This quarterly report examines current trends in U.S. health care spending, prices, utilization, and employment. The report builds on Altarum’s monthly Health Sector Economic Indicators™ (HSEI), and incorporates just-released data from the U.S. Census Bureau’s Quarterly Services Survey (QSS), as reflected in the Bureau of Economic Analysis spending data that are a primary source for our HSEI spending estimates. The body of the report focuses on data and trends through the most recent quarter, while the longer appendix looks at trends in a broader historical context.

Summary: The health sector appears to be in a post-recession, post-expanded coverage period of steady, moderate growth. In 2016, 2017, and the first half of 2018, total health expenditures and spending on health care services have been growing at annual rates between 4.3% and 4.8%. The share of the population with health care coverage has plateaued. Health care job growth, after accelerating in late 2014 and 2015 has slowed to around 2.0% since Q2 2017. Potential near-term disruptions to this stability include changes to laws around coverage or the next economic downturn. Long term, even if health spending growth remains at today’s moderate rates and overall economic growth keeps pace as it has in recent quarters, an aging population will make the budgetary tradeoffs increasingly painful.

1. In Q2 2018, U.S. health spending was 5.0% higher than in Q2 2017, bringing the growth rate for the first half of 2018 to 4.8%, year over year.

▲ HSEI estimates show year-over-year national health spending growth at 5.0% for Q2 2018, up from 4.6% in Q1 2018. Spending growth for the first half of 2018 is now 4.8%, comparable to the 2017 rate of 4.7%.

▲ Spending on health care services, which represent more than 70% of health spending, grew by 4.9% in Q2 2018, up from 4.2% in Q1 2018. Growth in spending on services for the first half of 2018 is now 4.6%, comparable to the 2017 rate of 4.5% and the 2016 rate of 4.8% (Figure S-1).

▲ Retail spending on prescription drugs, which represents about 10% of total health spending, grew by 3.4% in Q2 2018 and 3.7% in Q1 2018, for an average of 3.5% growth over the first half of 2018. This rate is down from the 4.7% growth seen in 2017; however, the 2017 growth rate may be revised downward when CMS releases their official estimate in December.1

Figure S-1: Growth in spending on health care services, 2010 through first half of 2018

Source: Altarum Center for Value in Health Care. Percentages are year-over-year.

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1 CMS figures will be adjusted for manufacturer rebates, which are not reflected in our drug spending data for 2017 and 2018; moreover, IQVIA data show sales of prescription drugs to retail pharmacies by wholesalers actually declined in 2017.
2. **Health spending by private payers has grown faster than public payers since 2016.**

- From 2010 until 2014, the growth in spending by public and private payers tracked fairly closely to the total national health spending trend (Figure S-2). In 2014, with large gains in enrollment, Medicaid spending growth (red line) rose sharply to 11.5% and remained high in 2015 before falling back to 4.0% in 2016. Since then, Medicaid spending growth has remained below the total rate of spending growth.

- Medicare spending growth (green line) has remained steady over this period in the 4.0% to 4.5% range, generally tracking total national health spending growth.

- Spending by private payers (blue line) has grown faster than spending by public payers since 2016. The gap peaked in Q1 2018, when private spending growth reached 7.4% and the public payer growth averaged 2.3%, but has narrowed in Q2.

- Our recent study of spending by payer type found that the divergence in spending growth has been driven by both higher price growth and health care utilization and intensity under private insurance, compared to under Medicaid and Medicare. More detail on growth factors by payer type is available in our research brief.

3. **Removing the effects of enrollment growth, especially in Medicaid, reveals an even larger divergence between private and public payer health spending growth rates.**

- Growth in spending per enrollee for public and private payers diverged notably around 2015 (Figure S-3), with private payer growth well above the national trend since 2016. The most recent quarter shows a slight moderation in growth per private enrollee, but it remains well above public rates.

- Growth in public spending per enrollee has been below 3.0% since 2016, but has recently increased. The negative growth in per enrollee Medicaid spending in Q1 2018, followed by a steep acceleration in 2018 Q2 stands out; however, we believe this is an artifact of the quarterly government Medicaid outlay data in 2017 and 2018, rather than a long-term trend. We expect this to normalize in Q3.

