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DOI: 10.1377/hlthaff.2018.05499  
HEALTH AFFAIRS 38,  
NO. 3 (2019): 491–501  
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Foundation, Inc.

# National Health Expenditure Projections, 2018–27: Economic And Demographic Trends Drive Spending And Enrollment Growth

**ABSTRACT** National health expenditures are projected to grow at an average annual rate of 5.5 percent for 2018–27 and represent 19.4 percent of gross domestic product in 2027. Following a ten-year period largely influenced by the Great Recession and major health reform, national health spending growth during 2018–27 is expected to be driven primarily by long-observed demographic and economic factors fundamental to the health sector. Prices for health care goods and services are projected to grow 2.5 percent per year, on average, for 2018–27—faster than the average price growth experienced over the last decade—and to account for nearly half of projected personal health care spending growth. Among the major payers, average annual spending growth in Medicare (7.4 percent) is expected to exceed that in Medicaid (5.5 percent) and private health insurance (4.8 percent) over the projection period, mostly as a result of comparatively higher projected enrollment growth. The insured share of the population is expected to remain stable at around 90 percent throughout the period, as net gains in health coverage from all sources are projected to keep pace with population growth.

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During 2018–27 national health spending is expected to be driven primarily by long-observed demographic and economic factors fundamental to the health sector, largely in contrast to the prior decade—which was affected by the notable impacts of a historic recession and the implementation of wide-ranging health reform legislation.<sup>1</sup> Overall, national health spending is projected to grow at 5.5 percent per year, on average, for 2018–27 (exhibit 1). This is faster than the average growth rate experienced following the last recession (3.9 percent for 2008–13) and the more recent period inclusive of the Affordable Care Act’s major coverage expansions (5.3 percent for 2014–16). However, it is slower than the rate throughout the nearly

two decades preceding the Great Recession (7.3 percent for 1990–2007). Growth in gross domestic product (GDP) during the ten-year projection period is projected to average 4.7 percent. Because national health spending growth is expected to increase 0.8 percentage point faster, on average, than growth in GDP over the projection period, the health share of GDP is expected to rise from 17.9 percent in 2017 to 19.4 percent in 2027, with almost all of the increase in share expected after 2020.

Projected average annual spending growth rates for the underlying major payers of health care are expected to vary substantially during 2018–27, mainly as a result of differing expected trends in enrollment growth. Average Medicare spending growth is projected to be the fastest, at

## EXHIBIT 1

**National health expenditures (NHE), aggregate and per capita amounts, share of gross domestic product (GDP), and average annual growth from previous year shown, by source of funds, selected calendar years 2013–27**

Source of funds	2013 <sup>a</sup>	2016	2017	2018 <sup>b</sup>	2019 <sup>b</sup>	2027 <sup>b</sup>
<b>EXPENDITURE, BILLIONS</b>						
NHE	\$2,881.8	\$3,361.1	\$3,492.1	\$3,646.9	\$3,823.1	\$5,963.2
Health consumption expenditures	2,728.6	3,202.9	3,324.5	3,470.3	3,637.6	5,679.9
Out of pocket	325.9	356.1	365.5	378.6	396.9	585.8
Health insurance	2,088.1	2,504.5	2,604.2	2,720.9	2,850.6	4,545.8
Private health insurance	947.1	1,136.4	1,183.9	1,237.7	1,278.2	1,896.7
Medicare	589.9	677.1	705.9	747.4	800.1	1,436.8
Medicaid	445.2	565.6	581.9	594.8	623.4	992.1
Federal	256.9	358.3	361.2	369.5	386.5	611.1
State and local	188.4	207.3	220.6	225.3	237.0	380.9
Other health insurance programs <sup>c</sup>	105.9	125.3	132.6	141.0	148.8	220.2
Other third-party payers and programs and public health activity	314.7	342.4	354.8	370.8	390.0	548.4
Investment	153.2	158.2	167.6	176.5	185.5	283.3
Population (millions)	315.7	322.9	325.2	327.9	330.7	352.7
GDP, billions	\$16,784.9	\$18,707.2	\$19,485.4	\$20,498.6	\$21,503.1	\$30,755.4
Disposable personal income, billions	12,505.3	14,170.9	14,796.3	15,563.2	16,297.3	23,453.9
NHE per capita	9,128.9	10,410.1	10,739.1	11,121.2	11,559.3	16,907.0
GDP per capita	53,170.5	57,941.2	59,922.8	62,511.0	65,015.9	87,198.3
Prices (2012 = 100.0)						
Personal Health Care Price Index	1.015	1.049	1.062	1.081	1.101	1.359
GDP Implicit Price Deflator, chain weighted	1.018	1.059	1.079	1.104	1.130	1.344
NHE as percent of GDP	17.2%	18.0%	17.9%	17.8%	17.8%	19.4%
<b>ANNUAL GROWTH</b>						
NHE	3.9%	5.3%	3.9%	4.4%	4.8%	5.7%
Health consumption expenditures	4.0	5.5	3.8	4.4	4.8	5.7
Out of pocket	2.0	3.0	2.6	3.6	4.8	5.0
Health insurance	4.4	6.2	4.0	4.5	4.8	6.0
Private health insurance	3.4	6.3	4.2	4.5	3.3	5.1
Medicare	5.3	4.7	4.2	5.9	7.1	7.6
Medicaid	5.3	8.3	2.9	2.2	4.8	6.0
Federal	5.6	11.7	0.8	2.3	4.6	5.9
State and local	5.0	3.2	6.4	2.1	5.2	6.1
Other health insurance programs <sup>c</sup>	6.0	5.8	5.8	6.4	5.5	5.0
Other third-party payers and programs and public health activity	3.4	2.9	3.6	4.5	5.2	4.4
Investment	1.7	1.1	6.0	5.3	5.1	5.4
Population <sup>d</sup>	0.8	0.8	0.7	0.8	0.9	0.8
GDP	2.5	3.7	4.2	5.2	4.9	4.6
Disposable personal income	2.9	4.3	4.4	5.2	4.7	4.7
NHE per capita	3.0	4.5	3.2	3.6	3.9	4.9
GDP per capita	1.7	2.9	3.4	4.3	4.0	3.7
Prices (2012 = 100.0)						
Personal Health Care Price Index	2.2	1.1	1.3	1.7	1.9	2.7
GDP Implicit Price Deflator, chain weighted	1.6	1.3	1.9	2.3	2.3	2.2

