

# Health Sector Trend Report

*A first look at full year 2018 estimates and updated public vs private payer trends*

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<sup>SM</sup> \(HSEI\)](#), and incorporates recently 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 primarily on data and trends through the most recent full quarter of data, Q4 2018, while the longer appendix looks at trends in a broader historical context.

**Summary:** HSEI data show total national health spending grew 4.5% in 2018, close to the [CMS projection](#) of 4.4%, and a modest uptick from the official 3.9% growth seen in 2017. The 2018 uptick was not due to faster growth in health care services spending, but rather to growth in spending on prescription drugs and administration/net cost of insurance. Health care hiring surged in late 2018 and into Q1 2019, which may portend an acceleration in health services spending in 2019. Consistent with recently published research on the components of spending growth, our analyses of national data by payer type and setting show that growth is faster for private payers (versus Medicare and Medicaid), and that private payer hospital prices, in particular, are driving up health care services price growth.

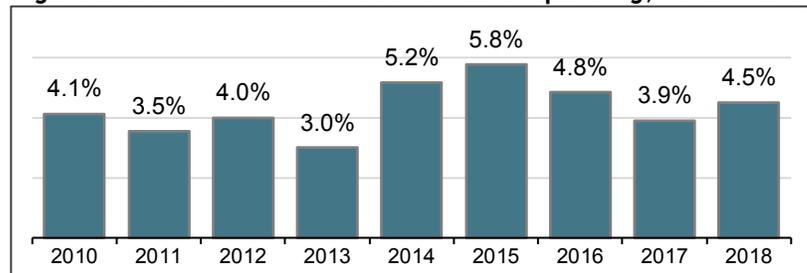
## 1. We estimate national health spending grew by 4.5% in 2018, up from 3.9% in 2017.

▲ HSEI estimates show year-over-year national health spending growth at 4.5% for 2018, an increase over the low 3.9% rate seen in 2017, but moderate by historical standards (Figure S-1).

▲ Although spending on **health care services** represents more than 70% of total health

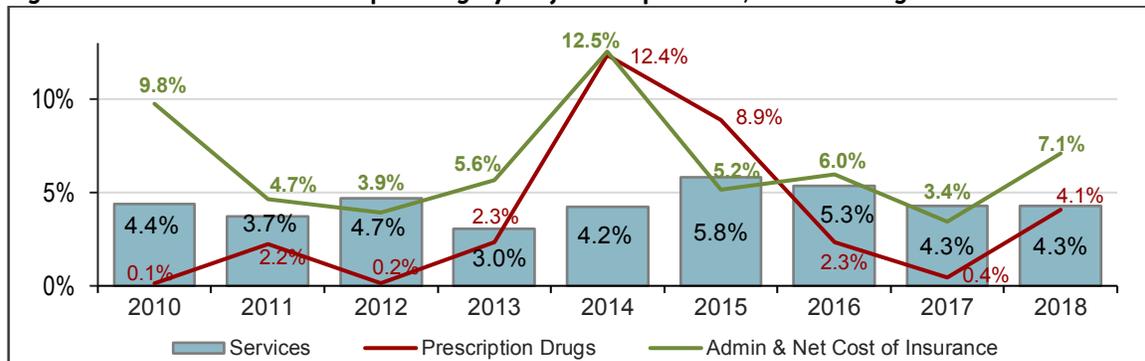
spending, our data show the rise in spending growth between 2017 and 2018 was not due to services spending, which remained at 4.3% growth, but to prescription drug spending, up 4.1% in 2018 versus 0.4% in 2017, and spending on administration/net cost of insurance, up 7.1% in 2018 versus 3.4% in 2017 (Figure S-2).

