was opposed in a proceeding before the European Patent Office (EPO) by Generics (UK) Ltd. and Teva Pharmaceutical Industries Ltd. On July 21, 2015, the EPO determined that the ’682 patent was not valid. We appealed the EPO ruling to the EPO Board of Appeal, thereby staying any revocation of the patent until the appeal is finally adjudicated. No appeal hearing date has been set.

We believe that our patent portfolio for lenalidomide in the major markets in Europe, including the composition of matter patent including its supplementary protection certificate, which expires in 2022, is strong. In the event that we do not prevail on the appeal relating to the ’682 patent, we still expect that we will have protection in the major markets in the EU for lenalidomide until at least 2022.

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In June 2017, Accord Healthcare Ltd. (Accord) commenced lawsuits against us in the United Kingdom (UK) seeking to revoke our UK patents protecting REVLIMID®. In June 2018, we entered into a settlement agreement with Accord resolving the lawsuits.

In February 2019, Synthon B.V. (Synthon) commenced a lawsuit against us in the Netherlands seeking to revoke our Netherlands patent protecting REVLIMID®. The trial is anticipated to take place on November 8, 2019.

We received a Notice of Allegation dated June 13, 2017 from Dr. Reddy's Laboratories Ltd. (DRL) notifying us of the filing of DRL's Abbreviated New Drug Submission (ANDS) with Canada's Minister of Health, with respect to Canadian Letters Patent Nos. 2,261,762; 2,476,983; 2,477,301; 2,537,092; 2,687,924; 2,687,927; 2,688,694; 2,688,695; 2,688,708; 2,688,709; 2,741,412 and 2,741,575. DRL is seeking to manufacture and market a generic version of 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in Canada. We commenced a proceeding in the Federal Court of Canada on July 27, 2017, seeking an order prohibiting the Minister of Health from granting marketing approval to DRL until expiry of these patents.

We received a further Notice of Allegation dated September 20, 2017 from DRL relating to the same submission, but also referencing 2.5 mg REVLIMID® (lenalidomide) capsules. DRL's Notice of Allegation contains invalidity allegations relating to Canadian Letters Patent Nos. 2,537,092; 2,687,924; 2,687,927; 2,688,694; 2,688,695; 2,688,708; 2,688,709; 2,741,412 and 2,741,575. We commenced a proceeding in the Federal Court of Canada on November 2, 2017, seeking an order prohibiting the Minister of Health from granting marketing approval to DRL until expiry of these patents. The parties entered into a confidential settlement agreement and these proceedings were discontinued in April 2019.

We received two Notices of Allegation on July 3, 2018 and July 6, 2018 from Natco Pharma (Canada) Inc. (Natco Canada) notifying us of the filing of Natco Canada's two separate ANDSs with Canada's Minister of Health, with respect to Canadian Letters Patent Nos. 2,476,983; 2,477,301; 2,537,092; 2,687,924; 2,687,927; 2,688,694; 2,688,695; 2,688,708; 2,688,709; 2,741,412 and 2,741,575. Natco Canada is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 7.5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in Canada. We commenced infringement actions in the Federal Court of Canada on August 16, 2018, asserting all the patents, and seeking a declaration of infringement and a permanent injunction. The trial is scheduled to start on March 30, 2020.

We received four Notices of Allegation on October 4, 2018 from Apotex Inc. (Apotex) notifying us of the filing of Apotex's ANDS with Canada's Minister of Health, with respect to Canadian Letters Patent Nos. 2,476,983; 2,477,301; 2,537,092; 2,687,924; 2,687,927; 2,688,694; 2,688,695; 2,688,708; 2,688,709; 2,741,412 and 2,741,575. Apotex is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in Canada. We commenced infringement actions in the Federal Court of Canada on November 15, 2018, asserting all the patents, and seeking a declaration of infringement and a permanent injunction. The trial is scheduled to start on May 4, 2020.

We received a Notice Letter dated September 9, 2016 from DRL notifying us of its Abbreviated New Drug Application (ANDA) which contains Paragraph IV certifications against U.S. Patent Nos. 7,465,800; 7,855,217; 7,968,569; 8,530,498; 8,648,095; 9,101,621 and 9,101,622 that are listed in the U.S. Food and Drug Administration (FDA) list of Approved Drug Products with Therapeutic Equivalence Evaluations, commonly referred to as the Orange Book (Orange Book), for REVLIMID®. DRL is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in the United States. In response to the Notice Letter, we timely filed an infringement action against DRL in the U.S. District Court for the District of New Jersey on October 20, 2016. As a result of the filing of our action, the FDA cannot grant final approval of DRL's

ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) March 12, 2019. On November 18, 2016, DRL filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed. On December 27, 2016, we filed our answer to DRL's counterclaims. Fact discovery is closed. Expert discovery is ongoing. The court has not yet entered a schedule for trial.

We received an additional Notice Letter from DRL dated June 8, 2017 notifying us of additional Paragraph IV certifications against U.S. Patent Nos. 7,189,740; 8,404,717 and 9,056,120 that are listed in the Orange Book for REVLIMID®. In response to that Notice Letter, we timely filed an infringement action against DRL in the U.S. District Court for the District of New Jersey on July 20, 2017. As a result of the filing of our action, the FDA cannot grant final approval of DRL's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) December 9, 2019. On October 18, 2017, DRL filed an amended answer and counterclaims asserting that each of the patents is invalid and/or not infringed. We filed our answer to DRL's counterclaims on November 15, 2017. Fact discovery is set to close on May 31, 2019. The court has not yet entered a schedule for expert discovery or trial.

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We received another Notice Letter from DRL dated February 26, 2018 notifying us of additional Paragraph IV certifications against U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 8,315,886 and 8,626,531 that are listed in the Orange Book for REVLIMID®. In response to the Notice Letter, we timely filed an infringement action against DRL in the U.S. District Court for the District of New Jersey on April 12, 2018. As a result of the filing of our action, the FDA cannot grant final approval of DRL's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) August 27, 2020. DRL filed an amended answer and counterclaims on May 31, 2018 asserting that each of the patents is invalid and/or not infringed. We filed our answer to DRL's counterclaims on June 28, 2018. The case is stayed until July 1, 2019, subject to renewal by agreement of the parties and the court's approval of same. The court has not yet entered a schedule for expert discovery or trial.

We received a Notice Letter dated February 27, 2017 from Zydus Pharmaceuticals (USA) Inc. (Zydus) notifying us of Zydus's ANDA, which contains Paragraph IV certifications against U.S. Patent Nos. 7,465,800; 7,855,217; 7,968,569; 8,530,498; 8,648,095; 9,101,621 and 9,101,622 that are listed in the Orange Book for REVLIMID®. Zydus is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in the United States. In response to the Notice Letter, we timely filed an infringement action against Zydus in the U.S. District Court for the District of New Jersey on April 12, 2017. As a result of the filing of our action, the FDA cannot grant final approval of Zydus's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) August 28, 2019. On August 7, 2017, Zydus filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed. On September 11, 2017, we filed our answer to Zydus's counterclaims. Fact discovery is set to close on May 31, 2019. The court has yet to enter a schedule for expert discovery and trial.

On April 27, 2018, we filed another infringement action against Zydus in the U.S. District Court for the District of New Jersey. The patents-in-suit are U.S. Patent Nos. 7,977,357; 8,193,219 and 8,431,598, which are patents that are not listed in the Orange Book. Zydus filed its answer on July 9, 2018 asserting that each of the patents is invalid and/or not infringed. Fact discovery is set to close on May 31, 2019. The court has yet to enter a schedule for expert discovery and trial.

We received a Notice Letter dated June 30, 2017 from Cipla Ltd., India (Cipla) notifying us of Cipla's ANDA which contains Paragraph IV certifications against U.S. Patent Nos. 7,465,800; 7,855,217; 7,968,569; 8,530,498; 8,648,095; 9,101,621 and 9,101,622 that are listed in the Orange Book for REVLIMID®. Cipla is seeking to manufacture and market a generic version of 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in the United States. In response to the Notice Letter, on August 15, 2017, we timely filed an infringement action against Cipla in the U.S. District Court for the District of New Jersey. As a result of the filing of our action, the FDA cannot grant final approval of Cipla's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) January 5, 2020. On October 13, 2017, Cipla filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed. We filed our answer to Cipla's counterclaims on November 17, 2017. Fact discovery is set to close on May 31, 2019. The court has yet to enter a schedule for expert discovery and trial.

On May 8, 2018, we filed another infringement action against Cipla in the U.S. District Court for the District of New Jersey. The patents-in-suit are U.S. Patent Nos. 7,977,357; 8,193,219 and 8,431,598, which are patents that are not listed in the Orange Book. Cipla filed its answer and counterclaims on July 16, 2018 asserting that each of the patents is invalid and/or not infringed. We filed our answer to Cipla's counterclaims on August 20, 2018. Fact discovery is set to close on May 31, 2019. The court has yet to enter a schedule for expert discovery and trial.

We received a Notice Letter dated July 24, 2017 from Lotus Pharmaceutical Co., Inc. (Lotus) notifying us of Lotus's ANDA which contains Paragraph IV certifications against U.S. Patent Nos. 5,635,517; 6,315,720; 6,561,977; 6,755,784; 7,189,740; 7,465,800; 7,855,217; 7,968,569; 8,315,886; 8,404,717; 8,530,498; 8,626,531; 8,648,095; 9,056,120; 9,101,621 and 9,101,622 that are listed in the Orange Book for REVLIMID®. Lotus is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in the United States. In response to the Notice Letter, we timely filed an infringement action against Lotus in the U.S. District Court for the District of New Jersey on September 6, 2017. On July 10, 2018, we filed another infringement action against Lotus in the U.S. District Court for the District of New Jersey. The patents-in-suit are U.S. Patent Nos. 7,977,357; 8,193,219 and 8,431,598, which are patents that are not listed in the Orange Book. On March 29, 2019, we settled all outstanding claims in the litigation with Lotus. Pursuant to the settlement, we agreed to provide Lotus with a license to our patents required to manufacture and sell certain volume-limited amounts of generic lenalidomide in the United States beginning on a confidential date that is some time after the March 2022 volume-limited license date that we previously provided to Natco. For each consecutive twelve-month period (or part thereof) following the volume-limited entry date until January 31, 2026, the volume of generic lenalidomide sold by Lotus cannot exceed certain agreed-upon percentages. Although the agreed-upon percentages are confidential, they increase gradually each period to no more than a single-digit percentage in the final volume-limited period. In addition, we agreed to provide Lotus with a license to Celgene's patents required to manufacture

and sell an unlimited quantity of generic lenalidomide in the United States beginning no earlier than January 31, 2026. Lotus' ability to market lenalidomide in the U.S. will be contingent on its obtaining approval of an ANDA.

We received a Notice Letter dated November 28, 2017 from Apotex Inc. (Apotex) notifying us of Apotex's ANDA, which contains Paragraph IV certifications against U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 7,465,800; 7,468,363; 7,855,217; 8,315,886; 8,626,531 and 8,741,929 that are listed in the Orange Book for REVLIMID®. Apotex is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in the United States. In response to the Notice Letter, we timely filed an infringement action against Apotex in the U.S. District Court for the District of New Jersey on January 11, 2018. As a result of the filing of our action, the FDA cannot grant final approval of Apotex's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) May 29, 2020. On April 2, 2018, Apotex responded to the complaint by filing a motion to dismiss the case for failure to join a necessary party. We filed our response on May 21, 2018. Apotex filed its reply brief on June 11, 2018. On August 15, 2018, the parties submitted a proposed stipulation resolving the motion to dismiss. The court ordered the stipulation and the motion was terminated as moot. Apotex filed its answer on August 30, 2018. Fact discovery is set to close on January 17, 2020. The court has yet to enter a schedule for expert discovery and trial.

We received an additional Notice Letter from Apotex dated January 14, 2019 notifying us of additional Paragraph IV certifications against U.S. Patent Nos. 7,189,740; 8,404,717; and 9,056,120 that are listed in the Orange Book for REVLIMID®. In response to that Notice Letter, we timely filed an infringement action against Apotex in the U.S. District Court for the District of New Jersey on February 26, 2019. As a result of the filing of our action, the FDA cannot grant final approval of Apotex's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) July 15, 2021. Apotex filed its answer on April 2, 2019. The court has not yet entered a schedule for fact discovery, expert discovery, or trial.

We received a Notice Letter dated May 30, 2018 from Sun Pharmaceutical Industries Limited (Sun) notifying us of Sun's ANDA, which contains Paragraph IV certifications against U.S. Patent Nos. 7,465,800; 7,855,217 and 7,968,569 that are listed in the Orange Book for REVLIMID®. Sun is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in the United States. In response to the Notice Letter, we timely filed an infringement action against Sun in the U.S. District Court for the District of New Jersey on July 13, 2018. As a result of the filing of our action, the FDA cannot grant final approval of Sun's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, or (ii) November 30, 2020. On August 14, 2018, Sun filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed. We filed our answer to Sun's counterclaims on September 18, 2018. Fact discovery is set to close on January 17, 2020. The court has yet to enter a schedule for expert discovery and trial.

We received a Notice Letter dated November 9, 2018 from Hetero USA Inc. (Hetero) notifying us of Hetero's ANDA, which contains Paragraph IV certifications against U.S. Patent Nos. 7,465,800; 7,855,217; 7,468,363; and 8,741,929 that are listed in the Orange Book for REVLIMID®. Hetero is seeking to manufacture and market a generic version of 2.5 mg, 5 mg, 10 mg, 15 mg, 20 mg, and 25 mg REVLIMID® (lenalidomide) capsules in the United States. In response to the Notice Letter, we timely filed an infringement action against Hetero in the U.S. District Court for the District of New Jersey on December 20, 2018. As a result of the filing of our action, the FDA cannot grant final approval of Hetero's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, or (ii) May 12, 2021. On March 11, 2019, Hetero filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed. We filed our answer to Hetero's counterclaims on April 15, 2019. The court has yet to enter a schedule for fact discovery, expert discovery, or trial.

POMALYST®: We received a Notice Letter dated March 30, 2017 from Teva Pharmaceuticals USA, Inc. (Teva) (the Teva Notice Letter) notifying us of Teva's ANDA submitted to the FDA, which contains Paragraph IV certifications against U.S. Patent Nos. 6,316,471; 8,198,262; 8,673,939; 8,735,428 and 8,828,427 that are listed in the Orange Book for POMALYST®. Teva is seeking to manufacture and market a generic version of 1 mg, 2 mg, 3 mg, and 4 mg POMALYST® (pomalidomide) capsules in the United States. We later received similar Notice Letters (together with the Teva Notice Letter, the Pomalidomide Notice Letters) from other generic drug manufacturers—Apotex; Hetero USA, Inc. (Hetero); Aurobindo Pharma Ltd. (Aurobindo); Mylan Pharmaceuticals Inc. (Mylan); and Breckenridge Pharmaceutical, Inc. (Breckenridge)—relating to these and other POMALYST® patents listed in the Orange Book. In May 2018, we received a similar Notice Letter from Synthon Pharmaceuticals Inc. (the Synthon Notice Letter).

In response to the Pomalidomide Notice Letters, we timely filed infringement actions in the U.S. District Court for the District of New Jersey against Teva on May 4, 2017 and against Apotex, Hetero, Aurobindo, Mylan, and Breckenridge on May 11, 2017. As

a result of the filing of our actions, the FDA cannot grant final approval of these ANDAs until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) August 8, 2020.

On July 13, 2017, Apotex and Hetero each filed answers and counterclaims asserting that each of the patents is invalid and/or not infringed, and further seeking declaratory judgments of noninfringement and invalidity for additional patents listed in the Orange Book for POMALYST®, namely U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 8,315,886 and 8,626,531. On August 17, 2017, we filed replies to Apotex's and Hetero's counterclaims, as well as counter-counterclaims against Apotex and Hetero asserting infringement of U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 8,315,886 and 8,626,531. Apotex and Hetero filed replies to our counter-counterclaims on September 6 and September 8, 2017, respectively.

On July 31, 2017, Breckenridge filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed. We filed our answer to Breckenridge's counterclaims on September 5, 2017. On December 6, 2017, Breckenridge filed an amended pleading to include counterclaims seeking declaratory judgments of noninfringement and invalidity for additional patents listed in the Orange Book for POMALYST®, namely U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 8,315,886 and 8,626,531. We replied to Breckenridge's amended counterclaims and asserted counter-counterclaims on January 3, 2018. Breckenridge filed its answer to our counter-counterclaims on January 24, 2018.

On August 7, 2017, Teva filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed. On September 11, 2017, we filed our answer to Teva's counterclaims.

On August 9, 2017, Mylan filed a motion to dismiss the complaint, and on March 2, 2018, the court denied Mylan's motion to dismiss without prejudice and granted our request for venue-related discovery.

On September 15, 2017, Aurobindo filed an answer and counterclaims asserting that each of the patents is invalid and/or not infringed, and further seeking declaratory judgments of noninfringement and invalidity for additional patents listed in the Orange Book for POMALYST®, namely U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 8,315,886 and 8,626,531. We filed our answer to Aurobindo's counterclaims and counter-counterclaims concerning U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 8,315,886 and 8,626,531 on October 20, 2017. Aurobindo filed its answer to our counter-counterclaims on November 24, 2017.

In response to the Synthon Notice Letter, we timely filed an infringement action against Synthon in the U.S. District Court for the District of New Jersey on June 19, 2018. As a result of the filing of our actions, the FDA cannot grant final approval of Synthon's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) November 7, 2020. On July 16, 2018, Synthon filed an answer and counterclaims asserting that each of the patents asserted in the complaint is invalid and/or not infringed. On August 20, 2018, we filed our answer to Synthon's counterclaims. We received a notice letter dated October 5, 2018 from Synthon notifying us of an additional Paragraph IV certification against U.S. Patent No. 9,993,467 that is listed in the Orange Book for POMALYST®. In response to the Notice Letter, we timely filed an amended complaint against Synthon on November 20, 2018. On December 4, 2018, Synthon filed an answer and counterclaims asserting that each of the patents in the amended complaint is invalid and/or not infringed. On January 2, 2019, we filed our answer to Synthon's counterclaims. Fact discovery is scheduled to close on January 10, 2020 and expert discovery is scheduled to close on August 7, 2020. Trial has not been scheduled.

We received a Notice Letter dated August 7, 2018 from Hetero notifying us of an additional Paragraph IV certification against U.S. Patent No. 9,993,467 that is listed in the Orange Book for POMALYST®. In response to the Notice

Letter, we timely filed an infringement action against Hetero in the U.S. District Court for the District of New Jersey on September 20, 2018 (“the Hetero ’467 Action”). On November 30, 2018, Hetero filed its Answer, Affirmative Defenses, and Counterclaims. We filed our answer to Hetero’s counterclaims on January 4, 2019.

We received a Notice Letter dated August 13, 2018 from Teva notifying us of an additional Paragraph IV certification against U.S. Patent No. 9,993,467 that is listed in the Orange Book for POMALYST®. In response to the Notice Letter, we timely filed an infringement action against Teva in the U.S. District Court for the District of New Jersey on September 27, 2018 (“the Teva ’467 Action”). On November 14, 2018, Teva filed its Answer, Affirmative Defenses, and Counterclaims. We filed our answer to Teva’s counterclaims on December 18, 2018.

We received a Notice Letter dated August 22, 2018 from Breckenridge notifying us of an additional Paragraph IV certification against U.S. Patent No. 9,993,467 that is listed in the Orange Book for POMALYST®. In response to the Notice Letter, we timely filed an infringement action against Breckenridge in the U.S. District Court for the District of New Jersey on October 5, 2018

("the Breckenridge '467 Action"). On November 7, 2018, Breckenridge filed its Answer, Affirmative Defenses, and Counterclaims. We filed our answer to Breckenridge's counterclaims on December 12, 2018.

We received a Notice Letter dated September 28, 2018 from Mylan notifying us of an additional Paragraph IV certification against U.S. Patent No. 9,993,467 that is listed in the Orange Book for POMALYST®. In response to the Notice Letter, we timely filed an infringement action against Mylan in the U.S. District Court for the District of New Jersey on November 9, 2018 ("the Mylan '467 Action"). On January 22, 2019, Mylan filed its Answer.

