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# National Health Expenditure Projections, 2019–28: Expected Rebound In Prices Drives Rising Spending Growth

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**ABSTRACT National health expenditures are projected to grow at an average annual rate of 5.4 percent for 2019–28 and to represent 19.7 percent of gross domestic product by the end of the period. Price growth for medical goods and services is projected to accelerate, averaging 2.4 percent per year for 2019–28, which partly reflects faster expected growth in health-sector wages. Among all major payers, Medicare is expected to experience the fastest spending growth (7.6 percent per year), largely as a result of having the highest projected enrollment growth. The insured share of the population is expected to fall from 90.6 percent in 2018 to 89.4 percent by 2028.**

National health spending is projected to increase 5.4 percent per year, on average, for 2019–28, compared to a growth rate of 4.5 percent over the past three years (2016–18). The acceleration is largely due to expected faster growth in prices for medical goods and services (2.4 percent for 2019–28, compared to 1.3 percent for 2016–18). Growth in gross domestic product (GDP) during the projection period is expected to average 4.3 percent. Because national health spending growth is expected to increase 1.1 percentage points faster, on average, than growth in GDP over the projection period, the health share of GDP is expected to rise from 17.7 percent in 2018 to 19.7 percent in 2028 (exhibit 1).[1]

The Personal Health Care Price Index, which reflects the prices for medical services and goods but excludes prices associated with the net cost of insurance, is expected to increase at an average rate of 2.4 percent during 2019–28 and to account for 43 percent of the total projected growth in personal health care spending over the period. This would follow the unusually slow rate of personal health care inflation that was observed during 2014–18, when price growth for medical goods and services was just 1.2 percent and represented 25 percent of personal health spending growth. Although growth in economywide prices is projected to accelerate during 2019–28, growth in personal health care prices is expected to increase more quickly, partly reflecting faster expected growth in the wages paid to health care workers.

Over the projection period, Medicare is expected to have the highest spending growth among the major payers of health care each year and on average (7.6 percent), largely reflecting the continued shift of the baby-boom generation out of private health insurance and into Medicare. Growth in the number of beneficiaries is projected to average 2.5 percent over 2019–28, compared to average enrollment growth of 1.1 percent for Medicaid and 0.3 percent for private health insurance. The modest rate of growth in private health insurance enrollment is influenced both by the impact of the repeal of the Affordable Care Act (ACA) individual mandate in the early part of the projection period and by the expectation that the working-age population will continue the recent trend of enrolling in private health insurance (primarily employer-sponsored insurance) at lower rates.[2] As a result,



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**EXHIBIT 1**

**National health expenditures (NHE), aggregate and per capita amounts, share of gross domestic product (GDP), and average annual growth, by source of funds, selected calendar years 2016–28**

| Source of funds | 2016 | 2017 | 2018 | 2019[a] | 2020[a] | 2023[a] | 2028[a] |
|---|---|---|---|---|---|---|---|
| Expenditure, billions | | | | | | | |
| NHE | $3,347.4 | $3,487.3 | $3,649.4 | $3,814.6 | $4,014.2 | $4,706.3 | $6,192.5 |
| Health consumption expenditures | 3,190.7 | 3,319.0 | 3,475.0 | 3,633.2 | 3,823.6 | 4,482.5 | 5,903.3 |
| Out of pocket | 357.2 | 365.2 | 375.6 | 389.6 | 405.1 | 457.7 | 563.8 |
| Health insurance | 2,487.5 | 2,592.3 | 2,729.0 | 2,858.3 | 3,020.2 | 3,578.2 | 4,793.9 |
| Private health insurance | 1,119.9 | 1,175.0 | 1,243.0 | 1,290.0 | 1,356.9 | 1,554.7 | 1,981.8 |
| Medicare | 676.8 | 705.1 | 750.2 | 800.7 | 858.5 | 1,075.6 | 1,559.4 |
| Medicaid | 565.4 | 580.1 | 597.4 | 621.0 | 649.0 | 765.5 | 1,017.1 |
| Federal | 358.1 | 359.3 | 370.9 | 384.4 | 401.6 | 475.1 | 629.2 |
| State and local | 207.2 | 220.8 | 226.5 | 236.6 | 247.4 | 290.4 | 387.9 |
| Other health insurance programs[b] | 125.4 | 132.1 | 138.3 | 146.6 | 155.7 | 182.4 | 235.7 |
| Other third-party payers and programs and public health activity | 346.0 | 361.5 | 370.5 | 385.3 | 398.3 | 446.7 | 545.6 |
| Investment | 156.7 | 168.3 | 174.4 | 181.4 | 190.7 | 223.7 | 289.2 |
| Population, millions[c] | 322.5 | 324.6 | 326.6 | 328.9 | 331.3 | 338.5 | 351.6 |
| GDP, billions | $18,715.0 | $19,519.4 | $20,580.2 | $21,444.6 | $22,259.5 | $25,316.7 | $31,413.6 |
| Disposable personal income, billions | 14,165.1 | 14,833.0 | 15,741.5 | 16,512.8 | 17,189.9 | 19,625.9 | 24,422.3 |
| NHE per capita | 10,379 | 10,742 | 11,172 | 11,597 | 12,118 | 13,903 | 17,611 |
| GDP per capita | 58,025 | 60,128 | 63,004 | 65,193 | 67,197 | 74,788 | 89,339 |
| Prices, chain weighted (2012 = 100.0) | | | | | | | |
| Personal Health Care Price Index | 1.048 | 1.061 | 1.077 | 1.093 | 1.113 | 1.194 | 1.363 |
| GDP Implicit Price Deflator | 1.058 | 1.078 | 1.104 | 1.125 | 1.148 | 1.228 | 1.372 |
| NHE as percent of GDP | 17.9% | 17.9% | 17.7% | 17.8% | 18.0% | 18.6% | 19.7% |