**Figure S-1: Growth in total national health spending, 2010 - 2018**



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

**Figure S-2: Growth in health spending by major components, 2010 through 2018**



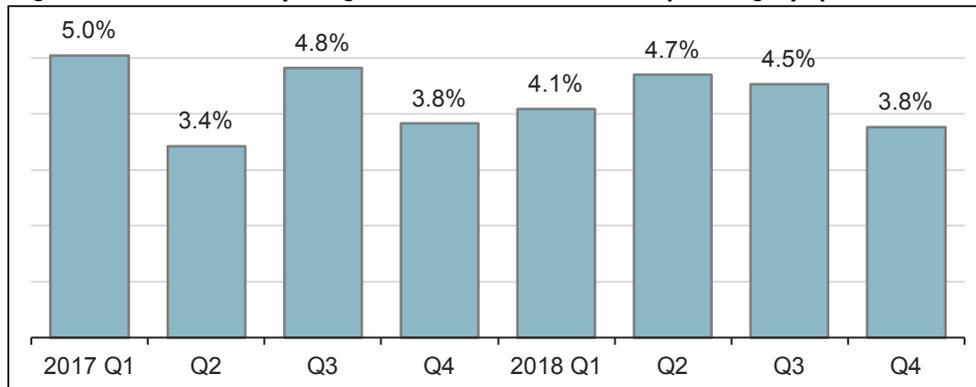
Source: Altarum Center for Value in Health Care. Percentages are year-over-year.

*Support for this report was provided by a grant from the Robert Wood Johnson Foundation.*

2. *Health services spending by quarter does not show a pattern of acceleration through 2018 (Figure S-3); however, we have seen a surge in health sector hiring in late 2018 and early 2019 (Figure S-4), which may portend higher services spending growth in 2019.*

- ▲ Intra-year changes in health care services spending stayed within a tight range throughout 2018, with year-over-year growth peaking at 4.7% in Q2 and then falling to 3.8% in Q4. Growth rates slowed in the last two quarters of 2018, but do not show a strong trend heading into 2019, particularly given hiring data (below).

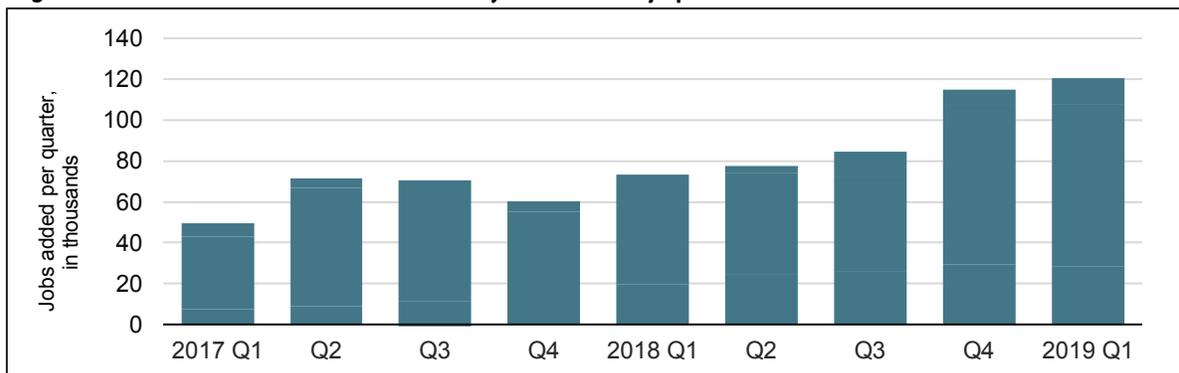
**Figure S-3: Year-over-year growth in health services spending by quarter**



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

- ▲ The number of health services jobs added by quarter does not always align with year-over-year percentage growth in health services spending, and this is the case for 2017 and 2018, as seen in the contrast between Figures S-3 and S-4. Despite lower spending growth, [an unusually high number of health jobs were added in Q4 2018 and Q1 2019](#), and this raises expectations for a possible acceleration in 2019 services spending growth.
- ▲ The impact of more jobs on spending growth depends in part on the types of jobs being added and their wages. The [BLS Occupational Employment Statistics \(OES\)](#) data include number of jobs and wages by the combination of industry (health care) and occupation. Our preliminary look at the recently released 2018 OES shows that non-health occupations such as personal care workers and records clerks played a larger role in health care job growth in 2018 than in recent years. While these data do not cover the late 2018 through early 2019 period of accelerated health job growth, they suggest a possible shift toward more growth in lower wage occupations. The full results of our analysis of the OES data will be published in a forthcoming Altarum brief.