We received a Notice Letter dated October 9, 2018 from Apotex notifying us of an additional Paragraph IV certification against U.S. Patent No. 9,993,467 that is listed in the Orange Book for POMALYST®. In response to the Notice Letter, we timely filed an infringement action against Apotex in the U.S. District Court for the District of New Jersey on November 21, 2018 ("the Apotex '467 Action"). On December 12, 2018, Apotex filed its Answer, Affirmative Defenses, and Counterclaims. We filed our answer to Apotex's counterclaims on January 16, 2019.

We received a Notice Letter dated November 30, 2018 from Aurobindo notifying us of an additional Paragraph IV certification against U.S. Patent No. 9,993,467 that is listed in the Orange Book for POMALYST®. In response to the Notice Letter, we timely filed an infringement action against Aurobindo in the U.S. District Court for the District of New Jersey on January 4, 2019 ("the Aurobindo '467 Action"). On January 18, 2019, Aurobindo filed its Answer, Affirmative Defenses, and Counterclaims. We filed our answer to Aurobindo's counterclaims on February 22, 2019.

On January 31, 2019, the above-referenced POMALYST® actions filed in May 2017 against (i) Teva and (ii) Apotex, Hetero, Aurobindo, Mylan, and Breckenridge were consolidated with the Hetero '467 Action, the Teva '467 Action, the Breckenridge '467 Action, the Mylan '467 Action, the Apotex '467 Action, and the Aurobindo '467 Action. In the consolidated case, fact discovery is set to close on August 30, 2019, and expert discovery is set to close on March 13, 2020. The court has yet to enter a schedule for trial.

On February 14, 2019, we filed additional infringement actions in the U.S. District Court for the District of New Jersey against each of Apotex, Aurobindo, Breckenridge, Hetero, and Mylan. On March 19, 2019, we filed an additional infringement action in the U.S. District Court for the District of New Jersey against Teva. The patents-in-suit in each of these six actions are 10,093,647, 10,093,648, and 10,093,649, which patents are not listed in the Orange Book.

ABRAXANE®: On March 21, 2019, following a referral by the UK High Court of Justice in the context of our request for a Supplemental Protection Certificate (SPC) to the ABRAXANE® patent UK No. 0 961 612 (the '612 patent), the Court of Justice for the EU held, in substance, that no SPC was available to the extent ABRAXANE® was assessed as a novel formulation of paclitaxel. On the basis of this decision, no SPC will be available in the UK. Applications are still pending in other jurisdictions, including in Germany. The '612 patent expired in Europe in September 2017. However, if granted, the SPCs will expire in 2022. Data exclusivity in Europe expired in January 2019.

We received a Notice Letter dated November 5, 2018 from HBT Labs, Inc. (HBT) notifying us of HBT's 505(b)(2) NDA which contains Paragraph IV certifications against U.S. Patent Nos. 7,758,891; 7,820,788; 7,923,536; 8,034,375; 8,138,229; 8,268,348; 8,314,156; 8,853,260; 9,101,543; 9,393,318; 9,511,046 and 9,597,409 that are listed in the Orange Book for ABRAXANE®. HBT is seeking to manufacture and market Paclitaxel Protein-Bound Particles for Injectable Suspension (Albumin-Bound), 100 mg/vial in the United States. In response to the Notice letter, we timely filed infringement actions against HBT in the U.S. District Court for the District of New Jersey on December 17, 2018, and in the U.S. District Court for the District of Delaware on December 19, 2018. As a result of these filings, the FDA cannot grant final approval of HBT's 505(b)(2) NDA until at least the earlier of (i) a final decision

that each of the patents is invalid, unenforceable, and/or not infringed, or (ii) May 6, 2021. On February 5, 2019, we filed a notice of voluntary dismissal without prejudice in the United States District Court for the District of New Jersey. The court ordered the notice of voluntary dismissal on February 7, 2019. On February 11, 2019, HBT filed a motion to dismiss and transfer in the United States District Court for the District of Delaware. We filed our opposition on March 4, 2019, and HBT filed its reply on March 11, 2019. On March 14, 2019, we filed a request for oral argument, which is currently pending before the court. The motion remains pending.

OTEZLA®: We received Notice Letters from each of the following company groups (individual or joint) between May 14, 2018 and June 1, 2018: Alkem Laboratories Ltd. (Alkem); Amneal Pharmaceuticals LLC (Amneal); Annora Pharma Private Ltd. (Annora) and Hetero USA Inc. (Hetero); Aurobindo Pharma Ltd. and Aurobindo Pharma U.S.A. Inc. (Aurobindo); Cipla Ltd. (Cipla); Dr. Reddy’s Laboratories, Ltd. and Dr. Reddy’s Laboratories, Inc. (DRL); Emcure Pharmaceuticals Ltd. (Emcure) and Heritage Pharmaceuticals Inc. (Heritage); Glenmark Pharmaceuticals Ltd. (Glenmark); Macleods Pharmaceuticals Ltd. (Macleods);

Mankind Pharma Ltd. (Mankind); MSN Laboratories Private Ltd. (MSN); Pharmascience Inc. (Pharmascience); Prinston Pharmaceutical Inc. (Prinston); Sandoz Inc. (Sandoz); Shilpa Medicare Ltd. (Shilpa); Teva Pharmaceuticals USA, Inc. (Teva) and Actavis LLC (Actavis); Torrent Pharmaceuticals Ltd. (Torrent); Unichem Laboratories, Ltd. (Unichem); and Zydus Pharmaceuticals (USA) Inc. (Zydus) notifying us of their ANDAs, which contain Paragraph IV certifications against one or more of the following patents: U.S. Patent Nos. 6,962,940; 7,208,516; 7,427,638; 7,659,302; 7,893,101; 8,455,536; 8,802,717; 9,018,243 and 9,872,854, which are listed in the Orange Book for OTEZLA®. Each of the companies is seeking to market a generic version of OTEZLA®. In response to the Notice Letters, we timely filed infringement actions in the U.S. District Court for the District of New Jersey. As a result of the filing of our actions, the FDA cannot grant final approval of any of these companies' ANDAs until at least the earlier of (i) a final decision that each of the asserted patents is invalid, unenforceable, and/or not infringed, and (ii) September 21, 2021.

Between August 8, 2018 and August 30, 2018, we filed amended complaints against Alkem, Amneal, Aurobindo, Cipla, DRL, Glenmark, Pharmascience, Sandoz, Teva and Actavis, Unichem, and Zydus additionally asserting U.S. Patent No. 9,724,330, which was recently listed in the Orange Book for OTEZLA®.

Between October 15, 2018 and November 27, 2018, we filed amended complaints against Alkem, Amneal, Annora and Hetero, Aurobindo, Cipla, DRL, Emcure and Heritage, Glenmark, Macleods, Mankind, MSN, Pharmascience, Prinston, Sandoz, Teva and Actavis, Torrent, Unichem, and Zydus additionally asserting U.S. Patent No. 10,092,541, which was recently listed in the Orange Book for OTEZLA®.

Between March 1, 2019 and April 4, 2019, we filed amended complaints against Annora and Hetero, MSN, and Emcure, in response to Notice Letters containing additional Paragraph IV certifications against one or more of the above-listed patents, which are listed in the Orange Book for OTEZLA®.

Each defendant has filed an Answer disputing infringement and/or validity of the patents asserted against it. Along with their Answers, each of Alkem, Annora and Hetero, Cipla, DRL, Emcure and Heritage, Glenmark, Macleods, Mankind, Pharmascience, Sandoz, Shilpa, Teva and Actavis, Torrent, and Unichem filed declaratory judgment counterclaims asserting that some or all of the patents are not infringed and/or are invalid. The court has consolidated all OTEZLA® litigations for discovery and case management purposes, and entered a schedule for fact discovery. The court has not yet entered a schedule for expert discovery or trial in any of the OTEZLA® litigations.

THALOMID®: We received a Notice Letter dated July 19, 2018 from West-Ward Pharmaceuticals International Limited (West-Ward) notifying us of West-Ward's ANDA which contains Paragraph IV certifications against U.S. Patent Nos. 6,315,720; 6,561,977; 6,755,784; 6,869,399; 7,141,018; 7,230,012; 7,959,566; 8,315,886 and 8,626,531 that are listed in the Orange Book for THALOMID®. West-Ward is seeking to manufacture and market a generic version of 50 mg, 100 mg, 150 mg, and 200 mg THALOMID® (thalidomide) capsules in the United States. In response to the Notice letter, we timely filed an infringement action against West-Ward in the U.S. District Court for the District of New Jersey on August 31, 2018. As a result of the filing of our action, the FDA cannot grant final approval of West-Ward's ANDA until at least the earlier of (i) a final decision that each of the patents is invalid, unenforceable, and/or not infringed, and (ii) January 20, 2021. On February 11, 2019, West-Ward filed its answer and counterclaims, asserting that each of the patents is invalid and/or not infringed. We filed our answer to West-Ward's counterclaims on March 18, 2019. Fact discovery is set to close on May 8, 2020. The court has yet to enter a schedule for expert discovery and trial.

Juno Patent-Related Proceedings:

KITE: On October 18, 2017, the day on which the FDA approved Kite Pharma, Inc.'s (Kite) Yescarta™ KTE-C19 product, Juno filed a complaint against Kite in the U.S. District Court for the Central District of California. The complaint alleged that Yescarta™ infringes claims 1-3, 5, 7-9, and 11 of U.S. Patent No. 7,446,190 (the '190 Patent). Kite answered the complaint on November 28, 2017, and filed counterclaims of non-infringement and invalidity against Juno. Juno filed a motion to dismiss Kite's counterclaims and to strike certain affirmative defenses on December 19, 2017.

On March 8, 2018, the court granted Juno's motion to dismiss and strike, and ordered Kite to file an amended answer and counterclaims. On the same day, the court denied Kite's motion to stay. On March 29, 2018, Kite filed an amended answer and counterclaims, asserting that the '190 Patent is invalid and/or not infringed. On April 9, 2018, we filed an answer to Kite's counterclaims. The court held a claim construction hearing on September 18, 2018, and issued a claim construction order on October 9, 2018. On November 12, 2018, Kite filed a motion to dismiss Plaintiffs Memorial Sloan Kettering Cancer Center and Juno Therapeutics based on an alleged lack of standing. Plaintiffs filed their opposition on November 26, 2018, and Kite filed its

reply on December 3, 2018. The Court did not hold a hearing and has taken the motion under submission. Kite filed a motion for summary judgment of non-infringement on January 22, 2019. We filed our opposition to Kite's summary judgment motion on February 19, 2019. Kite's reply was filed on March 11, 2019. The Court did not hold a hearing and took the matter under submission. Fact and expert discovery are ongoing. Trial is scheduled to begin on December 3, 2019.

Proceedings Involving the U.S. Patent and Trademark Office (USPTO):

REMS IPRs: Under the America Invents Act (AIA), any person may seek to challenge an issued patent by petitioning the USPTO to institute a post grant review. On April 23, 2015, we were informed that the Coalition for Affordable Drugs VI LLC filed petitions for IPR challenging the validity of our U.S. Patent Nos. 6,045,501 (the '501 patent) and 6,315,720 (the '720 patent) covering certain aspects of our REMS program. On October 27, 2015, the USPTO Patent Trial and Appeal Board (PTAB) instituted IPR proceedings relating to these patents. An oral hearing was held on July 21, 2016. The PTAB's decisions, rendered on October 26, 2016, held that the '501 and '720 patents are invalid, primarily due to obviousness in view of certain publications. On November 25, 2016, we requested a rehearing with respect to certain claims of these patents. On September 8, 2017, the PTAB denied our rehearing request for the '501 patent, but granted our rehearing request pertaining to a certain claim of the '720 patent.

We timely appealed to the U.S. Court of Appeals for the Federal Circuit the PTAB's determinations regarding certain claims of the '720 patent and the '501 patent on November 6, 2017 and on November 9, 2017, respectively. On February 26, 2018, the USPTO intervened in our appeal. Our opening briefs were filed on May 31, 2018. The USPTO filed its briefs on August 30, 2018. Our reply briefs were filed by October 29, 2018. The court has not yet scheduled oral argument. The '501 and '720 patents remain valid and enforceable pending appeal. We retain other patents covering certain aspects of our REMS program, as well as patents that cover our products that use our REMS system.

REVLIMID® IPRs: On February 23, 2018, Apotex filed a petition for IPR challenging the validity of our U.S. Patent No. 8,741,929. On September 27, 2018, the PTAB denied institution of the IPR. On October 29, 2018, Apotex filed a Request for Rehearing.

On August 3, 2018, DRL filed petitions for IPR challenging the validity of our U.S. Patent Nos. 9,056,120; 8,404,717 and 7,189,740. Our preliminary responses were filed by November 14, 2018, November 30, 2018, and December 11, 2018, respectively. On February 11, 2019, the PTAB denied institution of all three IPRs.

On September 12, 2018, Lotus filed a petition for IPR challenging the validity of our U.S. Patent No. 7,968,569. Our preliminary response was filed by December 18, 2018. On March 14, 2019, the PTAB denied institution of the IPR.

JUNO IPR: On August 13, 2015, Kite filed a petition for IPR challenging the validity of U.S. Patent No. 7,446,190 (the '190 Patent), exclusively licensed from Memorial Sloan Kettering Cancer Center. On February 11, 2016, the PTAB instituted the IPR proceedings. A hearing was held before the PTAB on October 20, 2016. On December 16, 2016, the PTAB issued a final written decision upholding all claims of the '190 Patent. On February 16, 2017, Kite filed a notice of appeal of the PTAB's final written decision to the U.S. Court of Appeals for the Federal Circuit. On June 6, 2018, the Federal Circuit affirmed the decision of the Patent Trial and Appeal Board, upholding all claims of the '190 Patent.

Other Proceedings:

MYLAN: On April 3, 2014, Mylan filed a lawsuit against us in the U.S. District Court for the District of New Jersey alleging that we violated various federal and state antitrust and unfair competition laws by allegedly refusing to sell samples of our THALOMID® and REVLIMID® brand drugs so that Mylan may conduct the bioequivalence testing necessary to submit ANDAs to the FDA for approval to market generic versions of these products. Mylan is seeking injunctive relief, damages and a declaratory judgment. We filed a motion to dismiss Mylan's complaint on May 25, 2014. Mylan filed its opposition to our motion to dismiss on June 16, 2014. The Federal Trade Commission filed an amicus curiae brief in opposition to our motion to dismiss on June 17, 2014.

On December 22, 2014, the court granted our motion to dismiss (i) Mylan's claims based on Section 1 of the Sherman Act (without prejudice), and (ii) Mylan's related claims arising under the New Jersey Antitrust Act. The court denied our motion to dismiss the remaining claims which primarily relate to Section 2 of the Sherman Act. On January 6, 2015, we filed a motion to certify for interlocutory appeal the order denying our motion to dismiss with respect to the claims relating to Section 2 of the Sherman Act, which appeal was denied by the U.S. Court of Appeals for the Third Circuit on March 5, 2015. On January 20, 2015, we filed an answer to Mylan's complaint. Fact discovery closed in June 2016 and expert discovery closed in November 2016. On December 16, 2016, we moved for summary judgment, seeking a ruling that judgment be granted in our favor on all claims. The motion for summary judgment was argued on December 13, 2017. Supplemental briefing on the motion for summary judgment was filed on

CELGENE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

February 1, 2018. On October 3, 2018, the Court granted in part and denied in part our motion for summary judgment. Trial has been set to begin in October 2019.

THALOMID®AND REVLIMID®ANTITRUST LITIGATION: On November 7, 2014, the International Union of Bricklayers and Allied Craft Workers Local 1 Health Fund (IUB) filed a putative class action lawsuit against us in the U.S. District Court for the District of New Jersey alleging that we violated various antitrust, consumer protection, and unfair competition laws by (a) allegedly securing an exclusive supply contract with Seratec S.A.R.L. so that Barr Laboratories allegedly could not secure its own supply of thalidomide active pharmaceutical ingredient, (b) allegedly refusing to sell samples of our THALOMID® and REVLIMID® brand drugs to various generic manufacturers for the alleged purpose of bioequivalence testing necessary for ANDAs to be submitted to the FDA for approval to market generic versions of these products, and (c) allegedly bringing unjustified patent infringement lawsuits in order to allegedly delay approval for proposed generic versions of THALOMID® and REVLIMID®. IUB, on behalf of itself and a putative class of third-party payers, is seeking injunctive relief and damages.

In February 2015, we filed a motion to dismiss IUB's complaint, and upon the filing of a similar putative class action making similar allegations by the City of Providence (Providence), the parties agreed that the decision in the motion to dismiss IUB's complaint would apply to the identical claims in Providence's complaint. In October 2015, the court denied our motion to dismiss on all grounds.

We filed our answers to the IUB and Providence complaints in January 2016. On June 14, 2017, a new complaint was filed by the same counsel representing the plaintiffs in the IUB case, making similar allegations and adding three new plaintiffs – International Union of Operating Engineers Stationary Engineers Local 39 Health and Welfare Trust Fund (Local 39), The Detectives' Endowment Association, Inc. (DEA) and David Mitchell. Plaintiffs added allegations that our settlements of patent infringement lawsuits against certain generic manufacturers have had anticompetitive effects. Counsel identified the new complaint as related to the IUB and Providence cases and, on August 1, 2017, filed a consolidated amended complaint on behalf of IUB, Providence, Local 39, DEA, and Mitchell. On September 28, 2017, the same counsel filed another complaint, which it identified as related to the consolidated case, and which made similar allegations on behalf of an additional asserted class representative, New England Carpenters Health Benefits Fund (NEC). The NEC action has been consolidated with the original action involving IUB, Providence, DEA, Local 39, and Mitchell into a master action for all purposes.

On October 2, 2017, the plaintiffs filed a motion for certification of two damages classes under the laws of thirteen states and the District of Columbia and a nationwide injunction class. On February 26, 2018, we filed our opposition to the plaintiffs' motion and a motion for judgment on the pleadings dismissing all state law claims where the plaintiffs no longer seek to represent a class. The plaintiffs filed their opposition to our motion for judgment on the pleadings on April 2, 2018, and we filed our reply on April 13, 2018. The plaintiffs filed their reply in support of their class certification motion on May 18, 2018. Fact discovery in these cases closed on May 17, 2018 and expert discovery closed on December 11, 2018. On October 30, 2018, the Court denied Plaintiffs' Motion for Class Certification and Celgene's motion for judgment on the pleadings. On December 14, 2018, the plaintiffs filed a new motion for class certification. Our opposition to Plaintiff's new motion for class certification was filed on January 25, 2019 and the plaintiffs' reply in support of their new motion for class certification was filed on February 15, 2019. No trial date has been set.

USAO MASSACHUSETTS SUBPOENA: In December 2015, we received a subpoena from the U.S. Attorney's Office for the District of Massachusetts, and in November 2016, we received a second subpoena related to the same inquiry. The materials requested primarily relate to patient assistance programs, including our support of 501(c)(3) organizations that provide financial assistance to eligible patients. We are cooperating with these requests.

CELGENE SECURITIES CLASS ACTION: On March 29, 2018, the City of Warren General Employees' Retirement System filed a putative class action against us and certain of our officers in the U.S. District Court for the District of New Jersey. The complaint alleges that the defendants violated federal securities laws by making misstatements and/or omissions concerning (1) trials of GED-0301, (2) 2020 outlook and projected sales of OTEZLA®, and (3) the new drug application for Ozanimod. On May 3, 2018, a similar putative class action lawsuit against us and certain of our officers was filed by Charles H. Witchcoff in the U.S. District Court for the District of New Jersey. The complaint alleges that defendants violated federal securities laws by making material misstatements and/or omissions concerning (1) trials of GED-0301, (2) 2020 outlook and projected sales of OTEZLA®, and (3) the new drug application for Ozanimod. On September 27, 2018, the court consolidated the two actions and appointed a lead plaintiff, lead counsel, and co-liaison counsel for the putative class. On October 9, 2018, the court entered a scheduling order which requires lead plaintiff to file an amended complaint by December 10, 2018; defendants to file their motion to dismiss the amended complaint by February 8, 2019; lead plaintiff to file its opposition to the motion to dismiss by April 9, 2019; and defendants

to file their reply by May 9, 2019. On December 10, 2018, the lead plaintiff filed its amended complaint. On February 8, 2019, defendants filed a motion to dismiss plaintiff's amended complaint in full, and the plaintiff filed its opposition on April 9, 2019.