| Average annual growth | 2016[d] | 2017 | 2018 | 2019[a] | 2020[a] | 2021–23[a] | 2024–28[a] |
|---|---|---|---|---|---|---|---|
| NHE | 4.6% | 4.2% | 4.6% | 4.5% | 5.2% | 5.4% | 5.6% |
| Health consumption expenditures | 4.8 | 4.0 | 4.7 | 4.6 | 5.2 | 5.4 | 5.7 |
| Out of pocket | 4.5 | 2.2 | 2.8 | 3.7 | 4.0 | 4.1 | 4.3 |
| Health insurance | 4.8 | 4.2 | 5.3 | 4.7 | 5.7 | 5.8 | 6.0 |
| Private health insurance | 5.6 | 4.9 | 5.8 | 3.8 | 5.2 | 4.6 | 5.0 |
| Medicare | 4.3 | 4.2 | 6.4 | 6.7 | 7.2 | 7.8 | 7.7 |
| Medicaid | 4.2 | 2.6 | 3.0 | 3.9 | 4.5 | 5.7 | 5.8 |
| Federal | 4.5 | 0.3 | 3.2 | 3.6 | 4.5 | 5.8 | 5.8 |
| State and local | 3.6 | 6.5 | 2.6 | 4.5 | 4.6 | 5.5 | 6.0 |
| Other health insurance programs[b] | 3.6 | 5.3 | 4.7 | 6.0 | 6.2 | 5.4 | 5.3 |
| Other third-party payers and programs and public health activity | 4.7 | 4.5 | 2.5 | 4.0 | 3.4 | 3.9 | 4.1 |
| Investment | 1.7 | 7.4 | 3.6 | 4.0 | 5.1 | 5.5 | 5.3 |
| Population, millions[c] | 0.8 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 0.8 |
| GDP, billions | 2.7 | 4.3 | 5.4 | 4.2 | 3.8 | 4.4 | 4.4 |
| Disposable Personal Income, billions | 2.8 | 4.7 | 6.1 | 4.9 | 4.1 | 4.5 | 4.5 |
| NHE per capita | 3.8 | 3.5 | 4.0 | 3.8 | 4.5 | 4.7 | 4.8 |
| GDP per capita | 1.9 | 3.6 | 4.8 | 3.5 | 3.1 | 3.6 | 3.6 |
| Prices, chain weighted (2012 = 100.0) | | | | | | | |
| Personal Health Care Price Index | 1.2 | 1.3 | 1.5 | 1.5 | 1.9 | 2.4 | 2.7 |
| GDP Implicit Price Deflator | 1.0 | 1.9 | 2.4 | 1.9 | 2.1 | 2.3 | 2.3 |

**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, 2018: definitions, sources, and methods [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; [cited 2020 Feb 20]. Available from: https://www.cms.gov/files/document/definitions-sources-and-methods.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 2019–28—tables (see note 13 in text). [a]Projected. [b]Includes health-related spending for Children's Health Insurance Program (CHIP), Titles XIX and XXI; Department of Defense; and Department of Veterans Affairs. [c]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 2019 *Medicare Trustees Report* (see note 11 in text). [d]Annual growth, 2015–16.



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by 2028 the insured share of the population is expected to fall to 89.4 percent (from 90.6 percent in 2018) (exhibit 2).

The share of health care spending financed by federal, state, and local governments is expected to increase by 2 percentage points during 2019–28, reaching 47 percent in 2028 (exhibit 3). The increase is primarily due to the federal government's share, which is projected to grow from 28 percent in 2018 to 31 percent by 2028, driven by faster growth in Medicare spending related to increasingly higher enrollment. The projected business and household share is expected to fall from 55 percent in 2018 to 53 percent in 2028.

## Chronological Overview Of Key National Health Expenditure Trends

**2019** For 2019, national health spending is projected to have increased at a rate similar to that for 2018 (4.5 percent versus 4.6 percent) (exhibit 1).[1] Contributing to this trend is decelerating growth in private health insurance spending. That growth is projected to have slowed from 5.8 percent in 2018 to 3.8 percent in 2019 because of slower per enrollee growth, which was mostly driven by a significant slowdown in growth in the net cost of private health insurance as a result of the health insurance tax moratorium.[3,4] The number of enrollees in private health insurance is projected to have fallen 0.3 percent in 2019, influenced by the repeal of the individual mandate,[5] and this decrease contributes to a slight decline in the insured share of the

**EXHIBIT 2**

**National health expenditures (NHE) and health insurance enrollment, aggregate and per enrollee amounts, and average annual growth, by source of funds, selected calendar years 2016–28**

| Source of funds | 2016 | 2017 | 2018 | 2019[a] | 2020[a] | 2023[a] | 2028[a] |
|---|---|---|---|---|---|---|---|
| **EXPENDITURE, BILLIONS** | | | | | | | |
| Private health insurance | $1,119.9 | $1,175.0 | $1,243.0 | $1,290.0 | $1,356.9 | $1,554.7 | $1,981.8 |
| Medicare | 676.8 | 705.1 | 750.2 | 800.7 | 858.5 | 1,075.6 | 1,559.4 |
| Medicaid | 565.4 | 580.1 | 597.4 | 621.0 | 649.0 | 765.5 | 1,017.1 |
| **PER ENROLLEE SPENDING** | | | | | | | |
| Private health insurance | $ 5,550 | $ 5,813 | $ 6,199 | $ 6,455 | $ 6,772 | $ 7,682 | $ 9,597 |
| Medicare | 12,137 | 12,334 | 12,784 | 13,328 | 13,909 | 16,065 | 20,751 |
| Medicaid | 7,948 | 8,041 | 8,201 | 8,382 | 8,608 | 9,808 | 12,486 |
| **ENROLLMENT, MILLIONS** | | | | | | | |
| Private health insurance | 201.8 | 202.1 | 200.5 | 199.8 | 200.4 | 202.4 | 206.5 |
| Medicare | 55.8 | 57.2 | 58.7 | 60.1 | 61.7 | 67.0 | 75.1 |
| Medicaid | 71.1 | 72.1 | 72.8 | 74.1 | 75.4 | 78.1 | 81.5 |
| Uninsured | 28.7 | 29.7 | 30.7 | 31.5 | 31.4 | 33.0 | 37.2 |
| Population | 322.5 | 324.6 | 326.6 | 328.9 | 331.3 | 338.5 | 351.6 |
| Insured share of total population | 91.1% | 90.8% | 90.6% | 90.4% | 90.5% | 90.3% | 89.4% |