**Figure S-4: Number of new health care jobs added by quarter**

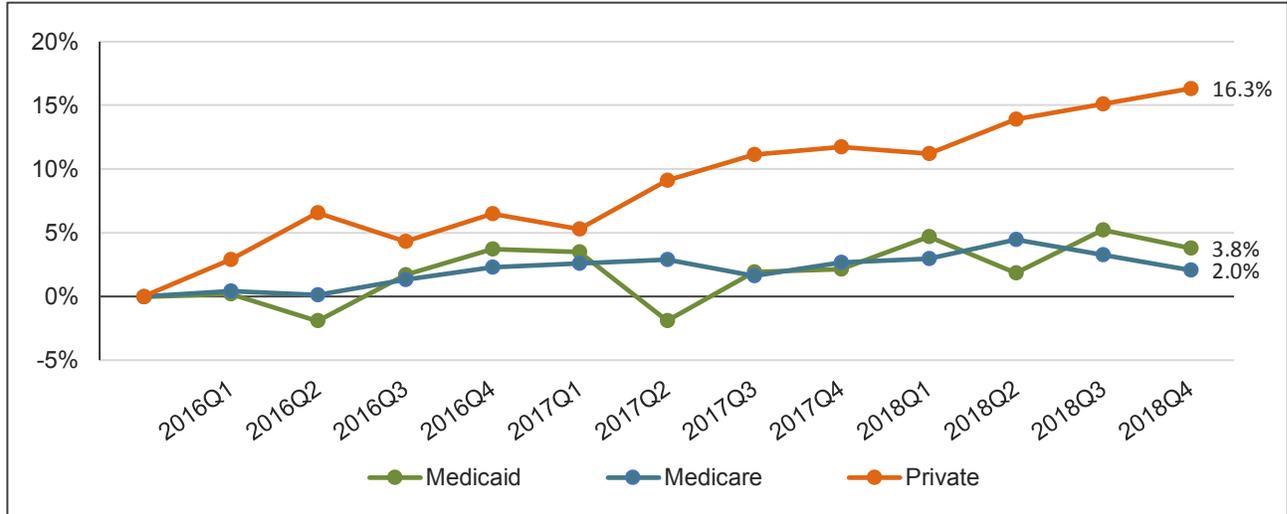


Source: Altarum Center for Value in Health Care, based on BLS Current Employment Statistics data.

**3. Health care spending per person covered under private insurance has grown much faster than spending per person enrolled in Medicare or Medicaid since 2016.**

- ▲ Over the past three years, 2016 through 2018, cumulative growth in spending per private payer enrollee was 16.3%, compared to 3.8% under Medicaid and 2.0% under Medicare (Figure S-5).
- ▲ From 2016 through 2018, average health care price growth under private insurance was 2.0% year over year, while average price growth under Medicaid was 1.5% and under Medicare was 1.1% (data not shown).