**SOURCES** Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group; and Department of Commerce, Bureau of Economic Analysis and Bureau of the Census. **NOTES** For definitions, sources, and methods for NHE categories, see CMS.gov. National Health Expenditure Accounts: methodology paper, 2017: definitions, sources, and methods [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; [cited 2019 Jan 25]. Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/dsm-17.pdf>. Numbers might not add to totals because of rounding. Percent changes are calculated from unrounded data. Tables with data for all years of the projection period can be found at CMS.gov. NHE projections 2018–27—tables [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; 2019 [cited 2019 Feb 20]. Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2018Tables.zip>. <sup>a</sup>Annual growth, 2008–13. <sup>b</sup>Projected. <sup>c</sup>Includes health-related spending for Children's Health Insurance Program (CHIP), Titles XIX and XXI; Department of Defense; and Department of Veterans Affairs. <sup>d</sup>Estimates reflect the Bureau of the Census's definition of *resident-based population* (which includes all people who usually reside in the fifty states or the District of Columbia but excludes residents living in Puerto Rico and areas under US sovereignty, and US Armed Forces overseas and US citizens whose usual place of residence is outside of the United States). Estimates also include a small (typically less than 0.2 percent of population) adjustment to reflect census undercounts. Projected estimates reflect the area population growth assumptions found in the 2018 *Medicare Trustees Report* (see note 4 in text).

7.4 percent per year, as the shift of the baby-boom generation into the program continues to result in robust growth in enrollment (2.5 percent per year, on average) (exhibit 2). This shift also contributes to comparatively slower projected private health insurance enrollment growth of just 0.2 percent per year in 2018–27 and underlies the expectation that growth in private health insurance spending will be the slowest among the payers, at just 4.8 percent per year, on average. Medicaid spending growth is expected to be 5.5 percent, on average, with projected enrollment growth of 1.3 percent per year during this period.

Per enrollee, rates of growth in spending for Medicare, Medicaid, and private health insurance are expected to be somewhat similar over the ten-year projection period (4.7 percent,

4.1 percent, and 4.6 percent per enrollee, respectively). However, these averages mask the unique year-to-year trends among the major payers that are influenced by regulation, legislation, and economic factors—each of which is discussed in more detail below.

For 2018, national health spending is projected to have grown by 4.4 percent, following a rate of 3.9 percent in 2017 (exhibit 1).<sup>1</sup> Faster projected spending growth of almost 2 percentage points in Medicare (5.9 percent) primarily contributes to the acceleration that reflects higher expected growth for both hospital services and prescription drugs. However, Medicaid spending growth is projected to have slowed by 0.7 percentage point in 2018 (to 2.2 percent), as enrollment growth is expected to have slowed for the fourth consecutive year.

## EXHIBIT 2

**National health expenditures (NHE) and health insurance enrollment, aggregate and per enrollee amounts, and average annual growth from previous year shown, by source of funds, selected calendar years 2013–27**

Source of funds	2013 <sup>a</sup>	2016	2017	2018 <sup>b</sup>	2019 <sup>b</sup>	2027 <sup>b</sup>
<b>EXPENDITURE, BILLIONS</b>						
Private health insurance	\$947.1	\$1,136.4	\$1,183.9	\$1,237.7	\$1,278.2	\$1,896.7
Medicare	589.9	677.1	705.9	747.4	800.1	1,436.8
Medicaid	445.2	565.6	581.9	594.8	623.4	992.1
<b>ANNUAL GROWTH IN EXPENDITURE</b>						
Private health insurance	3.4%	6.3%	4.2%	4.5%	3.3%	5.1%
Medicare	5.3	4.7	4.2	5.9	7.1	7.6
Medicaid	5.3	8.3	2.9	2.2	4.8	6.0
<b>PER ENROLLEE SPENDING</b>						
Private health insurance	\$ 5,052	\$ 5,771	\$ 6,001	\$ 6,269	\$ 6,511	\$ 9,384
Medicare	11,503	12,144	12,347	12,726	13,240	19,546
Medicaid	7,553	7,944	8,013	8,099	8,289	12,029
<b>ANNUAL GROWTH IN PER ENROLLEE SPENDING</b>						
Private health insurance	4.3%	4.5%	4.0%	4.5%	3.9%	4.7%
Medicare	2.4	1.8	1.7	3.1	4.0	5.0
Medicaid	0.9	1.7	0.9	1.1	2.4	4.8
<b>ENROLLMENT, MILLIONS</b>						
Private health insurance	187.5	196.9	197.3	197.4	196.3	202.1
Medicare	51.3	55.8	57.2	58.7	60.4	73.5
Medicaid	58.9	71.2	72.6	73.4	75.2	82.5
Uninsured	44.1	28.7	29.7	29.9	31.2	36.2
Population	315.7	322.9	325.2	327.9	330.7	352.7
Insured share of total population	86.0%	91.1%	90.9%	90.9%	90.6%	89.7%
<b>ANNUAL GROWTH IN ENROLLMENT</b>						
Private health insurance	−0.9%	1.7%	0.2%	0.1%	−0.6%	0.4%
Medicare	2.9	2.8	2.5	2.7	2.9	2.5
Medicaid	4.4	6.5	2.0	1.1	2.4	1.2
Uninsured	1.2	−13.4	3.7	0.7	4.3	1.9
Population	0.8	0.8	0.7	0.8	0.9	0.8

**SOURCE** Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group. **NOTES** For definitions, sources, and methods for NHE categories, see CMS.gov. National Health Expenditure Accounts: methodology paper, 2017 (see exhibit 1 notes). Numbers might not add to totals because of rounding. Percent changes are calculated from unrounded data. Tables with data for all years of the projection period can be found at CMS.gov. NHE projections 2018–27—tables (see exhibit 1 notes). <sup>a</sup>Annual growth, 2008–13. <sup>b</sup>Projected.