SARATOGA DERIVATIVE ACTION: On July 12, 2018, Saratoga Advantage Trust Health and Biotechnology Portfolio filed a shareholder derivative complaint against certain members of our board of directors in the U.S. District Court for the District of New Jersey. The complaint alleges that (i) certain defendants made misrepresentations and omissions of material fact concerning, among other things, trials of GED-0301, sales of OTEZLA®, 2017 and 2020 fiscal guidance, and the new drug application for Ozanimod and (ii) all defendants failed to adequately supervise Celgene with regard to trials of GED-0301, sales of OTEZLA®, 2017 and 2020 fiscal guidance, the new drug application for Ozanimod, and the promotion and marketing of REVLIMID®. The plaintiff has agreed to stay the defendants' obligation to answer or otherwise respond to the allegations in the complaint in deference to the Celgene Securities Class Actions and subject to thirty days' notice by either plaintiff or defendants of an intent to proceed. On August 1, 2018, the Court entered an order staying the proceedings until the disposition of the first motion to dismiss in the Celgene Securities Class Action. The order also administratively terminated the proceedings.

GEROLD DERIVATIVE ACTION: On October 11, 2018, Sam Baran Gerold filed a shareholder derivative complaint against certain members of our board of directors in the Superior Court of New Jersey. The complaint alleges that (i) defendants breached certain fiduciary duties related to, among other things, GED-0301, OTEZLA®, and the new drug application for Ozanimod and (ii) because of that breach, the defendants caused Celgene to waste its corporate assets and the defendants were unjustly enriched. On October 29, 2018, defendants removed this matter to the U.S. District Court for the District of New Jersey. On January 9, 2019 the court entered a stipulation and order staying the matter until the disposition of the motion to dismiss in the Celgene Securities Class Action or at any party's election on 15 days' notice to all other parties.

HUMANA, INC (HUMANA): On May 16, 2018, Humana filed a lawsuit against us in the Pike County Circuit Court of the Commonwealth of Kentucky. Humana's complaint alleges we engage in unlawful off-label marketing in connection with sales of THALOMID® and REVLIMID® and asserts claims against us for fraud, breach of contract, negligent misrepresentation, unjust enrichment, and violations of New Jersey's Racketeer Influenced and Corrupt Organizations Act. The complaint seeks, among other things, treble and punitive damages, injunctive relief and attorneys' fees and costs. On June 13, 2018, we removed Humana's lawsuit to the U.S. District Court for the Eastern District of Kentucky and, on July 11, 2018, filed a motion to dismiss Humana's complaint in full. On July 12, 2018, Humana moved to remand the case to state court. On March 29, 2019, the lawsuit was remanded to Pike County Circuit Court of the Commonwealth of Kentucky, where it remains pending.

On March 1, 2019, Humana filed a separate lawsuit against us in the United States District Court for the District of New Jersey. Humana's complaint alleges that we violated various antitrust, consumer protection, and unfair competition laws to delay or prevent generic competition for our THALOMID® and REVLIMID® brand drugs, including (a) allegedly refusing to sell samples of our products to generic manufacturers for purposes of bioequivalence testing intended to be included in ANDAs for approval to market generic versions of these products; (b) allegedly bringing unjustified patent infringement lawsuits, procuring invalid patents, and/or entering into anticompetitive patent settlements; (c) allegedly securing an exclusive supply contract for supply of thalidomide active pharmaceutical ingredient. The complaint purports to assert claims on behalf of Humana and its subsidiaries in several capacities, including as a direct purchaser and as an indirect purchaser, and seeks, among other things, treble and punitive damages, injunctive relief and attorneys' fees and costs. Celgene's initial response to the complaint is due by May 6, 2019.

Proceedings Related to the Bristol-Myers Squibb - Celgene Merger:

As of April 4, 2019, eleven complaints had been filed by Celgene stockholders seeking to enjoin the Bristol-Myers Squibb - Celgene Merger. Sam B. Gerold v. Celgene Corporation, et al., No. 1:19-cv-00233, Karen Sbriglio v. Celgene Corporation, et al., No. 1:19-cv-00277, Bette Grayson v. Celgene Corporation, et al., No. 1:19-cv-00332, Scott Rowinski v. Celgene Corporation, et al., No. 1:19-cv-00382 and LR Trust v. Celgene Corporation, et al., No. 1:19-cv-00459 were filed in the United States District Court for the District of Delaware. Robert Lowinger v. Celgene Corporation, et al., No. 2:19-cv-04752, Michael A. Bernstein v. Celgene Corporation, et al., No. 2:19-cv-04804 and Elaine Wang v. Celgene Corporation, et al., 2:19-cv-04865 and David Goldstein v. Celgene Corporation, et al., No. 2:19-cv-08087 were filed in the United States District Court for the District of New Jersey. Kristen Rogers v. Celgene Corporation, et al., No. 1:19-cv-01275 and Patricia Woods v. Celgene Corporation, et al., No. 1:19-cv-01597 were filed in the United States District Court for the Southern District of New York.

The eleven federal complaints named as defendants Celgene and the members of its board of directors and sought to state claims under the federal securities laws in connection with either the joint proxy statement/prospectus filed by Bristol-Myers Squibb on February 1, 2019, as amended on February 1, 2019 and February 20, 2019 and declared effective on February 22, 2019, or the Definitive Proxy Statement on Schedule 14A filed by Celgene on February 22, 2019, alleging that the applicable document contains

materially incomplete and misleading information. The plaintiffs in the Sam B. Gerold, Karen Sbriglio, and Bette Grayson actions named Bristol-Myers Squibb and Merger Sub as defendants as well. The federal complaints sought, among other relief, injunctive relief to prevent consummation of the merger until the alleged disclosure violations are cured, damages in the event the merger is consummated, and an award of attorney's fees.

Also, as of April 4, 2019, two complaints, Ciavarella v. Alles, No. 2019-0133-AGB and Mager Paruas, LLC v. Alles, No. 2019-0195-AGB had been filed in the Court of Chancery of the State of Delaware, and named as defendants Celgene, the members of Celgene's board of directors and Bristol-Myers Squibb. These state court complaints allege that Celgene's directors breached their fiduciary duties by failing to maximize the value of Celgene and that Bristol-Myers Squibb aided and abetted those breaches. They sought, among other things, monetary damages in the event the merger is consummated and an award of attorney's fees.

The defendants believe that these federal and state court actions were and are without merit, and that no further disclosure was or is required under applicable law. Nonetheless, to specifically moot the plaintiffs' claims and to avoid the risk of the litigation delaying or adversely affecting the Merger, Celgene and the plaintiffs agreed to resolve these litigation matters. Pursuant to such agreement, the plaintiffs in the federal and state court actions agreed to dismiss their claims after defendants made supplemental disclosures related to the Merger, as set forth in the current report on Form 8-K filed by Celgene on April 4, 2019.

In addition, a complaint, Landers, et al. v. Caforio, et al., No. 2019-0125-AGB, was filed in the Court of Chancery of the State of Delaware. Landers is styled as a putative class action on behalf of Bristol-Myers Squibb stockholders and names members of the Bristol-Myers Squibb board of directors as defendants, alleging that they breached their fiduciary duties by failing to disclose material information about the merger. On April 4, 2019, Bristol-Myers Squibb and the plaintiff entered into a memorandum of understanding (the "memorandum of understanding") in which the plaintiff agreed to dismiss her claims with prejudice, and to dismiss claims asserted on behalf of the putative class without prejudice, in return for Bristol-Myers Squibb's agreement to make the supplemental disclosures set forth in the current report on Form 8-K filed by Bristol-Myers Squibb on April 4, 2019.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Management’s discussion and analysis of financial condition and results of operations is intended to help the reader understand our results of operations and financial condition. This discussion and analysis is provided as a supplement to, and should be read in conjunction with, our unaudited Consolidated Financial Statements and the accompanying Notes to Unaudited Consolidated Financial Statements. Certain statements in this Item 2 of Part I of this report on Form 10-Q constitute forward-looking statements. Various risks and uncertainties, including those discussed in "Forward-Looking Information" and Item 1A, “Risk Factors,” of Part II may cause our actual results and cash generated from operations to differ materially from these forward-looking statements. Our unaudited Consolidated Financial Statements have been prepared in accordance with U.S. generally accepted accounting principles (GAAP) and are presented in U.S. dollars.
(In all accompanying tables, amounts of dollars expressed in millions, except per share amounts, unless otherwise noted)

Forward-Looking Information

This report contains forward-looking statements that reflect the current views of our management with respect to future events, results of operations, economic performance and/or financial condition. Any statements contained in this report that are not statements of historical fact may be deemed forward-looking statements. Forward-looking statements generally are identified by the words “expects,” “anticipates,” “believes,” “intends,” “estimates,” “aims,” “plans,” “
“could,” “will,” “will continue,” “seeks,” “should,” “predicts,” “potential,” “outlook,” “guidance,” “target,” “forecast,” “probab
the negative of such terms and similar expressions. Forward-looking statements are based on current plans, estimates, assumptions and projections, which are subject to change and may be affected by risks and uncertainties, most of which are difficult to predict and are generally beyond our control. Forward-looking statements speak only as of the date they are made and we undertake no obligation to update any forward-looking statement in light of new information or future events, although we intend to continue to meet our ongoing disclosure obligations under the U.S. securities laws and other applicable laws. We caution you that a number of important factors could cause actual results or outcomes to differ materially from those expressed in, or implied by, the forward-looking statements and therefore you should not place too much reliance on them. These factors include, among others, those described in the sections “Forward-Looking Statements” and “Risk Factors” contained in our 2018 Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (SEC) and in this report and our other public reports filed with the SEC. If these or other risks and uncertainties materialize, or if the assumptions underlying any of the forward-looking statements prove incorrect, our actual performance and future actions may be materially different from those expressed in, or implied by, such forward-looking statements. We can offer no assurance that our estimates or expectations will prove accurate or that we will be able to achieve our strategic and operational goals.

Executive Summary

Celgene Corporation, together with its subsidiaries (collectively “we,” “our,” “us,” “Celgene” or the “Company”), is an integrated global biopharmaceutical company engaged primarily in the discovery, development and commercialization of innovative therapies for the treatment of cancer and inflammatory diseases through next-generation solutions in protein homeostasis, immuno-oncology, epigenetics, immunology and neuro-inflammation. Celgene Corporation was incorporated in the State of Delaware in 1986.

Merger Agreement with Bristol-Myers Squibb Company

On January 2, 2019, we entered into a definitive merger agreement with Bristol-Myers Squibb Company (Bristol-Myers Squibb) under which Bristol-Myers Squibb will acquire Celgene in a cash and stock transaction with an equity value of approximately $74 billion, based on the closing price of Bristol-Myers Squibb shares of $52.43 on

January 2, 2019 (Bristol-Myers Squibb - Celgene Merger). On April 12, 2019, the stockholders of each of Bristol-Myers Squibb and Celgene approved the Bristol-Myers Squibb - Celgene Merger. The transaction remains subject to the satisfaction of customary closing conditions and regulatory approvals. The Bristol-Myers Squibb - Celgene Merger is expected to close in the third quarter of 2019.

The definitive merger agreement includes restrictions on the conduct of our business prior to the completion of the merger or termination of the merger agreement, generally requiring us to conduct our business in the ordinary course consistent with past practice. Without limiting the generality of the foregoing, we are subject to a variety of specified restrictions. Unless we obtain Bristol-Myers Squibb's prior written consent (which consent may not be unreasonably withheld, conditioned or delayed) and except (i) as required or expressly contemplated by the merger agreement, (ii) as required by applicable law or (iii) as set forth in the confidential disclosure schedule delivered by Celgene to Bristol-Myers Squibb, we may not, among other things, incur additional indebtedness, issue additional shares of our common stock outside of our equity incentive plans, repurchase our common stock,

pay dividends, acquire assets, securities or property (subject to certain exceptions, including without limitation, acquisitions up to a specified individual amount and an aggregate limitation), dispose of businesses or assets, enter into material contracts or make certain additional capital expenditures.

Based on the closing price of Bristol-Myers Squibb stock of $52.43 on January 2, 2019, the cash and stock consideration to be received by Celgene stockholders at closing is valued at $102.43 per Celgene share and one Contingent Value Right (Bristol-Myers Squibb CVR). The Bristol-Myers Squibb CVR will entitle its holder to receive a one-time potential payment of $9.00 in cash upon U.S. Food and Drug Administration (FDA) approval of all three of ozanimod (by December 31, 2020), liso-cel (JCAR017) (by December 31, 2020) and bb2121 (by March 31, 2021), in each case for a specified indication. When completed, Bristol-Myers Squibb stockholders are expected to own approximately 69% of the company, and Celgene stockholders are expected to own approximately 31%.

The transaction is not subject to a financing condition. The cash portion will be funded through a combination of cash on hand and debt financing. Bristol-Myers Squibb has obtained fully committed debt financing from Morgan Stanley Senior Funding, Inc. and MUFG Bank, Ltd.

On April 17, 2019, in connection with the Bristol-Myers Squibb - Celgene Merger, Bristol-Myers Squibb commenced an exchange offer for any and all outstanding notes issued by us (the “Celgene Notes”) for up to $19,850,000,000 aggregate principal amount of new notes to be issued by Bristol-Myers Squibb and cash. In conjunction with the exchange offer, Bristol-Myers Squibb is concurrently soliciting consents to adopt certain proposed amendments to each of the indentures governing the Celgene Notes to eliminate substantially all of the restrictive covenants in such indentures. The exchange offers and consent solicitations are conditioned upon, among other things, the closing of the Bristol-Myers Squibb - Celgene Merger. The exchange offers are expected to close on or about the closing date for the Bristol-Myers Squibb - Celgene Merger.

In connection with the Bristol-Myers Squibb - Celgene Merger, we have incurred, and will continue to incur, merger-related and integration-related preparation costs. A significant portion of those costs are contingent on the merger closing, such as investment banking fees, legal fees, and other employee related costs. We incurred $47 million of such costs during the three-month period ended March 31, 2019, which were recorded in Acquisition/integration related charges and restructuring, net within the Consolidated Statement of Income. We will incur approximately $171 million of professional fees due upon closing and approximately $205 million of employee-related costs, a portion of which is due upon closing with the remainder subject to satisfaction of a specified service period.

Business Update

Our primary commercial stage products include REVLIMID®, POMALYST®/IMNOVID®, OTEZLA®, ABRAXANE®, and VIDAZA®.

We continue to invest substantially in research and development in support of multiple ongoing proprietary clinical development programs which support our existing products and pipeline of new product candidates. Our clinical trial activity includes trials across the disease areas of hematology, oncology, and inflammation and immunology. REVLIMID® is being evaluated in phase III trials covering a range of hematological malignancies that include lymphomas. In July 2018, the phase III trial (AUGMENT™) for REVLIMID® in combination with rituximab (R^2), for the treatment of relapsed and/or refractory follicular or marginal zone lymphoma achieved its primary endpoint. In December 2018, we submitted a U.S. supplemental New Drug Application (NDA) for REVLIMID® in combination with rituximab in relapsed and/or refractory indolent non-Hodgkin lymphoma (NHL) and in February 2019, the U.S. Food and Drug Administration granted Priority Review designation. In January 2019 we also submitted an application with the European Medicines Agency (EMA) for approval in Europe. In March 2019, we announced that the EMA

Committee for Medicinal Products for Human Use (CHMP) adopted positive opinions for REVLIMID® in combination with bortezomib and dexamethasone (RVd) in newly diagnosed multiple myeloma (NDMM) and for POMALYST®/IMNOVID® in combination with bortezomib and dexamethasone (PVd) in patients with relapsed and/or refractory multiple myeloma (RRMM). Also, within hematological malignancies, POMALYST® is in phase III and post-approval trials for RRMM. In solid tumors, ABRAXANE® is currently being investigated in pancreatic cancer, breast and non-small cell lung cancers. In inflammation and immunology in 2018, we submitted a U.S. supplemental NDA and Japan NDA for OTEZLA® in Behçet's disease following positive results from the phase III trial (RELIEF™). Patients with active Behçet's disease showed statistically significant reductions in oral ulcers with OTEZLA® when compared to placebo. Also in 2018, the phase IIIb study (STYLE™) for OTEZLA® in patients with moderate to severe scalp psoriasis showed statistically significant improvement of the Scalp Physician's Global Assessment (ScPGA) response compared with placebo. OTEZLA® is also being evaluated in phase III trials in pediatric psoriasis (SPROUT®) and mild to moderate psoriasis (ADVANCE™) and a Phase IIIb trial in genital psoriasis (DISCREET™) while continuing to be studied in psoriatic arthritis and plaque psoriasis.

We also have a growing number of potential products in phase III trials or that have completed phase III across multiple diseases. In the inflammation and immunology therapeutic area, we completed two phase III trials (RADIANCE™ and SUNBEAM™) for ozanimod in relapsing multiple sclerosis (RMS). Both RADIANCE™ and SUNBEAM™ achieved their primary endpoints in reducing the annualized relapse rate in patients with RMS. In March 2019, we submitted a U.S. NDA and an application to the EMA for ozanimod in RMS. Enrollment has completed for the phase III TRUE NORTH™ trial in ulcerative colitis (UC) and is ongoing for the phase III YELLOWSTONE™ trial in Crohn's Disease (CD). In hematology, we submitted a U.S. NDA for fedratinib for the treatment of patients with myelofibrosis in January 2019 and in March 2019 the FDA granted Priority Review designation. In June and July 2018, Celgene and Acceleron Pharma, Inc. (Acceleron) announced that luspatercept achieved all primary and key secondary endpoints in the phase III MEDALIST™ and BELIEVE™ trials in patients with low-to-intermediate risk myelodysplastic syndromes (MDS) and transfusion-dependent beta-thalassemia, respectively. In April 2019, we submitted a Biologics License Application with the FDA for luspatercept in patients with transfusion-dependent, lower-risk MDS with ring sideroblasts (RS+) and transfusion-dependent beta-thalassemia. In collaboration with bluebird bio, the pivotal study (KarMMa™) evaluating bb2121 in RRMM is ongoing and enrollment was completed in the fourth quarter of 2018. The clinical program evaluating bb2121 in earlier lines of multiple myeloma (MM) was initiated in February 2019 (KarMMa-2™) . In the second quarter of 2018, we initiated the pivotal TRANSCEND WORLD trial evaluating liso-cel (lisocabtagene maraleucel) (JCAR017) in relapsed and/or refractory diffuse large B-cell lymphoma (DLBCL). Phase III trials are also underway for CC-486 in MDS, acute myeloid leukemia (AML), and angioimmunoblastic T-Cell lymphoma (AITL). In solid tumors, we are supporting a phase III study of marizomib in newly diagnosed glioblastoma, sponsored by the European Organization for Research and the Treatment of Cancer (EORTC) in collaboration with the Canadian Cancer Trials Group (CCTG). In 2018, our partner BeiGene initiated phase III trials for tislelizumab (BGB-A317) in 1L hepatocellular carcinoma, 2L/3L hepatocellular carcinoma, and 2L/3L non-small cell lung cancer.

Beyond our phase III programs, we have access to a growing early-to-mid-stage pipeline of novel potential therapies to address significant unmet medical needs that consists of new product candidates and cell therapies developed in-house, licensed from other companies or able to be optioned from collaboration partners. We believe that continued use of our primary commercial stage products, participation in research and development collaboration arrangements, depth of our product pipeline, potential regulatory approvals of new products and new indications for existing products will provide the catalysts for future growth.