**Figure S-5: Cumulative growth in spending per enrollee, 2016 through 2018**

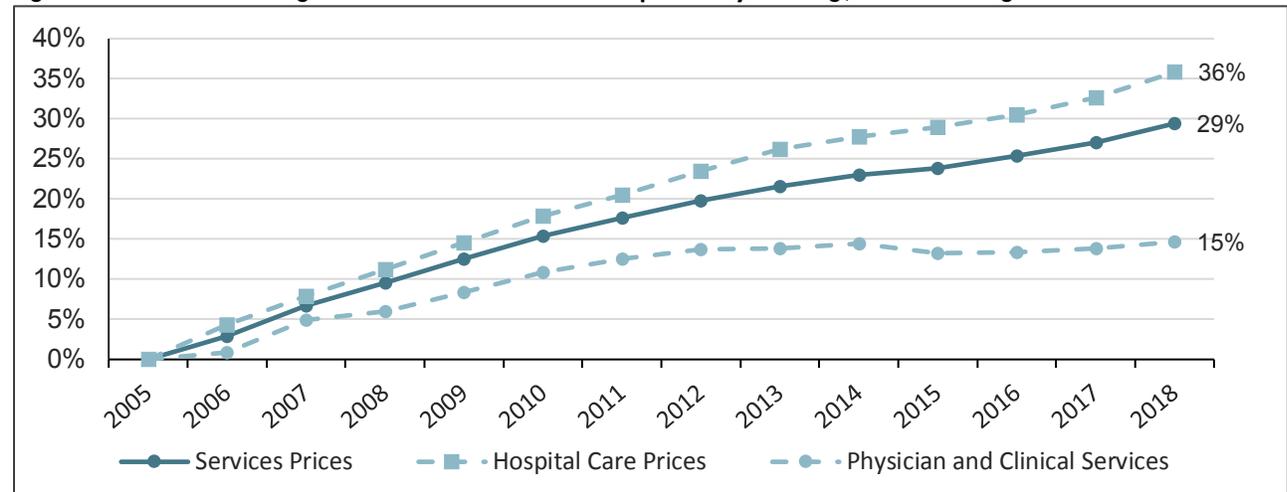


Source: Altarum Center for Value in Health Care, based on CMS NHEA and Federal Government Treasury data.

**4. Health care prices for hospital care have grown faster than prices for physician and clinical services.**

- ▲ From 2005 through 2018, the cumulative growth in prices for health care services was 29%, but hospital prices grew by 36% while physician and clinical services prices grew by only 15%. (Figure S-6).
- ▲ In 2012, prices had grown since 2005 by 14% for physician and clinical services and 23% for hospitals. From 2012 through 2018 the divergence increased, with hospital prices continuing to grow to a cumulative rate of 36%, while physician and clinical services prices plateaued and grew by only another percentage point to 15%.

**Figure S-6: Cumulative growth health care services prices by setting, 2005 through 2018**

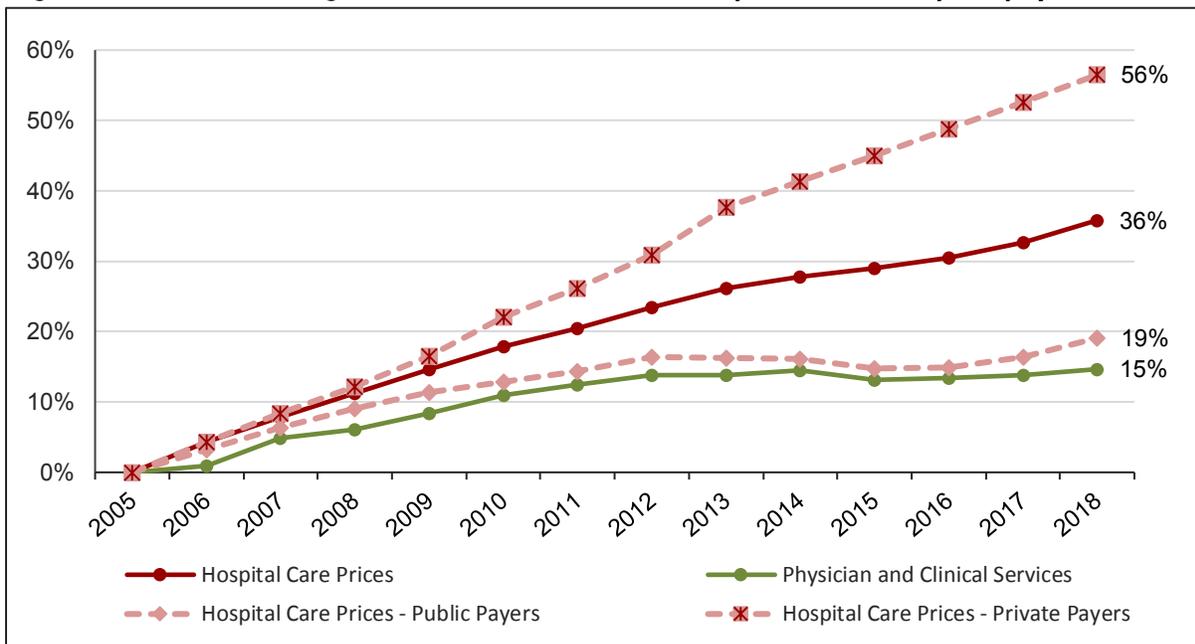


Source: Altarum Center for Value in Health Care, based on BLS Price data.

