UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

(Mark One)

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2018

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number 001-37702

Amgen Inc.

(Exact name of registrant as specified in its charter)

Delaware	**95-3540776**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Amgen Center Drive, Thousand Oaks, California	**91320-1799**
(Address of principal executive offices)	(Zip Code)

(805) 447-1000

(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 Section 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 ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☑ 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. (Check one):

Large accelerated filer ☑	Accelerated filer ☐	Non-accelerated filer ☐ (Do not check if a smaller reporting company)
Smaller reporting company ☐	Emerging growth company ☐	

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

If an emerging growth company, indicate 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.☐

As of April 18, 2018, the registrant had 661,706,007 shares of common stock, $0.0001 par value, outstanding.

AMGEN INC.

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Item 1. FINANCIAL STATEMENTS

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(In millions, except per share data)
(Unaudited)

	Three months ended March 31,	
	2018	**2017**
Revenues:		
Product sales	$ 5,343	$ 5,199
Other revenues	211	265
Total revenues	5,554	5,464
Operating expenses:		
Cost of sales	944	996
Research and development	760	769
Selling, general and administrative	1,127	1,064
Other	(3)	44
Total operating expenses	2,828	2,873
Operating income	2,726	2,591
Interest expense, net	338	326
Interest and other income, net	231	195
Income before income taxes	2,619	2,460
Provision for income taxes	308	389
Net income	$ 2,311	$ 2,071
Earnings per share:		
Basic	$ 3.27	$ 2.81
Diluted	$ 3.25	$ 2.79
Shares used in calculation of earnings per share:		
Basic	707	737
Diluted	711	741
Dividends paid per share	$ 1.32	$ 1.15

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)
(Unaudited)

	Three months ended March 31,	
	2018	2017
Net income	$ 2,311	$ 2,071
Other comprehensive (loss) income, net of reclassification adjustments and taxes:		
Foreign currency translation gains	29	24
Effective portion of cash flow hedges	6	(73)
Net unrealized (losses) gains on available-for-sale securities	(352)	158
Other	2	—
Other comprehensive (loss) income, net of taxes	(315)	109
Comprehensive income	$ 1,996	$ 2,180

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In millions, except per share data)

	March 31, 2018	December 31, 2017
	(Unaudited)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 9,741	$ 3,800
Marketable securities	22,431	37,878
Trade receivables, net	3,633	3,237
Inventories	2,952	2,834
Other current assets	1,932	1,727
Total current assets	40,689	49,476
Property, plant and equipment, net	4,943	4,989
Intangible assets, net	8,779	8,609
Goodwill	14,771	14,761
Other assets	1,982	2,119
Total assets	$ 71,164	$ 79,954
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,089	$ 1,352
Accrued liabilities	7,207	6,516
Current portion of long-term debt	2,183	1,152
Total current liabilities	10,479	9,020
Long-term debt	33,358	34,190
Long-term deferred tax liabilities	1,215	1,166
Long-term tax liabilities	9,166	9,099
Other noncurrent liabilities	1,326	1,238
Contingencies and commitments		
Stockholders' equity:		
Common stock and additional paid-in capital; $0.0001 par value; 2,750.0 shares authorized; outstanding — 666.4 shares in 2018 and 722.2 shares in 2017	31,001	30,992
Accumulated deficit	(14,387)	(5,072)
Accumulated other comprehensive loss	(994)	(679)
Total stockholders' equity	15,620	25,241
Total liabilities and stockholders' equity	$ 71,164	$ 79,954

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)
(Unaudited)

	Three months ended March 31,	
	2018	**2017**
Cash flows from operating activities:		
Net income	$ 2,311	$ 2,071
Depreciation and amortization	471	524
Share-based compensation expense	54	60
Deferred income taxes	(72)	(77)
Other items, net	44	15
Changes in operating assets and liabilities, net of acquisitions:		
Trade receivables, net	(384)	(47)
Inventories	(107)	(125)
Other assets	(135)	(155)
Accounts payable	(278)	(20)
Accrued income taxes, net	353	268
Long-term tax liability	63	124
Other liabilities	407	(253)
Net cash provided by operating activities	2,727	2,385
Cash flows from investing activities:		
Purchases of marketable securities	(2,732)	(7,077)
Proceeds from sales of marketable securities	16,694	5,612
Proceeds from maturities of marketable securities	900	1,528
Cash acquired in acquisition, net of cash paid	197	—
Purchases of property, plant and equipment	(155)	(168)
Other	2	(52)
Net cash provided by (used in) investing activities	14,906	(157)
Cash flows from financing activities:		
Repayment of debt	—	(605)
Repurchases of common stock	(10,697)	(586)
Dividends paid	(951)	(847)
Other	(44)	(73)
Net cash used in financing activities	(11,692)	(2,111)
Increase in cash and cash equivalents	5,941	117
Cash and cash equivalents at beginning of period	3,800	3,241
Cash and cash equivalents at end of period	$ 9,741	$ 3,358

See accompanying notes.

1. Summary of significant accounting policies

Business

Amgen Inc. (including its subsidiaries, referred to as "Amgen," "the Company," "we," "our" or "us") is a global biotechnology pioneer that discovers, develops, manufactures and delivers innovative human therapeutics. We operate in one business segment: human therapeutics.

Basis of presentation

The financial information for the three months ended March 31, 2018 and 2017, is unaudited but includes all adjustments (consisting of only normal, recurring adjustments unless otherwise indicated), which Amgen considers necessary for a fair presentation of its condensed consolidated results of operations for those periods. Interim results are not necessarily indicative of results for the full fiscal year.

The condensed consolidated financial statements should be read in conjunction with our consolidated financial statements and the notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2017.

Principles of consolidation

The condensed consolidated financial statements include the accounts of Amgen as well as its majority-owned subsidiaries. We do not have any significant interests in any variable interest entities. All material intercompany transactions and balances have been eliminated in consolidation.

Use of estimates

The preparation of condensed consolidated financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results may differ from those estimates.

Property, plant and equipment, net

Property, plant and equipment is recorded at historical cost, net of accumulated depreciation and amortization of $7.7 billion and $7.6 billion as of March 31, 2018 and December 31, 2017, respectively.

Recent accounting pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued a new accounting standard that amends the guidance for the recognition of revenue from contracts with customers to transfer goods and services. The FASB subsequently issued additional, clarifying standards to address issues arising from implementation of the new revenue recognition standard. The new revenue recognition standard and clarifying standards require an entity to recognize revenue when control of promised goods or services is transferred to the customer at an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We adopted this new standard as of January 1, 2018, by using the modified-retrospective method. See Note 4, Revenues.

In January 2016, the FASB issued a new accounting standard that amends the accounting and disclosures of financial instruments, including a provision requiring that equity investments (except for investments accounted for under the equity method of accounting) be measured at fair value, with changes in fair value recognized in current earnings. With the exception of equity investments that were previously accounted for at cost, a modified-retrospective approach was used to reflect the cumulative-effect of adoption as an adjustment to retained earnings as of the beginning of the fiscal year. The new standard will be applied prospectively to investments that were previously accounted for at cost. Upon adoption, on January 1, 2018, we recorded an immaterial adjustment to Accumulated deficit from Accumulated other comprehensive income (loss) (AOCI), which represented the net unrealized gain on all equity investments with a readily determinable fair value as of December 31, 2017. The impact that this new standard has on our Condensed Consolidated Statements of Income after adoption will depend on the changes in fair values of equity securities in our portfolio in the future. See Note 7, Investments.

In October 2016, the FASB issued a new accounting standard that amends the income tax accounting guidance for intra-entity transfers of assets other than inventory. The new standard requires that entities recognize the income tax consequences of an intercompany transfer of an asset, other than inventory, in the period the transfer occurs. The current exception to defer the recognition of any tax impact on intercompany transfers of inventory until the inventory is sold to a third party remains unaffected.

We adopted this standard as of January 1, 2018, and will apply it prospectively to any transaction occurring on or after the adoption date. The adoption of this standard did not have a material impact on our condensed consolidated financial statements, however the impact on our condensed consolidated financial statements in future periods will depend on the facts and circumstances of future transactions.

In January 2017, the FASB issued a new accounting standard that changes the definition of a business to assist entities with the evaluation of when a set of assets acquired or disposed of should be considered a business. The new standard requires that an entity evaluate whether substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets; if so, the set of assets would not be considered a business. The new standard also requires that a business include at least one substantive process and narrows the definition of outputs. We adopted this standard as of January 1, 2018 and will apply it prospectively. Adoption of this new standard may result in more transactions being accounted for as asset acquisitions versus business combinations; however, the impact on our condensed consolidated financial statements in future periods will depend on the facts and circumstances of future transactions.

In February 2016, the FASB issued a new accounting standard that amends the guidance for the accounting and disclosure of leases. This new standard requires that lessees recognize the assets and liabilities that arise from leases on the balance sheet, including leases classified as operating leases under current GAAP, and disclose qualitative and quantitative information about leasing arrangements. The new standard requires a modified-retrospective approach to adoption and is effective for interim and annual periods beginning on January 1, 2019, but may be adopted earlier. We expect to adopt this standard beginning in 2019. We do not expect that this standard will have a material impact on our Condensed Consolidated Statements of Income, but we do expect that upon adoption, it will have a material impact on our assets and liabilities on our Condensed Consolidated Balance Sheets. The primary effect of adoption will be the requirement to record right-of-use assets and corresponding lease obligations for current operating leases. In addition, the standard will require that we update the systems, processes and controls we use to track, record and account for our lease portfolio. We have selected a lease accounting information system and engaged third-party consultants to provide system implementation services. System readiness, including the implementation and functionality of software procured from third-party providers, is essential to enable preparation of the financial information required for this standard.

In June 2016, the FASB issued a new accounting standard that amends the guidance for measuring and recording credit losses on financial assets measured at amortized cost by replacing the “incurred loss” model with an “expected loss” model. Accordingly, these financial assets will be presented at the net amount expected to be collected. This new standard also requires that credit losses related to available-for-sale debt securities be recorded as an allowance through net income rather than reducing the carrying amount under the current, other-than-temporary-impairment model. The new standard is effective for interim and annual periods beginning on January 1, 2020, but may be adopted earlier, beginning on January 1, 2019. With certain exceptions, adjustments are to be applied by using a modified-retrospective approach by reflecting adjustments through a cumulative-effect impact on retained earnings as of the beginning of the fiscal year of adoption. We are currently evaluating the impact that this new standard will have on our condensed consolidated financial statements.

In March 2018, the FASB issued a new accounting standard to incorporate Securities and Exchange Commission (SEC) Staff Accounting Bulletin No. 118 (SAB 118), which addresses the accounting implications of the major tax reform legislation, Public Law No. 115-97, commonly referred to as the Tax Cuts and Jobs Act (the 2017 Tax Act), enacted on December 22, 2017. SAB 118 allows a company to record provisional amounts during a measurement period not to extend beyond one year of the enactment date and was effective upon issuance. We continue to analyze the 2017 Tax Act, and in certain areas, have made reasonable estimates of the effects on our condensed consolidated financial statements and tax disclosures. See Note 5, Income taxes.

2. Restructuring

In 2014, we initiated a restructuring plan to invest in continuing innovation and the launch of our new pipeline molecules, while improving our cost structure. As part of the plan, we closed facilities in Washington State and Colorado and are reducing the number of buildings we occupy at our headquarters in Thousand Oaks, California, as well as at other locations.

We estimate that we will incur $825 million to $900 million of pre-tax charges in connection with our restructuring, including: (i) separation and other headcount-related costs of $560 million to $600 million with respect to staff reductions and (ii) asset-related charges of $265 million to $300 million that consist primarily of asset impairments, accelerated depreciation and other related costs resulting from the consolidation of our worldwide facilities. Through March 31, 2018, we incurred a total of $558 million of separation costs and other headcount-related costs and $243 million of net asset-related charges.

The amounts related to the restructuring recorded in the Condensed Consolidated Statements of Income during the three months ended March 31, 2018 and 2017, were not significant. As of March 31, 2018, the total restructuring liability was not significant.

3. Business combinations

Kirin-Amgen, Inc.

During the first quarter of 2018, we acquired the remaining 50% ownership of Kirin-Amgen, Inc. (K-A) from Kirin Holdings Company, Limited (Kirin), making K-A a wholly owned subsidiary of Amgen. Upon its acquisition, K-A's operations have been included in our condensed consolidated financial statements commencing on the share acquisition date. The acquisition relieved Amgen of future royalty obligations to K-A.

K-A is a corporation that was established in 1984 as a 50-50 joint venture with Kirin to fund the global development of EPOGEN® (epoetin alfa). Over time, the scope of the collaboration was expanded to also include the products NEUPOGEN® (filgrastim), Neulasta® (pegfilgrastim), Aranesp® (darbepoetin alfa), Nplate® (romiplostim) and brodalumab. K-A held the intellectual property for each of these products and licensed the associated marketing rights in Asia to Kyowa Hakko Kirin (KHK), Kirin's pharmaceutical subsidiary, and in most other territories to Amgen. In return, Amgen and KHK paid royalties to K-A, and K-A reimbursed Amgen and KHK's research and development (R&D) expenses. K-A had also given Johnson & Johnson (J&J) exclusive licenses to manufacture and market recombinant human erythropoietin for all geographic areas of the world outside the United States, China and Japan. Under this agreement, J&J pays royalties to K-A based on product sales.

Prior to the share acquisition date, we owned 50% of K-A and accounted for our interest in K-A by using the equity method of accounting, which included recording our share of K-A's profits or losses in Selling, general and administrative expense in the Condensed Consolidated Statements of Income. The carrying value of our equity method investment in K-A was $570 million as of December 31, 2017, and was included in Other assets in the Condensed Consolidated Balance Sheet.

The transaction was accounted for as a step acquisition of a business in which we were required to remeasure our existing 50% ownership interest at fair value. In addition, we were required to effectively settle our preexisting relationships with K-A, which resulted in a loss. Together the gain on the remeasurement of our existing ownership interest and the loss from the settlement of the preexisting relationship resulted in a net gain of $80 million, which was recorded in Interest and other income, net, in the Condensed Consolidated Statements of Income.

The primary means of consideration for this transaction was a payment of $780 million in cash. The aggregate share acquisition date consideration to acquire the remaining 50% ownership in K-A and the fair value of Amgen's preacquisition investment consisted of the following (in millions):

	Amount
Total cash paid to Kirin	$ 780
Fair value of contingent consideration obligation	45
Loss on settlement of preexisting relationship	(168)
Total consideration transferred to acquire K-A	657
Fair value of Amgen's investment in K-A	825
Total acquisition date fair value	$ 1,482

In connection with this acquisition, we are obligated to make single-digit-percentage royalty payments to Kirin contingent upon sales of brodalumab. The estimated fair value of this contingent consideration obligation is $45 million as of the share acquisition date.

The fair values of assets acquired and liabilities assumed included cash of $977 million, licensing rights of $470 million, deferred tax liabilities of $102 million, other assets and liabilities of $131 million and goodwill of $6 million. The estimated fair value of acquired licensing rights was determined by using a probability-weighted income approach, which discounts expected future cash flows to present value by using a discount rate that represents the estimated rate that market participants would use to value the assets. The projected cash flows were based on certain assumptions, including estimates of future revenues and expenses and the time and resources needed to maintain the assets through commercialization. The licensing rights will be amortized over a weighted-average period of four years by using the straight-line method. The excess of the share acquisition date consideration over the fair values assigned to the assets acquired and the liabilities assumed of $6 million was recorded as goodwill, which is not deductible for tax purposes. The $131 million in other assets and liabilities represents primarily receivables for royalties earned by K-A, but not yet received, offset partially by payables representing R&D expenses incurred, but not yet reimbursed by K-A. The fair value estimates for the assets acquired and liabilities assumed were based on preliminary calculations and valuations, and our estimates and assumptions are subject to change as we obtain additional information during the measurement period (up to

one year from the share acquisition date). The primary areas of those preliminary estimates that are not yet finalized relate to the valuation of licensing rights, contingent consideration and tax-related items.

Pro forma results of operations for this acquisition have not been presented because this acquisition is not material to our consolidated results of operations.

4. Revenues

Adoption of new revenue recognition standard

On January 1, 2018, we adopted the FASB's new accounting standard that amends the guidance for the recognition of revenue from contracts with customers to transfer goods and services by using the modified-retrospective method applied to those contracts that were not completed as of January 1, 2018. The results for the reporting period beginning after January 1, 2018, are presented in accordance with the new standard, although comparative information has not been restated and continues to be reported under the accounting standards and policies in effect for those periods. See Note 1, Summary of significant accounting policies, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

Upon adoption, we recorded a net decrease of $25 million to Accumulated deficit due to the cumulative impact of adopting the new standard—with the impact related primarily to the acceleration of deferred revenue, net of related deferred tax impact. The adoption of this new standard had an immaterial impact on our reported total revenues and operating income as compared to what reported amounts would have been under the prior standard, and we expect the impact of adoption in future periods to be immaterial. Our accounting policies under the new standard were applied prospectively and are noted below.