- Cumulatively, private spending per enrollee has increased by more than 50% since 2009, compared to about 15% for public payers (Figure S-4).
4. **Health care price growth remains below 2.0%, and below economy-wide inflation.**

- Health care prices grew by 2.0% in Q2 2018. Combined with Q1 2018 growth of 1.75%, this brings health care price growth to a low 1.9% for the first half of 2018.

- Health care price growth by quarter has not been above 2.0% since 2012 (Figure S-4). Perhaps even more surprisingly, as economy-wide wages and inflation finally begin to rise, health care price growth remains below economy-wide price growth.

- High health care prices in the U.S. have been the focus of much attention; it is worth restating that our findings here highlight the low growth in health care prices, but do not reflect on the level of prices.

**Figure S-4: Year-over-year growth in health care prices and economy-wide inflation by quarter**

![Figure S-4: Year-over-year growth in health care prices and economy-wide inflation by quarter](chart)

*Source: Altarum Health Sector Economic Indicators Price Brief, September 2018.*

5. **Health sector job growth has stabilized at around 2.0% since Q2 2017.**

- The health sector has added between 75,000 and 80,000 jobs from Q1 2017 through Q2 2018. HSEI labor data for July and August 2018 (not shown) indicate this level of growth is continuing into Q3 2018.

- On a year-over-year basis, health job growth stabilized at 1.9% to 2.0% in 2017, and through the first half of 2018 (Figure S-5).

**Figure S-5: Year-over-year growth in health jobs by quarter, Q1 2010 through Q2 2018**

![Figure S-5: Year-over-year growth in health jobs by quarter, Q1 2010 through Q2 2018](chart)

*Source: Altarum Health Sector Economic Indicators underlying data.*
6. *Recently released data indicate that the gains seen in health insurance coverage since 2013 have plateaued, but have not yet eroded.*

- Data on insurance coverage in 2017 from the [Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC) released in September 2018](https://www.census.gov/programs-surveys/cps.html) show that the uninsured rate and number of uninsured in 2017 (8.8%, or 28.5 million people) were not statistically different from 2016 (8.8% or 28.1 million people).
- Data on insurance coverage through March 2018 from the Health Reform Monitoring Survey indicate that coverage gains achieved by parents and children after 2013 have been maintained through Q1 2018.
- A few studies have shown increases in uninsured among particular populations or states; we will continue to watch coverage closely as changes in levels of spending should be interpreted alongside changes in access to care.

**Concluding Remarks**

The health sector appears to be in a period of stable, moderate growth in both spending and hiring. The share of the population with health care coverage has plateaued for now, and health care price growth remains controlled, particularly for public payers. GDP growth has kept pace with health spending growth in recent quarters, stabilizing the health sector’s share of the economy. Potential near-term disruptions to this stability include the outcome of remaining legal challenges to the Affordable Care Act, increases in coverage from additional states expanding Medicaid, decreases in the level or quality of coverage under new policies such as work requirements, and the timing and nature of the next economic downturn.

As we have remarked before, even if health spending growth remains at today’s moderate rates and overall economic growth continues to keep pace, future budgetary tradeoffs will be painful. Policy issues that appear to have potential for near term action such as surprise billings and out-of-pocket drug costs may provide some relief to consumers, but will do little to address the long-term budgetary challenges. Even the Chairman of the Federal Reserve, normally a body that is reticent to comment on fiscal policy, recently called out health spending as a major contributor to “unsustainable” deficits, and urged action while economic times are good.

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This report was authored by Ani Turner, [ani.turner@altarum.org](mailto:ani.turner@altarum.org), with assistance from Corwin Rhyan, Charles Roehrig, Paul Hughes-Cromwick, and George Miller. All are with Altarum’s Center for Value in Health Care. The estimates of health spending, prices, and labor in this report are derived from Altarum’s monthly [Health Sector Economic Indicators® (HSEI)](https://www.altarum.org) data. HSEI spending estimates are constructed to be consistent with national health expenditures as defined in the National Health Expenditure Accounts (NHEA) maintained by the Centers for Medicare & Medicaid Services (CMS). HSEI spending and price data through 2016 are benchmarked to the most recent official annual estimates by CMS; HSEI data for 2017 and 2018 represent our best estimates of monthly NHE and monthly price growth, using methods described in the HSEI releases. Our methods for estimating spending and prices by Medicaid, Medicare, and private payers are documented in recent [research brief](https://www.altarum.org) on trends by payer type. HSEI labor estimates are based on Bureau of Labor Statistics Current Employment Survey data. All growth rates are year-over-year unless otherwise indicated.
Appendix: Health Sector Trends in a Broader Historical Context