| Average annual growth | 2016[b] | 2017 | 2018 | 2019[a] | 2020[a] | 2021–23[a] | 2024–28[a] |
|---|---|---|---|---|---|---|---|
| **EXPENDITURE, BILLIONS** | | | | | | | |
| Private health insurance | 5.6% | 4.9% | 5.8% | 3.8% | 5.2% | 4.6% | 5.0% |
| Medicare | 4.3 | 4.2 | 6.4 | 6.7 | 7.2 | 7.8 | 7.7 |
| Medicaid | 4.2 | 2.6 | 3.0 | 3.9 | 4.5 | 5.7 | 5.8 |
| **PER ENROLLEE SPENDING** | | | | | | | |
| Private health insurance | 4.8% | 4.7% | 6.7% | 4.1% | 4.9% | 4.3% | 4.6% |
| Medicare | 1.6 | 1.6 | 3.7 | 4.3 | 4.4 | 4.9 | 5.3 |
| Medicaid | 1.4 | 1.2 | 2.0 | 2.2 | 2.7 | 4.4 | 4.9 |
| **ENROLLMENT, MILLIONS** | | | | | | | |
| Private health insurance | 0.7% | 0.2% | −0.8% | −0.3% | 0.3% | 0.3% | 0.4% |
| Medicare | 2.7 | 2.5 | 2.6 | 2.4 | 2.7 | 2.7 | 2.3 |
| Medicaid | 2.7 | 1.4 | 1.0 | 1.7 | 1.8 | 1.2 | 0.9 |
| Uninsured | −2.8 | 3.7 | 3.1 | 2.8 | −0.4 | 1.6 | 2.4 |
| Population | 0.8 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 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, 2018 (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 2019–28—tables (see note 13 in text). [a]Projected. [b]Annual growth, 2015–16.



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**EXHIBIT 3**

**National health expenditures (NHE) amounts, average annual growth, and percent distribution, by type of sponsor, selected calendar years 2016–28**

| Type of sponsor | 2016 | 2017 | 2018 | 2019[a] | 2020[a] | 2023[a] | 2028[a] |
|---|---|---|---|---|---|---|---|
| Expenditure, billions | | | | | | | |
| NHE | $3,347.4 | $3,487.3 | $3,649.4 | $3,814.6 | $4,014.2 | $4,706.3 | $6,192.5 |
| Businesses, household, and other private revenues | 1,828.0 | 1,921.0 | 2,013.1 | 2,092.1 | 2,200.5 | 2,537.6 | 3,255.5 |
| Private businesses | 652.8 | 684.2 | 726.8 | 760.3 | 801.6 | 919.5 | 1,158.1 |
| Household | 950.5 | 992.5 | 1,035.7 | 1,073.3 | 1,130.1 | 1,311.5 | 1,714.4 |
| Other private revenues | 224.7 | 244.3 | 250.7 | 258.6 | 268.8 | 306.5 | 383.0 |
| Governments | 1,519.4 | 1,566.3 | 1,636.3 | 1,722.4 | 1,813.7 | 2,168.7 | 2,937.0 |
| Federal government | 951.9 | 978.5 | 1,033.8 | 1,093.2 | 1,154.5 | 1,405.6 | 1,941.6 |
| State and local governments | 567.5 | 587.8 | 602.5 | 629.2 | 659.2 | 763.1 | 995.3 |
| **Average annual growth** | **2016[b]** | **2017** | **2018** | **2019[a]** | **2020[a]** | **2021–23[a]** | **2024–28[a]** |
| NHE | 4.6% | 4.2% | 4.6% | 4.5% | 5.2% | 5.4% | 5.6% |
| Businesses, household, and other private revenues | 4.9 | 5.1 | 4.8 | 3.9 | 5.2 | 4.9 | 5.1 |
| Private businesses | 4.8 | 4.8 | 6.2 | 4.6 | 5.4 | 4.7 | 4.7 |
| Household | 4.7 | 4.4 | 4.4 | 3.6 | 5.3 | 5.1 | 5.5 |
| Other private revenues | 6.1 | 8.7 | 2.6 | 3.2 | 4.0 | 4.5 | 4.6 |
| Governments | 4.3 | 3.1 | 4.5 | 5.3 | 5.3 | 6.1 | 6.3 |
| Federal government | 4.8 | 2.8 | 5.6 | 5.8 | 5.6 | 6.8 | 6.7 |
| State and local governments | 3.4 | 3.6 | 2.5 | 4.4 | 4.8 | 5.0 | 5.5 |
| **Distribution** | **2016** | **2017** | **2018** | **2019[a]** | **2020[a]** | **2023[a]** | **2028[a]** |
| NHE | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Businesses, household, and other private revenues | 55 | 55 | 55 | 55 | 55 | 54 | 53 |
| Private businesses | 20 | 20 | 20 | 20 | 20 | 20 | 19 |
| Household | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Other private revenues | 7 | 7 | 7 | 7 | 7 | 7 | 6 |
| Governments | 45 | 45 | 45 | 45 | 45 | 46 | 47 |
| Federal government | 28 | 28 | 28 | 29 | 29 | 30 | 31 |
| State and local governments | 17 | 17 | 17 | 16 | 16 | 16 | 16 |

**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, 2018 (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 2019–28—tables (see note 13 in text). [a]Projected. [b]Annual growth, 2015–16.

population—to 90.4 percent in 2019 from 90.6 percent in 2018 (exhibit 2). Spending growth in Medicaid is expected to have accelerated to 3.9 percent from 3.0 percent in 2018, partially offsetting the slower growth in private health insurance spending. Part of this acceleration is due to somewhat faster Medicaid enrollment growth, which is primarily attributable to expansions in Virginia and Maine.