Revenues

Product sales

Revenue from product sales is recognized upon transfer of control of a product to a customer, generally upon delivery, based on an amount that reflects the consideration we expect to be entitled to, net of accruals for estimated rebates, wholesaler chargebacks, discounts and other deductions (collectively, sales deductions) and returns.

Other revenues

Other revenues consist primarily of royalty income and corporate partner revenues. Royalties from licensees are based on third-party sales of licensed products and are recorded when the related third-party product sale occurs. Royalty estimates are based on historical and forecasted sales trends. Corporate partner revenues are composed primarily of license fees and milestones earned and our share of commercial profits generated from collaborations. See Arrangements with multiple-performance obligations, discussed below.

Arrangements with multiple-performance obligations

From time to time, we enter into arrangements for the R&D, manufacture and/or commercialization of products and product candidates. Such arrangements may require us to deliver various rights, services and/or goods, including (i) intellectual property rights or licenses; (ii) R&D services; (iii) manufacturing services; and/or (iv) commercialization services. The underlying terms of these arrangements generally provide for consideration to Amgen in the form of non-refundable, up-front license payments, R&D and commercial performance milestone payments, cost sharing and/or royalty payments.

In arrangements involving more than one performance obligation, each required performance obligation is evaluated to determine whether it qualifies as a distinct performance obligation based on whether (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available and (ii) the good or service is separately identifiable from other promises in the contract. The consideration under the arrangement is then allocated to each separate distinct performance obligation based on their respective relative stand-alone selling price. The estimated selling price of each deliverable reflects our best estimate of what the selling price would be if the deliverable was regularly sold by us on a stand-alone basis or using an adjusted market assessment approach if selling price on a stand-alone basis is not available.

The consideration allocated to each distinct performance obligation is recognized as revenue when control is transferred for the related goods or services. Consideration associated with at-risk substantive performance milestones is recognized as revenue when it is probable that a significant reversal of the cumulative revenue recognized will not occur.

Financing and payment

Our payment terms vary by the type and location of our customer and the products or services offered. Payment terms differ by jurisdiction and customer but payment is generally required in a term ranging from 30 to 120 days from date of shipment or satisfaction of the performance obligation.

For certain products or services and customer types, we may require payment before the products are delivered or services are rendered to the customer.

Practical expedients and exemptions

Taxes collected from customers and remitted to government authorities and that are related to the sales of the Company's products, primarily in Europe, are excluded from revenues.

Sales commissions are expensed when incurred because the amortization period would have been one year or less. These costs are recorded in Selling, general and administrative expense in the Condensed Consolidated Statements of Income.

We do not disclose the value of unsatisfied performance obligations for (i) contracts with original expected lengths of one year or less or (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for the services performed.

Revenues by product and by geographic area

We operate in one business segment: human therapeutics. Therefore, results of our operations are reported on a consolidated basis for purposes of segment reporting, consistent with internal management reporting. Revenues by product and by geographic area, based on the customer's location, are presented below. Rest of world (ROW) revenues relate to products that are sold principally in Europe. Revenues were as follows (in millions):

	Three months ended March 31,					
	2018			2017		
	US	ROW	Total	US	ROW	Total
Neulasta®	$ 1,009	$ 146	$ 1,155	$ 1,048	$ 162	$ 1,210
Enbrel®	1,050	55	1,105	1,118	63	1,181
Sensipar® / Mimpara®	409	88	497	337	84	421
Prolia®	320	174	494	279	146	425
Aranesp®	225	229	454	278	233	511
XGEVA®	332	113	445	298	104	402
EPOGEN®	244	—	244	270	—	270
Other products	558	391	949	467	312	779
Total product sales[1]	$ 4,147	$ 1,196	$ 5,343	$ 4,095	$ 1,104	$ 5,199
Other revenues			211			265
Total revenues[2]			$ 5,554			$ 5,464

(1) Total product sales includes $34 million related to hedging losses and $57 million related to hedging gains for the three months ended March 31, 2018 and 2017, respectively.

(2) Prior-period amounts are not adjusted under the modified-retrospective method of adoption.

Sales deductions

Product sales are recorded net of sales deductions and returns, which are established at the time of sale. We analyze the adequacy of our accruals for sales deductions quarterly. Amounts accrued for sales deductions are adjusted when trends or significant events indicate that an adjustment is appropriate. Accruals are also adjusted to reflect actual results. Accruals for sales deductions are based primarily on estimates of the amounts earned or to be claimed on the related sales. These estimates take into consideration current contractual and statutory requirements, specific known market events and trends, internal and external historical data and forecasted customer buying patterns. Sales deductions are substantially product specific and therefore, for any given period can be affected by the mix of products sold. Included in sales deductions are immaterial net adjustments related to prior-period sales due to changes in estimates. Historically, such amounts have represented less than 1% of the aggregate sales deductions charged against product sales.

Product returns

Returns are estimated through comparison of historical return data to their related sales on a production lot basis. Historical rates of return are determined for each product and are adjusted for known or expected changes in the marketplace specific to each

product, when appropriate. Historically, sales return provisions have amounted to less than 1% of gross product sales. Changes in estimates for prior-period sales return provisions have historically been insignificant.

5. Income taxes

The effective tax rates for the three months ended March 31, 2018 and 2017, were 11.8% and 15.8%, respectively.

The decrease in our effective tax rate for the three months ended March 31, 2018, was due primarily to the impacts of U.S. tax reform, including the reduction in the U.S. statutory tax rate, offset partially by U.S. tax on foreign earnings.

On December 22, 2017, the United States enacted the 2017 Tax Act, which imposes a repatriation tax on accumulated earnings of foreign subsidiaries, implements a territorial tax system together with a current tax on certain foreign earnings and lowers the general corporate income tax rate to 21%. In March 2018, the FASB issued a new accounting standard to incorporate SAB 118, which permits us to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. We continue to analyze the 2017 Tax Act, and in certain areas, have made reasonable estimates of the effects on our condensed consolidated financial statements and tax disclosures.

The 2017 Tax Act includes U.S. taxation on certain foreign earnings, referred to as Global Intangible Low-Taxed Income (foreign intangible income), effective January 1, 2018. The FASB allows an entity to make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as foreign intangible income in future years or provide for the tax expense related to the foreign intangible income as a period expense in the year it is incurred. We have recorded no provisional amount for deferred taxes on the foreign intangible income because more time is needed to analyze the data in order to make an accounting policy election.

We consider our key estimates on the repatriation tax, the net deferred tax remeasurement, the impact on our unrealized tax benefits and the accounting policy election on temporary basis differences related to the foreign intangible income to be incomplete due to our continuing analysis of final year-end data and tax positions. We are still accumulating and processing data to update our underlying calculations and we expect the U.S. Treasury and regulators may issue further guidance, among other things, therefore our estimates may change during 2018. However, we expect to complete our analysis within the measurement period.

The U.S. territory of Puerto Rico imposes an excise tax on the gross intercompany purchase price of goods and services from our manufacturer in Puerto Rico. The rate of 4% is effective through December 31, 2027. We account for the excise tax as a manufacturing cost that is capitalized in inventory and expensed in cost of sales when the related products are sold. For U.S. income tax purposes, the excise tax results in foreign tax credits that are generally recognized in our provision for income taxes when the excise tax is incurred.

One or more of our legal entities file income tax returns in the U.S. federal jurisdiction, various U.S. state jurisdictions and certain foreign jurisdictions. Our income tax returns are routinely audited by the tax authorities in those jurisdictions. Significant disputes may arise with authorities involving issues of the timing and amount of deductions, the use of tax credits and allocations of income and expenses among various tax jurisdictions because of differing interpretations of tax laws, regulations and the interpretation of the relevant facts. As previously disclosed, we received a Revenue Agent Report (RAR) from the Internal Revenue Service (IRS) for the years 2010, 2011 and 2012. The RAR proposes to make significant adjustments that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. On November 29, 2017, we received a modified RAR that revised the IRS calculations but continued to propose substantial adjustments. We disagree with the proposed adjustments and are pursuing resolution through the IRS administrative appeals process, which we believe will likely not be concluded within the next 12 months. Final resolution of the IRS audit could have a material impact on our results of operations and cash flows if not resolved favorably, however, we believe our income tax reserves are appropriately provided for all open tax years. We are no longer subject to U.S. federal income tax examinations for years ended on or before December 31, 2009. We are currently under examination by a number of other state and foreign tax jurisdictions.

During the three months ended March 31, 2018, the gross amounts of our unrecognized tax benefits (UTBs) increased $75 million as a result of tax positions taken during the current year. Substantially all of the UTBs as of March 31, 2018, if recognized, would affect our effective tax rate.

6. Earnings per share

The computation of basic earnings per share (EPS) is based on the weighted-average number of our common shares outstanding. The computation of diluted EPS is based on the weighted-average number of our common shares outstanding and dilutive potential common shares, which include primarily shares that may be issued under our stock option, restricted stock and performance unit award programs, as determined by using the treasury stock method (collectively, dilutive securities).

The computations for basic and diluted EPS were as follows (in millions, except per-share data):

	Three months ended March 31,	
	2018	2017
Income (Numerator):		
Net income for basic and diluted EPS	$ 2,311	$ 2,071
Shares (Denominator):		
Weighted-average shares for basic EPS	707	737
Effect of dilutive securities	4	4
Weighted-average shares for diluted EPS	711	741
Basic EPS	$ 3.27	$ 2.81
Diluted EPS	$ 3.25	$ 2.79

The decrease in weighted-average shares during three months ended March 31, 2018 compared to the prior period, was due to share repurchases. See Note 11, Stockholders' equity. For the three months ended March 31, 2018 and 2017, the number of anti-dilutive employee stock-based awards excluded from the computation of diluted EPS was not significant.

7. Investments

Available-for-sale investments

The amortized cost, gross unrealized gains, gross unrealized losses and fair values of available-for-sale investments by type of security were as follows (in millions):

Type of security as of March 31, 2018	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
U.S. Treasury securities	$ 5,207	$ —	$ (104)	$ 5,103
Other government-related debt securities:				
U.S.	132	—	(3)	129
Foreign and other	1,714	3	(43)	1,674
Corporate debt securities:				
Financial	6,189	1	(137)	6,053
Industrial	5,687	6	(128)	5,565
Other	916	1	(21)	896
Residential-mortgage-backed securities	1,745	—	(46)	1,699
Other mortgage- and asset-backed securities	1,293	—	(26)	1,267
Money market mutual funds	9,234	—	—	9,234
Other short-term interest-bearing securities	50	—	—	50
Total available-for-sale investments	$ 32,167	$ 11	$ (508)	$ 31,670

Type of security as of December 31, 2017	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
U.S. Treasury securities	$ 8,313	$ 1	$ (72)	$ 8,242
Other government-related debt securities:				
U.S.	225	—	(2)	223
Foreign and other	2,415	18	(11)	2,422
Corporate debt securities:				
Financial	10,089	17	(34)	10,072
Industrial	9,688	34	(52)	9,670
Other	1,393	3	(6)	1,390
Residential-mortgage-backed securities	2,198	—	(30)	2,168
Other mortgage- and asset-backed securities	2,312	—	(15)	2,297
Money market mutual funds	3,245	—	—	3,245
Other short-term interest-bearing securities	1,440	—	—	1,440
Total interest-bearing securities	41,318	73	(222)	41,169
Equity securities	135	14	—	149
Total available-for-sale investments	$ 41,453	$ 87	$ (222)	$ 41,318

The fair values of available-for-sale investments by location in the Condensed Consolidated Balance Sheets were as follows (in millions):

Condensed Consolidated Balance Sheets location	March 31, 2018	December 31, 2017
Cash and cash equivalents	$ 9,239	$ 3,291
Marketable securities	22,431	37,878
Other assets	—	149
Total available-for-sale investments	$ 31,670	$ 41,318

Cash and cash equivalents in the above table excludes bank account cash of $502 million and $509 million as of March 31, 2018 and December 31, 2017, respectively. Other assets as of December 31, 2017, consisted of equity securities, which are no longer classified as available-for-sale.

As a result of the adoption of the new accounting standard related to the classification and measurement of financial instruments on January 1, 2018, equity investments (except for investments accounted for under the equity method of accounting) are now measured at fair value, with changes in fair value recognized in earnings. These investments were previously measured at fair value, with changes in fair value recognized in AOCI. Accordingly, these securities are no longer classified as available-for-sale and their presentation is not comparable to the presentation as of December 31, 2017. See Note 1, Summary of significant accounting policies, as well as Equity securities discussed below.

The fair values of available-for-sale interest-bearing security investments by contractual maturity, except for mortgage- and asset-backed securities that do not have a single maturity date, were as follows (in millions):

Contractual maturity	March 31, 2018	December 31, 2017
Maturing in one year or less	$ 9,403	$ 6,733
Maturing after one year through three years	6,579	12,820
Maturing after three years through five years	10,934	13,836
Maturing after five years through ten years	1,788	3,263
Maturing after ten years	—	52
Mortgage- and asset-backed securities	2,966	4,465
Total interest-bearing securities	$ 31,670	$ 41,169

For the three months ended March 31, 2018 and 2017, realized gains on interest-bearing securities were $17 million and $31 million, respectively, and realized losses on interest-bearing securities were $151 million and $84 million, respectively. The cost of securities sold is based on the specific-identification method.

The fair values and gross unrealized losses of available-for-sale investments in an unrealized loss position aggregated by type and length of time that the securities have been in a continuous loss position were as follows (in millions):

	Less than 12 months		12 months or more	
Type of security as of March 31, 2018	**Fair value**	**Unrealized losses**	**Fair value**	**Unrealized losses**
U.S. Treasury securities	$ 5,023	$ (103)	$ 53	$ (1)
Other government-related debt securities:				
U.S.	103	(2)	26	(1)
Foreign and other	1,367	(39)	88	(4)
Corporate debt securities:				
Financial	5,648	(128)	325	(9)
Industrial	4,702	(117)	397	(11)
Other	727	(18)	93	(3)
Residential-mortgage-backed securities	1,464	(39)	226	(7)
Other mortgage- and asset-backed securities	1,105	(22)	162	(4)
Total	$ 20,139	$ (468)	$ 1,370	$ (40)

	Less than 12 months		12 months or more	
Type of security as of December 31, 2017	**Fair value**	**Unrealized losses**	**Fair value**	**Unrealized losses**
U.S. Treasury securities	$ 7,728	$ (70)	$ 195	$ (2)
Other government-related debt securities:				
U.S.	188	(1)	34	(1)
Foreign and other	1,163	(9)	115	(2)
Corporate debt securities:				
Financial	5,928	(28)	462	(6)
Industrial	5,760	(43)	612	(9)
Other	868	(4)	117	(2)
Residential-mortgage-backed securities	1,838	(24)	276	(6)
Other mortgage- and asset-backed securities	1,777	(12)	250	(3)
Total	$ 25,250	$ (191)	$ 2,061	$ (31)

The primary objective of our investment portfolio is to enhance overall returns in an efficient manner while maintaining safety of principal, prudent levels of liquidity and acceptable levels of risk. Our investment policy limits interest-bearing security investments to certain types of debt and money market instruments issued by institutions with primarily investment-grade credit ratings, and it places restrictions on maturities and concentration by asset class and issuer.

We review our available-for-sale investments for other-than-temporary declines in fair value below our cost basis each quarter and whenever events or changes in circumstances indicate that the cost basis of an asset may not be recoverable. The evaluation is based on a number of factors, including the length of time and the extent to which the fair value has been below our cost basis and adverse conditions related specifically to the security, including any changes to the credit rating of the security, and the intent to sell, or whether we will more likely than not be required to sell, the security before recovery of its amortized cost basis. Our assessment of whether a security is other-than-temporarily impaired could change in the future based on new developments or changes in assumptions related to that particular security. As of March 31, 2018 and December 31, 2017, we believe the cost bases for our available-for-sale investments were recoverable in all material respects.

Equity securities

We held investments in equity securities with readily determinable fair values of $155 million and $149 million as of March 31, 2018 and December 31, 2017, respectively, which are included in Other assets in the Condensed Consolidated Balance Sheets. As a result of the adoption of the new accounting standard related to the classification and measurement of financial instruments on January 1, 2018, equity investments (except for investments accounted for under the equity method of accounting) are now measured at fair value, with changes in fair value recognized in earnings. These investments were previously measured at fair value, with changes in fair value recognized in AOCI. Accordingly, these securities are no longer classified as available-for-sale and their presentation is not comparable to the presentation as of December 31, 2017. See Note 1, Summary of significant accounting policies, as well as Available-for-sale investments discussed above. Gains and losses recognized on equity securities, including gains and losses recognized on sales, were not material for the three months ended March 31, 2018 and 2017. Unrealized gains and losses on equity securities held as of March 31, 2018, were not material.