Recent Developments

A comprehensive list of the diseases that our primary commercial stage products are approved to treat for the major markets of the United States, the European Union and Japan is provided in Part I, Item 1. Business in our 2018 Annual Report on Form 10-K filed with the SEC. The following tables present significant developments in our pivotal and phase III clinical trials and regulatory approval requests that occurred during the three-month period ended March 31, 2019, as well as developments that are expected to occur if the future occurrence is material and reasonably certain:

Pivotal and Phase III Trials:

Product Candidate	Trial	Disease Indication	Action
JCAR017 (liso-cel)	TRANSCEND-CLL-004	Chronic lymphocytic leukemia (CLL)	Initiated
OTEZLA®	CC-10004-PSOR-022 (ADVANCE®)	Mild to moderate psoriasis	Initiated
OTEZLA®	CC-10004-PSOR-025 (DISCREET®)	Genital psoriasis	Initiated
luspatercept	ACE-536-MDS-002 (COMMANDS®)	MDS 1L	Initiated

Regulatory agency actions:

Product	Disease Indication	Major Market	Regulatory Agency	Action
REVLIMID®	Relapsed and/or refractory indolent non-Hodgkin lymphoma	Japan	PDMA	Submitted
ozanimod	Relapsing multiple sclerosis	U.S.	FDA	Submitted
ozanimod	Relapsing-remitting multiple sclerosis	Europe	EMA	Submitted
luspatercept	MDS	U.S.	FDA	Submitted
luspatercept	Transfusion-dependent beta thalassemia	U.S.	FDA	Submitted
fedratinib	Myelofibrosis	U.S.	FDA	Filed

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Financial Update

The following table summarizes Net product sales, Total revenue and earnings for the three-month periods ended March 31, 2019 and 2018 (dollar amounts in millions, except per share amounts):

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
Net product sales	$4,024	$3,531	$ 493	14.0 %
Total revenue	4,025	3,538	487	13.8 %
Net income	1,545	846	699	82.6 %
Diluted earnings per share	$2.14	$1.10	$ 1.04	94.5 %

Total Net product sales for the three-month period ended March 31, 2019 increased by $493 million, or 14.0%, to approximately $4.0 billion compared to the three-month period ended March 31, 2018. The increase was comprised of net volume increases of $503 million, or 14.2%, and net price increases of $23 million, or 0.7%. The increase in volume was primarily driven by increased unit sales of REVLIMID®, POMALYST®/IMNOVID® and OTEZLA®. The price impact was primarily attributable to net price increases in the U.S., which were partially offset by net price decreases across international markets. Changes in foreign currency exchange rates including the impact of foreign exchange hedging activity unfavorably impacted Net product sales by $33 million, or (0.9)%.

Total revenue increased by $487 million, or 13.8%, to approximately $4.0 billion for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018, reflecting increases of $341 million, or 14.9%, in the United States and $146 million, or 11.6%, in international markets.

In addition to the increase in total revenue discussed above, notable items impacting Net income and diluted earnings per share for the three-month periods ended March 31, 2019 and 2018 are as follows:

	Income Statement Classification	Three-Month Periods Ended March 31,		Change
		2019	2018	
Collaboration arrangements (see Note 14*)	Research and development	$229	$247	$ (18)
Research and development asset acquisition expenses (see Note 3*)	Research and development	—	1,125	(1,125)
Adjustment of clinical trial and development activity wind-down costs	Selling, general and administrative	—	(60)	60
Bristol-Myers Squibb - Celgene Merger Costs (see Note 1*)	Acquisition/integration related charges and restructuring, net	47	—	47
Juno acquisition costs (see Note 3*)	Acquisition/integration related charges and restructuring, net	—	63	(63)
Fair value adjustments on equity investments	Other income, net	269	959	(690)
Share-based compensation expense (see Notes 3 and 12*) [(1)]	Cost of goods sold, Research and development, and Selling, general and administrative	257	401	(144)

(1) Includes share-based compensation expense related to the acquisition of Juno post-combination service period of $133 million and $117 million, which was recorded in Research and development and Selling, general and administrative expenses, respectively, for the three-month period ended March 31, 2018.

* References to Notes in this table are to the Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Three-Month Periods Ended March 31, 2019 and 2018

Net Product Sales and Other Revenues

Net product sales and Other revenues for the three-month periods ended March 31, 2019 and 2018 were as follows:

REVLIMID®

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
U.S.	$1,686	$1,487	$ 199	13.4 %
International	891	747	144	19.3 %
Worldwide	$2,577	$2,234	$ 343	15.4 %

REVLIMID® net sales increased by $343 million, or 15.4%, to approximately $2.6 billion for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. Sales growth was primarily volume-driven due to global increases in treatment duration and market share. In the U.S., sales growth increased due to both unit sales and price increases. International volume growth was partially offset by net price decreases.

POMALYST®/IMNOVID®

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
U.S.	$ 390	$ 300	$ 90	30.0 %
International	167	153	14	9.2 %
Worldwide	$ 557	$ 453	$ 104	23.0 %

POMALYST®/IMNOVID® net sales increased by $104 million, or 23.0%, to $557 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018, primarily due to increased sales in the U.S. market. In the U.S., sales growth increased due to both unit sales and price increases. Increases in market share and treatment duration contributed to the increase in U.S. unit sales. In addition, international unit sales increased, primarily due to increased treatment duration in Europe and Japan. International volume growth was partially offset by net price decreases.

OTEZLA®

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
U.S.	$ 301	$ 276	$ 25	9.1 %
International	88	77	11	14.3 %
Worldwide	$ 389	$ 353	$ 36	10.2 %

OTEZLA® net sales increased by $36 million, or 10.2%, to $389 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. In the U.S., sales growth increased primarily due to

unit sales increases as a result of new managed care contracts executed in 2018, which contributed to higher gross-to-net charges partially offsetting the increase in gross sales. Sales growth in international markets was primarily due to volume growth, led by Japan.

ABRAXANE®

	Three-Month Periods Ended March 31,		Increase/(Decrease)	Percent Change
	2019	2018		
U.S.	$196	$159	$ 37	23.3 %
International	90	103	(13)	(12.6)%
Worldwide	$286	$262	$ 24	9.2 %

ABRAXANE® net sales increased by $24 million, or 9.2%, to $286 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018 primarily due to increases in global unit sales. In the U.S., sales growth increased due to both unit sales and price increases. International sales decreased primarily due to net price decreases.

OTHER PRODUCT SALES

	Three-Month Periods Ended March 31,		(Decrease)	Percent Change
	2019	2018		
U.S.	$48	$57	$ (9)	(15.8)%
International	167	172	(5)	(2.9)%
Worldwide	$215	$229	$ (14)	(6.1)%

All other product sales, which include IDHIFA®, VIDAZA®, generic azacitidine for injection, THALOMID®, and ISTODAX®, decreased by $14 million primarily due to decreases in ISTODAX®, THALOMID® and VIDAZA® net sales partially offset by increased IDHIFA® net sales.

Other Revenue: Other revenue decreased by $6 million to $1 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018.

Gross-to-Net Sales Accruals: We record gross-to-net sales accruals for government rebates, chargebacks and distributor service fees, sales discounts, and sales returns and allowances. For a discussion of our gross-to-net sales accruals, see Critical Accounting Estimates and Significant Accounting Policies in our 2018 Annual Report on Form 10-K.

Gross-to-net sales accruals and the balance in the related allowance accounts for the three-month periods ended March 31, 2019 and 2018 were as follows:

	Government Rebates	Chargebacks and Distributor Service Fees	Sales Discounts	Sales Returns and Allowances	Total
Balance as of December 31, 2018	$ 678	$ 429	$ 22	$ 47	$1,176
Allowances for sales during prior periods	11	(4)	—	8	15
Allowances for sales during 2019	372	547	68	2	989
Credits/deductions issued for sales during prior periods	(186)	(227)	(22)	(27)	(462)
Credits/deductions issued for sales during 2019	(24)	(301)	(41)	(1)	(367)
Balance as of March 31, 2019	$ 851	$ 444	$ 27	$ 29	$1,351

Balance as of December 31, 2017	$ 544	$ 270	$ 20	$ 15	$849
Allowances for sales during prior periods	(6)	(3)	—	—	(9)
Allowances for sales during 2018	297	370	56	2	725
Credits/deductions issued for sales during prior periods	(147)	(136)	(19)	(1)	(303)
Credits/deductions issued for sales during 2018	(29)	(185)	(38)	(1)	(253)
Balance as of March 31, 2018	$ 659	$ 316	$ 19	$ 15	$1,009

A comparison of provisions for allowances for sales within each of the four categories noted above for the three-month periods ended March 31, 2019 and 2018 are as follows:

Government rebate provisions increased by $92 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018, due to a $67 million increase in the U.S. market and a $25 million increase in international government rebates. The increase in the U.S. market was primarily due to higher sales volumes and increased rebate rates, including an increase in the Medicare Part D Coverage Gap in 2019 to 70%, an increase of 20 percentage points compared to 2018, and $28 million due to an increase in Medicaid rebates (mostly in the managed care channel). The increase in international government rebates was primarily driven by higher sales volumes and increased rebate rates.

Chargebacks and distributor service fees provisions increased by $176 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. Chargebacks increased by $73 million and distributor service fees increased by $103 million. The increase in chargebacks was primarily due to higher sales volumes and a greater portion of sales qualifying for chargeback rebates. The distributor service fees increase was primarily attributable to increased sales volumes and new managed care contracts for OTEZLA®, which accounted for $73 million of the increase, as well as a $22 million increase in commercial copayment program expense and a $4 million increase in the distributor service fees expense, both of which also were attributable to higher sales volumes.

Discount provisions increased by $12 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018, primarily due to higher sales volumes. The increase was primarily comprised of an increase of $6 million related to REVLIMID® as well as increases related to OTEZLA® and POMALYST®.

Provisions for Sales Returns and Allowances increased by $8 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018 as the current period included a $7 million increase in the OTEZLA® returns reserve allowance related to sales of shorter-dated inventory in early- to mid-2018.

Operating Costs and Expenses

Operating costs, expenses and related percentages for the three-month periods ended March 31, 2019 and 2018 were as follows:

Cost of Goods Sold (excluding amortization of acquired intangible assets)

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
Cost of goods sold (excluding amortization of acquired intangible assets)	$140	$135	$ 5	3.7 %
Percent of Net product sales	3.5 %	3.8 %		

Cost of goods sold (excluding amortization of acquired intangible assets) increased by $5 million to $140 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. As a percent of net product sales, cost of goods sold (excluding amortization of acquired intangible assets) decreased to 3.5% for the three-month period ended March 31, 2019 compared to 3.8% for the three-month period ended March 31, 2018, primarily due to POMALYST®/IMNOVID® and REVLIMID® which have a lower cost, comprising a higher percentage of net product sales, while sales of ABRAXANE® and VIDAZA® which have a higher cost, comprising a lower percentage of net product sales.

Research and Development

	Three-Month Periods Ended March 31,		(Decrease)	Percent Change
	2019	2018		
Research and development	$1,216	$2,203	$ (987)	(44.8)%
Percent of Total revenue	30.2 %	62.3 %		

Research and development expenses decreased by $987 million to approximately $1.2 billion for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. The decrease was primarily due to $1.1 billion of

research and development asset acquisition expense related to our purchase of Impact Biomedicines, Inc. (Impact) during the first quarter of 2018. Also contributing to the decrease in Research and development expense was a decrease in share-based compensation expense of $73 million, primarily related to incremental expense recorded in the first quarter of 2018 related to the acquisition of Juno. These decreases were partially offset by an adjustment of $60 million, which was recorded in the first quarter of 2018, related to the clinical trial and development activity wind-down costs associated with the discontinuation of the GED-0301 clinical trials in Crohn's disease in the fourth quarter of 2017. See Note 3 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details related to our acquisitions. Our research and development expenses may fluctuate from period-to-period based on the volume and timing of closing collaboration arrangements and asset acquisitions and associated obligations pursuant to such arrangements.

The following table provides a breakdown of Research and development expenses:

	Three-Month Periods Ended March 31,		Increase/(Decrease)	Percent Change
	2019	2018		
Human pharmaceutical clinical programs	$579	$468	$ 111	23.7 %
Other pharmaceutical programs	177	250	(73)	(29.2)%
(Benefit) charges related to GED-0301 Trials	—	(60)	60	(100.0)%
Drug discovery and development	231	173	58	33.5 %
Collaboration arrangements (See Note 14*)	229	247	(18)	(7.3)%
Research and development asset acquisition expenses (See Note 3*)	—	1,125	(1,125)	(100.0)%
Total	$1,216	$2,203	$ (987)	(44.8)%

* References to Notes in this table are to the Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Selling, General and Administrative

	Three-Month Periods Ended March 31,		(Decrease)	Percent Change
	2019	2018		
Selling, general and administrative	$773	$864	$ (91)	(10.5)%
Percent of Total revenue	19.2 %	24.4 %		

Selling, general and administrative expenses decreased by $91 million to $773 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. The decrease in Selling, general and administrative expenses was primarily due to a decrease in share-based compensation expense of $74 million, primarily related to incremental expense recorded in the first quarter of 2018 related to the acquisition of Juno, as well as a decrease of approximately $60 million in donations to independent non-profit patient assistance organizations in the U.S recorded during the current period. These decreases were partially offset by an increase of $43 million in marketing related expenses. See Note 3 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details related to our acquisition of Juno.

Amortization of Acquired Intangible Assets

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
Amortization of acquired intangible assets	$ 109	$ 87	$ 22	25.3 %

Amortization of intangible assets acquired as a result of business combinations is summarized below for the three-month periods ended March 31, 2019 and 2018:

	Three-Month Periods Ended March 31,		Increase/(Decrease)
Acquisitions	2019	2018	
Abraxis	$ 88	$ 38	$ 50
Gloucester	—	23	(23)
Juno	21	7	14
Pharmion	—	1	(1)
Quanticel	—	18	(18)
Total amortization	$ 109	$ 87	$ 22

Effective for the second quarter of 2018, we reduced the remaining estimated useful life of our ABRAXANE® intangible assets as a result of settlements of patent-related proceedings, which resulted in approximately $50 million of accelerated amortization per quarter. Amortization expense also increased by $14 million as a result of the technology platform asset acquired through the acquisition of Juno during the first quarter of 2018. These increases were partially offset by a reduction in amortization expense as the Gloucester and Pharmion intangible assets were fully amortized in the first quarter of 2018 and the Quanticel intangible assets were fully amortized in the fourth quarter of 2018. See Note 3 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional information regarding our acquisition of Juno.

Acquisition/Integration Related Charges and Restructuring, Net

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
Acquisition/integration related charges and restructuring, net	$ 77	$ 31	$ 46	148.4 %

Acquisition/integration related charges and restructuring, net was a net charge of $77 million for the three-month period ended March 31, 2019, compared to a net charge of $31 million for the three-month period ended March 31, 2018. The net charge in 2019 primarily relates to $47 million of acquisition and integration preparation costs associated with the Bristol-Myers Squibb - Celgene Merger as well as an increase in the fair value of our liability related to publicly traded Abraxis contingent value rights (Abraxis CVRs) of $30 million that were issued as part of the acquisition of Abraxis BioScience, Inc (Abraxis). The net charge in 2018 primarily related to $63 million of acquisition costs associated with the acquisition of Juno, which were partially offset by a benefit related to the decrease in the fair value of our liability related to publicly traded Abraxis CVRs of $29 million that were issued as part of the acquisition of Abraxis. See Note 1, Note 3 and Note 6 of Notes to the Unaudited Consolidated Financial

Statements contained elsewhere in this report for additional details related to the Bristol-Myers Squibb - Celgene Merger, our acquisition of Juno and contingent consideration liabilities, respectively.

Other Income and Expenses

Other income and expense for the three-month periods ended March 31, 2019 and 2018 were as follows:

Interest and Investment Income, Net:

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
Interest and investment income, net	$ 34	$ 13	$ 21	161.5 %

Interest and investment income, net increased by $21 million to $34 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018 primarily due to higher investment balances as compared to the prior year period.

Interest (Expense):

	Three-Month Periods Ended March 31,		Increase	Percent Change
	2019	2018		
Interest (expense)	$(192)	$(166)	$ (26)	15.7 %

Interest (expense) increased by $26 million to $192 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018 primarily due to the interest expense associated with the issuance of $4.5 billion of senior notes during February of 2018. See Note 11 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details related to debt.

Other Income, Net:

	Three-Month Periods Ended March 31,		(Decrease)
	2019	2018	
Foreign exchange gains, including foreign exchange derivative instruments not designated as hedging instruments (See Note 7*)	$1	$7	$ (6)
Fair value adjustments on equity investments	269	959	(690)
Other	(8)	(1)	(7)
Total Other income, net	$262	$965	$ (703)

* References to Notes in this table are to the Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Income Tax Provision: The Income tax provision increased by $85 million to $269 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018, primarily due to an increase in income before income taxes, partially offset by a decrease in our estimated effective tax rate. The effective tax rate for the three-month period ended March 31, 2019 was 14.8%, a decrease of 3.1 percentage points from our effective tax rate of 17.9% for the three-month period ended March 31, 2018. The decrease in our effective tax rate was primarily due to non-recurring 2018 non-deductible research expenses incurred in our acquisition of Impact.

Our effective tax rate in 2019 is a function of the distribution of our pre-tax income earned inside and outside of the U.S. Our pre-tax income earned in the U.S. is taxed at a U.S. statutory tax rate of 21%. Our pre-tax income earned outside the U.S. is taxed both in the U.S. at an effective federal statutory tax rate of 10.5% and in the foreign jurisdictions where we have operations at lower effective tax rates. Our global pre-tax income is also subject to taxation in most U.S. states. Our future effective tax rate can be materially impacted by shifts in the distribution of our pre-tax income among the jurisdictions where we operate, the amount of research tax credits, the amount of foreign tax credits, the timing and amount of tax benefits from employee stock compensation, payments to collaboration partners, acquisitions, divestitures, changes in tax laws, audit settlements and many other factors which are difficult to forecast.

Liquidity and Capital Resources

The following table summarizes the components of our financial condition as of:

	March 31, 2019	December 31, 2018	Increase/(Decrease)
Financial assets:			
Cash and cash equivalents	$5,433	$ 4,234	$ 1,199
Debt securities available-for-sale	664	496	168
Equity investments with readily determinable fair values	1,594	1,312	282
Total financial assets	$7,691	$ 6,042	$ 1,649
Debt:			
Short-term borrowings and current portion of long-term debt	$500	$ 501	$ (1)
Long-term debt, net of discount	19,781	19,769	12
Total debt	$20,281	$ 20,270	$ 11
Working capital [(1)]	$7,094	$ 5,083	$ 2,011

(1) Includes Cash and cash equivalents, Debt securities available-for-sale, Equity investments with readily determinable fair values, Accounts receivable, net of allowances, Inventory and Other current assets, less Short-term borrowings and current portion of long-term debt, Accounts payable, Accrued expenses and other current liabilities, and the current portion of Income taxes payable.

We rely primarily on positive cash flows from operating activities, proceeds from sales of debt securities available-for-sale and borrowings in the form of long-term notes payable and short-term commercial paper to provide for our liquidity requirements. We expect continued growth in our expenditures, particularly those related to research and development, clinical trials, commercialization of new products, international expansion and capital investments. However, we anticipate that existing cash and cash equivalent balances, debt securities available-for-sale, cash generated from operations and existing sources of and access to financing are adequate to fund our operating needs, capital expenditures, debt service requirements and strategic business initiatives for the foreseeable future. The definitive merger agreement includes restrictions on the conduct of our business prior to the completion of the merger or termination of the merger agreement, generally requiring us to conduct our business in the ordinary course consistent with past practice. Without limiting the generality of the foregoing, we are subject to a variety of specified restrictions. Unless we obtain Bristol-Myers Squibb's prior written consent (which consent may not be unreasonably withheld, conditioned or delayed) and except (i) as required or expressly contemplated by the merger agreement, (ii) as required by applicable law or (iii) as set forth in the confidential disclosure schedule delivered by Celgene to Bristol-Myers Squibb, we may not, among other things, incur additional indebtedness, issue additional shares of our common stock outside of our equity incentive plans, repurchase our common stock, pay dividends, acquire assets, securities or property (subject to certain exceptions, including without limitation, acquisitions up to a specified individual amount and an aggregate limitation), dispose of businesses or assets, enter into material contracts or make certain additional capital expenditures. See Item 1A. "Risk Factors - While the merger is pending, we are subject to business uncertainties and contractual restrictions that could materially adversely affect our operating results, financial position and/or cash flows or result in a loss of employees, customers, collaborators or suppliers."

Many of our operations are conducted outside the United States and significant portions of our cash, cash equivalents and short-term investments are held internationally. As of March 31, 2019, we held approximately $4.7 billion of these short-term funds in foreign tax jurisdictions. We expect to have access to this cash with minimal to no additional U.S. tax impact. The amount of funds held in U.S. tax jurisdictions can fluctuate due to the timing of receipts and payments in the ordinary course of business, including intercompany transactions, as well as for other reasons, such as

repurchases of our common stock, internal reorganizations, business-development activities, restrictions on distributions out of foreign tax jurisdictions and debt issuances. As part of our ongoing liquidity assessments, we regularly monitor the mix of domestic and international cash flows (both inflows and outflows). Under the 2017 Tax Act, a company's post-1986 previously untaxed foreign Earnings and Profits (E&P) was mandatorily deemed to be repatriated and taxed, which is also referred to as the toll charge. We have elected to pay the toll charge in annual installments over eight years through 2025.

Share Repurchase Program: As of March 31, 2019, we had remaining availability under our authorized common stock share repurchase program of $2.8 billion. We did not repurchase any shares of our common stock during the three-month period ended March 31, 2019.