From the perspective of overall health insurance enrollment, net gains in health insurance coverage across all sources are expected to have kept pace with overall population growth. As a result, the insured share of the population is projected to have remained stable at 90.9 percent.

For 2019, growth in national health spending is expected to increase again to 4.8 percent (exhibit 1). Medicare spending growth is projected to continue accelerating (to 7.1 percent), partly as a result of faster growth in per enrollee spending attributable to higher fee-for-service payment updates. Growth in Medicaid expenditures is also expected to rise (to 4.8 percent), in part because of expansions of Medicaid coverage in Idaho, Maine, Nebraska, Utah, and Virginia. A somewhat mitigating influence on overall national health spending growth, however, is the expected impact of the repeal of the individual mandate. The repeal is expected to result in lower private health insurance enrollment, since some people—particularly those with direct-purchase insurance—may elect to forgo coverage.<sup>2,3</sup> Combined, these shifts in enrollment lead to a projected net increase in the number of uninsured of 1.3 million people, to 31.2 million in 2019 (exhibit 2). However, projected gains in enrollment through other sources are expected to partially offset those declines, resulting in only a slight decrease in the insured share of the population (to 90.6 percent in 2019, from 90.9 percent in 2018).

For 2020–27, growth in national health spending is expected to average 5.7 percent. This rate is faster than projected for 2019, and faster growth is generally evident for the underlying major payers and health care services and goods (exhibits 1 and 3). The acceleration is in part due to faster growth in personal health care prices as measured by the Personal Health Care Price Index (exhibit 1). Also contributing is increasingly higher expected growth in utilization on the part of Medicare beneficiaries and those with private health insurance, the latter influenced by a lagged response to comparatively higher income growth during 2020–22. With respect to insurance coverage over 2020–27, growth in employer-sponsored health insurance enrollment is projected to be below that of population growth and decline for those purchasing insurance directly, which contributes to a slight decline in the insured share of the population to 89.7 percent by 2027 (exhibit 2).

The share of health care spending sponsored (or financed) by federal, state, and local governments is expected to increase by 2 percentage points during 2018–27, reaching 47 percent by 2027 (exhibit 4). The increase is entirely accounted for by the federal government share,

which is expected to grow from 28 percent in 2017 to 31 percent in 2027, and largely reflects faster growth in Medicare spending as the baby-boom generation continues to transition into the program. The expected business and household share is expected to fall from 55 percent in 2017 to 53 percent in 2027.

## Model And Assumptions

The national health expenditure projections incorporate a combination of actuarial and econometric modeling methods, as well as judgments about future events and trends that are expected to influence health spending.<sup>3</sup> They are largely based on economic and demographic assumptions in the 2018 *Medicare Trustees Report*,<sup>4</sup> updated to reflect more recently released macroeconomic data.<sup>3</sup> The projections also reflect current law<sup>5</sup> and do not reflect any policy proposals currently under consideration.

Estimates of future health care spending and enrollment are inherently subject to substantial uncertainty that increases over the projection horizon. In addition to the potential effects of evolving health care markets and changes in law over time, economic conditions can differ from the intended midrange assumptions used here.

In the case of one economic variable, disposable personal income, analysis by the Office of the Actuary has consistently found a relationship between growth in that metric and growth in health spending, especially for private health insurance.<sup>3</sup> That is, as income growth increases or decreases, health spending growth tends to follow in the same direction, but with a lag.

This relationship has been evident over the full history of the National Health Expenditure Accounts and is reflected in these projections.<sup>3</sup> As a result, with faster growth in income assumed for the coming decade relative to the recent past, it is expected that health spending growth will respond and be higher as well.<sup>3</sup> The projections presented here reflect this relationship. Thus, to the extent that actual growth in income differs from what is assumed, actual growth in health spending may differ from what is projected.

## Factors Accounting For Growth

In exhibit 5 average annual personal health care spending<sup>6</sup> growth is decomposed to demonstrate the relative contributions of underlying price growth (economywide and relative personal health care price inflation), use and intensity, population growth, and age-sex mix. During 2018–27 personal health care spending growth is expected to average 5.5 percent, with growth

**EXHIBIT 3**
**National health expenditures (NHE) amounts and annual growth from previous year shown, by spending category, selected calendar years 2013–27**