**2020** In 2020, growth in national health spending is expected to accelerate to 5.2 percent (exhibit 1). The majority of this acceleration is driven by faster expected growth in personal health care prices as measured by the Personal Health Care Price Index (from 1.5 percent in 2019 to 1.9 percent in 2020). The projected price trend reflects anticipated increases in economy-wide inflation, as well as a return to the somewhat higher historical average growth rates for the prices of medical goods and services—which averaged just 1.3 percent for 2016–18. Another factor contributing to faster growth is the temporary reinstatement of the health insurance tax in 2020, after a moratorium in 2019 and before the permanent repeal that takes effect in 2021.[3] As a result of this tax, the net cost of health insurance is projected to grow more rapidly, increasing at a rate of 10.3 percent in 2020 compared to 3.6 percent in 2019 (exhibit 4). The faster growth in the net cost of health insurance is a primary reason for the accelerations in spending growth for private health insurance, Medicaid, and Medicare.[3,6]

**2021–23** During 2021–23, growth in national health spending is expected to average 5.4 percent, which is a slightly faster rate than that of 5.2 percent anticipated for 2020 (exhibit 1). The acceleration is more than accounted for by faster average annual growth in personal health care prices of 2.4 percent—a rate closer to their long-term average historical growth rate of 2.8 percent over the past three decades. This faster price



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**EXHIBIT 4**

**National health expenditures (NHE) amounts and average annual growth, by spending category, selected calendar years 2016–28**

| Spending category | 2016 | 2017 | 2018 | 2019[a] | 2020[a] | 2023[a] | 2028[a] |
|---|---|---|---|---|---|---|---|
| Expenditure, billions | | | | | | | |
| NHE | $3,347.4 | $3,487.3 | $3,649.4 | $3,814.6 | $4,014.2 | $4,706.3 | $6,192.5 |
| Health consumption expenditures | 3,190.7 | 3,319.0 | 3,475.0 | 3,633.2 | 3,823.6 | 4,482.5 | 5,903.3 |
| Personal health care | 2,838.3 | 2,954.5 | 3,075.5 | 3,219.3 | 3,377.5 | 3,979.6 | 5,255.5 |
| Hospital care | 1,089.5 | 1,140.6 | 1,191.8 | 1,253.0 | 1,316.4 | 1,563.0 | 2,088.0 |
| Professional services | 883.2 | 924.0 | 965.1 | 1,008.6 | 1,057.6 | 1,235.9 | 1,608.6 |
| Physician and clinical services | 665.6 | 696.9 | 725.6 | 757.4 | 794.4 | 932.4 | 1,224.4 |
| Other professional services | 92.7 | 97.5 | 103.9 | 109.3 | 114.8 | 134.8 | 175.5 |
| Dental services | 124.9 | 129.6 | 135.6 | 141.9 | 148.3 | 168.7 | 208.7 |
| Other health, residential, and personal care | 173.6 | 183.2 | 191.6 | 200.0 | 210.3 | 248.9 | 327.1 |
| Home health care | 93.0 | 97.1 | 102.2 | 108.9 | 116.2 | 143.0 | 201.3 |
| Nursing care facilities and continuing care retirement communities | 163.0 | 166.2 | 168.5 | 175.1 | 183.2 | 210.7 | 266.2 |
| Retail outlet sales of medical products | 436.0 | 443.2 | 456.3 | 473.6 | 493.9 | 578.2 | 764.4 |
| Prescription drugs | 322.3 | 326.8 | 335.0 | 345.7 | 358.7 | 420.3 | 560.3 |
| Durable medical equipment | 51.0 | 52.4 | 54.9 | 58.3 | 62.0 | 74.0 | 98.4 |
| Other nondurable medical products | 62.7 | 64.1 | 66.4 | 69.5 | 73.2 | 83.8 | 105.7 |
| Government administration | 44.9 | 44.8 | 47.5 | 49.8 | 52.0 | 62.1 | 84.2 |
| Net cost of health insurance | 218.8 | 228.3 | 258.5 | 267.8 | 295.2 | 331.7 | 432.9 |
| Government public health activities | 88.7 | 91.4 | 93.5 | 96.4 | 98.9 | 109.1 | 130.6 |
| Investment | 156.7 | 168.3 | 174.4 | 181.4 | 190.7 | 223.7 | 289.2 |
| Noncommercial research | 47.4 | 50.1 | 52.6 | 55.5 | 58.6 | 69.7 | 89.0 |
| Structures and equipment | 109.3 | 118.2 | 121.8 | 125.8 | 132.0 | 154.0 | 200.2 |
| **Average annual growth** | **2016[b]** | **2017** | **2018** | **2019[a]** | **2020[a]** | **2021–23[a]** | **2024–28[a]** |
| NHE | 4.6% | 4.2% | 4.6% | 4.5% | 5.2% | 5.4% | 5.6% |
| Health consumption expenditures | 4.8 | 4.0 | 4.7 | 4.6 | 5.2 | 5.4 | 5.7 |
| Personal health care | 4.7 | 4.1 | 4.1 | 4.7 | 4.9 | 5.6 | 5.7 |
| Hospital care | 5.3 | 4.7 | 4.5 | 5.1 | 5.1 | 5.9 | 6.0 |
| Professional services | 5.4 | 4.6 | 4.4 | 4.5 | 4.9 | 5.3 | 5.4 |
| Physician and clinical services | 5.4 | 4.7 | 4.1 | 4.4 | 4.9 | 5.5 | 5.6 |
| Other professional services | 5.5 | 5.2 | 6.5 | 5.2 | 5.1 | 5.5 | 5.4 |
| Dental services | 5.1 | 3.8 | 4.6 | 4.6 | 4.5 | 4.4 | 4.4 |
| Other health, residential, and personal care | 5.5 | 5.5 | 4.6 | 4.4 | 5.1 | 5.8 | 5.6 |
| Home health care | 4.2 | 4.5 | 5.2 | 6.6 | 6.7 | 7.2 | 7.1 |
| Nursing care facilities and continuing care retirement communities | 3.1 | 2.0 | 1.4 | 3.9 | 4.6 | 4.8 | 4.8 |
| Retail outlet sales of medical products | 2.4 | 1.7 | 2.9 | 3.8 | 4.3 | 5.4 | 5.7 |
| Prescription drugs | 1.7 | 1.4 | 2.5 | 3.2 | 3.7 | 5.4 | 5.9 |
| Durable medical equipment | 4.9 | 2.9 | 4.7 | 6.3 | 6.3 | 6.1 | 5.9 |
| Other nondurable medical products | 4.1 | 2.2 | 3.6 | 4.8 | 5.2 | 4.6 | 4.7 |
| Government administration | 5.0 | −0.2 | 6.0 | 4.7 | 4.4 | 6.1 | 6.3 |
| Net cost of health insurance | 5.9 | 4.3 | 13.2 | 3.6 | 10.3 | 4.0 | 5.5 |
| Government public health activities | 3.4 | 3.0 | 2.4 | 3.1 | 2.5 | 3.3 | 3.7 |
| Investment | 1.7 | 7.4 | 3.6 | 4.0 | 5.1 | 5.5 | 5.3 |
| Noncommercial research | 2.1 | 5.7 | 5.0 | 5.7 | 5.6 | 5.9 | 5.0 |
| Structures and equipment | 1.5 | 8.1 | 3.0 | 3.3 | 4.9 | 5.3 | 5.4 |