Limited partnership investments

We held limited partnership investments of $254 million and $213 million as of March 31, 2018 and December 31, 2017, respectively, which are included in Other assets in the Condensed Consolidated Balance Sheets. These investments are measured by using the net asset values of the underlying investments as a practical expedient. These investments are typically redeemable only through distributions upon liquidation of the underlying assets. As of March 31, 2018, unfunded additional commitments to be made during the next several years for these investments were approximately $90 million.

8. Inventories

Inventories consisted of the following (in millions):

	March 31, 2018	December 31, 2017
Raw materials	$ 275	$ 232
Work in process	1,627	1,668
Finished goods	1,050	934
Total inventories	$ 2,952	$ 2,834

9. Goodwill and other intangible assets

Goodwill

Changes in the carrying amount of goodwill were as follows (in millions):

	Three months ended March 31, 2018
Beginning balance	$ 14,761
Addition from K-A acquisition	6
Currency translation adjustment	4
Ending balance	$ 14,771

Other intangible assets

Other intangible assets consisted of the following (in millions):

	March 31, 2018			December 31, 2017		
	Gross carrying amount	Accumulated amortization	Intangible assets, net	Gross carrying amount	Accumulated amortization	Intangible assets, net
Finite-lived intangible assets:						
Developed-product-technology rights	$ 12,609	$ (6,974)	$ 5,635	$ 12,589	$ (6,796)	$ 5,793
Licensing rights	3,745	(1,699)	2,046	3,275	(1,601)	1,674
Marketing-related rights	1,316	(948)	368	1,319	(920)	399
R&D technology rights	1,177	(834)	343	1,161	(804)	357
Total finite-lived intangible assets	18,847	(10,455)	8,392	18,344	(10,121)	8,223
Indefinite-lived intangible assets:						
In-process research and development	387	—	387	386	—	386
Total other intangible assets	$ 19,234	$ (10,455)	$ 8,779	$ 18,730	$ (10,121)	$ 8,609

Developed-product-technology rights consist of rights related to marketed products acquired in business combinations. Licensing rights consist primarily of contractual rights acquired in business combinations to receive future milestone, royalty and profit sharing payments; capitalized payments to third parties for milestones related to regulatory approvals to commercialize products; and up-front payments associated with royalty obligations for marketed products. During the three months ended March 31, 2018, licensing rights increased due to the K-A share acquisition. See Note 3, Business combinations. Marketing-related intangible assets consist primarily of rights related to the sale and distribution of marketed products. R&D technology rights consist of technology used in R&D with alternative future uses.

In-process research and development (IPR&D) consists of R&D projects acquired in a business combination that are not complete at the time of acquisition due to remaining technological risks and/or lack of receipt of required regulatory approvals. As of March 31, 2018, IPR&D consists primarily of the oprozomib project, acquired in the acquisition of Onyx Pharmaceuticals, Inc., in 2013.

All IPR&D projects have major risks and uncertainties associated with the timely and successful completion of the development and commercialization of product candidates, including our ability to confirm safety and efficacy based on data from clinical trials, our ability to obtain necessary regulatory approvals and our ability to successfully complete these tasks within budgeted costs. We are not permitted to market a human therapeutic without obtaining regulatory approvals, and such approvals require the completion of clinical trials that demonstrate that a product candidate is safe and effective. In addition, the availability and extent of coverage and reimbursement from third-party payers, including government healthcare programs and private insurance plans as well as competitive product launches, affect the revenues a product can generate. Consequently, the eventual realized value, if any, of the acquired IPR&D projects may vary from their estimated fair values. We review IPR&D projects for impairment annually, whenever events or changes in circumstances indicate that the carrying amount may not be recoverable and upon the establishment of technological feasibility or regulatory approval.

During the three months ended March 31, 2018 and 2017, we recognized amortization expense associated with our finite-lived intangible assets, included primarily in Cost of sales in the Condensed Consolidated Statements of Income, of $320 million and $373 million, respectively. The total estimated amortization expense for our finite-lived intangible assets for the remaining nine months ending December 31, 2018, and the years ending December 31, 2019, 2020, 2021, 2022 and 2023, are $1.0 billion, $1.3 billion, $1.2 billion, $1.0 billion, $0.9 billion and $0.9 billion, respectively.

10. Financing arrangements

Our borrowings consisted of the following (in millions):

	March 31, 2018	December 31, 2017
6.15% notes due 2018 (6.15% 2018 Notes)	$ 500	$ 500
4.375% €550 million notes due 2018 (4.375% 2018 euro Notes)	684	653
5.70% notes due 2019 (5.70% 2019 Notes)	1,000	1,000
1.90% notes due 2019 (1.90% 2019 Notes)	700	700
Floating Rate Notes due 2019	550	550
2.20% notes due 2019 (2.20% 2019 Notes)	1,400	1,400
2.125% €675 million notes due 2019 (2.125% 2019 euro Notes)	832	810
4.50% notes due 2020 (4.50% 2020 Notes)	300	300
2.125% notes due 2020 (2.125% 2020 Notes)	750	750
Floating Rate Notes due 2020	300	300
2.20% notes due 2020 (2.20% 2020 Notes)	700	700
3.45% notes due 2020 (3.45% 2020 Notes)	900	900
4.10% notes due 2021 (4.10% 2021 Notes)	1,000	1,000
1.85% notes due 2021 (1.85% 2021 Notes)	750	750
3.875% notes due 2021 (3.875% 2021 Notes)	1,750	1,750
1.25% €1,250 million notes due 2022 (1.25% 2022 euro Notes)	1,541	1,501
2.70% notes due 2022 (2.70% 2022 Notes)	500	500
2.65% notes due 2022 (2.65% 2022 Notes)	1,500	1,500
3.625% notes due 2022 (3.625% 2022 Notes)	750	750
0.41% CHF700 million bonds due 2023 (0.41% 2023 Swiss franc Bonds)	734	719
2.25% notes due 2023 (2.25% 2023 Notes)	750	750
3.625% notes due 2024 (3.625% 2024 Notes)	1,400	1,400
3.125% notes due 2025 (3.125% 2025 Notes)	1,000	1,000
2.00% €750 million notes due 2026 (2.00% 2026 euro Notes)	924	901
2.60% notes due 2026 (2.60% 2026 Notes)	1,250	1,250
5.50% £475 million notes due 2026 (5.50% 2026 pound sterling Notes)	666	642
3.20% notes due 2027 (3.20% 2027 Notes)	1,000	1,000
4.00% £700 million notes due 2029 (4.00% 2029 pound sterling Notes)	981	946
6.375% notes due 2037 (6.375% 2037 Notes)	552	552
6.90% notes due 2038 (6.90% 2038 Notes)	291	291
6.40% notes due 2039 (6.40% 2039 Notes)	466	466
5.75% notes due 2040 (5.75% 2040 Notes)	412	412
4.95% notes due 2041 (4.95% 2041 Notes)	600	600
5.15% notes due 2041 (5.15% 2041 Notes)	974	974
5.65% notes due 2042 (5.65% 2042 Notes)	487	487
5.375% notes due 2043 (5.375% 2043 Notes)	261	261
4.40% notes due 2045 (4.40% 2045 Notes)	2,250	2,250
4.563% notes due 2048 (4.563% 2048 Notes)	1,415	1,415
4.663% notes due 2051 (4.663% 2051 Notes)	3,541	3,541
Other notes due 2097	100	100
Unamortized bond discounts, premiums and issuance costs, net	(920)	(929)
Total carrying value of debt	35,541	35,342
Less current portion	(2,183)	(1,152)
Total noncurrent debt	$ 33,358	$ 34,190

There are no material differences between the effective interest rates and coupon rates of any of our borrowings, except for the 4.563% 2048 Notes and the 4.663% 2051 Notes, which have effective interest rates of 6.3% and 5.6%, respectively.

11. Stockholders' equity

Stock repurchase program

Activity under our stock repurchase program, on a trade date basis, was as follows (in millions):

	2018		2017	
	Shares	Dollars	Shares	Dollars
First quarter	56.4	$ 10,787	3.4	$ 555

In January 2018, our Board of Directors authorized an increase of $10.0 billion available under our stock repurchase program. Repurchase activity for the three months ended March 31, 2018, included 52.1 million shares of our common stock acquired under a tender offer at an aggregate cost of $10.0 billion. As of March 31, 2018, $3.6 billion remained available under our stock repurchase program. In April 2018, our Board of Directors increased the amount authorized under our stock repurchase program by an additional $5.0 billion.

Dividends

In March 2018, the Board of Directors declared a quarterly cash dividend of $1.32 per share of common stock, which will be paid in June 2018. In December 2017, the Board of Directors declared a quarterly cash dividend of $1.32 per share of common stock, which was paid in March 2018.

Accumulated other comprehensive income (loss)

The components of AOCI were as follows (in millions):

	Foreign currency translation	Cash flow hedges	Available-for-sale securities	Other	AOCI
Balance as of December 31, 2017	$ (529)	$ (6)	$ (144)	$ —	$ (679)
Cumulative effect of change in accounting principle, net of tax	—	—	(9)	—	(9)
Foreign currency translation adjustments	29	—	—	—	29
Unrealized gains (losses)	—	149	(482)	—	(333)
Reclassification adjustments to income	—	(130)	134	—	4
Other	—	—	—	2	2
Income taxes	—	(13)	5	—	(8)
Balance as of March 31, 2018	$ (500)	$ —	$ (496)	$ 2	$ (994)

See Note 1, Summary of significant accounting policies, for additional information regarding the adoption on January 1, 2018, of the new accounting standard related to the classification and measurement of financial instruments and the related cumulative effect from the change in accounting principle.

The reclassifications out of AOCI and into earnings were as follows (in millions):

Components of AOCI	Three months ended March 31, 2018	2017	Condensed Consolidated Statements of Income location
Cash flow hedges:			
Foreign currency contract (losses) gains	$ (34)	$ 57	Product sales
Cross-currency swap contract gains	164	74	Interest and other income, net
	130	131	Income before income taxes
	(28)	(47)	Provision for income taxes
	$ 102	$ 84	Net income
Available-for-sale securities:			
Net realized losses	$ (134)	$ (49)	Interest and other income, net
	1	—	Provision for income taxes
	$ (133)	$ (49)	Net income

12. Fair value measurement

To estimate the fair value of our financial assets and liabilities, we use valuation approaches within a hierarchy that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing an asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing an asset or liability and are developed based on the best information available in the circumstances. The fair value hierarchy is divided into three levels based on the source of inputs as follows:

Level 1 — Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access

Level 2 — Valuations for which all significant inputs are observable, either directly or indirectly, other than level 1 inputs

Level 3 — Valuations based on inputs that are unobservable and significant to the overall fair value measurement

The availability of observable inputs can vary among the various types of financial assets and liabilities. To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. In certain cases, the inputs used for measuring fair value may fall into different levels of the fair value hierarchy. In such cases, for financial statement disclosure purposes, the level in the fair value hierarchy within which the fair value measurement is categorized is based on the lowest level of input used that is significant to the overall fair value measurement.

The fair values of each major class of the Company's financial assets and liabilities measured at fair value on a recurring basis were as follows (in millions):

Fair value measurement as of March 31, 2018, using:	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets:				
Interest-bearing securities:				
U.S. Treasury securities	$ 5,103	$ —	$ —	$ 5,103
Other government-related debt securities:				
U.S.	—	129	—	129
Foreign and other	—	1,674	—	1,674
Corporate debt securities:				
Financial	—	6,053	—	6,053
Industrial	—	5,565	—	5,565
Other	—	896	—	896
Residential-mortgage-backed securities	—	1,699	—	1,699
Other mortgage- and asset-backed securities	—	1,267	—	1,267
Money market mutual funds	9,234	—	—	9,234
Other short-term interest-bearing securities	—	50	—	50
Equity securities	155	—	—	155
Derivatives:				
Foreign currency contracts	—	17	—	17
Cross-currency swap contracts	—	433	—	433
Total assets	$ 14,492	$ 17,783	$ —	$ 32,275
Liabilities:				
Derivatives:				
Foreign currency contracts	$ —	$ 259	$ —	$ 259
Cross-currency swap contracts	—	148	—	148
Interest rate swap contracts	—	215	—	215
Contingent consideration obligations in connection with business combinations	—	—	110	110
Total liabilities	$ —	$ 622	$ 110	$ 732

Fair value measurement as of December 31, 2017, using:	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets:				
Interest-bearing securities:				
U.S. Treasury securities	$ 8,242	$ —	$ —	$ 8,242
Other government-related debt securities:				
U.S.	—	223	—	223
Foreign and other	—	2,422	—	2,422
Corporate debt securities:				
Financial	—	10,072	—	10,072
Industrial	—	9,670	—	9,670
Other	—	1,390	—	1,390
Residential-mortgage-backed securities	—	2,168	—	2,168
Other mortgage- and asset-backed securities	—	2,297	—	2,297
Money market mutual funds	3,245	—	—	3,245
Other short-term interest-bearing securities	—	1,440	—	1,440
Equity securities	149	—	—	149
Derivatives:				
Foreign currency contracts	—	6	—	6
Cross-currency swap contracts	—	270	—	270
Interest rate swap contracts	—	10	—	10
Total assets	$ 11,636	$ 29,968	$ —	$ 41,604
Liabilities:				
Derivatives:				
Foreign currency contracts	$ —	$ 204	$ —	$ 204
Cross-currency swap contracts	—	220	—	220
Interest rate swap contracts	—	61	—	61
Contingent consideration obligations in connection with business combinations	—	—	69	69
Total liabilities	$ —	$ 485	$ 69	$ 554

Interest-bearing and equity securities

The fair values of our U.S. Treasury securities, money market mutual funds and equity securities are based on quoted market prices in active markets with no valuation adjustment.

Most of our other government-related and corporate debt securities are investment grade and have maturity dates of five years or less from the balance sheet date. Our other government-related debt securities portfolio is composed of securities with weighted-average credit ratings of BBB+ or equivalent by Standard & Poor's Financial Services LLC (S&P), and A- or equivalent by Moody's Investors Service, Inc. (Moody's) or Fitch Ratings Inc. (Fitch); and our corporate debt securities portfolio has a weighted-average credit rating of A- or equivalent by Fitch, and BBB+ or equivalent by S&P or Moody's. We estimate the fair values of these securities by taking into consideration valuations obtained from third-party pricing services. The pricing services use industry standard valuation models, including both income- and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. The inputs include reported trades of and broker-dealer quotes on the same or similar securities; issuer credit spreads; benchmark securities; and other observable inputs.

Our residential-mortgage-, other-mortgage- and asset-backed-securities portfolio is composed entirely of senior tranches, with credit ratings of AAA by S&P, Moody's or Fitch. We estimate the fair values of these securities by taking into consideration valuations obtained from third-party pricing services. The pricing services use industry standard valuation models, including both income- and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. The inputs include reported trades of and broker-dealer quotes on the same or similar securities; issuer credit spreads; benchmark securities; prepayment or default projections based on historical data; and other observable inputs.

We value our other short-term interest-bearing securities at amortized cost, which approximates fair value given their near-term maturity dates.

Derivatives

All of our foreign currency forward and option derivative contracts have maturities of three years or less, and all are with counterparties that have minimum credit ratings of A- or equivalent by S&P, Moody's or Fitch. We estimate the fair values of these contracts by taking into consideration valuations obtained from a third-party valuation service that uses an income-based industry standard valuation model for which all significant inputs are observable, either directly or indirectly. These inputs include foreign currency exchange rates, London Interbank Offered Rate (LIBOR), swap rates and obligor credit default swap rates. In addition, inputs for our foreign currency option contracts include implied volatility measures. These inputs, where applicable, are at commonly quoted intervals. See Note 13, Derivative instruments.

Our cross-currency swap contracts are with counterparties that have minimum credit ratings of A- or equivalent by S&P, Moody's or Fitch. We estimate the fair values of these contracts by taking into consideration valuations obtained from a third-party valuation service that uses an income-based industry standard valuation model for which all significant inputs are observable either directly or indirectly. These inputs include foreign currency exchange rates, LIBOR, swap rates, obligor credit default swap rates and cross-currency basis swap spreads. See Note 13, Derivative instruments.

Our interest rate swap contracts are with counterparties that have minimum credit ratings of A- or equivalent by S&P, Moody's or Fitch. We estimate the fair values of these contracts by using an income-based industry standard valuation model for which all significant inputs are observable either directly or indirectly. These inputs include LIBOR, swap rates and obligor credit default swap rates. See Note 13, Derivative instruments.

Contingent consideration obligations

As a result of our business acquisitions, we incurred contingent consideration obligations, as discussed below. The contingent consideration obligations are recorded at their fair values by using probability-adjusted discounted cash flows, and we revalue these obligations each reporting period until the related contingencies have been resolved. The fair value measurements of these obligations are based on significant unobservable inputs related to licensing rights and product candidates acquired in business combinations, and are reviewed quarterly by management in our R&D and commercial sales organizations. These inputs include, as applicable, estimated probabilities and timing of achieving specified regulatory and commercial milestones and estimated annual sales. Significant changes that increase or decrease the probabilities of achieving the related regulatory and commercial events, or that shorten or lengthen the time required to achieve such events, or that increase or decrease estimated annual sales would result in corresponding increases or decreases in the fair values of the obligations, as applicable. Changes in the fair values of contingent consideration obligations are recognized in Other operating expenses in the Condensed Consolidated Statements of Income.