Components of Working Capital

Cash and Cash Equivalents, Debt Securities Available-for-Sale and Equity Investments with Readily Determinable Fair Values: From time to time, we invest our excess cash primarily in money market funds, repurchase agreements, time deposits, commercial paper, U.S. Treasury securities, U.S. government-sponsored agency securities, U.S. government-sponsored agency mortgage-backed securities (MBS), ultra-short income fund investments, global corporate debt securities and asset backed securities. All liquid investments with maturities of three months or less from the date of purchase are classified as cash equivalents and all investments with maturities of greater than three months from the date of purchase are classified as Debt securities available-for-sale. See Note 8 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report. The approximate $1.6 billion increase in Cash and cash equivalents, Debt securities available-for-sale and Equity investments with readily determinable fair values as of March 31, 2019 compared to December 31, 2018 was primarily due to approximately $1.5 billion of cash from operating activities for the three-month period ended March 31, 2019.

Accounts Receivable, Net: Accounts receivable, net increased by $261 million to approximately $2.3 billion as of March 31, 2019 compared to December 31, 2018. Sales made outside the United States typically have payment terms that are greater than 60 days, thereby extending collection periods beyond those in the United States. We expect our accounts receivable balance to grow as our international sales continue to expand.

We continue to monitor economic conditions, including the volatility associated with international economies, the sovereign debt situation in certain European countries and associated impacts on the financial markets and our business. Our current business model in these markets is typically to sell our hematology and oncology products directly to principally government owned or controlled hospitals, which in turn directly deliver critical care to patients. Many of our products are used to treat life-threatening diseases and we believe this business model enables timely delivery and adequate supply of products. Many of the outstanding receivable balances are related to government-funded hospitals and we believe the receivable balances are ultimately collectible. Similarly, we believe that future sales to these customers will continue to be collectible.

Inventory: Inventory balances decreased by $16 million to $442 million as of March 31, 2019 compared to December 31, 2018.

Other Current Assets: Other current assets increased by $20 million to $521 million as of March 31, 2019 compared to December 31, 2018 primarily due to increases of $68 million in receivables due to employee stock option exercises and $7 million of net other increases, partially offset by a decrease of $55 million in prepaid taxes.

Commercial Paper: We have a commercial paper program (Program) under which we issue unsecured commercial paper notes (Commercial Paper) on a private placement basis, the proceeds of which are used for general corporate purposes. As of March 31, 2019, we had available capacity to issue up to $2.0 billion of Commercial Paper and there were no borrowings under the Program. The maturities of the Commercial Paper may vary, but may not exceed 270 days from the date of issue. The Commercial Paper is sold under customary terms to a dealer or in the commercial paper market and is issued at a discount from par or, alternatively, is sold at par and bears varying interest rates on a fixed or floating basis. Borrowings under the Program, if any, are accounted for as short-term borrowings.

Senior Unsecured Credit Facility: We maintain a senior unsecured revolving credit facility (Credit Facility) that provides revolving credit in the aggregate amount of $2.0 billion. Amounts may be borrowed in U.S. Dollars for general corporate purposes. The Credit Facility currently serves as backup liquidity for our commercial paper borrowings and expires on April 25, 2023. As of March 31, 2019, there was no outstanding borrowing against the Credit Facility.

The Credit Facility contains affirmative and negative covenants, including certain customary financial covenants. We were in compliance with all financial covenants as of March 31, 2019.

Accounts Payable, Accrued Expenses and Other Current Liabilities: Accounts payable and Accrued expenses and other current liabilities decreased by $90 million to approximately $3.3 billion as of March 31, 2019 compared to December 31, 2018. The decrease was primarily due to decreases of $170 million for compensation related accruals, $86 million for accrued interest expense, $78 million for accounts payable and $70 million related to success payment liabilities assumed through our acquisition of Juno These decreases were partially offset by increases of $170 million for sales adjustments accruals, $79 million for current portion of operating leases obligations, and $65 million for net other increases.

Income Taxes Payable (Current and Non-Current): Income taxes payable increased by $36 million to approximately $2.3 billion as of March 31, 2019 compared to December 31, 2018, primarily due to the current provision for income taxes of $310 million, which was partially offset by income tax payments of $275 million.

Analysis of Cash Flows

Cash flows from operating, investing and financing activities for the three-month periods ended March 31, 2019 and 2018 were as follows:

	Three-Month Periods Ended March 31,		
	2019	2018	Change
Net cash provided by (used in) operating activities	$1,476	$(325)	$1,801
Net cash (used in) investing activities	(295)	(5,658)	5,363
Net cash provided by financing activities	26	1,756	(1,730)

Operating Activities: Net cash provided by operating activities increased by approximately $1.8 billion to approximately $1.5 billion for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. The increase in net cash provided by operating activities was primarily attributable to the approximate $1.1 billion initial payment made in 2018 for the acquisition of Impact and decreased working capital requirements in 2019 compared to 2018.

Investing Activities: Net cash used in investing activities decreased by approximately $5.4 billion to $295 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. The decrease in net cash used in investing activities was primarily due to approximately $8.6 billion of payments for the acquisition of Juno, net of cash acquired in 2018, partially offset by $167 million of net purchases of debt securities available-for-sale in 2019 compared to approximately $3.1 billion of net sales of debt securities available-for-sale in 2018. See Note 3 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details related to the Juno acquisition.

Financing Activities: Net cash provided by financing activities decreased by approximately $1.7 billion to $26 million for the three-month period ended March 31, 2019 compared to the three-month period ended March 31, 2018. Net cash provided by financing activities decreased due to proceeds from the February 2018 debt issuance, which provided approximately $4.5 billion. See Note 11 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details. This decrease in net cash used in financing activities was partially offset by payments related to our share repurchase program due to not repurchasing any shares of our common stock during 2019 compared to 2018 where we had payments of approximately $2.7 billion under our share repurchase program. See Note 4 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details.

Contractual Obligations

For a discussion of our contractual obligations, see “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our 2018 Annual Report on Form 10-K. There have not been any material changes to such contractual obligations or potential milestone payments since December 31, 2018 aside from those disclosed in Note 1, Note 3, Note 14 and Note 16 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Critical Accounting Estimates and Significant Accounting Policies

A critical accounting policy is one that is both important to the portrayal of our financial condition and results of operation and requires management’s most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Our critical accounting estimates are disclosed in the Management’s Discussion and Analysis of Financial Condition and Results of Operations section of our 2018 Annual Report on Form 10-K. Effective January 1, 2019, we changed our approach to lease accounting in conjunction with our adoption of Accounting Standards Update No. 2016-02, "Leases" (ASU 2016-02) and subsequent amendments to ASU 2016-02, including Accounting Standards Update No.

2018-11 “Leases: Targeted Improvements” (ASU 2018-11 and, when taken together with ASU 2016-02, the “New Lease Accounting Standard”). As a result of the adoption of the New Lease Accounting Standard, we have updated our lease accounting policies. See Note 1 and Note 16 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details related to our adoption of the New Lease Accounting Standard. There were no other significant changes to our critical accounting estimates and significant accounting policies as disclosed in the Management’s Discussion and Analysis of Financial Condition and Results of Operations section of our 2018 Annual Report on Form 10-K. In addition, see Note 1 of Notes to Unaudited Consolidated Financial Statements included elsewhere in this report for additional details related to new accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The following discussion provides forward-looking quantitative and qualitative information about our potential exposure to market risk. Market risk represents the potential loss arising from adverse changes in the value of financial instruments. The risk of loss is assessed based on the likelihood of adverse changes in fair values, cash flows or future earnings.

We have established guidelines relative to the diversification and maturities of investments to maintain safety and liquidity. These guidelines are reviewed periodically and may be modified depending on market conditions. Although investments may be subject to credit risk, our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer or type of investment. As of March 31, 2019, our market risk sensitive instruments consisted of debt securities available-for-sale, equity investments with readily determinable fair values, our long-term debt and certain derivative contracts (See Notes 8, 6, 11 and 7 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details, respectively).

Debt Securities Available-for-Sale: As of March 31, 2019, the principal amounts, fair values and related weighted-average interest rates of our investments in debt securities classified as Debt securities available-for-sale were as follows (dollar amounts in millions):

	Duration			
	Less Than 1 Year	1 to 3 Years	3 to 5 Years	Total
Principal amount	$664	$ —	$ —	$664
Fair value	664	—	—	664
Weighted average interest rate	2.7 %	—%	—%	2.7 %

Equity Investments with Readily Determinable Fair Values

Our Equity investments with readily determinable fair values are primarily equity investments in the publicly traded common stock of companies, including common stock of companies with whom we have entered into collaboration arrangements. Realized and unrealized gains and losses related to such securities are included in Other income, net on the Consolidated Statements of Income.

Debt Obligations

Short-Term Borrowings and Current Portion of Long-Term Debt: We had no outstanding short-term borrowings as of March 31, 2019 and December 31, 2018. The carrying value of the current portion of long-term debt outstanding as of March 31, 2019 and December 31, 2018 includes:

	March 31, 2019	December 31, 2018
2.250% senior notes due 2019	$ 500	$ 501

Long-Term Debt: Our outstanding senior notes with maturity dates in excess of one year after March 31, 2019 have an aggregate principal amount of $19.850 billion with varying maturity dates and interest rates. The principal amounts and carrying values of the long-term portion of these senior notes as of March 31, 2019 are summarized below:

	Principal Amount	Carrying Value
2.875% senior notes due 2020	$1,500	$1,497
3.950% senior notes due 2020	500	508
2.250% senior notes due 2021	500	498
2.875% senior notes due 2021	500	499
3.250% senior notes due 2022	1,000	1,032
3.550% senior notes due 2022	1,000	996
2.750% senior notes due 2023	750	747
3.250% senior notes due 2023	1,000	994
4.000% senior notes due 2023	700	729
3.625% senior notes due 2024	1,000	1,000
3.875% senior notes due 2025	2,500	2,482
3.450% senior notes due 2027	1,000	997
3.900% senior notes due 2028	1,500	1,490
5.700% senior notes due 2040	250	247
5.250% senior notes due 2043	400	393
4.625% senior notes due 2044	1,000	987
5.000% senior notes due 2045	2,000	1,975
4.350% senior notes due 2047	1,250	1,234
4.550% senior notes due 2048	1,500	1,476
Total long-term debt	$19,850	$19,781

As of March 31, 2019, the fair value of our outstanding debt of $20.725 billion.

MARKET RISK MANAGEMENT

Our revenue and earnings, cash flows and fair values of assets and liabilities can be impacted by fluctuations in foreign exchange rates and interest rates. We actively manage the impact of foreign exchange rate and interest rate movements through operational means and through the use of various financial instruments, including derivative instruments such as foreign currency option contracts, foreign currency forward contracts, treasury rate lock agreements and interest rate swap contracts. In instances where these financial instruments are accounted for as cash flow hedges or fair value hedges we may from time to time terminate the hedging relationship. If a hedging relationship is terminated, we generally either settle the instrument or enter into an offsetting instrument.

Foreign Currency Risk Management

We maintain a foreign exchange exposure management program to mitigate the impact of volatility in foreign exchange rates on future foreign currency cash flows, translation of foreign earnings and changes in the fair value of assets and liabilities denominated in foreign currencies.

Through our revenue hedging program, we endeavor to reduce the impact of possible unfavorable changes in foreign exchange rates on our future U.S. Dollar cash flows that are derived from foreign currency denominated sales. To achieve this objective, we hedge a portion of our forecasted foreign currency denominated sales that are expected to occur in the foreseeable future, typically within the next three years, with a maximum of five years. We manage our anticipated transaction exposure principally with foreign currency forward contracts, a combination of foreign

currency zero-cost collars, and occasionally purchased foreign currency put options.

Foreign Currency Forward Contracts: We use foreign currency forward contracts to hedge specific forecasted transactions denominated in foreign currencies, manage exchange rate volatility in the translation of foreign earnings, and reduce exposures to foreign currency fluctuations of certain assets and liabilities denominated in foreign currencies.

We manage a portfolio of foreign currency forward contracts to protect against changes in anticipated foreign currency cash flows resulting from changes in foreign currency exchange rates, primarily associated with non-functional currency denominated revenues and expenses of foreign subsidiaries. The foreign currency forward hedging contracts outstanding as of March 31, 2019 and December 31, 2018 had settlement dates within 27 months and 30 months, respectively. The spot rate components of these foreign currency forward contracts are designated as cash flow hedges and any unrealized gains or losses are reported in Other comprehensive income (OCI) and reclassified to the Consolidated Statements of Income in the same periods during which the underlying hedged transactions affect earnings. If a hedging relationship is terminated with respect to a foreign currency forward contract, accumulated gains or losses associated with the contract remain in OCI until the hedged forecasted transaction occurs and are reclassified to operations in the same periods during which the underlying hedged transactions affect earnings. We recognize in earnings the initial value of the forward point components on a straight-line basis over the life of the derivative instrument within the same line item in the Consolidated Statements of Income that is used to present the earnings effect of the hedged item.

Foreign currency forward contracts entered into to hedge forecasted revenue and expenses were as follows as of March 31, 2019 and December 31, 2018:

	Notional Amount	
Foreign Currency	March 31, 2019	December 31, 2018
Australian Dollar	$31	$ 46
British Pound	49	82
Canadian Dollar	112	158
Euro	887	1,381
Japanese Yen	320	424
Total	$1,399	$ 2,091

We consider the impact of our own and the counterparties’ credit risk on the fair value of the contracts as well as the ability of each party to execute its obligations under the contract on an ongoing basis. As of March 31, 2019, credit risk did not materially change the fair value of our foreign currency forward contracts.

We also manage a portfolio of foreign currency contracts to reduce exposures to foreign currency fluctuations of certain recognized assets and liabilities denominated in foreign currencies and, from time to time, we enter into foreign currency contracts to manage exposure related to translation of foreign earnings. These foreign currency forward contracts have not been designated as hedges and, accordingly, any changes in their fair value are recognized on the Consolidated Statements of Income in Other income, net in the current period. The aggregate notional amount of the foreign currency forward non-designated hedging contracts outstanding as of March 31, 2019 and December 31, 2018 were $398 million and $347 million, respectively.

Although not predictive in nature, we believe a hypothetical 10% threshold reflects a reasonably possible near-term change in foreign currency rates. Assuming that the March 31, 2019 exchange rates were to change by a hypothetical 10%, the fair value of the foreign currency forward contracts would change by approximately $167 million. However, since the contracts either hedge specific forecasted intercompany transactions denominated in foreign currencies or relate to assets and liabilities denominated in currencies other than the entities' functional currencies, any change in

the fair value of the contract would be either reported in OCI and reclassified to earnings in the same periods during which the underlying hedged transactions affect earnings or re-measured through earnings each period along with the underlying asset or liability.

Foreign Currency Option Contracts: From time to time, we may hedge a portion of our future foreign currency exposure by utilizing a strategy that involves both a purchased local currency put option and a written local currency call option that are accounted for as hedges of future sales denominated in that local currency. Specifically, we sell (or write) a local currency call option and purchase a local currency put option with the same expiration dates and local currency notional amounts but with different strike prices. The premium collected from the sale of the call option is equal to the premium paid for the purchased put option, resulting in no net premium being paid. This combination of transactions is generally referred to as a “zero-cost collar.” The expiration dates and notional amounts correspond to the amount and timing of forecasted foreign currency sales. The foreign currency zero-cost collar contracts outstanding as of March 31, 2019 and December 31, 2018 had settlement dates within 21 months and 24 months, respectively. If the U.S. Dollar weakens relative to the currency of the hedged anticipated sales, the purchased put

option value reduces to zero and we benefit from the increase in the U.S. Dollar equivalent value of our anticipated foreign currency cash flows; however, this benefit would be capped at the strike level of the written call, which forms the upper end of the collar.

Outstanding foreign currency zero-cost collar contracts entered into to hedge forecasted revenue were as follows as of March 31, 2019 and December 31, 2018:

	Notional Amount [(1)]	
	March 31, 2019	December 31, 2018
Foreign currency zero-cost collar contracts designated as hedging activity:		
Purchased Put	$1,893	$ 1,933
Written Call	2,171	2,216

[(1)] U.S. Dollar notional amounts are calculated as the hedged local currency amount multiplied by the strike value of the foreign currency option. The local currency notional amounts of our purchased put and written call that are designated as hedging activities are equal to each other.

We previously entered into foreign currency purchased put option contracts to hedge forecasted revenue which were not part of a collar strategy. Such purchased put option contracts had a notional value of nil as of March 31, 2019 and December 31, 2018. We de-designated all of our purchased put option contracts prior to March 31, 2019.

Assuming that the March 31, 2019 exchange rates were to change by a hypothetical 10%, the fair value of the foreign currency option contracts would increase by approximately $110 million if the U.S. Dollar were to strengthen and decrease by approximately $81 million if the U.S. Dollar were to weaken. However, since the contracts hedge specific forecasted intercompany transactions denominated in foreign currencies, any change in the fair value of the contract would be reported in OCI and reclassified to earnings in the same periods during which the underlying hedged transactions affect earnings.

Interest Rate Risk Management

Forward Starting Interest Rate Swaps and Treasury Rate Locks: In anticipation of issuing fixed-rate debt, we may use forward starting interest rate swaps (forward starting swaps) or treasury rate lock agreements (treasury rate locks) that are designated as cash flow hedges to hedge against changes in interest rates that could impact expected future issuances of debt. To the extent these hedges of cash flows related to anticipated debt are effective, any realized or unrealized gains or losses on the forward starting swaps or treasury rate locks are reported in OCI and are recognized in income over the life of the anticipated fixed-rate notes. As of March 31, 2019 and December 31, 2018, we did not have any outstanding forward starting swaps or treasury rate locks.

Interest Rate Swap Contracts: From time to time we hedge the fair value of certain debt obligations through the use of interest rate swap contracts. The interest rate swap contracts are designated hedges of the fair value changes in the notes attributable to changes in benchmark interest rates. Gains or losses resulting from changes in fair value of the underlying debt attributable to the hedged benchmark interest rate risk are recorded on the Consolidated Statements of Income within Interest (expense) with an associated offset to the carrying value of the notes recorded on the Consolidated Balance Sheets. Since the specific terms and notional amount of the swap are intended to match those of the debt being hedged all changes in fair value of the swap are recorded on the Consolidated Statements of Income within Interest (expense) with an associated offset to the derivative asset or liability on the Consolidated Balance Sheets. Consequently, there is no net impact recorded in income. Any net interest payments made or received on interest rate swap contracts are recognized as interest expense on the Consolidated Statements of Income. If a hedging relationship is terminated for an interest rate swap contract, accumulated gains or losses associated with the contract

are measured and recorded as a reduction or increase of current and future interest expense associated with the previously hedged debt obligations.

The following table summarizes the notional amounts of our outstanding interest rate swap contracts as of March 31, 2019 and December 31, 2018:

	Notional Amount	
	March 31, 2019	December 31, 2018
Interest rate swap contracts entered into as fair value hedges of the following fixed-rate senior notes:		
3.875% senior notes due 2025	$200	$ 200
3.450% senior notes due 2027	450	450
3.900% senior notes due 2028	—	200
Total	$650	$ 850

We have entered into swap contracts that were designated as hedges of certain of our fixed rate notes in 2019 and 2018, and also terminated the hedging relationship by settling certain of those swap contracts during 2019 and 2018. In 2019, we settled $200 million notional amount of certain swap contracts. The settlement of swap contracts resulted in the receipt of net proceeds of $5 million during the three-month period ended March 31, 2019, which are accounted for as a reduction of current and future interest expense associated with these notes. During 2018, we settled $250 million notional amount of certain swap contracts. The settlement of swap contracts resulted in the receipt of net proceeds of $2 million during the year ended December 31, 2018, which were accounted for as a reduction of current and future interest expense associated with these notes. See Note 11 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report for additional details related to reductions of current and future interest expense.

A sensitivity analysis to measure potential changes in the market value of our debt and interest rate swap contracts from a change in interest rates indicated that a one percentage point increase in interest rates as of March 31, 2019 would have reduced the aggregate fair value of our net payable by approximately $1.5 billion. A one percentage point decrease as of March 31, 2019 would have increased the aggregate fair value of our net payable by approximately $1.8 billion.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this quarterly report, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in the Securities Exchange Act of 1934 Rules 13a-15(e) and 15d-15(e), or the Exchange Act). Based upon the foregoing evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and that such information is accumulated and communicated to our management (including our Chief Executive Officer and Chief Financial Officer) to allow timely decisions regarding required disclosures.