**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, 2018 (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 2019–28—tables (see note 13 in text). [a]Projected. [b]Annual growth, 2015–16.

growth is driven in part by expected increases in wage growth for health care workers (especially for some occupations where shortages are likely to occur),[7] after a recent period during which wages for health-sector workers have grown more slowly than overall wages have.[8]

Medicaid spending growth is projected to average 5.7 percent in 2021–23, up from 4.5 percent in 2020, mostly because of higher spending for hospital services. Partially offsetting this increase is a lower projected spending growth rate for private health insurance (4.6 percent per year for 2021–23), related in part to the permanent repeal of the health insurance tax starting in



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2021.[3] Finally, spending growth for prescription drugs is expected to average 5.4 percent per year during 2021–23 because of faster expected growth in drug prices, slowing growth of rebates, and anticipated increases in spending associated with new prescription drugs (exhibit 4).[9]

**2024–28** During 2024–28, growth in national health spending is expected to average 5.6 percent, slightly faster than the rate projected for 2021–23 (exhibit 1). Among the payers, spending growth is mostly anticipated to be comparable to the increase in 2021–23. Average rates of growth for private health insurance and Medicaid spending are projected to increase modestly (to 5.0 and 5.8 percent, respectively) from the previous period, while Medicare spending growth is projected to be relatively faster than that for the other major payers but remain below 8 percent. Notably, by 2028—as the baby-boom generation continues to transition from private health insurance to Medicare—seventy-five million people (or more than 20 percent of the population) are projected to be enrolled in Medicare and account for $1 out of every $4 spent on health care. This contributes substantially to growth in the share of health expenditures sponsored by the government (to 47 percent) (exhibit 3).

## Model And Assumptions

The national health expenditure projections are based on current law and are developed using actuarial and econometric modeling methods in addition to judgments about future trends that affect the health care sector.[10] This analysis incorporates Medicare projections and economic and demographic assumptions from the 2019 *Medicare Trustees Report*,[11] with updates to account for more recently available macroeconomic data.

The Further Consolidated Appropriations Act of 2020 repealed three taxes previously mandated under the ACA: the medical device tax, the annual tax on health insurance providers, and the excise tax on high-cost employer-sponsored health insurance. These changes are reflected in the projections. Furthermore, a new rule that allows employers to subsidize employee premiums in the health insurance Marketplaces is scheduled to take effect in 2020 and is anticipated to result in modest shifts in enrollment from traditional employer-sponsored insurance to individually purchased plans.[12]

It is important to note that there is inherent uncertainty associated with these projections. Specifically, to project future trends in medical spending, this analysis relies on assumptions about future macroeconomic conditions, such as growth in disposable personal income, economywide inflation, and historical relationships between these variables, and these assumptions do not account for potential future legislative changes that could affect national health spending or insurance coverage. To the extent that the assumptions used in this analysis differ from ultimate outcomes, they may result in deviations between health spending projections and actual experience.

## Factors Accounting For Growth

In exhibit 5, average annual personal health care spending growth is decomposed to illustrate the relative contributions of such underlying factors as growth in the use and intensity of services, growth in personal health care prices, population growth, and the changing age-sex mix. Prices and quantities associated with non–personal health care spending—such as those applicable to the net cost of private health insurance, research, and other non–personal health care sectors—are not reflected. Over the coming decade, in comparison with the previous five years, the pattern of growth in personal health care spending is expected to be driven less by rising use and intensity of services and more by rising personal health care price inflation.

During 2019–28, personal health care spending growth is expected to average 5.5 percent, with growth in personal health care prices expected to account for 2.4 percentage points (or 43 percent) of that increase. This is a faster rate than the unusually low growth that occurred over 2014–18, which was influenced by both low economywide inflation and even slower growth in personal health care inflation. While economywide prices are projected to grow faster than personal health care inflation through 2021, personal health care prices are expected to rise more rapidly than economywide prices over the rest of the projection period—in large part because of faster expected growth in input prices facing medical providers. Accordingly, when coupled with the slightly faster economywide inflation that is anticipated, personal health care price growth is projected to rise from 1.5 percent in 2018 to 2.8 percent by 2028 (data not shown).