Changes in the carrying amounts of contingent consideration obligations were as follows (in millions):

	Three months ended March 31,	
	2018	2017
Beginning balance	$ 69	$ 179
Addition from K-A acquisition	45	—
Net changes in valuations	(4)	5
Ending balance	$ 110	$ 184

As a result of our acquisition of BioVex Group, Inc., in 2011, we are obligated to pay its former shareholders additional consideration contingent upon achieving certain sales-related milestones with regard to IMLYGIC® (talimogene laherparepvec).

As a result of our acquisition of K-A in 2018, we are obligated to make single-digit-percentage royalty payments to Kirin contingent upon sales of brodalumab. See Note 3, Business combinations.

During the three months ended March 31, 2018 and 2017, there were no transfers of assets or liabilities between fair value measurement levels, and there were no material remeasurements to the fair values of assets and liabilities that are not measured at fair value on a recurring basis.

Summary of the fair values of other financial instruments

Cash equivalents

The fair values of cash equivalents approximate their carrying values due to the short-term nature of such financial instruments.

Borrowings

We estimated the fair values of our borrowings by using Level 2 inputs. As of March 31, 2018 and December 31, 2017, the aggregate fair values of our borrowings were $37.6 billion and $38.6 billion, respectively, and the carrying values were $35.5 billion and $35.3 billion, respectively.

13. Derivative instruments

The Company is exposed to foreign currency exchange rate and interest rate risks related to its business operations. To reduce our risks related to such exposures, we use or have used certain derivative instruments, including foreign currency forward, foreign currency option, cross-currency swap, forward interest rate and interest rate swap contracts. We do not use derivatives for speculative trading purposes.

Cash flow hedges

We are exposed to possible changes in the values of certain anticipated foreign currency cash flows resulting from changes in foreign currency exchange rates, associated primarily with our euro-denominated international product sales. Increases and decreases in the cash flows associated with our international product sales due to movements in foreign currency exchange rates are offset partially by corresponding increases and decreases in the cash flows from our international operating expenses resulting from these foreign currency exchange rate movements. To further reduce our exposure to foreign currency exchange rate fluctuations with regard to our international product sales, we enter into foreign currency forward and option contracts to hedge a portion of our projected international product sales primarily over a three-year time horizon, with, at any given point in time, a higher percentage of nearer-term projected product sales being hedged than in successive periods.

As of March 31, 2018 and December 31, 2017, we had open foreign currency forward contracts with notional amounts of $5.1 billion and $4.6 billion, respectively, and open foreign currency option contracts with notional amounts of $60 million and $74 million, respectively. We have designated these foreign currency forward and foreign currency option contracts, which are primarily euro based, as cash flow hedges. Accordingly, we report the effective portions of the unrealized gains and losses on these contracts in AOCI in the Condensed Consolidated Balance Sheets, and we reclassify them to earnings in the same periods during which the hedged transactions affect earnings.

To hedge our exposure to foreign currency exchange rate risk associated with certain of our long-term debt denominated in foreign currencies, we enter into cross-currency swap contracts. Under the terms of such contracts, we paid euros, pounds sterling and Swiss francs and received U.S. dollars for the notional amounts at the inception of the contracts; and based on these notional amounts, we exchange interest payments at fixed rates over the lives of the contracts by paying U.S. dollars and receiving euros, pounds sterling and Swiss francs. In addition, we will pay U.S. dollars to and receive euros, pounds sterling and Swiss francs from the counterparties at the maturities of the contracts for these same notional amounts. The terms of these contracts correspond to the related hedged debt, thereby effectively converting the interest payments and principal repayment on the debt from euros, pounds sterling and Swiss francs to U.S. dollars. We have designated these cross-currency swap contracts as cash flow hedges. Accordingly, the effective portions of the unrealized gains and losses on these contracts are reported in AOCI in the Condensed Consolidated Balance Sheets and reclassified to earnings in the same periods during which the hedged debt affects earnings.

The notional amounts and interest rates of our cross-currency swaps as of March 31, 2018, were as follows (notional amounts in millions):

	Foreign currency			U.S. dollars		
Hedged notes	**Notional amount**		**Interest rate**	**Notional amount**		**Interest rate**
2.125% 2019 euro Notes	€	675	2.125%	$	864	2.6%
1.25% 2022 euro Notes	€	1,250	1.25%	$	1,388	3.2%
0.41% 2023 Swiss franc Bonds	CHF	700	0.41%	$	704	3.4%
2.00% 2026 euro Notes	€	750	2.00%	$	833	3.9%
5.50% 2026 pound sterling Notes	£	475	5.50%	$	747	6.0%
4.00% 2029 pound sterling Notes	£	700	4.00%	$	1,111	4.5%

In connection with the anticipated issuance of long-term fixed-rate debt, we occasionally enter into forward interest rate contracts in order to hedge the variability in cash flows due to changes in the applicable U.S. Treasury rate between the time we enter into these contracts and the time the related debt is issued. Gains and losses on forward interest rate contracts, which are designated as cash flow hedges, are recognized in AOCI in the Condensed Consolidated Balance Sheets and are amortized into earnings over the lives of the associated debt issuances. Amounts recognized in connection with forward interest rate swaps during the three months ended March 31, 2018, and amounts expected to be recognized during the subsequent 12 months are not material.

The effective portions of unrealized gains and losses recognized in AOCI for our derivative instruments designated as cash flow hedges were as follows (in millions):

	Three months ended March 31,	
Derivatives in cash flow hedging relationships	**2018**	**2017**
Foreign currency contracts	$ (89)	$ (47)
Cross-currency swap contracts	238	64
Total unrealized gains	$ 149	$ 17

The locations in the Condensed Consolidated Statements of Income and the effective portions of the gains and losses reclassified out of AOCI and into earnings for our derivative instruments designated as cash flow hedges were as follows (in millions):

		Three months ended March 31,	
Derivatives in cash flow hedging relationships	**Condensed Consolidated Statements of Income location**	**2018**	**2017**
Foreign currency contracts	Product sales	$ (34)	$ 57
Cross-currency swap contracts	Interest and other income, net	164	74
Total realized gains		$ 130	$ 131

No portions of our cash flow hedge contracts are excluded from the assessment of hedge effectiveness. The gains and losses of the ineffective portions of these hedging instruments were not material for the three months ended March 31, 2018 and 2017. As of March 31, 2018, the amount expected to be reclassified out of AOCI and into earnings during the next 12 months is $202 million of net losses on our foreign currency and cross-currency swap contracts.

Fair value hedges

To achieve a desired mix of fixed-rate and floating-rate debt, we entered into interest rate swap contracts that qualified for and were designated as fair value hedges. The terms of these interest rate swap contracts correspond to the related hedged debt and effectively converted fixed-rate coupons to floating-rate LIBOR-based coupons over the lives of the respective notes. As of March 31, 2018 and December 31, 2017, we had interest rate swap agreements with an aggregate notional amount of $9.45 billion that hedge certain of our long-term debt issuances. The contracts have rates that range from three-month LIBOR plus 0.3% to three-month LIBOR plus 2.0%.

For derivative instruments that qualify for and are designated as fair value hedges, we recognize in Interest expense, net, in the Condensed Consolidated Statements of Income, the unrealized gain or loss on the derivative resulting from the change in fair value during the period, as well as the offsetting unrealized loss or gain of the hedged item resulting from the change in fair value during the period attributable to the hedged risk. The following table presents such net unrealized gains and losses (in millions):

	Three months ended March 31,	
Derivatives in fair value hedging relationships	**2018**	**2017**
Net unrealized losses recognized for interest rate swap contracts	$ (164)	$ (19)
Net unrealized gains recognized for related hedged debt	$ 164	$ 19

Derivatives not designated as hedges

To reduce our exposure to foreign currency fluctuations of certain assets and liabilities denominated in foreign currencies, we enter into foreign currency forward contracts that are not designated as hedging transactions. These exposures are hedged on

a month-to-month basis. As of March 31, 2018 and December 31, 2017, the total notional amounts of these foreign currency forward contracts were $335 million and $757 million, respectively.

The location in the Condensed Consolidated Statements of Income and the amounts of gains recognized in earnings for our derivative instruments not designated as hedging instruments were as follows (in millions):

		Three months ended March 31,	
Derivatives not designated as hedging instruments	**Condensed Consolidated Statements of Income location**	**2018**	**2017**
Foreign currency contracts	Interest and other income, net	$ 7	$ 1

The fair values of derivatives included in the Condensed Consolidated Balance Sheets were as follows (in millions):

	Derivative assets		Derivative liabilities	
March 31, 2018	**Condensed Consolidated Balance Sheet location**	**Fair value**	**Condensed Consolidated Balance Sheet location**	**Fair value**
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets/ Other assets	$ 17	Accrued liabilities/ Other noncurrent liabilities	$ 259
Cross-currency swap contracts	Other current assets/ Other assets	433	Accrued liabilities/ Other noncurrent liabilities	148
Interest rate swap contracts	Other current assets/ Other assets	—	Accrued liabilities/ Other noncurrent liabilities	215
Total derivatives designated as hedging instruments		$ 450		$ 622

	Derivative assets		Derivative liabilities	
December 31, 2017	**Condensed Consolidated Balance Sheet location**	**Fair value**	**Condensed Consolidated Balance Sheet location**	**Fair value**
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets/ Other assets	$ 6	Accrued liabilities/ Other noncurrent liabilities	$ 204
Cross-currency swap contracts	Other current assets/ Other assets	270	Accrued liabilities/ Other noncurrent liabilities	220
Interest rate swap contracts	Other current assets/ Other assets	10	Accrued liabilities/ Other noncurrent liabilities	61
Total derivatives designated as hedging instruments		$ 286		$ 485

Our derivative contracts that were in liability positions as of March 31, 2018, contain certain credit-risk-related contingent provisions that would be triggered if: (i) we were to undergo a change in control and (ii) our or the surviving entity's creditworthiness deteriorates, which is generally defined as having either a credit rating that is below investment grade or a materially weaker creditworthiness after the change in control. If these events were to occur, the counterparties would have the right, but not the obligation, to close the contracts under early-termination provisions. In such circumstances, the counterparties could request immediate settlement of these contracts for amounts that approximate the then current fair values of the contracts. In addition, our derivative contracts are not subject to any type of master netting arrangement, and amounts due either to or from a counterparty under the contracts may be offset against other amounts due either to or from the same counterparty only if an event of default or termination, as defined, were to occur.

The cash flow effects of our derivative contracts are included within Net cash provided by operating activities in the Condensed Consolidated Statements of Cash Flows.

14. Contingencies and commitments

Contingencies

In the ordinary course of business, we are involved in various legal proceedings, government investigations and other matters that are complex in nature and have outcomes that are difficult to predict. See our Annual Report on Form 10-K for the year ended December 31, 2017, Part I, Item 1A. Risk Factors—*Our business may be affected by litigation and government investigations.* We describe our legal proceedings and other matters that are significant or that we believe could become significant in this footnote; and in Note 18, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

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.

Our legal proceedings involve various aspects of our business and a variety of claims—including but not limited to patent validity and infringement, regulatory standards, and other matters—some of which present novel factual allegations and/or unique legal theories. In each of the matters described in this filing or in Note 18, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017, plaintiffs seek an award of a not-yet-quantified amount of damages or an amount that is not material. In addition, a number of the matters pending against us are at very early stages of the legal process, which in complex proceedings of the sort we face often extend for several years. As a result, none of the matters pending against us described in this filing or in Note 18, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017, have progressed sufficiently through discovery and/or the development of important factual information and legal issues to enable us to estimate a range of possible loss, if any, or such amounts are not material. While it is not possible to accurately predict or determine the eventual outcomes of these matters, an adverse determination in one or more of these matters currently pending could have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Certain recent developments concerning our legal proceedings and other matters are discussed below:

PCSK9 Antibody Patent Litigation

U.S. Patent Litigation—Sanofi/Regeneron

The U.S. Court of Appeals for the Federal Circuit (the Federal Circuit Court) denied Amgen's petition for rehearing *en banc* and issued a March 2, 2018 mandate, returning the case to the U.S. District Court for the District of Delaware (the Delaware District Court) for a new trial on two of the defendants' challenges to the validity of our patents (lack of written description and enablement of the claimed inventions) and for further consideration of a permanent injunction. Trial has been set to begin on February 19, 2019.

Sensipar® (cinacalcet) Litigation

Sensipar® Abbreviated New Drug Application (ANDA) Patent Litigation

During February 2018, the separate lawsuits filed by Amgen in December 2017 for infringement of our U.S. Patent No. 9,375,405 (the '405 Patent) against (1) Watson Laboratories, Inc. and Actavis Pharma, Inc., (2) Teva Pharmaceuticals, USA, Inc., and (3) Barr Laboratories, Inc. were each dismissed by agreement between Amgen and the respective defendants.

On March 5, 2018, the Delaware District Court commenced trial on the infringement claims and defenses in the *Amgen Inc. v. Aurobindo Pharma Ltd. et al.* consolidated lawsuit. The Delaware District Court has scheduled post-trial briefing on this portion of the trial for May 2018, but has not yet scheduled trial on defendants' challenges to the validity of the '405 Patent.

During March and April 2018, the Delaware District Court signed consent judgments filed by Amgen and each of (1) Cipla Limited and Cipla USA, Inc., (2) Strides Pharma Global Pte. Limited and Strides Pharma, Inc., (3) Aurobindo Pharma Ltd. and Aurobindo Pharma USA, Inc., and (4) Macleods Pharmaceuticals Ltd. and Macleods Pharma USA, Inc. (defendants in the second consolidated lawsuit, *Amgen Inc. v. Alkem at al.*). In each of these four consent judgments, the parties stipulated to an entry of judgment of infringement and validity of the '405 Patent and an injunction prohibiting the manufacture, use, sale, offer to sell, importation of, or distribution into the United States of the applicable defendants' cinacalcet product during the term of the '405 Patent unless specifically authorized pursuant to the confidential settlement agreement. In March and April 2018, the Delaware District Court also entered orders dismissing the following defendants on stipulations between Amgen and each of (1) Dr. Reddy's Laboratories, Ltd. and Dr. Reddy's Laboratories, Inc., (2) Mylan Pharmaceuticals Inc. and Mylan Inc., and (3) Lupin Ltd. and Lupin Pharmaceuticals, Inc. (also defendants in the second consolidated lawsuit) subject to terms of confidential settlement agreements.

Sensipar® Pediatric Exclusivity Litigation

On February 17, 2018, the U.S. District Court for the District of Columbia (the D.C. District Court) entered a final judgment for the U.S. Food and Drug Administration (FDA). On February 19, 2018, Amgen filed its notice of appeal of the final judgment. Amgen also filed with the D.C. District Court an emergency motion for injunctive relief pending appeal, which was denied on February 22. On February 23, 2018, Amgen filed an emergency motion for injunction pending appeal in the U.S. Court of Appeals for the District of Columbia Circuit (the D.C. Circuit Court). On March 2, 2018, the D.C. Circuit Court denied the motion for an injunction pending appeal. Briefing on Amgen's appeal has been completed and oral arguments are scheduled for May 17, 2018.

KYPROLIS® (carfilzomib) ANDA Patent Litigation

As previously disclosed, the Delaware District Court consolidated for purposes of discovery a number of patent infringement lawsuits filed by our subsidiary Onyx Therapeutics, Inc. (Onyx Therapeutics) into *Onyx Therapeutics, Inc. v. Cipla Limited, et al.* On February 7, 2018, the Delaware District Court also consolidated for purposes of discovery the lawsuit against Aurobindo Pharma USA, Inc. into *Onyx Therapeutics, Inc. v. Cipla Limited, et al.* On February 14, 2018, by joint stipulation of the parties, Teva Pharmaceuticals USA Inc. was dismissed from the applicable lawsuit filed in the Delaware District Court in April 2017. On March 20, 2018, the Delaware District Court entered a stipulation between the parties providing Aurobindo a covenant not to sue on our U.S. Patent Nos. 7,232,818 (the '818 Patent); 7,491,704 (the '704 Patent); 8,129,346 (the '346 Patent); and 8,207,297 (the '297 Patent).

On February 15, 2018, Onyx Therapeutics filed a lawsuit in the Delaware District Court against Breckenridge Pharmaceutical, Inc. (Breckenridge) for patent infringement, and subsequently amended the complaint on March 9, 2018 to assert infringement of U.S. Patent Nos. 7,417,042 (the '042 Patent); 7,737,112 (the '112 Patent); 8,207,125 (the '125 Patent); 8,207,126 (the '126 Patent); and 8,207,127 (the '127 Patent). On April 11, 2018, Breckenridge filed a response to the complaint alleging invalidity and, in certain instances, non-infringement of the patents. On April 20, 2018, Onyx Therapeutics filed a lawsuit in the Delaware District Court against Cipla Limited and Cipla USA, Inc. for patent infringement of the '042, '112, '125, '126 and '127 Patents. In each new lawsuit, Onyx Therapeutics seeks an order of the Delaware District Court making any FDA approval of the respective defendant's Abbreviated New Drug Application (ANDA) effective no earlier than the expiration of the applicable patents.