Spending category	2013 <sup>a</sup>	2016	2017	2018 <sup>b</sup>	2019 <sup>b</sup>	2027 <sup>b</sup>
<b>EXPENDITURE, BILLIONS</b>						
NHE	\$2,881.8	\$3,361.1	\$3,492.1	\$3,646.9	\$3,823.1	\$5,963.2
Health consumption expenditures	2,728.6	3,202.9	3,324.5	3,470.3	3,637.6	5,679.9
Personal health care	2,438.0	2,851.9	2,961.0	3,085.3	3,242.5	5,058.4
Hospital care	937.6	1,092.8	1,142.6	1,193.4	1,254.7	1,961.6
Professional services	759.4	884.0	920.0	962.8	1,013.6	1,541.2
Physician and clinical services	569.6	666.5	694.3	728.0	767.6	1,172.0
Other professional services	78.7	92.4	96.6	100.8	106.1	165.3
Dental services	111.1	125.1	129.1	134.0	139.9	203.9
Other health, residential, and personal care	144.3	173.4	183.1	188.4	196.9	318.6
Home health care	81.4	93.1	97.0	101.8	108.8	186.8
Nursing care facilities and continuing care retirement communities	149.0	163.0	166.3	170.8	178.0	270.7
Retail outlet sales of medical products	366.3	445.6	451.9	468.1	490.5	779.4
Prescription drugs	265.2	332.0	333.4	344.5	360.3	576.7
Durable medical equipment	45.1	51.0	54.4	57.4	60.9	97.8
Other nondurable medical products	56.0	62.7	64.1	66.2	69.3	105.0
Government administration	37.4	44.7	45.0	46.7	49.4	81.0
Net cost of health insurance	174.2	220.7	229.5	247.2	252.0	417.3
Government public health activities	79.1	85.6	88.9	91.1	93.6	123.2
Investment	153.2	158.2	167.6	176.5	185.5	283.3
Noncommercial research	46.7	47.6	50.7	53.5	56.2	83.3
Structures and equipment	106.5	110.6	116.9	123.1	129.3	200.0
<b>ANNUAL GROWTH</b>						
NHE	3.9%	5.3%	3.9%	4.4%	4.8%	5.7%
Health consumption expenditures	4.0	5.5	3.8	4.4	4.8	5.7
Personal health care	4.1	5.4	3.8	4.2	5.1	5.7
Hospital care	5.2	5.2	4.6	4.4	5.1	5.7
Professional services	3.6	5.2	4.1	4.7	5.3	5.4
Physician and clinical services	3.7	5.4	4.2	4.9	5.4	5.4
Other professional services	4.6	5.5	4.6	4.3	5.3	5.7
Dental services	2.2	4.0	3.2	3.8	4.4	4.8
Other health, residential, and personal care	4.9	6.3	5.6	2.9	4.5	6.2
Home health care	6.0	4.6	4.3	4.9	6.8	7.0
Nursing care facilities and continuing care retirement communities	3.0	3.0	2.0	2.7	4.2	5.4
Retail outlet sales of medical products	2.2	6.8	1.4	3.6	4.8	6.0
Prescription drugs	2.0	7.8	0.4	3.3	4.6	6.1
Durable medical equipment	3.3	4.2	6.8	5.5	6.1	6.1
Other nondurable medical products	2.7	3.8	2.2	3.3	4.7	5.3
Government administration	4.2	6.1	0.5	3.9	5.7	6.4
Net cost of health insurance	3.3	8.2	4.0	7.7	2.0	6.5
Government public health activities	3.1	2.7	3.9	2.4	2.8	3.5
Investment	1.7	1.1	6.0	5.3	5.1	5.4
Noncommercial research	1.5	0.7	6.5	5.4	5.1	5.0
Structures and equipment	1.8	1.3	5.7	5.3	5.1	5.6

**SOURCE** Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group. **NOTES** For definitions, sources, and methods for NHE categories, see CMS.gov. National Health Expenditure Accounts: methodology paper, 2017 (see exhibit 1 notes). Numbers might not add to totals because of rounding. Percent changes are calculated from unrounded data. Tables with data for all years of the projection period can be found at CMS.gov. NHE projections 2018–27—tables (see exhibit 1 notes). <sup>a</sup>Annual growth, 2008–13. <sup>b</sup>Projected.

in personal health care prices expected to account for nearly half of that growth, on average. Growth in use and intensity is expected to account for just under one-third of the average annual personal health care spending growth, with population growth and the changing age-sex mix of the population accounting for

the remainder. Over specific years within the projection period, however, there are notable trends in prices and the volume and intensity of services, some of which are anticipated to contrast with recent experience.

Inflation for health care goods and services, as measured by the Personal Health Care Price



## EXHIBIT 4

National health expenditures (NHE) amounts, average annual growth from previous year shown, and percent distribution, by type of sponsor, selected calendar years 2013–27

Type of sponsor	2013 <sup>a</sup>	2016	2017	2018 <sup>b</sup>	2019 <sup>b</sup>	2027 <sup>b</sup>
<b>EXPENDITURE, BILLIONS</b>						
NHE	\$2,881.8	\$3,361.1	\$3,492.1	\$3,646.9	\$3,823.1	\$5,963.2
Businesses, household, and other private revenues	1,620.6	1,836.7	1,914.1	2,002.9	2,095.2	3,136.4
Private businesses	580.4	669.1	696.5	730.9	765.1	1,123.2
Household	833.0	942.8	978.6	1,019.9	1,064.1	1,619.3
Other private revenues	207.2	224.7	239.0	252.0	266.0	393.9
Governments	1,261.2	1,524.4	1,577.9	1,644.0	1,727.9	2,826.8
Federal government	752.7	952.4	982.4	1,032.7	1,089.7	1,833.8
State and local governments	508.5	572.0	595.5	611.2	638.2	993.0
<b>ANNUAL GROWTH</b>						
NHE	3.9%	5.3%	3.9%	4.4%	4.8%	5.7%
Businesses, household, and other private revenues	2.8	4.3	4.2	4.6	4.6	5.2
Private businesses	2.3	4.9	4.1	4.9	4.7	4.9
Household	3.1	4.2	3.8	4.2	4.3	5.4
Other private revenues	3.3	2.7	6.4	5.4	5.6	5.0
Governments	5.3	6.5	3.5	4.2	5.1	6.3
Federal government	6.1	8.2	3.2	5.1	5.5	6.7
State and local governments	4.2	4.0	4.1	2.6	4.4	5.7
<b>DISTRIBUTION</b>						
NHE	100%	100%	100%	100%	100%	100%
Businesses, household, and other private revenues	56	55	55	55	55	53
Private businesses	20	20	20	20	20	19
Household	29	28	28	28	28	27
Other private revenues	7	7	7	7	7	7
Governments	44	45	45	45	45	47
Federal government	26	28	28	28	29	31
State and local governments	18	17	17	17	17	17

**SOURCE** Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group. **NOTES** For definitions, sources, and methods for NHE categories, see CMS.gov. National Health Expenditure Accounts: methodology paper, 2017 (see exhibit 1 notes). Numbers might not add to totals because of rounding. Percent changes are calculated from unrounded data. Tables with data for all years of the projection period can be found at CMS.gov. NHE projections 2018–27—tables (see exhibit 1 notes). <sup>a</sup>Annual growth, 2008–13. <sup>b</sup>Projected.