Growth in the use and intensity of services is expected to account for about one-third of the total projected growth over 2019–28 (exhibit 5). Lower expected rates of growth in incomes (which generally causes people to consume less health care), combined with the absence of increases in the use and intensity of services that were observed over 2014–16 under the ACA-based insurance coverage expansion, are the critical factors that explain slower expected growth in use and intensity in 2019–28 compared to



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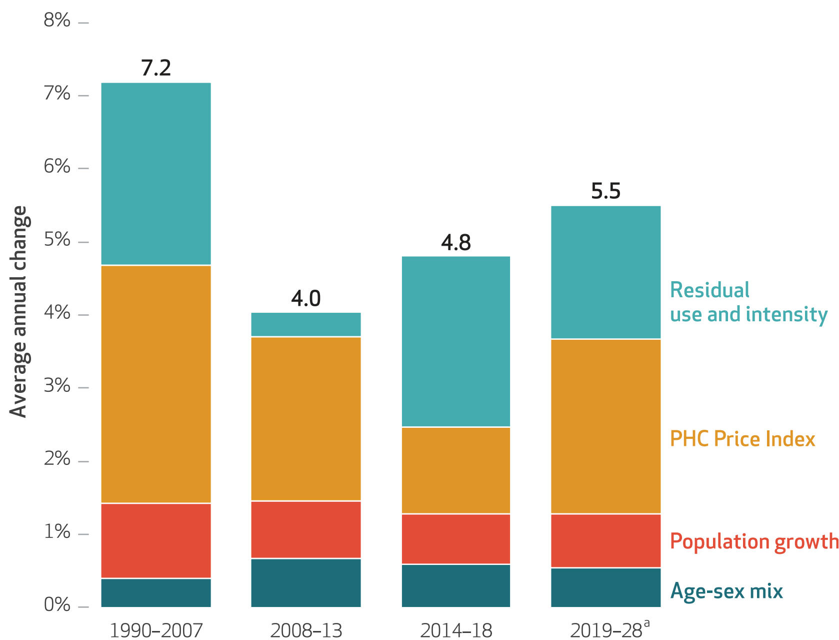
EXHIBIT 5

**Factors accounting for growth in personal health care (PHC) expenditures, calendar years 1990–2028**




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 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. "Use and intensity" includes the 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. [a]Projected.

2014–18 (1.8 percent versus 2.3 percent).

The contribution to personal health care spending growth from the changing composition of the population by age and sex is projected to grow at a relatively stable pace—0.5 percent for 2019–28, compared to 0.6 percent for 2014–18. However, as a share of personal health care spending growth, the contribution made by changing demographics is projected to decline from 14 percent in 2018 to 9 percent by 2028 (data not shown).

## Outlook For Spending And Enrollment By Payer

**MEDICARE** Medicare expenditures are projected to have grown 6.7 percent in 2019, slightly faster than the rate of 6.4 percent in 2018, and to have reached $800.7 billion (exhibit 1). This trend primarily reflects faster growth in Medicare spending on personal health care, which accelerated from 5.7 percent in 2018 to 6.6 percent in 2019. In particular, the rate of Medicare spending growth is projected to have increased rapidly for hospitals (from 4.6 percent in 2018 to 6.3 percent in 2019) and for prescription drugs (from 5.9 percent to 6.9 percent).[13]

In 2020, Medicare spending growth is projected to accelerate to 7.2 percent (exhibit 2). This faster rate is largely due to more rapid growth in enrollment, from 2.4 percent in 2019 to 2.7 percent in 2020. Also contributing are the concurrent expirations of the moratorium on the health insurance tax and the ACA-mandated 0.75 percent payment update reduction that was applicable to Medicare's fee-for-service hospital payments in 2019. As a result, per enrollee Medicare expenditures are expected to grow slightly more rapidly in 2020 than they did in 2019 (4.4 percent versus 4.3 percent).

During 2021–23, Medicare spending is projected to increase at an average rate of 7.8 percent per year. Faster expected growth for this period is principally driven by expected accelerations in growth in Medicare spending for hospital services (from 7.1 percent in 2020 to an average of 8.1 percent for 2021–23) and for physician and clinical services (from 6.1 percent in 2020 to an average of 7.4 percent for 2021–23). Both sectors are expected to experience more rapid increases in the use and intensity of services that more closely resemble their long-term average.[11]

For the 2024–28 period, Medicare spending growth is expected to average 7.7 percent, as a slightly slower average Medicare enrollment growth rate of 2.3 percent (compared to an average of 2.7 percent over 2021–23) offsets a somewhat faster per enrollee expenditure growth rate of 5.3 percent (compared to 4.9 percent over 2021–23).

**MEDICAID** Following growth of 3.0 percent in 2018, Medicaid expenditures are projected to have increased 3.9 percent in 2019 and to have reached $621.0 billion (exhibit 1). Most of the increase is attributable to enrollment growth, which is projected to have accelerated from 1.0 percent to 1.7 percent as Virginia and Maine broadly implemented Medicaid expansions. Per enrollee, growth is expected to have been slightly faster in 2019 as the program's price factors (the payment rates made to medical providers per service or per good) increased from 2.4 percent in 2018 to 3.1 percent in 2019.[14] However, the use and intensity of services is expected to grow more slowly in 2019 because of the influx of younger and healthier enrollees related to Medicaid expansion.