As previously disclosed, Onyx Therapeutics filed lawsuits in the Delaware District Court against Dr. Reddy's Laboratories, Ltd. and Dr. Reddy's Laboratories, Inc. (collectively, Dr. Reddy's), against Apotex Inc. and Apotex Corp. (collectively, Apotex), and against Sagent Pharmaceuticals, Inc. (Sagent) for infringement of a number of our patents. Each of these defendants responded by filing defenses of invalidity and, in certain instances, non-infringement of the patents. During April 2018, the Delaware District Court entered orders on stipulations between Onyx Therapeutics and each of Apotex, Dr. Reddy's and Sagent, respectively, that each defendant infringes the '042, '112, '125, '126, and '127 Patents, and that Onyx Therapeutics will not assert patent infringement of the '818, '704, '346, and '297 Patents against certain of the respective defendants' ANDA applications and products.

NEUPOGEN® (filgrastim)/ Neulasta® (pegfilgrastim) Litigation

Adello NEUPOGEN® Patent Litigation

On March 8, 2018, Amgen Inc. and Amgen Manufacturing Ltd., (collectively, Amgen), filed a lawsuit in the U.S. District Court for the District of New Jersey (the New Jersey District Court) against Adello Biologics, LLC (Adello). This lawsuit stems from Adello's submission of an application for FDA licensure of a filgrastim product as biosimilar to Amgen's NEUPOGEN®. Amgen has asserted infringement of 17 our patents. Amgen seeks an injunction to prohibit Adello from commercializing its biosimilar filgrastim product in the United States prior to the expiry of these patents.

Apotex NEUPOGEN®/Neulasta® Patent Litigation

As previously disclosed, on February 17, 2017, the Patent Trial and Appeal Board (PTAB) of the U.S. Patent and Trademark Office granted Apotex's petition to institute an *inter partes* review (IPR) of our U.S. Patent No. 8,952,138 (the '138 Patent), challenging claims of the '138 Patent as unpatentable. On February 15, 2018, the PTAB issued a final decision on the IPR of the '138 Patent holding all but one claim of the '138 Patent as unpatentable. On March 16, 2018, Apotex filed a request for rehearing on the PTAB's finding that this one claim is patentable.

Coherus Neulasta® Patent Litigation

On April 18, 2018, the Delaware District Court entered final judgment dismissing Amgen's complaint for infringement of our patent, having previously granted Coherus BioSciences, Inc.'s (Coherus) motion to dismiss.

Mylan Neulasta® Patent Litigation

On April 6, 2018, Mylan Inc., Mylan Pharmaceuticals Inc., Mylan GmbH and Mylan N.V. filed a motion for judgment on the pleadings of non-infringement of U.S. Patent No. 8,273,707.

ENBREL (etanercept) Litigation

Sandoz ENBREL Patent Litigation

The New Jersey District Court has rescheduled trial to start on September 11, 2018.

Coherus ENBREL Patent Challenge

On March 9, 2018, the PTAB denied Coherus' petitions to institute IPR trial proceedings on U.S. Patent No. 8,063,182 and U.S. Patent No. 8,163,522, which relate to ENBREL and are exclusively licensed to our subsidiary Immunex Corporation by F. Hoffmann-La Roche Ltd. On April 9, 2018, Coherus filed requests for rehearing on these two denied petitions.

MVASI™ (bevacizumab-awwb) Patent Litigation

On April 17, 2018, the Delaware District Court granted Amgen's motion to dismiss certain claims by Genentech Inc. and City of Hope that Amgen had not complied with the Biologics Price Competition and Innovation Act. Trial is scheduled to start June 1, 2020.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is intended to assist the reader in understanding Amgen's business. MD&A is provided as a supplement to, and should be read in conjunction with, our Annual Report on Form 10-K for the year ended December 31, 2017. Our results of operations discussed in MD&A are presented in conformity with GAAP. Amgen operates in one business segment: human therapeutics. Therefore, our results of operations are discussed on a consolidated basis.

Forward-looking statements

This report and other documents we file with the SEC contain forward-looking statements that are based on current expectations, estimates, forecasts and projections about us, our future performance, our business, our beliefs and our management's assumptions. In addition, we or others on our behalf may make forward-looking statements in press releases or written statements or in our communications and discussions with investors and analysts in the normal course of business through meetings, webcasts, phone calls and conference calls. Such words as "expect," "anticipate," "outlook," "could," "target," "project," "intend," "plan," "believe," "seek," "estimate," "should," "may," "assume" and "continue," as well as variations of such words and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and they involve certain risks, uncertainties and assumptions that are difficult to predict. We describe our respective risks, uncertainties and assumptions that could affect the outcome or results of operations in Part I, Item 1A. Risk Factors of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017. We have based our forward-looking statements on our management's beliefs and assumptions based on information available to our management at the time the statements are made. We caution you that actual outcomes and results may differ materially from what is expressed, implied or forecast by our forward-looking statements. Reference is made in particular to forward-looking statements regarding product sales, regulatory activities, clinical trial results, reimbursement, expenses, EPS, liquidity and capital resources, trends, planned dividends, stock repurchases and restructuring plans. Except as required under the federal securities laws and the rules and regulations of the SEC, we do not have any intention or obligation to update publicly any forward-looking statements after the distribution of this report, whether as a result of new information, future events, changes in assumptions or otherwise.

Overview

Amgen is a highly focused biotechnology company committed to unlocking the potential of biology for patients suffering from serious illness. A biotechnology pioneer since 1980, Amgen has grown to be one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Currently, we market in six therapeutic areas: cardiovascular, oncology/hematology, neuroscience, inflammation, nephrology and bone health. Our principal products—those with the most significant commercial sales—are Neulasta®, ENBREL, Sensipar®/Mimpara®, Prolia® (denosumab), Aranesp®, XGEVA® (denosumab) and EPOGEN®. We also market a number of other products, including KYPROLIS®, Nplate®, Vectibix® (panitumumab), Repatha® (evolocumab), NEUPOGEN®, BLINCYTO® (blinatumomab), Parsabiv™ (etelcalcetide), IMLYGIC® and Corlanor® (ivabradine).

Significant developments

Following is a summary of selected significant developments affecting our business that have occurred since the filing of our Annual Report on Form 10-K for the year ended December 31, 2017. For additional developments or for a more comprehensive discussion of certain developments discussed below, see our Annual Report on Form 10-K for the year ended December 31, 2017.

Products/Pipeline

Cardiovascular

Repatha®

- In March 2018, we announced that the Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency (EMA) adopted a positive opinion to include a new indication in the Repatha® label for adults with established atherosclerotic cardiovascular disease to reduce cardiovascular risk by lowering low-density lipoprotein cholesterol levels. The recommended label recognizes the findings from the Repatha® cardiovascular outcomes study, FOURIER (Further Cardiovascular OUtcomes Research with Proprotein Convertase Subtilisin/Kexin Type 9 (PCSK9) Inhibition in Subjects with Elevated Risk).

Oncology/Hematology

BLINCYTO®

- In March 2018, we announced that the FDA approved under accelerated approval the supplemental Biologics License Application for BLINCYTO® for the treatment of adults and children with B-cell precursor acute lymphoblastic leukemia in first or second complete remission with minimal residual disease greater than or equal to 0.1 percent.

Neulasta®

- In February 2018, we announced that the CHMP of the EMA issued a positive opinion recommending a label variation for Neulasta® to include the Neulasta® Onpro® kit.

Bone Health

XGEVA®

- In April 2018, we announced that the European Commission approved an expanded indication for XGEVA® for the prevention of skeletal-related events in patients with multiple myeloma.

Biosimilars

KANJINTI™ (formerly ABP 980)*

- In March 2018, we announced that the CHMP of the EMA adopted a positive opinion for the Marketing Authorization Application of KANJINTI™, a biosimilar candidate to Herceptin® (trastuzumab). KANJINTI™ has been recommended for approval for the treatment of the same three types of cancer as Herceptin® is approved for in the European Union, including HER2-positive metastatic breast cancer, HER2-positive early breast cancer and HER2-positive metastatic adenocarcinoma of the stomach or gastroesophageal junction. KANJINTI™ is being developed in collaboration with Allergan plc.

Next-generation biomanufacturing

- In April 2018, we announced plans to build a new next-generation biomanufacturing plant on our campus in West Greenwich, Rhode Island. The new plant will employ our next-generation biomanufacturing capabilities and manufacture products for the U.S. and global markets.

* FDA conditionally approved trade name

Selected financial information

The following is an overview of our results of operations (in millions, except percentages and per-share data):

	Three months ended March 31,		
	2018	2017	Change
Product sales			
U.S.	$ 4,147	$ 4,095	1 %
ROW	1,196	1,104	8 %
Total product sales	5,343	5,199	3 %
Other revenues	211	265	(20)%
Total revenues	$ 5,554	$ 5,464	2 %
Operating expenses	$ 2,828	$ 2,873	(2)%
Operating income	$ 2,726	$ 2,591	5 %
Net income	$ 2,311	$ 2,071	12 %
Diluted EPS	$ 3.25	$ 2.79	16 %
Diluted shares	711	741	(4)%

In the following discussion of changes in product sales, any reference to unit demand growth or decline refers to changes in the purchases of our products by healthcare providers (such as physicians or their clinics), dialysis centers, hospitals and pharmacies.

Total product sales increased for the three months ended March 31, 2018, driven primarily by higher unit demand.

Other revenues decreased for the three months ended March 31, 2018, driven primarily by lower milestone payments received, offset partially by higher Ibrance® (palbociclib) royalty income.

Operating expenses decreased for the three months ended March 31, 2018, driven primarily by lower royalties and lower amortization of intangible assets, offset partially by higher investments in product launches and marketed product support. All expense categories benefited from our continued transformation and process improvement efforts.

Although changes in foreign currency exchange rates result in increases or decreases in our reported international product sales, the benefit or detriment that such movements have on our international product sales is offset partially by corresponding increases or decreases in our international operating expenses and our related foreign currency hedging activities. Our hedging activities seek to offset the impacts, both positive and negative, that foreign currency exchange rate changes may have on our net income by hedging our net foreign currency exposure, primarily with respect to product sales denominated in euros. The net impact from changes in foreign currency exchange rates was not material for the three months ended March 31, 2018 and 2017.

Results of operations

Product sales

Worldwide product sales were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
Neulasta®	$ 1,155	$ 1,210	(5)%
ENBREL	1,105	1,181	(6)%
Sensipar®/Mimpara®	497	421	18 %
Prolia®	494	425	16 %
Aranesp®	454	511	(11)%
XGEVA®	445	402	11 %
EPOGEN®	244	270	(10)%
Other products	949	779	22 %
Total product sales	$ 5,343	$ 5,199	3 %

Future sales of our products will depend, in part, on the factors discussed below and in the following sections of our Annual Report on Form 10-K for the year ended December 31, 2017: (i) Overview, Item 1. Business—Marketing, Distribution and Selected Marketed Products, (ii) Item 1A. Risk Factors and (iii) Item 7. Results of Operations—Product Sales.

Neulasta®

Total Neulasta® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
Neulasta®— U.S.	$ 1,009	$ 1,048	(4)%
Neulasta®— ROW	146	162	(10)%
Total Neulasta®	$ 1,155	$ 1,210	(5)%

The decrease in global Neulasta® sales for the three months ended March 31, 2018, was driven primarily by lower unit demand, including continued slight declines in the use of myelosuppressive chemotherapy regimens, and from favorable prior-period changes in accounting estimates, offset partially by increases in net selling price and inventory. As of March 31, 2018, utilization of the Neulasta® Onpro® kit, as a percentage of Neulasta® sales in the United States, continues to grow.

Our final material U.S. patent for Neulasta® expired in October 2015. Therefore, we expect to face competition in the United States, which over time may have a material adverse impact on future sales of Neulasta®. Multiple companies have announced applications to the FDA for proposed biosimilar versions of Neulasta®. A number of these companies have announced receipt of Complete Response Letters from the FDA regarding their applications, and certain ones may receive approval in 2018. For a discussion of ongoing patent litigations with these and other companies that are developing proposed biosimilar versions of Neulasta®, see Note 14, Contingencies and commitments, to the condensed consolidated financial statements and Note 18,

Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

In addition, supplementary protection certificates issued by certain countries, including France, Germany, Italy, Spain and the United Kingdom, that are related to our European patent for Neulasta® expired in August 2017.

Neulasta® sales have been and will continue to be affected by the development of new protocols, tests and/or treatments for cancer and/or new treatment alternatives that have reduced and may continue to reduce the use of myelosuppressive regimens in some patients.

ENBREL

Total ENBREL sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
ENBREL — U.S.	$ 1,050	$ 1,118	(6)%
ENBREL — Canada	55	63	(13)%
Total ENBREL	$ 1,105	$ 1,181	(6)%

The decrease in ENBREL sales for the three months ended March 31, 2018, was driven primarily by lower unit demand and, to a lesser extent, a decline in net selling price and favorable prior-period changes in accounting estimates, offset partially by an increase in inventory.

For 2018, we expect the trend of lower unit demand to continue. In addition, we expect 2018 net selling price to decline slightly compared to 2017.

Sensipar®/Mimpara®

Total Sensipar®/Mimpara® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
Sensipar® — U.S.	$ 409	$ 337	21%
Sensipar®/Mimpara® — ROW	88	84	5%
Total Sensipar®/Mimpara®	$ 497	$ 421	18%

The increase in global Sensipar®/Mimpara® sales for the three months ended March 31, 2018, was driven primarily by higher unit demand. There was a shift in reimbursement from U.S. Medicare Part D to Part B at the beginning of 2018, and providers may have ordered additional supply in order to ensure patient treatment was not interrupted.

Our U.S. composition of matter patent related to Sensipar®, a small molecule, expired in March 2018. We are also involved in a number of litigation matters related to Sensipar®, including patent litigations with a number of companies seeking to market generic versions of Sensipar® and litigation regarding our request for pediatric exclusivity for Sensipar®. See Note 14, Contingencies and commitments, to the condensed consolidated financial statements and Note 18, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

Prolia®

Total Prolia® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
Prolia® — U.S.	$ 320	$ 279	15%
Prolia® — ROW	174	146	19%
Total Prolia®	$ 494	$ 425	16%

The increase in global Prolia® sales for the three months ended March 31, 2018, was driven primarily by higher unit demand. Prolia®, which has a six-month dosing interval, has exhibited a historical sales pattern with the first and third quarters of a year representing lower sales than the second and fourth quarters of a year.

Aranesp®

Total Aranesp® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
Aranesp® — U.S.	$ 225	$ 278	(19)%
Aranesp® — ROW	229	233	(2)%
Total Aranesp®	$ 454	$ 511	(11)%

The decrease in global Aranesp® sales for the three months ended March 31, 2018, was driven primarily by the impact of competition on unit demand.

For 2018, we expect Aranesp® to face increasing competition from long-acting products. We could also face competition from biosimilar versions of EPOGEN® in 2018 if they launch in the United States.

XGEVA®

Total XGEVA® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
XGEVA® — U.S.	$ 332	$ 298	11%
XGEVA® — ROW	113	104	9%
Total XGEVA®	$ 445	$ 402	11%

The increase in global XGEVA® sales for the three months ended March 31, 2018, was driven primarily by higher unit demand.

EPOGEN®

Total EPOGEN® sales were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
EPOGEN® — U.S.	$ 244	$ 270	(10)%

The decrease in EPOGEN® sales for the three months ended March 31, 2018, was driven primarily by a decrease in net selling price due to contractual terms negotiated with DaVita Inc., and lower unit demand.

Our final material U.S. patent for EPOGEN® expired in May 2015. We face competition in the United States, which has had, and will continue to have, a material adverse impact on sales of EPOGEN®. Multiple companies are developing proposed biosimilar versions of EPOGEN®, and certain ones may receive approval in 2018. For a discussion of ongoing patent litigation with one of these companies, see Note 14, Contingencies and commitments, to the condensed consolidated financial statements and Note 18, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

Other products

Other product sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
KYPROLIS®— U.S.	$ 137	$ 137	— %
KYPROLIS®— ROW	85	53	60 %
Nplate®— U.S.	112	97	15 %
Nplate®— ROW	67	57	18 %
Vectibix®— U.S.	75	61	23 %
Vectibix®— ROW	94	86	9 %
Repatha®— U.S.	84	33	*
Repatha®— ROW	39	16	*
NEUPOGEN®— U.S.	65	101	(36)%
NEUPOGEN®— ROW	38	47	(19)%
BLINCYTO® — U.S.	30	23	30 %
BLINCYTO® — ROW	19	11	73 %
Parsabiv™ — U.S.	36	—	*
Parsabiv™ — ROW	5	—	*
Other — U.S.	19	15	27 %
Other — ROW	44	42	5 %
Total other products	$ 949	$ 779	22 %
Total U.S. — other products	$ 558	$ 467	19 %
Total ROW — other products	391	312	25 %
Total other products	$ 949	$ 779	22 %

* Change in excess of 100%.