I. Distribution of National Health Expenditures

To gain an understanding of trends and growth in health spending, it is useful to have a picture of the major components of national health expenditures (NHE) and their relative proportions. We present this information as background by using National Health Expenditure Account (NHEA) data from the Centers for Medicare & Medicaid Services (CMS) Office of the Actuary for 2016. Figure 1 breaks down NHE into the major spending categories. Health care products (goods) and services accounted for about 85% of NHE in 2016, with services alone accounting for 71.7%. Administration and net costs of insurance made up 7.9% of NHE.2 Public health, medical research, and investments in structures and equipment made up the remaining 7.2%.

Figure 1: NHE by Spending Category, 2016

Source: CMS Office of the Actuary

Figure 2: NHE by Major Components of Categories, 2016

Source: CMS Office of the Actuary

Figure 2 presents another way to divide NHE, identifying the largest components of the major spending categories. The largest components of health care services are hospitals and physicians, which together account for more than half (52.3%) of NHE. Health care products are dominated by prescription drugs (9.8% out of 13.2%), and the net cost of insurance accounts for most of the administrative and net costs of insurance category (6.6% out of 7.9%). Taken together, these 4 components—hospitals, physician and clinical services, prescription drugs, and the net cost of insurance—make up more than two-thirds of NHE (68.8%).

2 Per CMS, “Government administration and the net cost of health insurance includes the administrative cost of running various government health care programs, and the difference between premiums earned by insurers and the claims or losses incurred for which insurers become liable.”
II. Growth in NHE with Selected Components

The bars in Figure 3 show the annual growth rates in NHE from 2006 through Q2 2018. During 2006 and 2007, the years immediately preceding the recession, the growth rate exceeded 6%. In 2009, the last year of the recession, the rate dropped to 4% and remained close to 4% through 2012. The annual growth rate dipped further in 2013 to the all-time low of 2.9%.3 Growth then accelerated to 5.1% in 2014 and 5.8% in 2015. Quarterly data for 2015 (not shown) reveal that growth peaked in Q1 at 7.1% and declined steadily to a rate of 4.5% in Q4. This downward trend bottomed out at 4.3% in 2016, rising to 4.7% in 2017 and 5.0% by Q2 2018, although 2017 and 2018 growth rates do not yet account for changes in prescription drug rebates and may, as we anticipate, be revised lower.

Figure 3: Growth in National Health Expenditures, Overall and by Major Components

[Chart showing annual growth rates from 2006 to Q2 2018 for Total National Health Expenditures, Services, Prescription Drugs, and Admin & Net Cost of Insurance.]

Source: Altarum Center for Value in Health Care

Figure 3 also displays the growth rates over this period for health care services, prescription drugs, and the cost of insurance, which together account for about 89% of NHE. While health care services constitute the largest component by far, and drive most of the movement in overall health expenditure growth, the volatility of spending on prescription drugs, and the cost of insurance gives these two smaller components a disproportionate impact on NHE growth rates.

The increases in NHE during 2014 and 2015 were partially a result of expanded coverage under the Patient Protection and Affordable Care Act (ACA). The growth rate for services was 5.8% in 2015, well above the 2010-2012 average of 4.3%. Improved access to both public and private health insurance increased utilization over this period and drove up overall spending. Expanded coverage also had impacts on prescription drug spending and the cost of insurance. After a large spike in prescription drug spending in 2014 resulting, in part, from the introduction of the costly hepatitis C specialty drugs, growth remained high in 2015 due to lingering impacts of expanded coverage. The jump in growth