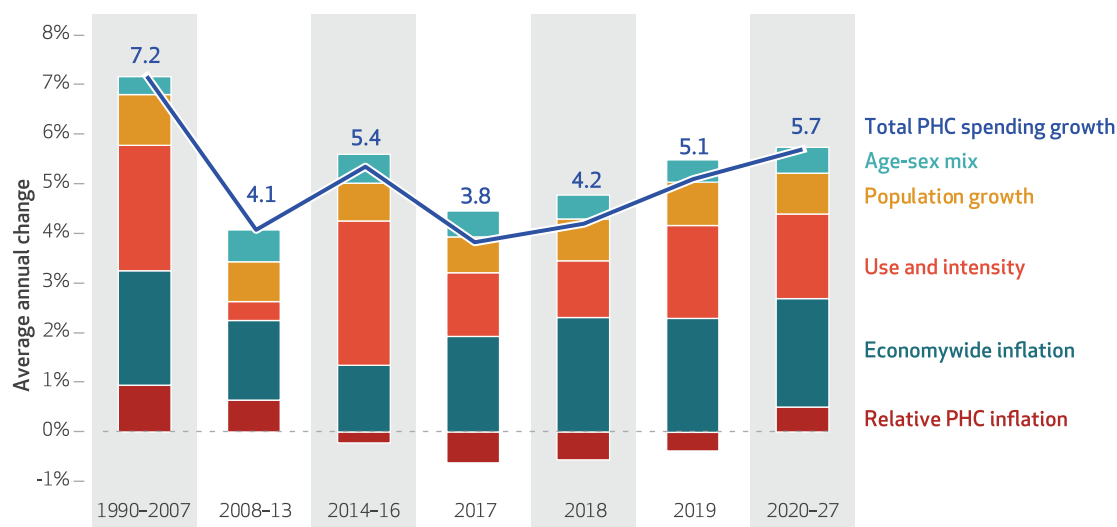
Index and inclusive of both economywide and relative personal health care price inflation, is projected to play a larger role in the coming decade (averaging growth of 2.5 percent per year for 2018–27, compared to 1.1 percent for 2014–17) and account for nearly half of personal health care spending growth. This expectation reflects accelerating growth in both economywide inflation and relative personal health care price inflation (or the difference between price growth for personal health care goods and services and economywide inflation). The expected acceleration in growth in economywide prices occurred primarily in 2018. From 2019 forward, a steady increase in relative personal health care price inflation is projected, as certain factors that

contributed to low or negative growth in relative personal health care price inflation since 2011 are anticipated to be less influential in restraining prices over the next decade. Such factors include rising sensitivity to prices by consumers and insurers, especially for services subject to cost sharing;<sup>7</sup> selective contracting by insurers; and improvements in productivity through the use of lower-cost providers in physician offices.<sup>8</sup> Similarly, input price growth, including health-sector wages, is expected to accelerate as downward pressure on provider prices lessens.

The average growth rate for use and intensity of services is projected to be 1.7 percent over 2018–27 and to account for about 30 percent of personal health care spending growth (exhib-

## EXHIBIT 5

Factors accounting for growth in personal health care (PHC) expenditures, selected calendar years 1990–2027



**SOURCES** Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group; and Department of Commerce, Bureau of Economic Analysis and Bureau of the Census. **NOTES** “Relative PHC inflation” represents the share of medical price growth that exceeds economywide inflation. “Economywide inflation” reflects the gross domestic product deflator index. “Use and intensity” includes quantity and mix of services. As a residual, this factor also includes any errors in measuring prices or total spending. “Age-sex mix” refers to that mix in the population. Growth in the total PHC Price Index is equal to the sum of economywide and relative PHC inflation and is a chain-weighted index of the price for all personal health care deflators. The height of the bars reflects the sum of factors that contribute positively to growth. In those cases where a factor may contribute growth of less than zero, the net total growth is reflected by the line and associated point estimate noted for each period.

it 5). This result contrasts with the rate observed during the years immediately following the implementation of the coverage expansions under the Affordable Care Act (2014–16), when use and intensity was the dominant driver of personal health care spending growth—representing 2.9 percentage points, or just over half, of the average spending growth rate of 5.4 percent. Initially, these increases were largely influenced by expanding enrollment, followed by faster per enrollee spending growth that likely reflected care provided to the newly insured. Unlike that unique time period, during 2018–27 growth in the use and intensity of medical care is primarily influenced by the anticipated effects of macroeconomic growth consistent with the longer-run historical relationship.

## Outlook For Spending And Enrollment By Payer

**MEDICARE** Medicare spending growth is projected to have increased 5.9 percent in 2018, compared to 4.2 percent in 2017 (exhibit 1), mainly because of faster per enrollee spending growth (3.1 percent in 2018 versus 1.7 percent in 2017) (exhibit 2). Increases in Medicare private health plan payments, as well as spending for fee-for-service hospital care and prescription

drugs, underlie the projected acceleration.

In 2019 Medicare spending is projected to increase by 7.1 percent, a 1.2-percentage-point acceleration over growth in 2018. Increases in fee-for-service payment rates compared to 2018, along with slightly faster growth in the use and intensity of physician and clinical services, contribute to faster expected growth in per enrollee spending, which is projected to rise to 4.0 percent. Additionally, projected Medicare enrollment growth reaches its peak at 2.9 percent in 2019, up from 2.7 percent in 2018.

Over 2020–27 Medicare spending growth is expected to remain highest among the payers, averaging 7.6 percent. Compared to the 7.1 percent increase projected for 2019, this faster average growth is primarily driven by an expectation of a continued rebound in growth in the use and intensity of services used throughout the period that is more consistent with the program’s long-term experience, compared to that of the past decade. By the end of the projection period (2026–27) the expected growth rate decelerates to around 7.0 percent, down from a projection-period peak of 8.1 percent in 2022, as slower increases in input prices—including for hospitals—and anticipated faster multifactor productivity growth lead to smaller payment updates for many Part A services. En-

rollment growth is also anticipated to slow gradually during these years, from 2.8 percent in 2020 to 2.1 percent by 2027—a rate more consistent with the pre-baby-boom period. By the end of the projection period the Medicare share of total health spending is projected to rise to 24.1 percent by 2027 from 20.2 percent in 2017.