Operating expenses

Operating expenses were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2018	2017	Change
Operating expenses:			
Cost of sales	$ 944	$ 996	(5)%
% of product sales	17.7%	19.2%	
% of total revenues	17.0%	18.2%	
Research and development	$ 760	$ 769	(1)%
% of product sales	14.2%	14.8%	
% of total revenues	13.7%	14.1%	
Selling, general and administrative	$ 1,127	$ 1,064	6 %
% of product sales	21.1%	20.5%	
% of total revenues	20.3%	19.5%	
Other	$ (3)	$ 44	*

* Change in excess of 100%.

Transformation and process improvements

During 2014, we announced transformation and process improvement efforts that we continue to execute. As part of these efforts, we committed to a more agile and efficient operating model. Our transformation and process improvement efforts across the Company are enabling us to reallocate resources to fund many of our innovative pipeline and growth opportunities that deliver value to patients and stockholders.

The transformation includes a restructuring plan that we continue to estimate will result in pretax accounting charges in the range of $825 million to $900 million. As of March 31, 2018, restructuring costs incurred to date were $801 million. The charges that were recorded related to the restructuring during the three months ended March 31, 2018, were not significant. Since 2014, we have realized approximately $1.6 billion of transformation and process improvement savings. Net savings have not been significant as savings were reinvested in product launches, clinical programs and external business development.

Cost of sales

Cost of sales decreased to 17.0% of total revenues for the three months ended March 31, 2018, driven primarily by lower royalties and lower amortization of intangible assets, offset partially by higher manufacturing costs.

Research and development

R&D expenses, including Discovery Research and Translational Sciences, later-stage clinical programs and marketed products, were flat for the three months ended March 31, 2018.

Selling, general and administrative

The increase in Selling, general and administrative expenses for the three months ended March 31, 2018, was driven primarily by investments in product launches and marketed product support.

Other

Other operating expenses for the three months ended March 31, 2018 and 2017, included certain net charges related to our restructuring plan and the change in fair values of contingent consideration relating to prior-year business combinations.

Nonoperating expense/income and income taxes

Nonoperating expense/income and income taxes were as follows (dollar amounts in millions):

	Three months ended March 31,	
	2018	2017
Interest expense, net	$ 338	$ 326
Interest and other income, net	$ 231	$ 195
Provision for income taxes	$ 308	$ 389
Effective tax rate	11.8%	15.8%

Interest expense, net

The increase in Interest expense, net, for the three months ended March 31, 2018, was due primarily to the impact of increasing interest rates on variable-rate debt and a higher average amount of debt outstanding.

Interest and other income, net

The increase in Interest and other income, net, for the three months ended March 31, 2018, was due primarily to a net gain recognized in connection with our acquisition of K-A (see Note 3, Business combinations, to the condensed consolidated financial statements) and higher interest income earned as a result of higher average investment balances, offset partially by net investment losses recognized in liquidating a portion of our portfolio, in part to fund a tender offer to repurchase our common stock.

Income taxes

The decrease in our effective tax rate for the three months ended March 31, 2018, was due primarily to the impacts of U.S. tax reform, including the reduction in the U.S. statutory tax rate, offset partially by U.S. tax on foreign earnings.

On December 22, 2017, the U.S. enacted the 2017 Tax Act, which imposes a repatriation tax on accumulated earnings of foreign subsidiaries, implements a territorial tax system together with a current tax on certain foreign earnings and lowers the general corporate income tax rate to 21%. In March 2018, the FASB issued a new accounting standard to incorporate SAB 118, which permits us to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. We continue to analyze the 2017 Tax Act, and in certain areas, have made reasonable estimates of the effects on our condensed consolidated financial statements and tax disclosures.

The 2017 Tax Act includes U.S. taxation on foreign intangible income, effective January 1, 2018. The FASB allows an entity to make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as foreign intangible income in future years or provide for the tax expense related to the foreign intangible income as a period expense in the year it is incurred. We have recorded no provisional amount for deferred taxes on the foreign intangible income because more time is needed to analyze the data in order to make an accounting policy election.

We consider our key estimates on the repatriation tax, the net deferred tax remeasurement, the impact on our unrealized tax benefits and the accounting policy election on temporary basis differences related to the foreign intangible income to be incomplete due to our continuing analysis of final year-end data and tax positions. We are still accumulating and processing data to update our underlying calculations and we expect the U.S. Treasury and regulators may issue further guidance, among other things, therefore our estimates may change during 2018. However, we expect to complete our analysis within the measurement period.

As previously disclosed, we received an RAR from the IRS for the years 2010, 2011 and 2012. The RAR proposes to make significant adjustments that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. On November 29, 2017, we received a modified RAR that revised the IRS calculations but continued to propose substantial adjustments. We disagree with the proposed adjustments and are pursuing resolution through the IRS administrative appeals process, which we believe will likely not be concluded within the next 12 months. Final resolution of the IRS audit could have a material impact on our results of operations and cash flows if not resolved favorably, however, we believe our income tax reserves are appropriately provided for all open tax years. See Note 5, Income taxes, to the condensed consolidated financial statements for further discussion.

Financial condition, liquidity and capital resources

Selected financial data was as follows (in millions):

	March 31, 2018	December 31, 2017
Cash, cash equivalents and marketable securities	$ 32,172	$ 41,678
Total assets	$ 71,164	$ 79,954
Current portion of long-term debt	$ 2,183	$ 1,152
Long-term debt	$ 33,358	$ 34,190
Stockholders' equity	$ 15,620	$ 25,241

Cash, cash equivalents and marketable securities

We have global access to our $32 billion balance of cash, cash equivalents and marketable securities, as we no longer reinvest our undistributed foreign earnings indefinitely outside the United States. As a result of the 2017 Tax Act, we owe a repatriation tax on undistributed earnings generated from operations in foreign tax jurisdictions estimated at $7.3 billion that will be paid over eight years. The first annual payment was made in April 2018.

The primary objective of our investment portfolio is to enhance overall returns in an efficient manner while maintaining safety of principal, prudent levels of liquidity and acceptable levels of risk. Our investment policy limits interest-bearing security investments to certain types of debt and money market instruments issued by institutions with primarily investment-grade credit ratings, and it places restrictions on maturities and concentration by asset class and issuer.

Capital allocation

Consistent with the objective to optimize our capital structure, we seek to deploy our accumulated cash balances in an efficient manner and consider several alternatives such as share repurchases, payment of cash dividends, repayment of debt and strategic transactions that expand our portfolio of products in areas of therapeutic interest.

We intend to continue to invest in our business and return capital to stockholders through the payment of cash dividends and stock repurchases reflecting our confidence in the future cash flows of our business. The timing and amount of future dividends and stock repurchases will vary based on a number of factors, including future capital requirements for strategic transactions, the availability of financing on acceptable terms, debt service requirements, our credit rating, changes to applicable tax laws or corporate laws, changes to our business model and periodic determination by our Board of Directors that cash dividends and/or stock repurchases are in the best interests of stockholders and are in compliance with applicable laws and agreements of the Company. In addition, the timing and amount of stock repurchases may also be affected by the stock price and blackout periods during which we are restricted from repurchasing stock. The manner of stock repurchases may include private block purchases, tender offers and market transactions.

In March 2018, the Board of Directors declared a quarterly cash dividend of $1.32 per share of common stock, which will be paid on June 8, 2018. In December 2017, the Board of Directors declared a quarterly cash dividend of $1.32 per share of common stock, which was paid on March 8, 2018.

We have also returned capital to stockholders through our stock repurchase program. During the three months ended March 31, 2018, we repurchased $10.8 billion of our stock and paid $10.7 billion in cash during the period, which included 52.1 million shares of common stock repurchased through a $10.0 billion tender offer. As of March 31, 2018, $3.6 billion remained available under the Board of Directors-approved stock repurchase program. In April 2018, our Board of Directors increased the amount authorized under our stock repurchase program by an additional $5.0 billion.

As a result of stock repurchases, including our recent tender offer, and quarterly dividend payments, we have an accumulated deficit as of March 31, 2018 and December 31, 2017. Our accumulated deficit is not expected to affect our future ability to operate, repurchase stock, pay dividends or repay our debt given our continuing profitability and strong financial position.

We believe that existing funds, cash generated from operations and existing sources of and access to financing are adequate to satisfy our needs for working capital; capital expenditure and debt service requirements; our plans to pay dividends and repurchase stock; and other business initiatives we plan to strategically pursue, including acquisitions and licensing activities. We anticipate that our liquidity needs can be met through a variety of sources, including cash provided by operating activities, sales of marketable securities, borrowings through commercial paper and/or syndicated credit facilities and access to other domestic and foreign debt markets and equity markets. See our Annual Report on Form 10-K for the year ended December 31, 2017, Part I, Item 1A. Risk Factors—*Global economic conditions may negatively affect us and may magnify certain risks that affect our business*.

Certain of our financing arrangements contain nonfinancial covenants. In addition, our revolving credit agreement includes a financial covenant, which was modified during the three months ended March 31, 2018. The modified covenant requires that we maintain a specified minimum interest coverage ratio of: (i) the sum of consolidated net income, interest expense, provision for income taxes, depreciation expense, amortization expense, unusual or nonrecurring charges and other noncash items (Consolidated EBITDA), to (ii) Consolidated Interest Expense, each as defined and described in the amended credit agreement. We were in compliance with all applicable covenants under these arrangements as of March 31, 2018.

Cash flows

Our summarized cash flow activity was as follows (in millions):

	Three months ended March 31,	
	2018	2017
Net cash provided by operating activities	$ 2,727	$ 2,385
Net cash provided by (used in) investing activities	$ 14,906	$ (157)
Net cash used in financing activities	$ (11,692)	$ (2,111)

Operating

Cash provided by operating activities has been and is expected to continue to be our primary recurring source of funds. Cash provided by operating activities during the three months ended March 31, 2018, increased compared with the same period in the prior year due primarily to higher net income and higher accruals for sales incentives and allowances, offset partially by the timing of receipts from customers and payments to vendors.

Investing

Cash provided by investing activities during the three months ended March 31, 2018, was due primarily to net activity related to marketable securities of $14.9 billion. Cash used in investing activities during the three months ended March 31, 2017, was due primarily to capital expenditures of $168 million, offset partially by net activity related to marketable securities of $63 million. Capital expenditures during the three months ended March 31, 2018 and 2017, were associated primarily with manufacturing-capacity expansions in various locations, as well as other site developments. We currently estimate 2018 spending on capital projects and equipment to be approximately $750 million.

Financing

Cash used in financing activities during the three months ended March 31, 2018, was due primarily to repurchases of our common stock of $10.7 billion and payment of dividends of $951 million. Cash used in financing activities during the three months ended March 31, 2017, was due primarily to the payment of dividends of $847 million, a debt repayment of $605 million and repurchases of our common stock of $586 million. See Note 11, Stockholders' equity, to the condensed consolidated financial statements for further discussion.

Critical accounting policies

The preparation of our condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the notes to the financial statements. Some of those judgments can be subjective and complex, and therefore, under different assumptions or conditions, actual results could differ materially from those estimates. A summary of our critical accounting policies is presented in Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, of our Annual Report on Form 10-K for the year ended December 31, 2017. There were no material changes to our critical accounting policies during the three months ended March 31, 2018.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Information about our market risk is disclosed in Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk, of our Annual Report on Form 10-K for the year ended December 31, 2017, and is incorporated herein by reference. There have been no material changes during the three months ended March 31, 2018, to the information provided in Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk, of our Annual Report on Form 10-K for the year ended December 31, 2017.

Item 4. CONTROLS AND PROCEDURES

We maintain “disclosure controls and procedures,” as such term is defined under Exchange Act Rule 13a-15(e), that are designed to ensure that information required to be disclosed in Amgen’s Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to Amgen’s management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures. In designing and evaluating the disclosure controls and procedures, Amgen’s management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives and, in reaching a reasonable level of assurance, Amgen’s management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. We have carried out an evaluation under the supervision and with the participation of our management, including Amgen’s Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of Amgen’s disclosure controls and procedures. Based upon their evaluation and subject to the foregoing, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of March 31, 2018.

Management determined that, as of March 31, 2018, there were no changes in our internal control over financial reporting that occurred during the fiscal quarter then ended that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

See Note 14, Contingencies and commitments, to the condensed consolidated financial statements included in our Quarterly Report on Form 10-Q for the period ended March 31, 2018, for discussions that are limited to certain recent developments concerning our legal proceedings. Those discussions should be read in conjunction with Note 18, Contingencies and commitments, to the consolidated financial statements in Part IV of our Annual Report on Form 10-K for the year ended December 31, 2017.

Item 1A. RISK FACTORS

This report and other documents we file with the SEC contain forward-looking statements that are based on current expectations, estimates, forecasts and projections about us, our future performance, our business, our beliefs and our management's assumptions. These statements are not guarantees of future performance, and involve certain risks, uncertainties and assumptions that are difficult to predict. You should carefully consider the risks and uncertainties our business faces. We have described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, the primary risks related to our business, and we periodically update those risks for material developments. Those risks are not the only ones we face. Our business is also subject to the risks that affect many other companies, such as employment relations, general economic conditions, geopolitical events and international operations. Further, additional risks not currently known to us or that we currently believe are immaterial may in the future materially and adversely affect our business, operations, liquidity and stock price.

There are no material updates from the risk factors previously disclosed in Part 1, Item 1A, of our Annual Report, on Form 10-K for the fiscal year ended December 31, 2017.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

During the three months ended March 31, 2018, we had one outstanding stock repurchase program, under which the repurchase activity was as follows:

	Total number of shares purchased		Average price paid per share	Total number of shares purchased as part of publicly announced program		Maximum dollar value that may yet be purchased under the program[1]
January 1 - 31	1,242,000	$	185.75	1,242,000	$	14,139,104,402
February 1 - 28	542,890	$	188.11	542,890	$	14,036,979,617
March 1 - 31	54,616,133	$	191.42	54,616,133	$	3,582,419,801
	56,401,023	$	191.26	56,401,023		

(1) In January 2018, our Board of Directors authorized an increase of $10.0 billion available under our stock repurchase program. Repurchase activity for the three months ended March 31, 2018, included 52.1 million shares of our common stock acquired under a tender offer at an aggregate cost of $10.0 billion. As of March 31, 2018, $3.6 billion remained available under our stock repurchase program. In April 2018, our Board of Directors increased the amount authorized under our stock repurchase program by an additional $5.0 billion.

Item 6. EXHIBITS

Reference is made to the Index to Exhibits included herein.

SIGNATURES

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

Amgen Inc.
(Registrant)

Date: April 24, 2018

By: /s/ DAVID W. MELINE

David W. Meline
Executive Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

AMGEN INC.