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3 Price inflation for the U.S. economy, as measured by the gross domestic product deflator, averaged 3.1% for 2005-2007 and 1.5% for 2009-2013, a drop of 1.6 percentage points. Thus, nearly 60% of the roughly 2.7-percentage-point decline in the health spending growth rate pre- and post-recession can be attributed to lower overall price inflation. See Charles Roehrig’s Health Affairs blog for a detailed breakdown of the post-recession spending slowdown. The recession began in December 2007 and ended in June 2009.
rates in administration and the net cost of insurance in 2014 is due partly to expanded coverage and partly to higher enrollment of Medicaid beneficiaries into managed care. In fee-for-service Medicaid, the cost of insurance is limited to government administrative costs. When beneficiaries transition to managed care, the net cost of insurance jumps as Medicaid Health Maintenance Organizations (HMOs) collect more in premiums than they pay out in benefits while government administrative costs are largely unaffected.

The slowdown in health spending growth after 2015 is indicative of the slowing expanded coverage from the ACA. Spending growth for health care services slowed from 5.8% to 4.8% between 2015 and 2016. In 2017, it dropped to 4.4%, close to its rate for 2010 through 2012. Growth in prescription drug spending slowed to 1.3% in 2016, but jumped to 5.0% in 2017. The 2016 figure is adjusted for rebates, but the 2017 and 2018 figures are not, and a downward revision to at least the 2017 growth rate is likely once rebates are considered.4

Figure 4 compares the growth rate in health care services spending to the growth rates of its two largest components: hospitals, and physician and clinical services. During the years shown prior to coverage expansion (2006-2013), the average growth rate in hospital spending (5.6%) was substantially higher than the average growth rate for physician and clinical services spending (4.1%). However, since coverage expansion began in 2014, growth in spending on physician services has averaged 5.1%, compared to 4.8% for hospitals. Thus, expansion appears to have affected physician spending more than hospital spending. As discussed in the next section, price growth during the coverage expansion period has been quite modest, suggesting that the growth seen in services spending has mostly been the result of utilization growth.

### III. The Role of Health Care Prices in Spending Growth

Total spending on health care can be represented by the familiar economic formula of $P \times Q$, where $P$ represents the price paid for the product or service and $Q$ represents the quantity purchased.5 The percentage growth in $P \times Q$ is well-approximated by the percentage growth in $P$ plus the percentage growth in $Q$.6 This means that the difference between the growth rates in spending and prices is an indicator of the growth rate in the quantity of care consumed or, using the more familiar term, health care utilization.

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4 One piece of evidence pointing to a likely downward revision to the prescription drug growth rate for 2017 is IQVIA data showing that sales of prescription drugs to retail pharmacies by wholesalers actually declined in 2017.

5 It is well known that in health care, the price charged often bears little resemblance to the price actually paid, thanks to negotiated contracts that supersede list prices (charges). To address this problem, the Bureau of Labor Statistics (BLS) price indexes that Altarum uses are based on “transaction” prices (the agreed-upon payment) rather than charges. For prescription drugs, these transaction prices do not reflect rebates, which are a separate payment directly from the manufacturer.

6 To be precise, the growth in $P \times Q$ is equal to the growth in $P$ plus the growth in $Q$ plus the product of the growth rates. When growth rates are small, the product is negligible and the approximation is quite accurate.
Figure 5 plots the growth rate in spending on health care services along with the growth in prices for those services. For the pre-recession years of 2006 and 2007, the growth rate for spending on services averaged 6.2%, with 3.3% attributable to prices and 2.9% to utilization. Post-recession, from 2009 to 2013, growth in spending on services averaged 4.2%, with prices and utilization each accounting for 2.1%. Spending growth peaked at 5.8% in 2015 with prices contributing only 0.6%. Thus, utilization growth accelerated to 5.1% in 2015. This is the expected impact of expanded coverage as the newly insured use more care. For 2016 and 2017, spending growth averaged 4.6% with prices contributing 1.3%. Thus, utilization growth fell back to 3.3% as coverage expansion leveled off. In Q1 2018, utilization growth fell further to 2.3% while price growth rose to 2.2% to play a nearly equal role in spending growth.