**MEDICAID** Medicaid spending growth is expected to have been just 2.2 percent in 2018, down from 2.9 percent growth in 2017 (exhibit 1)—the fourth consecutive year of slowing growth following the ACA's expansion of Medicaid coverage in 2014. The expected trend in 2018, as in prior years, is principally explained by slower growth in enrollment, which is projected to have slowed to 1.1 percent in 2018 from 2.0 percent the previous year (exhibit 2). While growth for nearly all Medicaid services is expected to have slowed in 2018, growth in the net cost for Medicaid managed care plans is expected to have rebounded, compared to a decline in growth in 2017. This pattern reflects the historical and projected timeline over which the federal government is recovering payments from managed care organizations as a result of favorable prior-period experience.<sup>1</sup>

Growth in Medicaid spending is expected to accelerate in 2019 to 4.8 percent. Five additional states have approved and are expected to implement Medicaid expansion in 2019, a factor that contributes in part to the aggregate spending growth increase. Projected Medicaid enrollment growth—2.4 percent in 2019 compared to 1.1 percent in 2018—reflects this newly eligible population. Growth in per enrollee Medicaid spending is expected to accelerate, as well, by 1.3 percentage points to 2.4 percent in 2019, as a result of faster growth in price factors.

Medicaid spending is expected to grow at an average rate of 6.0 percent over 2020–27. The pattern in annual growth, however, is influenced by reductions to disproportionate share hospital payments for hospitals set in law.<sup>9</sup> These payments are scheduled to be reduced in 2020 and are then further reduced in 2021. Consequently, Medicaid spending growth is expected to grow slowly at 5.0 percent in 2020 and 5.4 percent in 2021. For 2022 through 2025, when the disproportionate share hospital payment reductions are equivalent to 2021, overall Medicaid spending growth is expected to be higher at 6.1 percent. Beginning in 2026 there are no reductions in the disproportionate share hospital payments, which leads to a notable expected one-year acceleration in 2026 for overall Medicaid spending growth to 7.0 percent. Otherwise, an enrollment mix more heavily influenced by spending patterns of comparatively more expensive aged and disabled beneficiaries is expected

to result in per enrollee spending growth that is at or above 5 percent in every year during 2022–27.

**PRIVATE HEALTH INSURANCE AND OUT-OF-POCKET SPENDING** For private health insurance spending, growth is expected to have increased slightly from 4.2 percent in 2017 to 4.5 percent in 2018, near the overall growth rate for national health expenditures of 4.4 percent (exhibit 1). While spending for most services and goods is expected to have grown slightly faster in 2018,<sup>10</sup> the acceleration was partially offset by slower projected growth in the net cost of private health insurance,<sup>11</sup> as private insurers offering plans in the Marketplace had fared better financially in 2017 and thus reduced the difference between premium revenues and expected benefit payments.<sup>12</sup> Out-of-pocket spending growth is expected to have accelerated to 3.6 percent in 2018 from 2.6 percent in 2017, a rate that is consistent with faster income growth as well as with the higher average deductibles for employer-based private health insurance enrollees in 2018 compared to 2017.<sup>13</sup>

The projected spending trends in 2019 in part reflect the estimated impact of the effective repeal of the individual mandate. As some people choose to forgo maintaining health insurance, private health insurance enrollment is expected to decline slightly, primarily in the direct-purchase insurance market. Accordingly, private health insurance spending growth is expected to slow to 3.3 percent in 2019 from 4.5 percent in 2018. Conversely, out-of-pocket spending is expected to grow more rapidly, at 4.8 percent in 2019 compared to 3.6 percent in 2018, in part because fewer people have private insurance coverage.

Private health insurance spending is expected to grow 5.1 percent per year, on average, for 2020–27. Growth in this spending is projected to peak at 5.4 percent in 2023–24, in lagged response to the high anticipated growth in disposable personal income a few years prior. Private health insurance spending growth is then expected to slow to 4.8 percent by 2027, as income growth generally decelerates. As the payer with the slowest expected growth over the full projection period, the private health insurance share of national health spending is projected to fall from 33.9 percent in 2017 to 31.8 percent in 2027.

Growth in out-of-pocket spending, which is also primarily influenced by economic factors, is expected to be similar to that of private health insurance spending in 2020–27, at 5.0 percent. However, the projection-period peak in growth is expected in 2022 (5.4 percent), the year in which the excise tax on high-cost insurance



plans is scheduled to go into effect.<sup>14</sup> By 2027, because total out-of-pocket spending is expected to grow more slowly, on average, than health insurance spending (exhibit 1), it is expected to account for a decreasing share of national health spending (9.8 percent in 2027, down from 10.5 percent in 2017).

## Outlook For Major Medical Services And Goods

**PRESCRIPTION DRUGS** Following growth of just 0.4 percent in 2017, prescription drug spending is expected to have grown 3.3 percent in 2018 but still be among the slowest-growing health care sectors (exhibit 3). Higher utilization growth is anticipated, compared to the relatively low growth in 2016 and 2017,<sup>1</sup> partially driven by an increase in the number of new drug introductions (fifty-nine in 2018, up from an average of thirty-four during 2016–17).<sup>15</sup>

In 2019 prescription drug spending growth is projected to accelerate further, to 4.6 percent, as a result of higher expected growth in drug utilization (including from new drugs) and a modest increase in drug price growth.