INDEX TO EXHIBITS

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of Amgen Inc. (As Restated March 6, 2013.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2013 on May 3, 2013 and incorporated herein by reference.)
3.2	Amended and Restated Bylaws of Amgen Inc. (As Amended and Restated February 15, 2016.) (Filed as an exhibit to Form 8-K on February 17, 2016 and incorporated herein by reference.)
4.1	Form of stock certificate for the common stock, par value $.0001 of the Company. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 1997 on May 14, 1997 and incorporated herein by reference.)
4.2	Form of Indenture, dated January 1, 1992. (Filed as an exhibit to Form S-3 Registration Statement filed on December 19, 1991 and incorporated herein by reference.)
4.3	Agreement of Resignation, Appointment and Acceptance dated February 15, 2008. (Filed as an exhibit to Form 10-K for the year ended December 31, 2007 on February 28, 2008 and incorporated herein by reference.)
4.4	First Supplemental Indenture, dated February 26, 1997. (Filed as an exhibit to Form 8-K on March 14, 1997 and incorporated herein by reference.)
4.5	8-1/8% Debentures due April 1, 2097. (Filed as an exhibit to Form 8-K on April 8, 1997 and incorporated herein by reference.)
4.6	Officer's Certificate of Amgen Inc., dated April 8, 1997, establishing a series of securities entitled "8 1/8% Debentures due April 1, 2097." (Filed as an exhibit to Form 8-K on April 8, 1997 and incorporated herein by reference.)
4.7	Indenture, dated August 4, 2003. (Filed as an exhibit to Form S-3 Registration Statement on August 4, 2003 and incorporated herein by reference.)
4.8	Corporate Commercial Paper - Master Note between and among Amgen Inc., as Issuer, Cede & Co., as Nominee of The Depository Trust Company, and Citibank, N.A., as Paying Agent. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 1998 on May 13, 1998 and incorporated herein by reference.)
4.9	Officers' Certificate of Amgen Inc., dated May 30, 2007, including forms of the Company's Senior Floating Rate Notes due 2008, 5.85% Senior Notes due 2017 and 6.375% Senior Notes due 2037. (Filed as an exhibit to Form 8-K on May 30, 2007 and incorporated herein by reference.)
4.10	Officers' Certificate of Amgen Inc., dated May 23, 2008, including forms of the Company's 6.15% Senior Notes due 2018 and 6.90% Senior Notes due 2038. (Filed as exhibit to Form 8-K on May 23, 2008 and incorporated herein by reference.)
4.11	Officers' Certificate of Amgen Inc., dated January 16, 2009, including forms of the Company's 5.70% Senior Notes due 2019 and 6.40% Senior Notes due 2039. (Filed as exhibit to Form 8-K on January 16, 2009 and incorporated herein by reference.)
4.12	Officers' Certificate of Amgen Inc., dated March 12, 2010, including forms of the Company's 4.50% Senior Notes due 2020 and 5.75% Senior Notes due 2040. (Filed as exhibit to Form 8-K on March 12, 2010 and incorporated herein by reference.)
4.13	Officers' Certificate of Amgen Inc., dated September 16, 2010, including forms of the Company's 3.45% Senior Notes due 2020 and 4.95% Senior Notes due 2041. (Filed as an exhibit to Form 8-K on September 17, 2010 and incorporated herein by reference.)
4.14	Officers' Certificate of Amgen Inc., dated June 30, 2011, including forms of the Company's 2.30% Senior Notes due 2016, 4.10% Senior Notes due 2021 and 5.65% Senior Notes due 2042. (Filed as an exhibit to Form 8-K on June 30, 2011 and incorporated herein by reference.)
4.15	Officers' Certificate of Amgen Inc., dated November 10, 2011, including forms of the Company's 1.875% Senior Notes due 2014, 2.50% Senior Notes due 2016, 3.875% Senior Notes due 2021 and 5.15% Senior Notes due 2041. (Filed as an exhibit to Form 8-K on November 10, 2011 and incorporated herein by reference.)
4.16	Officers' Certificate of Amgen Inc., dated December 5, 2011, including forms of the Company's 4.375% Senior Notes due 2018 and 5.50% Senior Notes due 2026. (Filed as an exhibit to Form 8-K on December 5, 2011 and incorporated herein by reference.)

Exhibit No.	Description
4.17	Officers' Certificate of Amgen Inc., dated May 15, 2012, including forms of the Company's 2.125% Senior Notes due 2017, 3.625% Senior Notes due 2022 and 5.375% Senior Notes due 2043. (Filed as an exhibit to Form 8-K on May 15, 2012 and incorporated herein by reference.)
4.18	Officers' Certificate of Amgen Inc., dated September 13, 2012, including forms of the Company's 2.125% Senior Notes due 2019 and 4.000% Senior Notes due 2029. (Filed as an exhibit to Form 8-K on September 13, 2012 and incorporated herein by reference.)
4.19	Indenture, dated May 22, 2014, between Amgen Inc. and The Bank of New York Mellon Trust Company, N.A., as Trustee. (Filed as an exhibit to Form 8-K on May 22, 2014 and incorporated herein by reference.)
4.20	Officers' Certificate of Amgen Inc., dated May 22, 2014, including forms of the Company's Senior Floating Rate Notes due 2017, Senior Floating Rate Notes due 2019, 1.250% Senior Notes due 2017, 2.200% Senior Notes due 2019 and 3.625% Senior Notes due 2024. (Filed as an exhibit to Form 8-K on May 22, 2014 and incorporated herein by reference.)
4.21	Officer's Certificate of Amgen Inc., dated May 1, 2015, including forms of the Company's 2.125% Senior Notes due 2020, 2.700% Senior Notes due 2022, 3.125% Senior Notes due 2025 and 4.400% Senior Notes due 2045. (Filed as an exhibit on Form 8-K on May 1, 2015 and incorporated herein by reference.)
4.22	Officer's Certificate of Amgen Inc., dated as of February 25, 2016, including forms of the Company's 1.250% Senior Notes due 2022 and 2.000% Senior Notes due 2026. (Filed as an exhibit on Form 8-K on February 26, 2016 and incorporated herein by reference.)
4.23	Form of Permanent Global Certificate for the Company's 0.410% bonds due 2023. (Filed as an exhibit on Form 8-K on March 8, 2016 and incorporated herein by reference.)
4.24	Terms of the Bonds for the Company's 0.410% bonds due 2023. (Filed as an exhibit on Form 8-K on March 8, 2016 and incorporated herein by reference.)
4.25	Officer's Certificate of Amgen Inc., dated as of June 14, 2016, including forms of the Company's 4.563% Senior Notes due 2048 and 4.663% Senior Notes due 2051. (Filed as an exhibit to Form 8-K on June 14, 2016 and incorporated herein by reference.)
4.26	Registration Rights Agreement, dated as of June 14, 2016, by and among Amgen Inc., Credit Suisse Securities (USA) LLC, J.P. Morgan Securities LLC, Citigroup Global Markets Inc. and Mizuho Securities USA Inc., as lead dealer managers, and Drexel Hamilton, LLC and The Williams Capital Group, L.P., as co-dealer managers. (Filed as an exhibit to Form 8-K on June 14, 2016 and incorporated herein by reference.)
4.27	Officer's Certificate of Amgen Inc., dated as of August 19, 2016, including forms of the Company's 1.850% Senior Notes due 2021, 2.250% Senior Notes due 2023 and 2.600% Senior Notes due 2026. (Filed as an exhibit to Form 8-K on August 19, 2016 and incorporated herein by reference.)
4.28	Officer's Certificate of Amgen Inc., dated as of May 11, 2017, including forms of the Company's Senior Floating Rate Notes due 2019, Senior Floating Rate Notes due 2020, 1.900% Senior Notes due 2019, 2.200% Senior Notes due 2020 and 2.650% Senior Notes due 2022. (Filed as an exhibit to Form 8-K on May 11, 2017 and incorporated herein by reference.)
4.29	Officer's Certificate of Amgen Inc., dated as of November 2, 2017, including in the form of the Company's 3.200% Senior Notes due 2027. (Filed as an exhibit to Form 8-K on November 2, 2017 and incorporated by reference.)
10.1+	Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (Filed as Appendix C to the Definitive Proxy Statement on Schedule 14A on April 8, 2013 and incorporated herein by reference.)
10.2+	First Amendment to Amgen Inc. Amended and Restated 2009 Equity Incentive Plan, effective March 4, 2015. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2015 on April 27, 2015 and incorporated herein by reference.)
10.3+	Second Amendment to Amgen Inc. Amended and Restated 2009 Equity Incentive Plan, effective March 2, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2016 on May 2, 2016 and incorporated herein by reference.)
10.4+	Form of Stock Option Agreement for the Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (As Amended on December 12, 2017.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2018 and incorporated herein by reference.)

Exhibit No.	Description
10.5+	Form of Restricted Stock Unit Agreement for the Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (As Amended on December 12, 2017.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2018 and incorporated herein by reference.)
10.6+	Amgen Inc. 2009 Performance Award Program. (As Amended on December 31, 2017.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2017 and incorporated herein by reference.)
10.7+	Form of Performance Unit Agreement for the Amgen Inc. 2009 Performance Award Program. (As Amended on December 12, 2017.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2018 and incorporated herein by reference.)
10.8+	Amgen Inc. 2009 Director Equity Incentive Program. (As Amended on October 24, 2017.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2018 and incorporated herein by reference.)
10.9+	Form of Grant of Non-Qualified Stock Option Agreement for the Amgen Inc. 2009 Director Equity Incentive Program. (Filed as an exhibit to Form 8-K on May 8, 2009 and incorporated herein by reference.)
10.10+	Form of Restricted Stock Unit Agreement for the Amgen Inc. 2009 Director Equity Incentive Program. (As Amended on October 24, 2017.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2018 and incorporated herein by reference.)
10.11+	Form of Cash-Settled Restricted Stock Unit Agreement for the Amgen 2009 Director Equity Incentive Program. (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2018 and incorporated herein by reference.)
10.12+	Amgen Inc. Supplemental Retirement Plan. (As Amended and Restated effective October 16, 2013.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2013 on February 24, 2014 and incorporated herein by reference.)
10.13+	First Amendment to the Amgen Inc. Supplemental Retirement Plan, effective October 14, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2016 on October 28, 2016 and incorporated herein by reference.)
10.14+	Amended and Restated Amgen Change of Control Severance Plan. (As Amended and Restated effective December 9, 2010 and subsequently amended effective March 2, 2011.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2011 on May 10, 2011 and incorporated herein by reference.)
10.15+	Amgen Inc. Executive Incentive Plan. (As Amended and Restated effective January 1, 2009.) (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2008 on November 7, 2008 and incorporated herein by reference.)
10.16+	First Amendment to the Amgen Inc. Executive Incentive Plan, effective December 13, 2012. (Filed as an exhibit to Form 10-K for the year ended December 31, 2012 on February 27, 2013 and incorporated herein by reference.)
10.17+	Second Amendment to the Amgen Inc. Executive Incentive Plan, effective January 1, 2017. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2017 on April 27, 2017 and incorporated herein by reference.)
10.18+	Amgen Nonqualified Deferred Compensation Plan. (As Amended and Restated effective October 16, 2013.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2013 on February 24, 2014 and incorporated herein by reference.)
10.19+	First Amendment to the Amgen Nonqualified Deferred Compensation Plan, effective October 14, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2016 on October 28, 2016 and incorporated herein by reference.)
10.20+	Agreement between Amgen Inc. and David W. Meline, effective July 21, 2014. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2014 on October 29, 2014 and incorporated herein by reference.)
10.21+	Agreement between Amgen Inc. and Jonathan Graham, dated May 11, 2015. (Filed as an exhibit to Form 10-Q/A for the quarter ended June 30, 2015 on August 6, 2015 and incorporated herein by reference.)
10.22+	Agreement between Amgen Inc. and Lori Johnston, dated October 25, 2016. (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)
10.23	Amended and Restated Credit Agreement, dated July 30, 2014, among Amgen Inc., the Banks therein named, Citibank, N.A., as administrative agent, and JPMorgan Chase Bank, N.A., as syndication agent (the "Credit Agreement"). (Filed as an exhibit to Form 8-K on July 30, 2014 and incorporated herein by reference.)

Exhibit No.	Description
10.24*	Amendment No. 1 to the Credit Agreement, dated March 9, 2018, among Amgen Inc., the Banks therein named, and Citibank, N.A., as administrative agent.
10.25	Collaboration and License Agreement between Amgen Inc. and Celltech R&D Limited dated May 10, 2002 (portions of the exhibit have been omitted pursuant to a request for confidential treatment) and Amendment No. 1, effective June 9, 2003, to Collaboration and License Agreement between Amgen Inc. and Celltech R&D Limited (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-K/A for the year ended December 31, 2012 on July 31, 2013 and incorporated herein by reference.)
10.26	Amendment No. 2 to Collaboration and License Agreement, effective November 14, 2016, between Amgen Inc. and Celltech R&D Limited (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)
10.27	Collaboration Agreement, dated April 22, 1994, by and between Bayer Corporation (formerly Miles, Inc.) and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2011 by Onyx Pharmaceuticals, Inc. on May 10, 2011 and incorporated herein by reference.)
10.28	Amendment to Collaboration Agreement, dated April 24, 1996, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2006 by Onyx Pharmaceuticals, Inc. on May 10, 2006 and incorporated herein by reference.)
10.29	Amendment to Collaboration Agreement, dated February 1, 1999, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2006 by Onyx Pharmaceuticals, Inc. on May 10, 2006 and incorporated herein by reference.)
10.30	Settlement Agreement and Release, dated October 11, 2011, by and between Bayer Corporation, Bayer AG, Bayer HealthCare LLC and Bayer Pharma AG and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2011 by Onyx Pharmaceuticals, Inc. on February 27, 2012 and incorporated herein by reference.)
10.31	Fourth Amendment to Collaboration Agreement, dated October 11, 2011, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2011 by Onyx Pharmaceuticals, Inc. on February 27, 2012 and incorporated herein by reference.)
10.32	Side Letter Regarding Collaboration Agreement, dated May 29, 2015, by and between Bayer HealthCare LLC and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2015 on August 5, 2015 and incorporated herein by reference.)
10.33	Sourcing and Supply Agreement, dated January 6, 2017, by and between Amgen USA Inc., a wholly owned subsidiary of Amgen Inc., and DaVita Inc. (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2017 on April 27, 2017 and incorporated herein by reference.)
10.34	Exclusive License and Collaboration Agreement, dated August 28, 2015, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)
10.35	Amendment No. 1 to the Exclusive License and Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)
10.36	Amendment No. 2 to the Exclusive License and Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)
10.37	Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)
10.38*	Amendment No. 1 to the Collaboration Agreement, dated March 20, 2018, by and between Novartis Pharma AG and Amgen Inc. (portions of the exhibit have been omitted pursuant to a request for confidential treatment.)
31*	Rule 13a-14(a) Certifications.

Exhibit No.	Description
32**	Section 1350 Certifications.
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema Document.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.

(* = filed herewith)
(** = furnished herewith and not “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended)
(+ = management contract or compensatory plan or arrangement)

Exhibit 10.24

EXECUTION COPY

AMENDMENT NO. 1 TO THE
CREDIT AGREEMENT

Dated as of March 9, 2018

AMENDMENT NO. 1 TO THE CREDIT AGREEMENT among Amgen Inc., a Delaware corporation (the "Company"), the banks, financial institutions and other institutional lenders parties to the Credit Agreement referred to below (collectively, the "Banks") and Citibank, N.A., as administrative agent (the "Administrative Agent") for the Banks.

PRELIMINARY STATEMENTS:

(1) The Company, the Banks and the Administrative Agent have entered into the Amended and Restated Credit Agreement dated as of July 30, 2014 (as amended or modified from time to time, the "Credit Agreement"). Capitalized terms not otherwise defined in this Amendment have the same meanings as specified in the Credit Agreement.

(2) The Company and the Majority Banks have agreed to amend the Credit Agreement as hereinafter set forth.

SECTION 1. Amendments to Credit Agreement. The Credit Agreement is, effective as of the date hereof and subject to the satisfaction of the conditions precedent set forth in Section 2, hereby amended as follows:

(a) The definition of "Bank Insolvency Event" in Section 1.1 is amended by inserting the phrase "(i) a Bail-In Action or (ii)" immediately before the phrase "a bankruptcy, insolvency, reorganization, liquidation or similar proceeding".

(b) The definition of "Base Rate" in Section 1.1 is amended by adding to the end of the first sentence the following proviso:

; provided that if One Month LIBOR shall be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement

(c) The definition of "Federal Funds Effective Rate" in Section 1.1 is amended by (i) deleting the phrase "equal to the weighted average of the rates on overnight federal funds transactions with members of the Federal Reserve System arranged by federal funds brokers on such day" and substituting therefor the phrase "equal to the rate on overnight federal funds transactions with members of the Federal Reserve System" and (ii) adding to the end thereof the following proviso:

; provided that if the Federal Funds Effective Rate shall be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement

(d) The definition of "EURIBOR Rate" in Section 1.1 is amended by adding to the end thereof the following proviso:

; provided that if the EURIBOR Rate shall be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement

(e) The definition of "Eurodollar Rate" in Section 1.1 is amended by adding to the end thereof the following proviso:

; provided that if the Eurodollar Rate shall be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement

(f) The definitions of "Consolidated Capitalization", "Consolidated Total Debt" and "Consolidated Total Debt to Capitalization Ratio" in Section 1.1 are deleted in full.

(g) The following new definitions are added to Section 1.1 in appropriate alphabetical order:

"**Bail-In Action**" has the meaning set forth in Section 13.25.

"**Consolidated EBITDA**" means, for any period, Consolidated Net Income for such period plus, without duplication and to the extent deducted in determining Consolidated Net Income for such period, the sum of (a) interest expense, (b) provision for taxes based on income, (c) depreciation expense, (d) amortization expense, (e) unusual or non-recurring charges, expenses or losses and (f) other non-cash charges, expenses or losses (excluding any such non-cash charge to the extent it represents an accrual or reserve for potential cash charge in any future period or amortization of a prepaid cash charge that was paid in a prior period), minus, to the extent included in determining Consolidated Net Income for such period, the sum of (i) unusual or non-recurring gains and non-cash income, (ii) any other non-cash income or gains increasing Consolidated Net Income for such period (excluding any such non-cash gain to the extent it represents the reversal of an accrual or reserve for potential cash charge in any prior period) and (iii) any gains realized from the disposition of property outside of the ordinary course of business, all as determined on a consolidated basis; provided, that the Consolidated EBITDA for any entity or business acquired by the Company or any Subsidiary pursuant to an acquisition the aggregate consideration for which equals or exceeds $1,000,000,000 during such period shall be included on a pro forma basis for such period (as determined in good faith by the Company, assuming the consummation of such acquisition and the incurrence or assumption of any indebtedness by the Company and its Subsidiaries in connection therewith incurred as of the first day of such period), and provided further that the Consolidated EBITDA for any entity or business sold or otherwise disposed of for aggregate consideration of $1,000,000,000 or more by the Company or any Subsidiary shall be deducted on a pro forma basis for such period (as determined

in good faith by the Company, assuming the consummation of such sale or other disposition occurred on the first day of such period).