The growth in prices for health care services is determined primarily by prices for hospital and physician services, each plotted in Figure 6. Comparing pre-recession 2006–2007 with post-recession (and pre-expanded coverage) 2009–2014, average annual hospital price growth dropped from 3.9% to 2.3%; for physician services, there was a decline from 2.5% to 1.3%. From 2015 through 2017, hospital prices grew slowly. Physician prices actually decreased throughout 2015, returning to 0.2% average growth in 2016. This swing accounts for some of the change in physician and clinical spending observed in Figure 4. The negative physician price growth observed in 2015, followed by the return to positive growth in 2016 reflects the 2015 discontinuation of enhanced primary care payments for Medicaid providers under the ACA. In Q1 2018, physician price growth remains low, but hospital price growth appears to be accelerating, particularly under Medicare, for reasons that are not yet fully understood.

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7 Price growth is based on a health services price index constructed from the health care price index data obtained from CMS. Deflating by this measure gives an implicit measure of utilization.
Figure 7 plots rates of growth in spending and prices for prescription drugs. Medicare Part D prescription drug coverage began in 2006; thus, the high rate of growth in prescription drug spending in that year is an outlier. After 2006, the rate of growth in drug spending ranged from about 5% to nearly 0%, but was well-controlled in a historic context until 2014, when the rate jumped to 12.4%, driven primarily by new specialty drugs. This high rate of spending growth trended down in 2015, dropped precipitously to 1.3% in 2016, and rebounded to 5% in 2017. The rebound in spending growth in 2017 may be revised downward once rebates are incorporated and appears to be moderating in 2018 at 3.9% growth in Q1 and 3.4% in Q2.

The pattern of growth in drug prices has been less volatile than drug spending, suggesting that the rapid spending growth in 2006, 2014, and 2015 was driven by utilization. This is, of course, what would be expected from the expanded coverage that occurred in each of these years. Price growth through 2016 is based upon the BLS prescription drug CPI with CMS adjustments for rebates and patent cliffs. No adjustments have been applied to the 2017 or 2018 growth rates and, as with spending growth, a downward adjustment for at least 2017 seems likely once rebates have been incorporated into the official spending data.

IV. Health Care Services Jobs and Productivity

The health care services industry is a major employer, accounting for more than 15 million jobs, about 10.8% of all U.S. jobs (an all-time high). Interestingly, the distribution of jobs across types of services is quite different from the distribution of spending on types of services (Figure 8). For example, while hospitals account for 45% of health services spending, their share of health services jobs is only 32%. Similarly, physician services account for 28% of spending, but only 16% of jobs. The remaining services, including nursing homes, home health, dentists, and other ambulatory services, account for more than half of all jobs, but only 27% of spending.

There are various reasons for these large differences in the distribution of jobs and of spending. In the case of physician services, a key factor is that the job totals do not include unincorporated self-employed individuals, and many physicians fit into this category. More broadly, there are differences in the mix of occupations and salaries, and

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8 Labor data used in this report come from the BLS Current Employment Statistics monthly survey.
in the amount of nonlabor costs, associated with different categories of services.\textsuperscript{9} For example, the nonlabor share of hospital costs is about 48%, but for nursing homes, it is 38%.\textsuperscript{10}

If the method of producing health care services remained constant over time, the rate of growth in health services jobs would equal the growth in the utilization of such services. As noted earlier, the rate of growth in services utilization can be approximated by subtracting the rate of growth in prices from the rate of growth in spending.\textsuperscript{11} Figure 9 compares growth rates for jobs and utilization from 2006 through Q2 2018. The growth rates are similar through 2013, apart from a small bump in utilization growth in 2012. In 2014, utilization growth jumped well above job growth, with the gap peaking in 2015, and then declining in 2016, 2017, and Q1 2018. Utilization growth bumped up slightly in Q2 2018.

The difference between utilization growth and job growth is a rough measure of productivity in the sense that it represents the percentage change in services produced per job. By this measure, productivity has increased since 2005, with services per job up by 9.0% as of Q2 2018 (Figure 10). Note that utilization growth in 2014 and 2015 may be somewhat overstated due to reductions in uncompensated care, which causes spending to rise faster than \(P \times Q\).

\textsuperscript{9} “Nonlabor costs” refers to costs not associated with employment such as supplies, equipment, and other capital investments.
\textsuperscript{11} More precisely, the formula is spending growth minus price growth, divided by the sum of 1 and the price growth.