Prescription drug spending is expected to increase, on average, by 6.1 percent per year for 2020–27 (exhibit 3). Contributing to the acceleration in growth during this period is the expectation that the use of prescription drugs will increase over the next several years as a result of increasingly robust efforts by employers and insurers to reduce any barriers regarding the use of maintenance drugs needed to keep their enrollees with chronic conditions healthy.<sup>16</sup> Two other factors contributing to higher expected growth in the use of prescription drugs are the aging of the population and changes to pharmacotherapy guidelines.<sup>16</sup> These trends, coupled with faster expected spending increases in lagged response to faster growth in income, result in a peak projected growth rate for prescription drug spending of 6.4 percent in 2023–24. Finally, prescription drug spending growth is expected to rise because of a shift in the intensity and mix of drug usage associated with the many projects currently in clinical development that could, over the next few years, result in innovative, yet more expensive, new drugs across such therapeutic areas as cancer, diabetes, and Alzheimer's disease.<sup>17</sup>

**HOSPITALS** Hospital spending is expected to have grown similarly in 2018 (4.4 percent) and 2017 (4.6 percent) (exhibit 3). By payer, somewhat slower growth in both Medicaid and private health insurance hospital spending offset slightly faster growth in Medicare hospital spending. For 2019 hospital spending growth is expected to increase to 5.1 percent because of faster growth

in Medicare hospital payment updates and an increase in the use of hospital services associated with new Medicaid expansion-related enrollees. These increases are somewhat offset by slower expected growth in private health insurance hospital spending, which is partially attributable to the repeal of the individual mandate.

Over 2020–27 hospital spending growth is expected to average 5.7 percent per year, up from 5.1 percent in 2019. Consistent with overall spending, Medicare is expected to experience the fastest growth in spending for hospital care during this period. The peak growth for overall hospital spending is projected to occur in 2026 (6.1 percent) and is strongly influenced by substantially faster Medicaid spending growth in 2026 that reflects the expiration of Medicaid disproportionate share hospital payment reductions scheduled in current law for September 30, 2025. Private health insurance spending growth for hospital care is expected to reach its projection-period peak in 2024, consistent with the lagged relationship to income.

Hospital price growth is also expected to rise by 2027. The acceleration in this growth over the projection period primarily reflects continued wage increases for hospital employees that are anticipated from the low rates of growth experienced following the Great Recession, as well as tighter labor markets for hospital employees, including nurses.<sup>18</sup> Growth is partially offset, however, by Medicare payment updates that are reduced by growth in economywide productivity, which is projected to accelerate during the projection period.<sup>4</sup>

**PHYSICIAN AND CLINICAL SERVICES** Spending in 2018 for physician and clinical services is projected to have grown 4.9 percent, rising from 4.2 percent in 2017 (exhibit 3). Price growth for physician and clinical services is expected to have increased 0.3 percentage point but to have remained at near historically low rates at 0.7 percent. This continued low price growth was likely influenced, in part, by physician practices using more nonphysicians to provide care, a practice that was related to increased productivity and profits even in the presence of slow price growth.<sup>8</sup> The acceleration in overall projected spending growth also reflects faster growth in use that is partly related to a lagged response to growth in income over the recent history and also from increases in the number of office visits due to the severe 2017–18 flu season.<sup>19</sup>

In 2019, growth in spending for physician and clinical services is projected to accelerate once more, to 5.4 percent from 4.9 percent in 2018. An acceleration in Medicaid spending growth is the primary factor contributing to the trend, which is in part associated with program's expansion

by additional states.

Over the remainder of the projection period, 2020–27, average annual growth in physician and clinical services spending is projected to be 5.4 percent. The growth rate for Medicare spending is expected to be substantially faster than that projected for physician and clinical services spending in private health insurance. That projected differential is largely due to faster enrollment associated with the continued shift of the baby-boom generation from private health insurance to Medicare.

Another factor contributing to the growth in overall physician and clinical services spending over 2020–27 is an anticipated acceleration in physician price growth. Underlying this acceleration are projected rising costs related to the provision of care. In particular, wages are expected to increase as a result of the supply of physicians not being able to meet expected increases in demand for care connected with the aging population.<sup>20</sup> Furthermore, some of the productivity gains that have been achieved through the use of lower-cost providers as a substitute for physician care within physician practices may be less pronounced in the future, because of limitations such as licensing restrictions on the scope of care that may be provided by nonphysician providers.<sup>21</sup>

## Conclusion

During the past ten years the lingering effects of the Great Recession, coupled with the coverage

and payment provisions of the Affordable Care Act, have significantly influenced the trends in health care spending and enrollment in the United States. Over the next decade, however, the outlook for health spending and insurance coverage is expected to be primarily driven by long-observed demographic and economic factors fundamental to the health sector. While the national health spending growth rate is projected to average 5.5 percent per year for 2018–27 (exhibit 1), annual growth is expected to generally accelerate over much of the projection period. Medicare spending growth is expected to accelerate and be the fastest among the major payers, reflecting not only the continued enrollment shift of the baby-boom generation into the program but also the growth rate for use and intensity, which is projected to gradually increase toward the rates observed during Medicare's long-term history. Growth in health care prices, reflecting both economywide and relative personal health care price inflation, is also expected to rebound somewhat toward rates more consistent with the period before the Great Recession and to return to a state in which personal health care price growth exceeds that of economywide price inflation. Finally, recent and anticipated faster growth in disposable personal income is expected to lead to an increased demand for services, albeit with a lag, and put upward pressure on the pattern of private health insurance and out-of-pocket spending growth over the projection period. ■

The opinions expressed here are the authors' and not necessarily those of the Centers for Medicare and Medicaid

Services. The authors thank Paul Spitalnic, Stephen Heffler, Aaron Catlin, Micah Hartman, Greg Savord, Cathy

Curtis, and anonymous peer reviewers for their helpful comments. [Published online February 20, 2019.]

## NOTES

1 Martin AB, Hartman M, Washington B, Catlin A, National Health Expenditure Accounts Team. National health care spending in 2017: growth slows to post–Great Recession rates; share of GDP stabilizes. *Health Aff (Millwood)*. 2019;38(1):96–106.