Changes in internal control over financial reporting

There were no changes in our internal control over financial reporting during the fiscal quarter ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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PART II - OTHER INFORMATION

Item 1. Legal Proceedings

The information called for by this item is incorporated herein by reference to Note 17 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Item 1A. Risk Factors

The following describes major risks to our business and should be considered carefully. Any of these factors could significantly and negatively affect our business, prospects, financial condition, operating results or credit ratings, which could cause the trading prices of our equity securities to decline. The risks described below are not the only risks we may face. Additional risks and uncertainties not presently known to us, or risks that we currently consider immaterial, could also negatively affect us.

Risks Related to our Business

Our operating results may be subject to significant fluctuations.

Our operating results may fluctuate from quarter to quarter and year to year for a number of reasons, including the risks discussed elsewhere in this “Risk Factors” section. Events such as a delay in product development or a revenue shortfall may cause financial results for a particular period to be below our expectations. In addition, we have experienced and may continue to experience fluctuations in our quarterly operating results due to the timing of charges that we may take. We have recorded, or may be required to record, charges that include development milestone and license payments under collaboration and license agreements, amortization of acquired intangibles and other acquisition related charges, and impairment charges. Several other factors, including government rebates, distributor buying patterns and government tender timing, impact the dollar value of product sales recorded in any particular quarter.

Our revenues are also subject to foreign exchange rate fluctuations due to the global nature of our operations. We recognize foreign currency gains or losses arising from our operation in the period in which we incur those gains or losses. Although we utilize foreign currency forward contracts, a combination of foreign currency put and call options, and occasionally purchased put options to manage foreign currency risk, our efforts to reduce currency exchange losses may not be successful. As a result, currency fluctuation among our reporting currency, the U.S. Dollar, and the currencies in which we do business will affect our operating results. Our net income may also fluctuate due to the impact of charges we may be required to take with respect to foreign currency and other hedge transactions. In particular, we may incur higher than expected charges from hedge ineffectiveness or from the termination of a hedge arrangement. For more information, see Item 3. "Quantitative and Qualitative Disclosures About Market Risk" contained elsewhere in this report.

We are dependent on the continued commercial success of our primary products, REVLIMID®, POMALYST®/IMNOVID®, OTEZLA®, ABRAXANE®, and VIDAZA®.

Our business is largely dependent on the commercial success of REVLIMID®, POMALYST®/IMNOVID®, OTEZLA®, ABRAXANE®, and VIDAZA®. REVLIMID® currently accounts for over half of our total revenue. As products, such as POMALYST®/IMNOVID® and OTEZLA®, have obtained regulatory approval and gained market acceptance, our dependence on REVLIMID® has decreased, a trend that we expect to continue. A significant decline in REVLIMID® net revenue, in the absence of offsetting increases in revenue from our other marketed products, would have a material adverse effect on our results of operations, cash flows and financial condition. The success of

these products depends on acceptance by regulators, key opinion leaders, physicians, and patients as effective drugs with certain advantages over other therapies. A number of factors, as discussed in greater detail below, may adversely impact the degree of acceptance of these products, including their efficacy, safety, price and benefits over competing products, as well as the reimbursement policies of third-party payers, such as government and private insurance plans.

If unexpected adverse events are reported in connection with the use of any of these products, physician and patient acceptance of the product could deteriorate and the commercial success of such product could be adversely affected. We are required to report to the FDA or similar bodies in other countries events associated with our products relating to death or serious injury. Adverse events could result in additional regulatory controls, such as the imposition of costly post-approval clinical studies or revisions to our approved labeling which could limit the indications or patient population for a product or could even lead to the withdrawal of a product from the market. THALOMID® is known to be toxic to the human fetus and exposure to the drug during pregnancy

could result in significant deformities. REVLIMID® and POMALYST®/IMNOVID® are also considered toxic to the human fetus and their respective labels contain warnings against use which could result in embryo-fetal exposure. While we have restricted distribution systems for THALOMID®, REVLIMID®, and POMALYST®/IMNOVID®, and endeavor to educate patients regarding the potential known adverse events, including pregnancy risks, we cannot ensure that all such warnings and recommendations will be complied with or that adverse events resulting from non-compliance will not occur.

Our future commercial success depends on gaining regulatory approval for products in development, and obtaining approvals for our current products for additional indications.

The testing, manufacturing and marketing of our products require regulatory approvals, including approval from the FDA and similar bodies in other countries. Our future growth would be negatively impacted if we fail to obtain timely, or at all, requisite regulatory approvals in the United States and internationally for products in development and approvals for our existing products for additional indications.

The principal risks to obtaining and maintaining regulatory approvals are as follows:

- In general, preclinical tests and clinical trials can take many years and require the expenditure of substantial resources, and the data obtained from these tests and trials may not lead to regulatory approval;
- Delays or rejections may be encountered during any stage of the regulatory process if the clinical or other data fails to demonstrate compliance with a regulatory agency's requirements for safety, efficacy and quality;
- Delays in the acceptance, review and approval of products by the FDA may result from government shutdowns due to the failure by Congress to enact regular appropriations;

- Requirements for approval may become more stringent due to changes in regulatory agency policy or the adoption of new regulations or legislation;
- Even if a product is approved, the scope of the approval may significantly limit the indicated uses or the patient population for which the product may be marketed and may impose significant limitations in the nature of warnings, precautions and contraindications that could materially affect the sales and profitability of the product;
- After a product is approved, the FDA or similar bodies in other countries may withdraw or modify an approval in a significant manner or request that we perform additional clinical trials or change the labeling of the product due to a number of reasons, including safety concerns, adverse events and side effects;
- Products, such as REVLIMID® and POMALYST®/IMNOVID®, that receive accelerated approval can be subject to an expedited withdrawal if post-marketing restrictions are not adhered to or are shown to be inadequate to assure safe use, or if the drug is shown to be unsafe or ineffective under its conditions of use;
- Guidelines and recommendations published by various governmental and non-governmental organizations can reduce the use of our approved products;
- Approved products, as well as their manufacturers, are subject to continuing and ongoing review by regulatory agencies, and the discovery of previously unknown problems with these products or the failure to comply with manufacturing or quality control requirements may result in restrictions on the manufacture, sale or use of a product or its withdrawal from the market; and
- Changes in regulatory agency policy or the adoption of new regulations or legislation could impose restrictions on the sale or marketing of our approved products.

If we fail to comply with laws or government regulations or policies our business could be adversely affected.

The discovery, preclinical development, clinical trials, manufacturing, risk evaluation and mitigation strategies (such as our Risk Evaluation and Mitigation Strategy program (REMS)), marketing and labeling of pharmaceuticals and biologics are all subject to extensive laws and government regulations and policies. In addition, individual states, acting through their attorneys general, are increasingly seeking to regulate the marketing of prescription drugs under

state consumer protection and false advertising laws. If we fail to comply with the laws and regulations regarding the promotion and sale of our products, appropriate distribution of our products under our restricted distribution systems, off-label promotion and the promotion of unapproved products, government

agencies may bring enforcement actions against us or private litigants may assert claims on behalf of the government against us that could inhibit our commercial capabilities and/or result in significant damage awards and penalties.

Other matters that may be the subject of governmental or regulatory action which could adversely affect our business include laws, regulations and policies governing:

- protection of the environment, privacy, healthcare reimbursement programs, and competition;
- parallel importation of prescription drugs from outside the United States at prices that are regulated by the governments of various foreign countries; and
- mandated disclosures of clinical trial or other data, such as the EMA's policy on publication of clinical data.

Sales of our products will be significantly reduced if access to and reimbursement for our products by governmental and other third-party payers are reduced or terminated.

Sales of our current and future products depend, in large part, on the conditions under which our products are paid for by health maintenance, managed care, pharmacy benefit and similar health care management organizations (HCMOs), or reimbursed by government health administration authorities, private health coverage insurers and other third-party payers.

The influence of HCMOs has increased in recent years due to the growing number of patients receiving coverage through a few large HCMOs as a result of industry consolidation. One objective of HCMOs is to contain and, where possible, reduce healthcare expenditures. HCMOs typically use formularies (lists of approved medicines available to members of a particular HCMO), clinical protocols, volume purchasing, long-term contracts and other methods to negotiate prices with pharmaceutical providers. Due to their lower cost generally, generic medicines are typically placed in preferred tiers of HCMO formularies. Additionally, many formularies include alternative and competitive products for treatment of particular medical problems. Exclusion of our products from a formulary or HCMO-implemented restrictions on the use of our products can significantly impact drug usage in the HCMO patient population, and consequently our revenues.

Generally, in Europe and other countries outside the United States, the government-sponsored healthcare system is the primary payer of patients' healthcare costs. These health care management organizations and third-party payers are increasingly challenging the prices charged for medical products and services, seeking to implement cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Our products continue to be subject to increasing price and reimbursement pressure due to price controls imposed by governments in many countries; increased difficulty in obtaining and maintaining satisfactory drug reimbursement rates; and the tendency of governments and private health care providers to favor generic pharmaceuticals. In addition, governmental and private third-party payers and purchasers of our products may restrict access to formularies or otherwise discourage use of our products. Limitations on patient access to our drugs, adoption of price controls and cost-containment measures could adversely affect our business. In addition, our operating results may also be affected by distributors seeking to take advantage of price differences among various markets by buying our products in low cost markets for resale in higher cost markets.

Federal and state legislation may affect our pricing policies and government reimbursement of our products which may adversely impact our revenues and profitability.

In the U.S. there have been and are likely to continue to be a number of legislative and regulatory proposals and enactments (e.g., the President's American Patients First Blueprint and related regulatory proposals) related to drug pricing and reimbursement at both the federal and state level that could impact our profitability. The Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010, or the ACA, were signed into law in March 2010, and are referred to collectively as the Healthcare Reform Acts. Since its enactment, there have

been judicial and congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, in December 2018, a U.S. district court held that the ACA was unconstitutional, although the ruling is stayed pending the appeals process. In addition, the Tax Cuts and Jobs Act of 2017 includes a provision that went into effect on January 1, 2019 that repeals the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year (commonly referred to as the “individual mandate”). Since the enactment of the Tax Cuts and Jobs Act of 2017, there have been additional amendments to certain provisions of the ACA, and we expect the Trump Administration and Congress may continue to seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the ACA. It is uncertain the extent to which any such changes may impact our business or financial condition.

Moreover, changes could be made to governmental healthcare and insurance reimbursement programs that could significantly impact the profitability of our products. Building from the President's American Patients First Blueprint, the Centers for Medicare & Medicaid Services (CMS) released an Advanced Notice of Proposed Rulemaking in October 2018, seeking comments on possible changes to certain Medicare Part B reimbursement mechanisms. Notably, one such proposal would introduce international reference pricing for pharmaceuticals in setting reimbursement for those medicines. As these proposals are just at the beginning of the regulatory process, we cannot predict what the final rules (if any) will be, or the impacts on our products.

Additionally, on February 6, 2019, the Office of Inspector General for the Department of Health and Human Services (OIG) issued a Proposed Rule that would revise certain of the Anti-Kickback Statute Safe Harbors, including removing Safe Harbor protection for rebates, while adding Safe Harbors for point-of-sale pharmacy discounts and flat (not percentage based) administrative fees. The OIG proposed making this effective on January 1, 2020. If finalized, and depending on how such a Proposed Rule might be implemented, the change could create potential market disruptions that could impact the sales and reimbursement of our products.

Further, the pricing and reimbursement of pharmaceutical products, in general and specialty drugs in particular, have received the attention of U.S. policymakers, state legislators and others. In January 2019, as part of an inquiry sent to twelve companies representing many of the most significant Part D drugs, we received a letter from the House Oversight and Government Reform Committee ("Committee") inquiring into certain matters relating to the pricing and commercialization practices for REVLIMID®, as well as other information relating to company operations. We are cooperating with the Committee to respond; however, at this time, we cannot predict the impact of this request or the increased policy focus on the pricing or reimbursement of our products or pharmaceutical products generally. Other committees in the House or Senate have held hearings or announced plans to consider a variety of legislative initiatives relating to pricing and access for pharmaceutical products.

The Healthcare Reform Acts, among other things, made significant changes to the Medicaid rebate program by increasing the minimum rebates that manufacturers like us are required to pay. These changes also expanded the government's 340B drug discount program by expanding the category of entities qualified to participate in the program and benefit from its deeply discounted drug pricing. The Healthcare Reform Acts also obligate the Health Resources and Services Administration (HRSA), which administers the 340B program, to update the agreement that each manufacturer must sign to participate in the 340B program to require each manufacturer to offer the 340B price to covered entities if the manufacturer makes the drug product available to any other purchaser at any price, and to report the ceiling prices for its drugs to the government. HRSA issued this update in late 2016, and we signed an amendment to our agreement on December 29, 2016.

Furthermore, the Trump Administration continues to propose measures aimed at controlling drug prices that could be enacted during the budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs and, to, among other things, allow some states to exclude coverage for some prescription drugs under Medicaid. While any proposed measures will require authorization through additional legislation to become effective, Congress and the Trump Administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. We expect that additional U.S. federal healthcare reform measures could be adopted in the future, any of which could limit the amounts that the U.S. federal government will pay for healthcare products and services, which could result in reduced demand for our products or additional pricing pressures.

HRSA also issued proposed regulations to implement an administrative dispute resolution (ADR) process for certain disputes arising under the 340B program, including (1) claims by covered entities that they have been overcharged for covered outpatient drugs by manufacturers; and (2) claims by manufacturers, after a manufacturer has conducted an audit, that a covered entity has violated the prohibition on diversion of covered outpatient drugs to ineligible patients

or duplicate discounts. The exact timing and content of final action on these matters is uncertain at this time. Depending on their final form, these actions could affect our obligations under the 340B program in ways that may have an adverse impact on our business. Additionally, in early 2016, HRSA finalized a regulation regarding the 340B pricing methodology and providing guidelines for when civil monetary penalties may be issued for "knowing and intentional" manufacturer overcharges of 340B covered entities. The effective date of this regulation was January 1, 2019. Following the effective date, manufacturers who are found to have knowingly and intentionally overcharged 340B covered entities could be subject to significant monetary penalties. Such findings could also result in negative publicity that could harm the manufacturer's reputation or cause business disruption.

Over the course of the past few years, we have received inquiries from HRSA regarding our limited distribution networks for REVLIMID®, POMALYST®, and THALOMID® and our compliance with the 340B program. We have cooperated fully in responding to those inquiries and believe that we have complied with applicable legal requirements.

If we are ultimately required to change our sales or pricing practices with regard to the distribution of these drugs under the 340B program, or if we were required to pay penalties under the applicable regulations, there would be an adverse effect on our revenues and profitability.

Our ability to sell our products to hospitals in the United States depends in part on our relationships with group purchasing organizations.

Many existing and potential customers for our products become members of group purchasing organizations (GPOs). GPOs negotiate pricing arrangements and contracts, sometimes on an exclusive basis, with medical supply manufacturers and distributors, and these negotiated prices are made available to a GPO's affiliated hospitals and other members. If we are not one of the providers selected by a GPO, affiliated hospitals and other members may be less likely to purchase our products, and if the GPO has negotiated a strict sole source, market share compliance or bundling contract for another manufacturer's products, we may be precluded from making sales to members of the GPO for the duration of that contractual arrangement. Our failure to enter into or renew contracts with GPOs may cause us to lose market share and could adversely affect our sales.

Our long-term success depends, in part, on intellectual property protection.

Our success depends, in part, on our ability to obtain and enforce patents, protect trade secrets, obtain licenses to technology owned by third parties and to conduct our business without infringing upon the proprietary rights of others. The patent positions of pharmaceutical and biopharmaceutical companies, including ours, can be uncertain and involve complex legal and factual questions. There can be no assurance that if claims of any of our owned or licensed patents are challenged by one or more third parties (through, for example, litigation or post grant review in the United States Patent and Trademark Office (USPTO) or European Patent Office (EPO)), a court or patent authority ruling on such challenge will ultimately determine, after all opportunities for appeal have been exhausted, that our patent claims are valid and enforceable. If a third party is found to have rights covering products or processes used by us, we could be forced to cease using such products or processes, be subject to significant liabilities to such third party and/or be required to obtain license rights from such third party. Lawsuits involving patent claims are costly and could affect our results of operations, result in significant expense and divert the attention of managerial and scientific personnel. For more information on challenges to certain of our patents and settlement of certain of these challenges, see Note 17 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

In addition, we do not know whether any of our owned or licensed pending patent applications will result in the issuance of patents or, if patents are issued, whether they will be dominated by third-party patent rights, provide significant proprietary protection or commercial advantage or be circumvented, opposed, invalidated, rendered unenforceable or infringed by others.

Our intellectual property rights may be affected by certain provisions of the America Invents Act (AIA) enacted in 2011. For example, under the AIA, members of the public may seek to challenge an issued patent by petitioning the USPTO to institute a post grant proceeding, such as a Post Grant Review (PGR) or Inter Partes Review (IPR). Once a post grant proceeding is instituted, the USPTO may find grounds to revoke the challenged patent or specific claims therein. For more information with respect to IPRs, see Note 17 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report. A similar procedure (known as a patent opposition) has existed in Europe for many years and we have defended our European patents in certain of those proceedings. We cannot predict whether any other Celgene patents will ever become the subject of a post grant proceeding or patent opposition. If a significant product patent is successfully challenged in a post grant proceeding or patent opposition, it may be revoked, which would have a serious negative impact on our ability to maintain exclusivity in the market-place for our commercial products affected by such revocation and could adversely affect our future revenues and profitability.

On October 2, 2014, the EMA adopted its clinical transparency policy, "Policy on Publication of Clinical Data for Medicinal Products for Human Use" (Clinical Data Policy), which became effective on January 1, 2015. In general, under the Clinical Data Policy, clinical data is not deemed to be commercially confidential data. Therefore, there is a risk that unpublished proprietary information, including trade secrets that are incorporated into a marketing application before the EMA may be made publicly available. It is difficult to predict how any public disclosure of our trade secrets or other confidential and proprietary information made available under the Clinical Data Policy may adversely impact our patent rights and our competitive advantage in the marketplace.

Also, procedures for obtaining patents and the degree of protection against the use of a patented invention by others vary from country to country. There can be no assurance that the issuance to us in one country of a patent covering an invention will be followed by the issuance in other countries of patents covering the same invention or that any judicial interpretation of the validity,

enforceability or scope of the claims in a patent issued in one country will be similar to or recognized by the judicial interpretation given to a corresponding patent issued in another country.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction.

We also rely upon unpatented, proprietary and trade secret technology that we seek to protect, in part, by confidentiality agreements with our collaborative partners, employees, consultants, outside scientific collaborators, sponsored researchers and other advisors. Despite precautions taken by us, there can be no assurance that these agreements provide meaningful protection, that they will not be breached, that we would have adequate remedies for any such breach or that our proprietary and trade secret technologies will not otherwise become known to others or found to be non-proprietary.

We receive confidential and proprietary information from collaborators, prospective licensees and other third parties. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against these claims, which can result in significant costs if we are found to have improperly used the confidential or proprietary information of others. Even if we are successful in defending against these claims, litigation could result in substantial costs and diversion of personnel and resources.

Our products may face competition from lower cost generic or follow-on products.

Manufacturers of generic drugs are seeking to compete with our drugs and present a significant challenge to us. Those manufacturers may challenge the scope, validity or enforceability of our patents in court, requiring us to engage in complex, lengthy and costly litigation. If any of our owned or licensed patents are infringed or challenged, we may not be successful in enforcing or defending those intellectual property rights and, as a result, may not be able to develop or market the relevant product exclusively, which would have a material adverse effect on our sales of that product. In addition, manufacturers of innovative drugs as well as generic drug manufacturers may be able to design their products around our owned or licensed patents and compete with us using the resulting alternative technology. For more information concerning certain pending proceedings relating to our intellectual property rights and settlements of certain challenges, see Note 17 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Upon the expiration or loss of patent protection for a product, or upon the "at-risk" launch by a manufacturer of a generic version of one of our products, we can quickly lose a significant portion of our sales of that product. In addition, as additional competitors enter the market, our patented products may face increased competition or pricing pressure.