In 2020, Medicaid spending growth is projected to accelerate to 4.5 percent (exhibit 2). This rate is the net result of several factors that mainly affect per enrollee trends: an increase in the growth of the net cost of insurance related to the reinstatement of the health insurance tax for that year; fewer payments recovered by the government from Medicaid managed care organiza-



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tions;[15] and faster expected growth in Medicaid payment rates per service and per good (to 3.5 percent). Somewhat offsetting these factors are the mandated reductions to disproportionate share hospital payments,[16] which account for slowing growth in that sector to 1.2 percent (from 4.4 percent in 2019), and the impacts on use and intensity associated with Medicaid expansions in Idaho, Nebraska, and Utah.

During 2021–23, average Medicaid spending growth is projected to climb to 5.7 percent. This accelerating projected growth rate reflects an expected resumption of faster growth in the use and intensity of medical goods and services following the expansion-related slower growth in that metric in 2019 and 2020. Particularly notable is Medicaid spending for hospital services, a sector in which this increasingly higher growth in use is expected to more than offset further reductions to disproportionate share hospital payments.

During 2024–28, the average growth rate for Medicaid spending is projected to be 5.8 percent, slightly faster than during 2021–23. Two drivers primarily explain this projected rate: the expiration of reductions to disproportionate share hospital payments on September 30, 2025, and a progressively higher share of enrollment attributable to aged and disabled beneficiaries, who tend to use a greater number of, and more costly, services.

**PRIVATE HEALTH INSURANCE AND OUT-OF-POCKET SPENDING** For private health insurance spending, growth is expected to have decreased from 5.8 percent in 2018 to 3.8 percent in 2019, with total expenditures of $1.3 trillion (exhibit 1). The primary factor influencing this deceleration is a significant slowdown in growth in the net cost of private health insurance (from 15.3 percent in 2018 to 2.0 percent in 2019),[13] which resulted for two reasons: The health insurance tax, which was in place during 2018, was not imposed in 2019 and thus contributed to a smaller difference between premiums and benefits; and insurers in the individual market experienced lower claims costs in 2018 than were expected when premiums were set[5]—a trend that resulted in lower-than-anticipated loss ratios and that led, in turn, to rebates that were deducted from 2019 premiums. Finally, private health insurance enrollment is projected to have declined 0.3 percent in 2019 (exhibit 2). This decrease is assumed to be mostly attributable to the repeal of the individual mandate.[5]

For out-of-pocket spending, growth is expected to have increased from 2.8 percent in 2018 to 3.7 percent in 2019, with total expenditures of $389.6 billion (exhibit 1). This acceleration is associated with an increase in the average deductible for people enrolled in private health insurance plans,[17] as well as a projected increase in the number of uninsured people—from 30.7 million in 2018 to 31.5 million in 2019 (exhibit 2)—principally as a result of the repeal of the individual mandate.[5]

In 2020, private health insurance spending growth is expected to accelerate to 5.2 percent from the rate of 3.8 percent projected for 2019. This acceleration is primarily due to the imposition of the health insurance tax, which leads to a projected sharp rebound in growth (to 8.4 percent) in the net cost of private health insurance in 2020. Also contributing is a return to positive enrollment growth (0.3 percent) after declines in 2018 and 2019.

For 2021–23, despite faster growth in prices for medical goods and services, private health insurance spending growth is expected to slow to 4.6 percent per year, on average (exhibit 1). This projected slower growth is mostly a result of the repeal of the health insurance tax after 2020, which is expected to lead to significantly slower growth in the net cost of private health insurance in 2021. Average out-of-pocket spending is projected to increase by 0.1 percentage point relative to 2020 and to grow 4.1 percent over 2021–23. The price increases projected over this period are anticipated to result in only modestly accelerating growth in out-of-pocket spending, in part because of the expectation that employers will not increase deductibles and copayments as much as they have in the recent past but instead will look for other ways to achieve savings.[18]

For 2024–28, minor growth accelerations are expected in both average private health insurance spending and average out-of-pocket spending—to 5.0 percent and 4.3 percent, respectively (exhibit 1). Underlying these gradual accelerations is faster projected price growth. For private health insurance, growth in per enrollee spending is projected to average 4.6 percent over 2024–28, less than the average annual per enrollee growth rate for Medicare (5.3 percent) and Medicaid (4.9 percent) over the same period (exhibit 2).

## Outlook For Major Medical Services And Goods

**HOSPITALS** In 2019, total spending for hospital care is expected to have increased by 5.1 percent, an acceleration from growth of 4.5 percent in 2018, and to have totaled $1.3 trillion (exhibit 4). The overall increase was driven by an acceleration in projected Medicaid hospital spending growth—to 4.4 percent from 2.0 percent in 2018[1]—which resulted in part from program expansion by additional states and rising payment



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rates to hospitals. Medicare hospital spending growth is also expected to have accelerated (from 4.6 percent in 2018 to 6.3 percent in 2019), because of an anticipated increase in per enrollee spending growth.[13]

In 2020, hospital spending growth is expected to remain at 5.1 percent, the same rate as in 2019. This stability is a net result of differing projected spending growth patterns for the major underlying payers. For Medicare, hospital spending growth is expected to accelerate again by nearly a percentage point (to 7.1 percent)—attributable in part to a higher price update for fee-for-service payments, including the expiration of a payment reduction under current law.[19] For Medicaid, however, hospital spending growth is expected to decelerate strongly (to 1.2 percent) because of the implementation of $6 billion in federal disproportionate share hospital payment cap reductions in 2020.[20]

During 2021–23, total hospital spending growth is expected to rise to 5.9 percent per year. Reflecting both continued strong projected enrollment growth by the baby-boom generation and per enrollee spending increases that would be more consistent with the longer-term history, growth in Medicare hospital spending is expected to increase at an average rate of 8.1 percent during this period.[13] Despite further annual federal disproportionate share hospital payment cap reductions scheduled under current law ($8 billion per year),[20] the Medicaid spending growth rate is also expected to increase (to 5.0 percent per year, on average), as a result of expected faster growth in per enrollee spending associated with the increasing proportion of aged and disabled beneficiaries.[13]

Over the remainder of the projection period (2024–28), hospital spending is expected to increase at 6.0 percent per year, on average. While Medicare hospital spending growth during these years is expected to be slightly lower (at under 8 percent per year) than it was during 2021–23, the average annual growth rate for Medicaid hospital spending is expected to increase to 6.1 percent.[13] In addition to changes in the beneficiary mix, this acceleration reflects a one-time expected increase in spending growth in 2026, following the expiration of the disproportionate share hospital payment cap reductions in 2025.