"**Consolidated Interest Expense**" means, for any period, total interest expense (including that attributable to leases recorded as Capital Leases in accordance with GAAP in effect on March 9, 2018) of the Company and its Subsidiaries on a consolidated basis for such period with respect to all outstanding Indebtedness of the Company and its Subsidiaries.

"**Consolidated Interest Coverage Ratio**" means, as of any date of determination, the ratio of (a) Consolidated EBITDA for the period of the four fiscal quarters most recently ended to (b) Consolidated Interest Expense for such period.

"**Consolidated Net Income**" means, for any period, the consolidated net income (or loss) of the Company and its Subsidiaries on a consolidated basis; provided that there shall be excluded the income (or deficit) of any Person (other than a Subsidiary of the Company) in which the Company or any of its Subsidiaries has an ownership interest, except to the extent that any such income is actually received by the Company or such Subsidiary in the form of dividends or similar distributions.

(h) Section 2.10(a)(i)(B) is amended by inserting the phrase "subject to Section 13.25" immediately before the phrase "neither such reallocation nor any payment".

(i) Section 6.6 is amended in full to read as follows:

Financial Covenant. Permit the Consolidated Interest Coverage Ratio as of the end of any Fiscal Quarter to be less than 4.50 to 1.00.

(j) Article 13 is amended by adding thereto a new Section 13.25, to read as follows:

13.25. Acknowledgement and Consent to Bail-In of EEA Financial Institutions. Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any EEA Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the write-down and conversion powers of an EEA Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by an EEA Resolution Authority to any such liabilities arising hereunder which may be payable to it by any party hereto that is an EEA Financial Institution; and

(b) the effects of any Bail-In Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such EEA Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the write-down and conversion powers of any EEA Resolution Authority.

As used in this Section, the following terms shall have the meanings set forth below:

"**Bail-In Action**" means the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority in respect of any liability of an EEA Financial Institution.

"**Bail-In Legislation**" means, with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule.

"**EEA Financial Institution**" means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any financial institution established in an EEA Member Country which is a subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

"**EEA Member Country**" means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

"**EEA Resolution Authority**" means any public administrative authority or any Person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

"**EU Bail-In Legislation Schedule**" means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor Person), as in effect from time to time.

"**Write-Down and Conversion Powers**" means, with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule.

SECTION 2. Conditions of Effectiveness. This Amendment shall become effective as of the date first above written when, and only when, the Administrative Agent shall have counterparts of this Amendment executed by the Company and the Majority Banks and all of the following documents, each such document (unless otherwise specified) dated the date of receipt thereof by the Administrative Agent (unless otherwise specified), in form and substance satisfactory to the Administrative Agent:

(a) resolutions of the Board of Directors of the Company approving and authorizing the execution and delivery of this Amendment and performance of the Credit Agreement, as amended hereby, certified by the corporate secretary or an assistant secretary of the Company as being in full force and effect without modification or amendment.

(b) signature and incumbency certificates of the officers of the Company executing this Amendment.

(c) A certificate signed by a duly authorized officer of the Company stating that the representations and warranties contained in Section 3 are correct on and as of the date of such certificate as though made on and as of such date.

This Amendment is subject to the provisions of Section 13.2 of the Credit Agreement.

SECTION 3. Representations and Warranties of the Company. The Company represents and warrants as follows:

(a) The Company is an organization duly formed, validly existing and in good standing under the Laws of the jurisdiction of its incorporation. The Company is duly qualified to transact business, and is in good standing, in any jurisdiction in which the conduct of its business or the ownership or leasing of its Properties makes such qualification or registration necessary, except where the failure so to qualify or register and to be in good standing would not constitute a Material Adverse Effect. The Company has all requisite corporate power and authority to conduct its business and to own and lease its Properties. The Company has all requisite corporate power and authority to execute and deliver this Amendment and to perform its Obligations. The Company has obtained all authorizations, consents, approvals, orders, licenses and permits from, and has accomplished all filings, registrations and qualifications with, or obtained exemptions from any of the foregoing from, any Governmental Agency that are

necessary for the transaction of its business, except where the failure so to comply, file, register, qualify or obtain exemptions does not constitute a Material Adverse Effect.

(b) The execution and delivery of this Amendment and performance by the Company of the Credit Agreement, as amended hereby, have been duly authorized by all necessary corporate action and do not:

(i) Require any consent or approval not heretofore obtained of any partner, director, stockholder, security holder or creditor of the Company;

(ii) Result in or require the creation or imposition of any Lien upon or with respect to any Property now owned or leased or hereafter acquired by the Company;

(iii) Violate, to the best knowledge of the Company, any Requirement of Law applicable to the Company;

(iv) Result (or, with the giving of notice or passage of time or both, would result) in a breach of or default under, or cause or permit the acceleration of any obligation owed under any Contractual Obligation to which the Company is a party or by which the Company or any of its Property is bound or affected;

except where failure to receive such consent or approval or creation of such Lien or violation of, or default under, any such Requirement of Law or Contractual Obligation would not constitute a Material Adverse Effect.

(c) No authorization, consent, approval, order, license or permit from, or filing, registration or qualification with, any Governmental Agency is required to authorize or permit under applicable Laws the execution and delivery of this Amendment and performance of the Credit Agreement, as amended hereby, by the Company.

(d) The Company has made available to the Banks the audited consolidated financial statements of the Company and its Consolidated Subsidiaries as of December 31, 2017. Such financial statements (including the footnotes thereto) fairly present in all material respects the consolidated financial condition and the consolidated results of operations of the Company as of such date and for such period in accordance with Generally Accepted Accounting Principles.

(e) As of the date hereof, the Company and its Consolidated Subsidiaries do not have any material liability or material contingent liability not reflected or disclosed in the consolidated balance sheet or notes thereto described in subsection (d) above, other than liabilities and contingent liabilities: (i) arising in the ordinary course of business subsequent to December 31, 2017 or (ii) described in materials filed with or furnished to the Securities and Exchange Commission and available to the public. Except for matters described in documents filed with or furnished to Governmental Agencies and available to the public or in materials delivered to the Banks prior to the date hereof, there has been no event or circumstance that constitutes a Material Adverse Effect with respect to the Company and its Subsidiaries taken as a whole since December 31, 2017.

(f) Except for (a) any matter fully covered (subject to applicable deductibles and retentions) by insurance for which the insurance carrier has assumed full responsibility and (b) matters described in documents filed with or furnished to Governmental Agencies and available to the public or in materials delivered to the Banks prior to the date hereof, there are no actions, suits, proceedings or investigations pending as to which the Company or any of its Subsidiaries have been served or have received written notice or, to the best knowledge of the Company, threatened against or affecting the Company or any of its Subsidiaries or any Property of any of them before any Governmental Agency which could reasonably be expected to constitute a Material Adverse Effect.

(g) This Amendment and the Credit Agreement, as amended hereby, constitute the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as enforcement may be limited by Debtor Relief Laws or equitable principles relating to the granting of specific performance and other equitable remedies as a matter of judicial discretion.

(h) No event has occurred and is continuing that is a Default or Event of Default.

SECTION 4. Reference to and Effect on the Loan Documents. (a) On and after the effectiveness of this Amendment, each reference in the Credit Agreement to “this Agreement”, “hereunder”, “hereof” or words of like import referring to the Credit Agreement, and each reference in each of the other Loan Documents to “the Credit Agreement”, “thereunder”, “thereof” or words of like import referring to the Credit Agreement, shall mean and be a reference to the Credit Agreement, as amended by this Amendment.

(a) The Credit Agreement and each of the other Loan Documents, as specifically amended by this Amendment, are and shall continue to be in full force and effect and are hereby in all respects ratified and confirmed.

(b) The execution, delivery and effectiveness of this Amendment shall not, except as expressly provided herein, operate as a waiver of any right, power or remedy of any Bank or the Administrative Agent under any of the Loan Documents, nor constitute a waiver of any provision of any of the Loan Documents.

(d) This Amendment constitutes a Loan Document.

SECTION 5. Costs and Expenses. The Company agrees to pay on demand all costs and expenses of the Administrative Agent in connection with the preparation, execution, delivery and administration, modification and amendment of this Amendment and the other instruments and documents to be delivered hereunder (including, without limitation, the reasonable fees and expenses of counsel for the Administrative Agent) in accordance with the terms of Section 13.3 of the Credit Agreement.

SECTION 6. Execution in Counterparts. This Amendment may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall

constitute but one and the same agreement. Delivery of an executed counterpart of a signature page to this Amendment by telecopier shall be effective as delivery of a manually executed counterpart of this Amendment.

SECTION 7. Governing Law. This Amendment shall be governed by, and construed in accordance with, the laws of the State of New York.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed by their respective officers thereunto duly authorized, as of the date first above written.

AMGEN INC.

By /s/ Mary A. Lehmann
Name: Mary A. Lehmann
Title: Vice President, Finance and Treasurer

CITIBANK, N.A.,
as Administrative Agent and as a Bank

By /s/ Richard Rivera
Name: Richard Rivera
Title: Vice President

JPMORGAN CHASE BANK, N.A.

By /s/ Kyler Eng
Name: Kyler Eng
Title: Vice President

BANK OF AMERICA, N.A.

By /s/ Joseph L. Corah
Name: Joseph L. Corah
Title: Director

BARCLAYS BANK PLC

By /s/ Nicholas Guzzardo
Name: Nicolas Guzzardo
Title: Assistant Vice President

MORGAN STANLEY BANK, N.A.

By /s/Alice Lee
Name: Alice Lee
Title: Authorized Signatory

GOLDMAN SACHS BANK USA

By /s/ Chris Lam
Name: Chris Lam
Title: Authorized Signatory

CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH

By /s/ William O'Daly
Name: William O'Daly
Title: Authorized Signatory

By /s/ Joan Park
Name: Joan Park
Title: Authorized Signatory

DEUTSCHE BANK AG, NEW YORK BRANCH

By /s/ Ming K. Chu
Name: Ming K. Chu
Title: Director

By /s/ Virginia Cosenza
Name: Virginia Cosenza
Title: Vice President

THE BANK OF TOKYO-MITSUBISHI UFJ, LTD.

By /s/ Jaime Johnson
Name: Jaime Johnson
Title: Director

UBS AG, STAMFORD BRANCH

By /s/ Houssein Daly
Name: Houssein Daly
Title: Associate Director

By /s/ Craig Pearson
Name: Craig Pearson
Title: Associate Director

HSBC BANK USA, NATIONAL ASSOCIATION

By /s/ Eric Seltenrich
Name: Eric Seltenrich
Title: Managing Director

BNP PARIBAS

By /s/ Michael Pierce
Name: Michael Pierce
Title: Managing Director

By /s/ Emma Peterson
Name: Emma Peterson
Title: Director

MIZUHO BANK, LTD.

By /s/ Leon Mo
Name: Leon Mo
Title: Authorized Signatory

ROYAL BANK OF CANADA

By /s/ Scott MacVicar
Name: Scott MacVicar
Title: Authorized Signatory

SUMITOMO MITSUI BANKING CORPORATION

By /s/ James D. Weinstein
Name: James D. Weinstein
Title: Managing Director

WELLS FARGO BANK, NATIONAL ASSOCIATION

By /s/ Jessica DeLorm
Name: Jessica DeLorm
Title: Vice President

Note: Redacted portions have been marked with [*]. The redacted portions are subject to a request for confidential treatment that has been filed with the Securities and Exchange Commission.

AMENDMENT No. 1
to the Collaboration Agreement
between Novartis Pharma AG and Amgen Inc.

This Amendment No. 1 ("**Amendment**") is entered into as of March 20, 2018 ("**Amendment No. 1 Effective Date**") by and between Novartis Pharma AG, a Swiss corporation having its principal place of business at Lichtstrasse 35, CH-4056 Basel, Switzerland ("**Novartis**"), and Amgen Inc., a Delaware corporation having its principal place of business at One Amgen Center Drive, Thousand Oaks, California 91320-1799, USA **(**"**Amgen**"). Novartis and Amgen are each referred to individually as a "**Party**" and together as the "**Parties**".

WHEREAS, Novartis and Amgen are parties to a Collaboration Agreement dated as of April 21, 2017 (the "**Agreement**") with respect to the Commercialization of and Medical Affairs Activities for the Product in the United States;

WHEREAS, the Parties mutually desire to amend, modify and restate certain terms and conditions of the Agreement regarding the payment of a certain milestone payment;

NOW THEREFORE, in consideration of the mutual promises contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, the Parties hereto agree as follows:

1. DEFINITIONS

Unless otherwise defined herein, capitalized words in this Amendment shall have the meaning attributed to them in the Agreement.

2. AMENDMENTS

The Parties agree that, as of the Amendment No. 1 Effective Date, the Agreement is amended as set forth in this Section 2.

2.1 Section 8.2.1 of the Agreement is deleted in its entirety and replaced with the following:

"8.2.1.1 Novartis shall pay Amgen a one-time [*], [*] payment of [*] within [*] days following First Commercial Sale of the Product in the United States.

8.2.1.2 Novartis shall pay Amgen a one-time [*], [*] payment of [*] within [*] days following the date that cumulative gross invoiced sales of the Product in the United States (for clarity, regardless of the Calendar Year in which such sales occur) equals or exceeds [*]."

3. INTEGRATION

Except for the sections of the Agreement specifically amended hereunder, all terms and conditions of the Agreement remain and shall remain in full force and effect. This Amendment shall hereafter be incorporated into and deemed part of the Agreement and any future reference to the Agreement shall include the terms and conditions of this Amendment.

4. APPLICABLE LAW & JURISDICTION

This Amendment shall be governed by, and construed in accordance with, the laws which govern the Agreement, and the Parties submit to the jurisdiction and dispute resolution provisions as set forth in the Agreement.

5. COUNTERPARTS

This Amendment may be executed in counterparts with the same effect as if both Parties had signed the same document. All such counterparts shall be deemed an original, shall be construed together and shall constitute one and the same instrument. Signature pages of this Amendment may be exchanged by facsimile or other electronic means without affecting the validity thereof.

[Remainder of Page Intentionally Left Blank – Signature Page to Follow]

IN WITNESS WHEREOF, the Parties intending to be bound have caused this Amendment to be executed by their duly authorized representatives.

NOVARTIS PHARMA AG

By: /s/ Kellie Crawford

Name: Kellie Crawford

Title: Head Finance, Global BD&L and M&A

Date: April 9, 2018

By: /s/ Gregor von Arx

Name: Gregor von Arx

Title: Global Head Legal Neuroscience & Established Medicines

Date: April 9, 2018

AMGEN INC.

By: /s/ Robert A. Bradway

Name: Robert A. Bradway

Title: Chairman of the Board, President & CEO

Date: March 20, 2018

Exhibit 31

CERTIFICATIONS

I, Robert A. Bradway, Chairman of the Board, Chief Executive Officer and President of Amgen Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amgen Inc.;

2. Based on my knowledge, this quarterly report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this quarterly report;

3. Based on my knowledge, the financial statements, and other financial information included in this quarterly report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this quarterly report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this quarterly report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this quarterly report based on such evaluation; and

   (d) Disclosed in this quarterly report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 24, 2018

/s/ ROBERT A. BRADWAY

Robert A. Bradway
Chairman of the Board,
Chief Executive Officer and President

CERTIFICATIONS

I, David W. Meline, Executive Vice President and Chief Financial Officer of Amgen Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amgen Inc.;

2. Based on my knowledge, this quarterly report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this quarterly report;

3. Based on my knowledge, the financial statements, and other financial information included in this quarterly report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this quarterly report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this quarterly report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this quarterly report based on such evaluation; and

   (d) Disclosed in this quarterly report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 24, 2018

/s/ DAVID W. MELINE

David W. Meline

Executive Vice President and Chief Financial Officer

Exhibit 32

Certification of Chief Executive Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Amgen Inc. (the "Company") hereby certifies that:

(i) the accompanying Quarterly Report on Form 10-Q of the Company for the period ended March 31, 2018 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 24, 2018

/s/ ROBERT A. BRADWAY

Robert A. Bradway
Chairman of the Board,
Chief Executive Officer and President

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 ("Section 906"), or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Amgen Inc. and will be retained by Amgen Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Certification of Chief Financial Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Amgen Inc. (the "Company") hereby certifies that:

(i) the accompanying Quarterly Report on Form 10-Q of the Company for the period ended March 31, 2018 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 24, 2018

/s/ DAVID W. MELINE

David W. Meline

Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 ("Section 906"), or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Amgen Inc. and will be retained by Amgen Inc. and furnished to the Securities and Exchange Commission or its staff upon request.