Orphan exclusivity and regulatory data protection for REVLIMID®'s multiple myeloma indication in Europe expired in June 2017. The regulatory marketing protection for REVLIMID® in Europe expired in June 2018. Notwithstanding that our intellectual property rights for REVLIMID® in the major European markets are due to remain in force through at least 2022, we expect that some generic drug companies may attempt to market a generic version of REVLIMID® in such European markets before this time, in particular, we expect generic entry for REVLIMID® in the United Kingdom beginning on January 18, 2022, and in various other European countries where our Supplemental Protection Certificate (SPC) is in force beginning on February 18, 2022. We have recently been made aware of various generic

drug manufacturers receiving regulatory clearance for generic versions of REVLIMID® in some European countries. Although we are confident in the strength of our intellectual property rights, it may be possible for generic drug companies to successfully challenge our rights and launch their generic versions of REVLIMID® into the market prior to the expiration of our intellectual property rights in Europe for REVLIMID®.

Certain novel approaches to the treatment of diseases, such as chimeric antigen receptor (CAR) T cell therapy, may present significant challenges and risks for us.

The development of novel approaches for the treatment of diseases, such as our acquisition in the first quarter of 2018 of Juno's CAR T cell immunotherapy and related technologies, presents many new challenges and risks due to the unique nature of genetic modification of patient cells ex vivo using certain viruses to reengineer these cells to ultimately treat diseases, including obtaining regulatory approval from the FDA and other regulatory agencies that have very limited experience with the development of cellular

therapies involving genetic modification of patient cells; developing and deploying consistent and reliable processes, while limiting contamination, for engineering a patient's cells ex vivo and infusing genetically modified cells back into the patient; developing processes for the safe administration of cellular therapies, including long-term follow-up for patients receiving cellular therapies; and sourcing additional clinical and, if approved, commercial supplies for the materials used to manufacture and process our potential CAR T products. The use of reengineered cells as a potential cancer treatment is a recent development and may not be broadly accepted by the regulatory, patient or medical communities. Further, we may not be able to satisfactorily establish the safety and efficacy or the reliability of these therapies or demonstrate the potential advantages and side effects compared to existing and future cellular therapies. Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future. For instance, in February 2019, CMS issued a proposed coverage decision memo on CAR T cells that would apply to the entire Medicare program that, if finalized as drafted, includes requirements such as patient enrollment in a registry and certain capabilities required of the site to be eligible for Medicare payment for CAR T cell therapy. Furthermore, certain payment models could impact the interest of appropriate treatment sites in administering CAR T cell therapies, thereby limiting patient access. To date, only a few products that involve the genetic modification of patient cells have been approved for commercial sale. Moreover, the safety profiles of cellular therapies may adversely influence public perception and may adversely influence the willingness of subjects to participate in clinical trials, or if approved, of physicians and payors to subscribe to these novel treatment approaches. If we fail to overcome these and other challenges, or if significant adverse events are reported from similar therapies, our development of these novel treatment approaches may be hampered or delayed, which could adversely affect our future anticipated revenues and/or profitability related to this therapeutic program.

Our business operates in an extremely competitive environment.

The pharmaceutical and biotechnology industries in which we operate are highly competitive and subject to rapid and significant technological change. Our present and potential competitors include major pharmaceutical and biotechnology companies, as well as specialty pharmaceutical firms, including, but not limited to:

- Hematology and Oncology: AbbVie, Amgen, AstraZeneca, Bristol-Myers Squibb, Eisai, Gilead, Johnson & Johnson, Merck, Novartis, Roche/Genentech, Sanofi and Takeda; and
- Inflammation and Immunology: AbbVie, Amgen, Biogen, Eisai, Eli Lilly, Johnson & Johnson, Merck, Novartis, Pfizer and UCB S.A.

Some of these companies have considerably greater financial, technical and marketing resources than we have, enabling them, among other things, to make greater research and development investments. We also experience competition in drug development from universities and other research institutions, and we compete with others in acquiring technology from these sources. The pharmaceutical industry has undergone, and is expected to continue to undergo, rapid and significant technological change, and we expect competition to intensify as technical advances are made and become more widely known. The development of products or processes by our competitors with significant advantages over those that we are developing could adversely affect our future revenues and profitability.

A decline in general economic conditions would adversely affect our results of operations.

Sales of our products are dependent, in large part, on third-party payers. As a result of global credit and financial market conditions, these organizations may be unable to satisfy their reimbursement obligations or may delay payment. For information about receivable balances relating to government-owned or -controlled hospitals in European countries, see Item 2. "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained elsewhere in this report.

In addition, due to tightened global credit, there may be a disruption or delay in the performance of our third-party contractors, suppliers or collaborators. We rely on third parties for several important aspects of our business, including

portions of our product manufacturing, clinical development of future collaboration products, conduct of clinical trials and supply of raw materials. If such third parties are unable to satisfy their commitments to us, our business could be adversely affected.

We may be required to modify our business practices, pay fines and significant expenses or experience other losses due to governmental investigations or other enforcement activities.

We may become subject to litigation or governmental investigations in the United States and foreign jurisdictions that may arise from the conduct of our business. Like many companies in our industry, we have from time to time received inquiries and subpoenas

and other types of information requests from government authorities and we have been subject to claims and other actions related to our business activities.

While the ultimate outcomes of investigations and legal proceedings are difficult to predict, adverse resolutions or settlements of those matters could result in, among other things:

- significant damage awards, fines, penalties or other payments, and administrative remedies, such as exclusion and/or debarment from government programs, or other rulings that preclude us from operating our business in a certain manner;
- changes and additional costs to our business operations to avoid risks associated with such litigation or investigations;
- product recalls;
- reputational damage and decreased demand for our products; and
- expenditure of significant time and resources that would otherwise be available for operating our business.

For more information relating to governmental investigations and other legal proceedings and recent settlements of legal proceedings, see Note 17 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

The development of new biopharmaceutical products involves a lengthy and complex process and we may be unable to commercialize any of the products we are currently developing.

Many of our drug candidates are in the early or mid-stages of research and development and will require the commitment of substantial financial resources, extensive research, development, preclinical testing, clinical trials, manufacturing scale-up and regulatory approval prior to being ready for sale. This process takes many years of effort without any assurance of ultimate success. Our product development efforts with respect to a product candidate may fail for many reasons, including:

- the failure of the product candidate in preclinical or clinical studies;
- adverse patient reactions to the product candidate or indications of other safety concerns;
- insufficient clinical trial data to support the effectiveness or superiority of the product candidate;
- our inability to manufacture sufficient quantities of the product candidate for development or commercialization activities in a timely and cost-efficient manner;
- our failure to obtain, or delays in obtaining, the required regulatory approvals for the product candidate, the facilities or the process used to manufacture the product candidate;
- changes in the regulatory environment, including pricing and reimbursement, that make development of a new product or of an existing product for a new indication no longer attractive;
- the failure to obtain or maintain satisfactory drug reimbursement rates by governmental or third-party payers; and
- the development of a competitive product or therapy.

If a product were to fail to be approved or if sales fail to materialize for a newly approved product, we may incur losses related to the write-down of inventory, impairment of property, plant and equipment dedicated to the product or expenses related to restructuring.

Disruptions of our manufacturing and distribution operations could significantly interrupt our production and distribution capabilities.

We have our own manufacturing facilities for many of our products and we have contracted with third parties to provide other manufacturing, finishing, and packaging services. Any of those manufacturing processes could be partially or completely disrupted by fire, contamination, natural disaster, terrorist attack or governmental action. A disruption could lead to substantial production delays and the need to establish alternative manufacturing sources for the affected products requiring additional regulatory

approvals. In the interim, our finished goods inventories may be insufficient to satisfy customer orders on a timely basis. Further, our business interruption insurance may not adequately compensate us for any losses that may occur.

In all the countries where we sell our products, governmental regulations define standards for manufacturing, packaging, labeling, distributing and storing pharmaceutical products. Our failure to comply, or the failure of our contract manufacturers and distributors to comply with applicable regulations could result in sanctions being imposed on them or us, including fines, injunctions, civil penalties, disgorgement, suspension or withdrawal of approvals, license revocation, seizures or recalls of products, operating restrictions and criminal prosecutions.

We have contracted with various distributors to distribute most of our branded products. If our distributors fail to perform and we cannot secure a replacement distributor within a reasonable period of time, our revenue could be adversely affected.

We have limited experience manufacturing CAR T cell immunotherapies, and our processes may be more difficult or more expensive than the approaches taken by our current and future competitors. We cannot be sure that the manufacturing processes employed by us will result in CAR T cell immunotherapies that will be safe and effective. Our ability to source supplies for materials used to manufacture our CAR T cell immunotherapies and to develop consistent and reliable manufacturing processes and distribution networks with an attractive cost of goods could impact future anticipated revenue and gross profit for our CAR T cell immunotherapies. In addition, we may face challenges with sourcing supplies for clinical and, if approved, commercial manufacturing. Logistical and shipment delays and other factors not in our control could prevent or delay the delivery of our product candidates to patients. Additionally, we are required to maintain a complex chain of identity and custody with respect to patient material as such material moves through the manufacturing process, and failure to maintain such chain of identity and custody could result in adverse patient outcomes, loss of product or regulatory remedial action, which could adversely affect our future anticipated revenues and/or profitability related to this therapeutic program.

The consolidation of drug wholesalers and other wholesaler actions could increase competitive and pricing pressures.

We sell our pharmaceutical products in the United States primarily through wholesale distributors and contracted pharmacies. These wholesale customers comprise a significant part of our distribution network for pharmaceutical products in the United States. This distribution network is continuing to undergo significant consolidation. As a result, a smaller number of large wholesale distributors and pharmacy chains control a significant share of the market. We expect that consolidation of drug wholesalers and pharmacy chains will increase competitive and pricing pressures on pharmaceutical manufacturers, including us. In addition, wholesalers may apply pricing pressure through fee-for-service arrangements and their purchases may exceed customer demand, resulting in increased returns or reduced wholesaler purchases in later periods.

Risks from the improper conduct of employees, agents, contractors or collaborators could adversely affect our business or reputation.

We cannot ensure that our compliance controls, policies and procedures will in every instance protect us from acts committed by our employees, agents, contractors or collaborators that violate the laws or regulations of the jurisdictions in which we operate, including employment, anti-corruption, environmental, competition and privacy laws. Such improper actions, particularly with respect to foreign healthcare professionals and government officials, could subject us to civil or criminal investigations, monetary and injunctive penalties, adversely impact our ability to conduct business in certain markets, negatively affect our results of operations and damage our reputation.

We are subject to a variety of risks related to the conduct and expansion of our business internationally, particularly in emerging markets.

As our operations expand globally, we are subject to risks associated with conducting business in foreign markets, particularly in emerging markets. Those risks include:

- increased management, travel, infrastructure and legal compliance costs;
- longer payment and reimbursement cycles;
- difficulties in enforcing contracts and collecting accounts receivable;
- local marketing and promotional challenges;

- lack of consistency, and unexpected changes, in foreign regulatory requirements and practices;
- increased risk of governmental and regulatory scrutiny and investigations;
- increased exposure to fluctuations in currency exchange rates;
- the burdens of complying with a wide variety of foreign laws and legal standards;
- operating in locations with a higher incidence of corruption and fraudulent business practices;
- difficulties in staffing and managing foreign sales and development operations;
- import and export requirements, tariffs, taxes and other trade barriers;
- weak or no protection of intellectual property rights;
- possible enactment of laws regarding the management of and access to data and public networks and websites;
- possible future limitations on foreign-owned businesses;
- increased financial accounting and reporting burdens and complexities; and
- other factors beyond our control, including political, social and economic instability, popular uprisings, war, terrorist attacks and security concerns in general.

As we continue to expand our business into multiple international markets, our success will depend, in large part, on our ability to anticipate and effectively manage these and other risks associated with our international operations. Any of these risks could harm our international operations and reduce our sales, adversely affecting our business, results of operations, financial condition and growth prospects.

We may not realize the anticipated benefits of acquisitions and strategic initiatives.

We may face significant challenges in effectively integrating entities and businesses that we acquire, including the acquisitions of Impact Biomedicines, Inc. and Juno Therapeutics, Inc. in the first quarter of 2018, and we may not realize the benefits anticipated from such acquisitions. Achieving the anticipated benefits of our acquired businesses will depend in part upon whether we can integrate our businesses in an efficient and effective manner. Our integration of acquired businesses involves a number of risks, including:

- demands on management related to the increase in our size after an acquisition;
- the diversion of management’s attention from daily operations to the integration of acquired businesses and personnel;
- higher than anticipated integration costs;
- failure to achieve expected synergies and costs savings;
- difficulties in the assimilation and retention of employees;
- difficulties in the assimilation of different cultures and practices, as well as in the assimilation of broad and geographically dispersed personnel and operations; and
- difficulties in the integration of departments, systems, including accounting systems, technologies, books and records and procedures, as well as in maintaining uniform standards and controls, including internal control over financial reporting, and related procedures and policies.

In addition, we may not be able to realize the projected benefits of corporate strategic initiatives we may pursue in the future.

We may not be able to continue to attract and retain highly qualified managerial, scientific, manufacturing and commercial talent.

The success of our business depends, in large part, on our continued ability to attract and retain highly qualified managerial, scientific, medical, manufacturing, commercial and other professional personnel, and competition for these types of personnel is intense. We cannot be sure that we will be able to attract or retain skilled personnel or that the costs of doing so will not materially increase.

Risks associated with using hazardous materials in our business could subject us to significant liability.

We use certain hazardous materials in our research, development, manufacturing and other business activities. If an accident or environmental discharge occurs, or if we discover contamination caused by prior owners and operators of properties we acquire, we could be liable for remediation obligations, damages and fines that could exceed our insurance coverage and financial resources. Additionally, the cost of compliance with environmental and safety laws and regulations may increase in the future, requiring us to expend more financial resources either in compliance or in purchasing supplemental insurance coverage.

We are subject to various legal proceedings, claims and investigative demands in the ordinary course of our business, the ultimate outcome of which may result in significant expense, payments and penalties.

We and certain of our subsidiaries are involved in various legal proceedings that include patent, product liability, consumer, commercial, antitrust and other claims that arise from time to time in the ordinary course of our business. Litigation is inherently unpredictable. Although we believe we have substantial defenses in these matters, we could in the future be subject to adverse judgments, enter into settlements of claims or revise our expectations regarding the outcomes of certain matters, and such developments could have a material adverse effect on our results of operations in the period in which such judgments are received or settlements occur. For more information regarding settlement of certain legal proceedings, see Note 17 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Our activities relating to the sale and marketing and the pricing of our products are subject to extensive regulation under the U.S. Federal Food, Drug, and Cosmetic Act, the Medicaid Drug Rebate Program, the False Claims Act, the Foreign Corrupt Practices Act and other federal and state statutes, including those discussed elsewhere in this report, as well as anti-kickback and false claims laws, and similar laws in international jurisdictions. Like many companies in our industry, we have from time to time received inquiries and subpoenas and other types of information demands from government authorities, and been subject to claims and other actions related to our business activities brought by governmental authorities, as well as by consumers, third-party payers, stockholders and others. There can be no assurance that existing or future proceedings will not result in significant expense, civil payments, fines or other adverse consequences. For more information relating to governmental investigations and other legal proceedings and recent settlements of legal proceedings, see Note 17 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Product liability claims could adversely affect our business, results of operations and financial condition.

Product liability claims could result in significant damage awards or settlements. Such claims can also be accompanied by consumer fraud claims or claims by third-party payers seeking reimbursement of the cost of our products. In addition, adverse determinations or settlements of product liability claims may result in suspension or withdrawal of a product marketing authorization or changes to our product labeling, including restrictions on therapeutic indications, inclusion of new contra-indications, warnings or precautions, which would have a material adverse effect on sales of such product. We have historically purchased product liability coverage from third-party

carriers for a portion of our potential liability. Such insurance has become increasingly difficult and costly to obtain. In this context and in light of the strength of our balance sheet we now self-insure these risks beginning in 2016. Product liability claims, regardless of their merits or ultimate outcome, are costly, divert management's attention, may harm our reputation and can impact the demand for our products. There can be no assurance that we will be able to recover under any existing third-party insurance policy or that such coverage will be adequate to fully cover all risks or damage awards or settlements. Additionally, if we are unable to meet our self-insurance obligations for claims that are more than we estimated or reserved for that require substantial expenditures, there could be a material adverse effect on our financial statements and results of operations.

Changes in our effective income tax rate could adversely affect our results of operations.

We are subject to income taxes in both the United States and various foreign jurisdictions and our domestic and international tax liabilities are largely dependent upon the distribution of income among these different jurisdictions. Various factors may have favorable or unfavorable effects on our effective income tax rate. These factors include interpretations of existing tax laws, the accounting for stock options and other share-based compensation, changes in tax laws and rates, future levels of research and development spending, changes in accounting standards, changes in the mix of earnings in the various tax jurisdictions in which we operate, the outcome of examinations by the U.S. Internal Revenue Service and other tax authorities, the accuracy of our estimates for unrecognized tax benefits and realization of deferred tax assets and changes in overall levels of pre-tax earnings. See ‘Liquidity and Capital Resources’ within Item 2. "Management’s Discussion and Analysis of Financial Condition and Results of Operations" as well as Note 13 of Notes to Unaudited Consolidated Financial Statements contained elsewhere in this report.

Currency fluctuations and changes in exchange rates could adversely affect our revenue growth, increase our costs and cause our profitability to decline.

We collect and pay a substantial portion of our sales and expenditures in currencies other than the U.S. dollar. Therefore, fluctuations in foreign currency exchange rates affect our operating results. We utilize foreign currency forward contracts, a combination of foreign currency put and call options, and occasionally purchased put options, all of which are derivative instruments, to manage foreign currency risk. We use these derivative instruments to hedge certain forecasted transactions, manage exchange rate volatility in the translation of foreign earnings and reduce exposures to foreign currency fluctuations of certain balance sheet items denominated in foreign currencies. The use of these derivative instruments is intended to mitigate a portion of the exposure of these risks with the intent to reduce our risk or cost, but generally would not fully offset any change in operating results as a consequence of fluctuations in foreign currencies. Any significant foreign exchange rate fluctuations could adversely affect our financial condition and results of operations. See Note 7 of Notes to Unaudited Consolidated Financial Statements and Item 3. "Quantitative and Qualitative Disclosures About Market Risk" contained elsewhere in this report.

We may experience an adverse market reaction if we are unable to meet our financial reporting obligations.

As we continue to expand at a rapid pace, the development of new and/or improved automated systems will remain an ongoing priority. During this expansion period, our internal control over financial reporting may not prevent or detect misstatements in our financial reporting. Such misstatements may result in litigation and/or negative publicity and possibly cause an adverse market reaction that may negatively impact our growth plans and the value of our common stock.

Impairment charges or write downs in our books and changes in accounting standards could have a significant adverse effect on our results of operations and financial condition.

The value allocated to certain of our assets could be substantially impaired due to a number of factors beyond our control. Also, if any of our strategic equity investments decline in value, we may be required to write down such investments. In addition, new or revised accounting standards, rules and interpretations could result in changes to the recognition of income and expense that may materially and adversely affect our financial results.

The price of our common stock may fluctuate significantly.

The market for our shares of common stock may fluctuate significantly. The following key factors may have an adverse impact on the market price of our common stock:

- results of our clinical trials or adverse events associated with our marketed products;
- fluctuations in our commercial and operating results;
- announcements of technical or product developments by us or our competitors;
- market conditions for pharmaceutical and biotechnology stocks in particular;
- changes or anticipated changes in laws and governmental regulations, including changes in tax, healthcare, environmental, competition and patent laws;
- new accounting pronouncements or regulatory rulings;

- public announcements regarding medical advances in the treatment of the disease states that we are targeting;
- patent or proprietary rights developments;
- changes in pricing and third-party reimbursement policies for our products;
- the outcome of litigation involving our products, processes or intellectual property;
- the existence and outcome of governmental investigations and proceedings;
- regulatory actions that may impact our products or potential products;
- disruptions in our manufacturing processes or supply chain;
- failure of our collaboration partners to successfully develop potential drug candidates;
- competition; and
- investor reaction to announcements regarding business or product acquisitions.

In addition, a market downturn in general and/or in the biopharmaceutical sector in particular, may adversely affect the market price of our securities, which may not necessarily reflect the actual or perceived value of our Company.

Our business would be adversely affected if we are unable to service our debt obligations.

We have incurred various forms of indebtedness, including senior notes, commercial paper and a senior unsecured credit facility. Our ability to pay interest and principal amounts when due, comply with debt covenants or repurchase the senior notes if a change of control occurs, will depend upon, among other things, continued commercial success of our products and other factors that affect our future financial and operating performance, including prevailing economic conditions and financial, business and regulatory factors, many of which are beyond our control.