2 By 2019 the individual mandate repeal is anticipated to result in about 1.5 million fewer direct-purchase-market enrollees, who are expected to be somewhat younger and healthier than those who retain coverage, as well as about 1.0 million fewer employer-sponsored-insurance-market enrollees, than otherwise would have been projected. After 2019 the enrollment effects are expected to be smaller. Medicaid enrollment is assumed to be unaffected. See Centers for Medicare and Medicaid Services.

Projections of national health expenditures (note 3).

3 Centers for Medicare and Medicaid Services. Projections of national health expenditures: methodology and model specification [Internet]. Baltimore (MD): CMS; 2018 Feb 14 [cited 2019 Feb 4]. Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/ProjectionsMethodology.pdf>

4 Boards of Trustees. 2018 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; 2018 [cited 2019 Jan 25]. Available from:

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/TR2018.pdf>

5 Consistent with the methods employed in the *Medicare Trustees Report* (see note 4), these projections assume that payments would continue to be made even after the projected depletion of the Medicare Hospital Insurance trust fund, currently projected to occur in 2026.

6 Personal health care expenditures (PHC) measures the total amount spent to treat people with specific medical conditions. It represents about 85 percent of total national health expenditures over the projection period.

7 Brot-Goldberg ZC, Chandra A, Handel BR, Kolstad JT. What does a

- deductible do? The impact of cost-sharing on health care prices, quantities, and spending dynamics [Internet]. Cambridge (MA): National Bureau of Economic Research; 2015 Oct [cited 2019 Jan 25]. (NBER Working Paper No. 21632). Available from: <https://www.nber.org/papers/w21632.pdf>
- 8 Medical Group Management Association [Internet]. Englewood (CO): MGMA; 2018. Press release, New MGMA data shows medical practices utilizing more non-physician providers are more profitable, productive; 2018 Jul [cited 2019 Jan 25]. Available from: <https://www.mgma.com/news-insights/press-new-mgma-data-shows-medical-practices-utilizing-more-non-physician-providers-are-more-profitable-productive>
- 9 The current schedule of reductions to Medicaid disproportionate share hospital payments was most recently modified by the Bipartisan Budget Act of 2018.
- 10 Mercer. Mercer annual survey finds health benefit cost growth will hold at 4.1% in 2019 [Internet]. New York (NY): Mercer; 2018 Sep 12 [cited 2019 Jan 25]. Available from: <https://www.mercer.com/newsroom/mercer-annual-survey-finds-health-benefit-cost-growth-will-hold-at-4.1-in-2019.html>
- 11 The net cost of insurance is the difference between total private health insurance spending and benefits incurred. It includes administrative costs, taxes, net gains or losses to reserves, and profits.
- 12 Fehr R, Cox C, Levitt L. Individual insurance market performance in mid-2018 [Internet]. San Francisco (CA): Henry J. Kaiser Family Foundation; 2018 Oct 5 [cited 2019 Jan 25]. Available from: <https://www.kff.org/health-reform/issue-brief/individual-insurance-market-performance-in-mid-2018/>
- 13 Claxton G, Rae M, Long M, Damico A, Whitmore H. Health benefits in 2018: modest growth in premiums, higher worker contributions at firms with more low-wage workers. *Health Aff (Millwood)*. 2018;37(11):1892–900.
- 14 In response to the excise tax on high-cost insurance plans, some employers are expected to reduce the value of their health insurance benefits to remain below tax thresholds, which would result in higher cost sharing for employees.
- 15 Food and Drug Administration, Center for Drug Evaluation and Research. Advancing health through innovation: 2018 new drug therapy approvals [Internet]. Silver Spring (MD): FDA; 2019 Jan [cited 2019 Jan 25]. Available from: <https://www.fda.gov/downloads/Drugs/DevelopmentApprovalProcess/DrugInnovation/UCM629290.pdf>
- 16 IQVIA. 2018 and beyond: outlook and turning points. Parsippany (NJ): IQVIA; 2018 Mar 13.
- 17 EvaluatePharma. World preview 2018, outlook to 2024 [Internet]. London: EvaluatePharma; 2018 Jun [cited 2019 Jan 25]. Available from: <http://info.evaluategroup.com/rs/607-YGS-364/images/WP2018.pdf>
- 18 Evans M. U.S. hospital profits fall as labor costs grow and patient mix shifts. *Wall Street Journal* [serial on the Internet]. 2018 Apr 23 [cited 2019 Jan 25]. Available from: <https://www.wsj.com/articles/u-s-hospital-profits-fall-as-labor-costs-grow-and-patient-mix-shifts-1524495601>
- 19 Garten R, Blanton L, Elal AIA, Alabi N, Barnes J, Biggerstaff M, et al. Update: influenza activity in the United States during the 2017–18 season and composition of the 2018–19 influenza vaccine. *MMWR Morb Mortal Wkly Rep*. 2018; 67(22):634–42.
- 20 Dall T, West T, Chakrabati R, Reynolds R, Iacobucci W. 2018 update: the complexities of physician supply and demand: projections from 2016 to 2030: final report [Internet]. Washington (DC): IHS Markit; 2018 Mar [cited 2019 Jan 25]. Available from: [https://aamc-black.global.ssl.fastly.net/production/media/filer\\_public/85/d7/85d7b689-f417-4ef0-97fb-ecc129836829/aamc\\_2018\\_workforce\\_projections\\_update\\_april\\_11\\_2018.pdf](https://aamc-black.global.ssl.fastly.net/production/media/filer_public/85/d7/85d7b689-f417-4ef0-97fb-ecc129836829/aamc_2018_workforce_projections_update_april_11_2018.pdf)
- 21 Hoffman M. Can nurse practitioners fill the void in primary care? *MD* [serial on the Internet]. 2018 Apr 19 [cited 2019 Jan 25]. Available from: <https://www.mdmag.com/medical-news/can-nurse-practitioners-fill-the-void-in-primary-care>