**PHYSICIAN AND CLINICAL SERVICES** Spending for physician and clinical services is projected to have grown 4.4 percent in 2019 (totaling $757.4 billion), compared to 4.1 percent in 2018 (exhibit 4). Underlying this trend is an expected acceleration in the Medicaid spending growth rate to 4.3 percent in 2019 from 2.9 percent in 2018, which is partly attributable to increased spending from states that elected to expand Medicaid and to anticipated increases in Medicaid payment rates. On the other hand, spending growth for physician and clinical services paid for through private health insurance is expected to have slowed to 3.3 percent from 3.9 percent in 2018, a result that is consistent with a modest 2018–19 flu season and is also associated with the repeal of the individual mandate.[21,22]

Growth in spending for all physician and clinical services is projected to accelerate to 4.9 percent in 2020 and then to an average rate of 5.5 percent over 2021–23. In 2020, the trend is primarily influenced by a projected 4.4 percent increase in private health insurance spending—a result of faster growth in the use and intensity of services—and to a 0.3 percent increase in private health insurance enrollment. Slightly offsetting these factors is Medicare spending growth for physician and clinical services, which is projected to decelerate to 6.1 percent in 2020 because of slower projected growth in spending per enrollee.[13]

For the 2021–23 period, faster spending growth for overall physician and clinical services is largely driven by a projected increase in the average price growth rate (to 1.6 percent from 1.0 percent in 2020). Despite recent low price growth, it is expected that the costs of providing care—particularly the costs associated with the wages of physician and clinical services providers—will increase more rapidly, ultimately leading to higher price growth.

During 2024–28, growth in physician and clinical services is projected to be similar to that in 2021–23, averaging 5.6 percent per year. The continued shift of aging baby boomers out of private health insurance and into Medicare significantly contributes to a higher average annual growth rate of 7.6 percent for Medicare spending on physician and clinical services, compared to a more modest annual growth rate of 4.8 percent for private health insurance spending on these services.[13]

**PRESCRIPTION DRUGS** Prescription drug spending growth is expected to have remained slow but to have accelerated from 2.5 percent in 2018 to 3.2 percent in 2019 (exhibit 4), with expenditures totaling $345.7 billion. This trend is largely driven by faster growth in Medicaid drug spending—which, at 4.7 percent, followed a low growth rate in 2018 of 1.4 percent that is partially attributable to lower spending on hepatitis C drugs in that year. In addition, Medicare prescription drug spending growth is expected to have increased from 5.9 percent in 2018 to 6.9 percent in 2019, in part because of faster growth in the use and intensity of prescription drugs.[11,13]



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For 2020, prescription drug spending growth is projected to accelerate to 3.7 percent—principally as a result of an expected increase in the growth rate for drug prices to 1.1 percent in 2020, compared to a decline of 0.3 percent in 2019. This reversal reflects anticipated slower growth in drug rebates, as well as an expected return to positive growth in prices for generic drugs.[9,10,23]

During 2021–23, prescription drug spending growth is again projected to accelerate (averaging 5.4 percent), because of faster drug price increases and higher growth in use and intensity. Drug prices are expected to increase by 2.3 percent, on average, over 2021–23, similar to the rate for economywide price inflation but still above the average rate for drug prices during earlier years—when significant growth in drug rebates resulted in slower growth in net drug prices.[24] Over this period and through 2028, drug rebates as a percentage of total drug costs are expected to either remain constant or increase modestly.[23] In addition, growth in the use and intensity of drugs is expected to accelerate, in part because of a larger anticipated impact from new drugs.[9,25]

In 2024–28, average growth in prescription drug spending is expected to be somewhat faster (at 5.9 percent) than in 2021–23, as more rapid growth in drug spending for private health insurance is partially offset by slower growth in drug spending for Medicare and Medicaid. For private health insurance, the prescription drug spending growth rate is expected to average 5.0 percent (up from 3.7 percent for 2021–23), as a result of faster increases in drug prices and a gradual acceleration in the growth of use and intensity.[13] Growth in Medicare and Medicaid enrollment is expected to slow slightly over 2024–28 compared to the prior period, resulting in small decelerations in average drug spending growth for both programs (7.5 percent for Medicare and 5.6 percent for Medicaid).[13]

## Conclusion

As it has over the past several decades, health spending is expected to grow, on average, more rapidly than the rest of the economy in each year of the projection period through 2028 and to consume an increasingly larger share of GDP. Thus, health spending is projected to reach 19.7 percent of GDP in 2028, even with a modest projected decline in the insured share of the US population. Anticipated increases in inflation for medical goods and services are key drivers of accelerating national health spending growth, since the use and intensity of services are expected to grow more slowly than in recent years—in part because the share of the population with insurance coverage is projected to decline slightly. The government is projected to pay a larger share (nearly half) of the nation's total health bill by 2028, as the baby boomers continue aging into Medicare and the program's beneficiaries consume $1 out of every $4 spent on health care. Policy makers and other stakeholders will undoubtedly continue to monitor these trends and their implications for the health sector, federal and state budgets, and the economy as a whole. ■

Given the timing of publication and the uncertainty associated with the impacts of the COVID-19 pandemic, those impacts are not reflected in the estimates. 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, Cathy Curtis, and anonymous peer reviewers for their helpful comments. [*Published online March 24, 2020.*]

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