If we are unable to generate sufficient cash flow to service the debt service requirements under our debt instruments, we may be forced to take remedial actions such as:

- restructuring or refinancing our debt;
- seeking additional debt or equity capital;
- reducing or delaying our business activities, acquisitions, investments or capital expenditures, including research and development expenditures; or
- selling assets, businesses, products or other potential revenue streams.

Such measures might not be successful and might not enable us to service our debt obligations. In addition, any such financing, refinancing or sale of assets might not be available on economically favorable terms, if at all.

A breakdown or breach of our information technology systems and cyber security efforts could subject us to liability, reputational damage or interrupt the operation of our business.

We rely upon our information technology systems and infrastructure for our business. The size and complexity of our computer systems make them potentially vulnerable to breakdown and unauthorized intrusion. We could also experience a business interruption, theft of confidential information, or reputational damage from industrial espionage attacks, malware or other cyber-attacks, which may compromise our system infrastructure or lead to data leakage, either internally or at our third-party providers. Similarly, data privacy breaches by those who access our systems may pose a risk that sensitive data, including intellectual property, trade secrets or personal information belonging to us, our patients, employees, customers or other business partners, may be exposed to unauthorized persons or to the public. Although the aggregate impact on our operations and financial condition has not been material to date, we have been the target of events of this nature and expect them to continue. We continuously monitor our data, information technology systems (and those of our third-party providers where appropriate) and our personnel's usage of these systems to reduce these risks and potential threats. However, cyber-attacks are increasing in their frequency, sophistication and

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intensity, and have become increasingly difficult to detect. There can be no assurance that our efforts to protect our data and information technology systems will prevent breakdowns or breaches in our systems (or that of our third-party providers) that could adversely affect our business and result in financial and reputational harm to us, theft of trade secrets and other proprietary information, legal claims or proceedings, liability under laws that protect the privacy of personal information, and regulatory penalties.

The illegal distribution and sale by third parties of counterfeit versions of our products or stolen products could have a negative impact on our reputation and business.

Third parties might illegally distribute and sell counterfeit or unfit versions of our products, which do not meet our rigorous manufacturing and testing standards. A patient who receives a counterfeit or unfit drug may be at risk for a number of dangerous health consequences. Our reputation and business could suffer harm as a result of counterfeit or unfit drugs sold under our brand name. In addition, thefts of inventory at warehouses, plants or while in-transit, which are not properly stored and which are sold through unauthorized channels, could adversely impact patient safety, our reputation and our business.

We have certain charter and by-law provisions that may deter a third party from acquiring us and may impede the stockholders' ability to remove and replace our management or board of directors.

Our board of directors has the authority to issue, at any time, without further stockholder approval, up to 5.0 million shares of preferred stock and to determine the price, rights, privileges and preferences of those shares. An issuance of preferred stock could discourage a third party from acquiring a majority of our outstanding voting stock. Additionally, our by-laws contain provisions intended to strengthen the board's position in the event of a hostile takeover attempt. These provisions could impede the stockholders' ability to remove and replace our management and/or board of directors. Furthermore, we are subject to the provisions of Section 203 of the Delaware General Corporation Law, an anti-takeover law, which may also dissuade a potential acquirer of our common stock.

In addition to the risks relating to our common stock, holders of our CVRs are subject to additional risks.

On October 15, 2010, we acquired all of the outstanding common stock of Abraxis BioScience, Inc. (Abraxis) and in connection with our acquisition, contingent value rights (Abraxis CVRs) were issued entitling each holder of an Abraxis CVR to a pro rata portion of certain net sales payments if certain specified conditions are satisfied. In addition to the risks relating to our common stock, Abraxis CVR holders are subject to additional risks, including:

- an active public market for the Abraxis CVRs may not continue to exist or the Abraxis CVRs may trade at low volumes, both of which could have an adverse effect on the market price of the Abraxis CVRs;
- if the net sales targets specified in the Abraxis CVR Agreement are not achieved within the time periods specified, no payment will be made and the Abraxis CVRs will expire valueless;
- since the U.S. federal income tax treatment of the Abraxis CVRs is unclear, any part of an Abraxis CVR payment could be treated as ordinary income and the tax thereon may be required to be paid prior to the receipt of the Abraxis CVR payment;
- any payments in respect of the Abraxis CVRs are subordinated to the right of payment of certain of our other indebtedness;
- we may under certain circumstances redeem the Abraxis CVRs; and
- upon expiration of our obligations under the Abraxis CVR Agreement to continue to commercialize ABRAXANE® or any of the other Abraxis pipeline products, we may discontinue such efforts, which would have an adverse effect on the value of the Abraxis CVRs.

Risks Related to our Proposed Acquisition by Bristol-Myers Squibb

Our proposed acquisition by Bristol-Myers Squibb is subject to various closing conditions, including regulatory approvals as well as other uncertainties, and there can be no assurances as to whether and when it may be completed. On January 2, 2019, we entered into an Agreement and Plan of Merger (which we refer to as the "merger agreement"), with Bristol-Myers Squibb and a wholly owned subsidiary of Bristol-Myers Squibb (which we refer to as the "merger sub"). Under the terms

and subject to the conditions set forth in the merger agreement, merger sub will merge with and into Celgene (the "merger") and Celgene will become a wholly-owned subsidiary of Bristol-Myers Squibb. Upon completion of the merger, each outstanding share of Celgene common stock, other than excluded stock or dissenting stock, will automatically be canceled and converted into the right to receive (i) $50.00 in cash without interest thereon, (ii) one share of Bristol-Myers Squibb common stock, and (iii) one Contingent Value Right (Bristol-Myers Squibb CVR), which will entitle the holder to receive a payment for the achievement of future regulatory milestones.

Completion of the merger is subject to customary closing conditions, a number of which are not within our or Bristol-Myers Squibb's control, and it is possible that such conditions may prevent, delay or otherwise materially adversely affect the completion of the merger. These conditions include, among other things: (i) adoption of the merger agreement by our stockholders, which occurred on April 12, 2019, (ii) approval of the stock issuance by the stockholders of Bristol-Myers Squibb, which occurred on April 12, 2019, (iii) approval for the listing on the New York Stock Exchange (NYSE) of the shares of Bristol-Myers Squibb common stock and Bristol-Myers Squibb CVRs to be issued in the merger, (iv) absence of any injunction or order that prohibits completion of the transaction, (v) accuracy of the representations and warranties made in the merger agreement by the other party, subject to certain materiality qualifications, (vi) performance in all material respects by the other party of the material obligations required to be performed by it at or prior to completion of the merger and (vii) no stop order suspending the effectiveness of the registration statement and no proceedings for such purpose are pending before the SEC.

In addition, completion of the merger is conditioned upon the expiration or termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and the receipt of approvals under the antitrust laws of certain specified foreign jurisdictions. The governmental authorities from which these authorizations are required have broad discretion in administering the governing laws and regulations, and may take into account various facts and circumstances in their consideration of the merger, including other potential transactions in the health care industry or other industries. These governmental authorities may initiate proceedings seeking to prevent, or otherwise seek to prevent, the merger. As a condition to authorization of the merger or related transactions, these governmental authorities also may impose requirements, limitations or costs, require divestitures or place restrictions on the conduct of Bristol-Myers Squibb's business after completion of the merger. Under the terms of the merger agreement, Bristol-Myers Squibb is not required, and we are not permitted without Bristol-Myers Squibb's consent, to take any actions or agree to any terms or conditions that would have, or would reasonably be expected to have, individually or in the aggregate, a material adverse effect on the financial condition, business or results of operations of Celgene, Bristol-Myers Squibb and their respective subsidiaries, taken as a whole, after giving effect to the completion of the merger.

We can provide no assurance that all required consents and approvals will be obtained or that all closing conditions will otherwise be satisfied (or waived, if applicable), and, if all required consents and approvals are obtained and all closing conditions are satisfied (or waived, if applicable), we can provide no assurance as to the terms, conditions and timing of such consents and approvals or the timing of the completion of the merger. Many of the conditions to completion of the merger are not within either our or Bristol-Myers Squibb's control, and neither company can predict when or if these conditions will be satisfied (or waived, if applicable). Any delay in completing the merger could cause us not to realize some or all of the benefits that we expect to achieve if the merger is successfully completed within its expected timeframe.

Failure to complete the merger could negatively impact our stock price and future business and financial results.

If the merger is not completed for any reason, we will remain an independent public company. Our ongoing business may be materially and adversely affected and we would be subject to a number of risks, including the following:

- we may experience negative reactions from the financial markets, including negative impacts on trading prices of our common stock and other securities, and from our customers, collaborators, suppliers, regulators and employees;

- we will be required to pay certain transaction expenses and other costs incurred in connection with the merger, whether or not the merger is completed, including certain fees and expenses of Bristol-Myers Squibb, subject to a cap of $40 million, in connection with our fee reimbursement obligation;

the merger agreement places certain restrictions on the conduct of our business prior to completion of the merger, and such restrictions, the waiver of which is subject to the consent of Bristol-Myers Squibb, may prevent us from making certain acquisitions, taking certain other specified actions or otherwise pursuing business opportunities during the pendency of the merger that we would have made, taken or pursued if these restrictions were not in place; and

- matters relating to the merger (including integration planning) will require substantial commitments of time and resources by our management and the expenditure of significant funds in the form of fees and expenses, which would otherwise

have been devoted to day-to-day operations and other opportunities that may have been beneficial to us as an independent company.

In addition, we could be subject to litigation related to any failure to complete the merger or related to any proceeding to specifically enforce our performance obligations under the merger agreement.

If any of these risks materialize, they may materially and adversely affect our business, financial condition, financial results, ratings, stock prices and/or note prices.

If the merger agreement is terminated, we may, under certain circumstances, be obligated to pay a termination fee to Bristol-Myers Squibb.

If the merger agreement is terminated, in certain circumstances, we would be required to pay a termination fee of $2.2 billion and certain expenses to Bristol-Myers Squibb. If the merger agreement is terminated under such circumstances, the termination fee we may be required to pay under the merger agreement may require us to use available cash that would have otherwise been available for general corporate purposes and other uses. For these and other reasons, termination of the merger agreement could materially adversely affect our business operations and financial results, which in turn would materially and adversely affect the price of our common stock.

Because the exchange ratio is fixed and the market price of shares of Bristol-Myers Squibb common stock has fluctuated and will continue to fluctuate, and because of the uncertainty of the fair market value of, and the ultimate realization on, the Bristol-Myers Squibb CVRs, our stockholders cannot be sure of the value of the merger consideration they will receive in the merger.

Upon completion of the merger, each share of our common stock outstanding immediately prior to the effective time of the merger will be converted into the right to receive $50.00 in cash without interest thereon, one share of Bristol-Myers Squibb common stock and one Bristol-Myers Squibb CVR. Because the exchange ratio of one share of Bristol-Myers Squibb common stock is fixed, the value of the share consideration will depend on the market price of shares of Bristol-Myers Squibb common stock at the time the merger is completed. The market price of shares of Bristol-Myers Squibb common stock has fluctuated since the date of the announcement of the merger agreement and will continue to fluctuate from the date of this report until the date the merger is completed, which could occur a considerable amount of time after the date hereof. There is also uncertainty regarding the fair market value of the Bristol-Myers Squibb CVRs and whether any payment will ultimately be realized on the Bristol-Myers Squibb CVRs. Stock price changes may result from a variety of factors, including, among others, general market and economic conditions, changes in Bristol-Myers Squibb's and Celgene's respective businesses, operations and prospects, risks inherent in their respective businesses, changes in market assessments of the likelihood that the merger will be completed and/or the value that may be generated by the merger, and changes with respect to expectations regarding the timing of the merger and regulatory considerations. Many of these factors are beyond our control.

While the merger is pending, we are subject to business uncertainties and contractual restrictions that could materially adversely affect our operating results, financial position and/or cash flows or result in a loss of employees, customers, collaborators or suppliers.

The definitive merger agreement includes restrictions on the conduct of our business prior to the completion of the merger or termination of the merger agreement, generally requiring us to conduct our business in the ordinary course consistent with past practice. Without limiting the generality of the foregoing, we are subject to a variety of specified restrictions. Unless we obtain Bristol-Myers Squibb's prior written consent (which consent may not be unreasonably withheld, conditioned or delayed) and except (i) as required or expressly contemplated by the merger agreement, (ii) as required by applicable law or (iii) as set forth in the confidential disclosure schedule delivered by Celgene to Bristol-Myers Squibb, we may not, among other things, incur additional indebtedness, issue additional shares of our common stock outside of our equity incentive plans, repurchase our common stock, pay dividends, acquire assets, securities or property (subject to certain exceptions, including without limitation, acquisitions up to a specified individual amount and an aggregate limitation), dispose of businesses or assets, enter into material contracts or make certain additional capital expenditures. We may find that these and other contractual restrictions in the merger agreement delay or prevent us from responding, or limit our ability to respond, effectively to competitive pressures,

industry developments and future business opportunities that may arise during such period, even if our management believes they may be advisable. The pendency of the proposed merger may also divert management's attention and our resources from ongoing business and operations.

Our employees, customers, collaborators and suppliers may experience uncertainties about the effects of the merger. In connection with the pending merger, it is possible that some customers, collaborators, suppliers and other parties with whom we have a business relationship may delay or defer certain business decisions or might decide to seek to terminate, change or renegotiate their

relationship with us as a result of the merger. Similarly, current and prospective employees may experience uncertainty about their future roles with us following completion of the merger, which may materially adversely affect our ability to attract and retain key employees. If any of these effects were to occur, it could materially and adversely impact our operating results, financial position and/or cash flows and/or our stock price.

Lawsuits have been filed against us and Bristol-Myers Squibb and other lawsuits may be filed against us and/or Bristol-Myers Squibb challenging the transactions contemplated by the merger agreement. An adverse ruling in any such lawsuit may delay or prevent the proposed acquisition from being completed.

As of April 4, 2019, eleven complaints had been filed by Celgene stockholders seeking to enjoin the Merger. Sam B. Gerold v. Celgene Corporation, et al., No. 1:19-cv-00233, Karen Sbriglio v. Celgene Corporation, et al., No. 1:19-cv-00277, Bette Grayson v. Celgene Corporation, et al., No. 1:19-cv-00332, Scott Rowinski v. Celgene Corporation, et al., No. 1:19-cv-00382 and LR Trust v. Celgene Corporation, et al., No. 1:19-cv-00459 were filed in the United States District Court for the District of Delaware. Robert Lowinger v. Celgene Corporation, et al., No. 2:19-cv-04752, Michael A. Bernstein v. Celgene Corporation, et al., No. 2:19-cv-04804 and Elaine Wang v. Celgene Corporation, et al., 2:19-cv-04865 and David Goldstein v. Celgene Corporation, et al., No. 2:19-cv-08087 were filed in the United States District Court for the District of New Jersey. Kristen Rogers v. Celgene Corporation, et al., No. 1:19-cv-01275 and Patricia Woods v. Celgene Corporation, et al., No. 1:19-cv-01597 were filed in the United States District Court for the Southern District of New York.

The eleven federal complaints named as defendants Celgene and the members of its board of directors and sought to state claims under the federal securities laws in connection with either the joint proxy statement/prospectus filed by Bristol-Myers Squibb on February 1, 2019, as amended on February 1, 2019 and February 20, 2019 and declared effective on February 22, 2019, or the Definitive Proxy Statement on Schedule 14A filed by Celgene on February 22, 2019, alleging that the applicable document contains materially incomplete and misleading information. The plaintiffs in the Sam B. Gerold, Karen Sbriglio, and Bette Grayson actions named Bristol-Myers Squibb and Merger Sub as defendants as well. The federal complaints sought, among other relief, injunctive relief to prevent consummation of the merger until the alleged disclosure violations are cured, damages in the event the merger is consummated, and an award of attorney's fees.

Also, as of April 4, 2019, two complaints, Ciavarella v. Alles, No. 2019-0133-AGB and Mager Paruas, LLC v. Alles, No. 2019-0195-AGB had been filed in the Court of Chancery of the State of Delaware, and named as defendants Celgene, the members of Celgene's board of directors and Bristol-Myers Squibb. These state court complaints allege that Celgene's directors breached their fiduciary duties by failing to maximize the value of Celgene and that Bristol-Myers Squibb aided and abetted those breaches. They sought, among other things, monetary damages in the event the merger is consummated and an award of attorney's fees.

The defendants believe that these federal and state court actions were and are without merit, and that no further disclosure was or is required under applicable law. Nonetheless, to specifically moot the plaintiffs' claims and to avoid the risk of the litigation delaying or adversely affecting the Merger, Celgene and the plaintiffs agreed to resolve these litigation matters. Pursuant to such agreement, the plaintiffs in the federal and state court actions agreed to dismiss their claims after defendants made supplemental disclosures related to the Merger, as set forth in the current report on Form 8-K filed by Celgene on April 4, 2019.

In addition, a complaint, Landers, et al. v. Caforio, et al., No. 2019-0125-AGB, was filed in the Court of Chancery of the State of Delaware. Landers is styled as a putative class action on behalf of Bristol-Myers Squibb stockholders and names members of the Bristol-Myers Squibb board of directors as defendants, alleging that they breached their fiduciary duties by failing to disclose material information about the merger. On April 4, 2019, Bristol-Myers Squibb and the plaintiff entered into a memorandum of understanding (the "memorandum of understanding") in which the

plaintiff agreed to dismiss her claims with prejudice, and to dismiss claims asserted on behalf of the putative class without prejudice, in return for Bristol-Myers Squibb's agreement to make the supplemental disclosures set forth in the current report on Form 8-K filed by Bristol-Myers Squibb on April 4, 2019.

Additional lawsuits arising out of or relating to the definitive merger agreement, the registration statement and/or the proposed acquisition of us by Bristol-Myers Squibb may be filed in the future. There can be no assurances that we will be successful in the outcome of any potential future lawsuits challenging the merger.

One of the conditions to completion of the proposed acquisition is the absence of any applicable injunction or other order being in effect that prohibits completion of the proposed acquisition. Accordingly, if a plaintiff is successful in obtaining an injunction, then such order may prevent the proposed acquisition from being completed, or from being completed within the expected timeframe.

We may have difficulty attracting, motivating and retaining executives and other key employees in light of the merger.

Uncertainty about the effect of the merger on our employees may have an adverse effect on our business. This uncertainty may impair our ability to attract, retain and motivate key personnel. Employee retention may be particularly challenging during the pendency of the merger, as our employees may experience uncertainty about their future roles in the combined business. No assurance can be given that we will be able to attract or retain key employees to the same extent that we have been able to attract or retain employees in the past.

Additional information on these risks
Additional information concerning these risks, uncertainties and assumptions can be found in the section entitled “Risk Factors” beginning on page 39 of our Definitive Proxy Statement on Schedule 14A filed February 22, 2019 with the SEC.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(c) Issuer Purchases of Equity Securities

From April 2009 through March 2019, our Board of Directors approved purchases of up to $28.5 billion of our common stock. Approved amounts exclude share purchase transaction fees.

As of March 31, 2019, we had a remaining purchase authorization of approximately $2.8 billion. We did not repurchase any shares of our common stock during the three-month period ended March 31, 2019.

During the period covered by this report, we did not sell any of our equity shares that were not registered under the Securities Act of 1933, as amended.

Item 6. Exhibits

Exhibit No.	Exhibit Description
2.1	Agreement and Plan of Merger by and among Bristol-Myers Squibb Company, Burgundy Merger Sub, Inc. and Celgene Corporation, dated as of January 2, 2019 (incorporated by reference to Exhibit 2.1 to the Company’s Current Report on Form 8-K filed January 4, 2019).
31.1*	Certification by the Company's Chief Executive Officer.
31.2*	Certification by the Company's Chief Financial Officer.
32.1*	Certification by the Company's Chief Executive Officer pursuant to 18 U.S.C. Section 1350.
32.2*	Certification by the Company's Chief Financial Officer pursuant to 18 U.S.C. Section 1350.
101*	The following materials from Celgene Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statements of Income, (ii) the Consolidated Statements of Comprehensive Income, (iii) the Consolidated Balance Sheets, (iv) the Consolidated Statements of Cash Flows and (v) Notes to Unaudited Consolidated Financial Statements.

* Filed herewith.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

CELGENE CORPORATION

Date: April 25, 2019 By: /s/ David V. Elkins
David V. Elkins
Executive Vice President and Chief Financial Officer
(principal financial and accounting officer)