## 5. Health care prices for hospital care under private insurance are driving up health services price growth.

- ▲ As we saw in the previous section, hospital prices have been growing faster than physician and clinical services prices. Breaking out hospital price growth by payer reveals that the higher hospital price growth is almost entirely due to much faster growth in private payer hospital prices.
- ▲ From 2005 through 2018, public payer hospital prices grew by 19%, close to the 15% that physician and clinical services prices grew. Over this same period, private sector hospital prices grew by 56%!
- ▲ Again, price growth started to plateau around 2012 for both physician and clinical services and hospitals under public payers, while private sector hospital prices continued to climb.
- ▲ Comparing the dramatic divergence between hospital and physician services price growth with the trends in spending growth in these settings (Appendix Figure 4), we see that spending growth has remained much closer. We can infer that much higher price growth in hospitals has been offset by slower utilization growth in hospitals than in physician services, consistent with a continuing trend of more care transitioning to ambulatory and outpatient settings.

**Figure S-7: Cumulative growth in health care services prices with hospital payer breakout**



Source: Altarum Center for Value in Health Care.

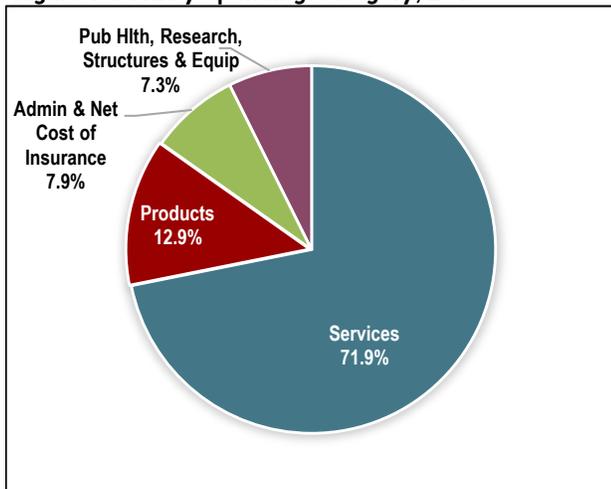
This report was authored by Ani Turner, [ani.turner@altarum.org](mailto:ani.turner@altarum.org), with assistance from Corwin Rhyon, Paul Hughes-Cromwick, and George Miller. All are with Altarum's Center for Value in Health Care. The estimates of health spending, prices, and labor in this report are derived from Altarum's monthly [Health Sector Economic Indicators<sup>SM</sup> \(HSEI\)](#) 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 2017 are benchmarked to the most recent official annual estimates by CMS; HSEI data for 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 this [research brief](#) 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

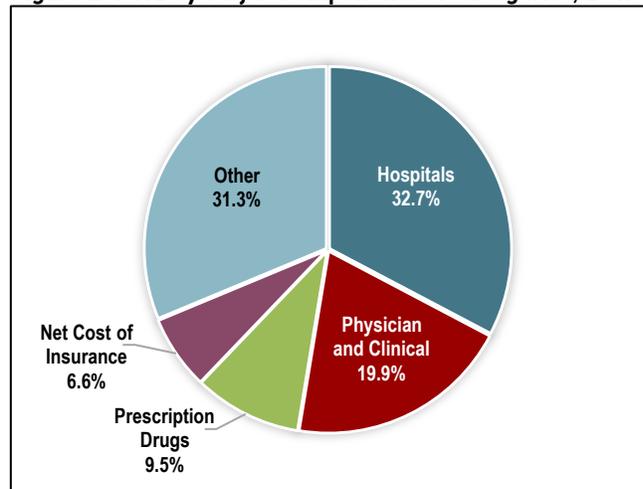
To gain an understanding of trends and growth in health spending, it is useful to have a picture of the major components of national health expenditures (NHE) and their relative proportions. We present this information as background by using National Health Expenditure Account (NHEA) data from the Centers for Medicare & Medicaid Services (CMS) Office of the Actuary for 2017 (official 2018 data from CMS will not be available until December 2019). Figure 1 breaks down NHE into the major spending categories. Health care products (goods) and services accounted for about 85% of NHE in 2017, with services alone accounting for 71.9%. Administration and net costs of insurance made up 7.9% of NHE.<sup>1</sup> Public health, medical research, and investments in structures and equipment made up the remaining 7.3%.

**Figure 1: NHE by Spending Category, 2017**



Source: CMS Office of the Actuary

**Figure 2: NHE by Major Components of Categories, 2017**



Source: CMS Office of the Actuary

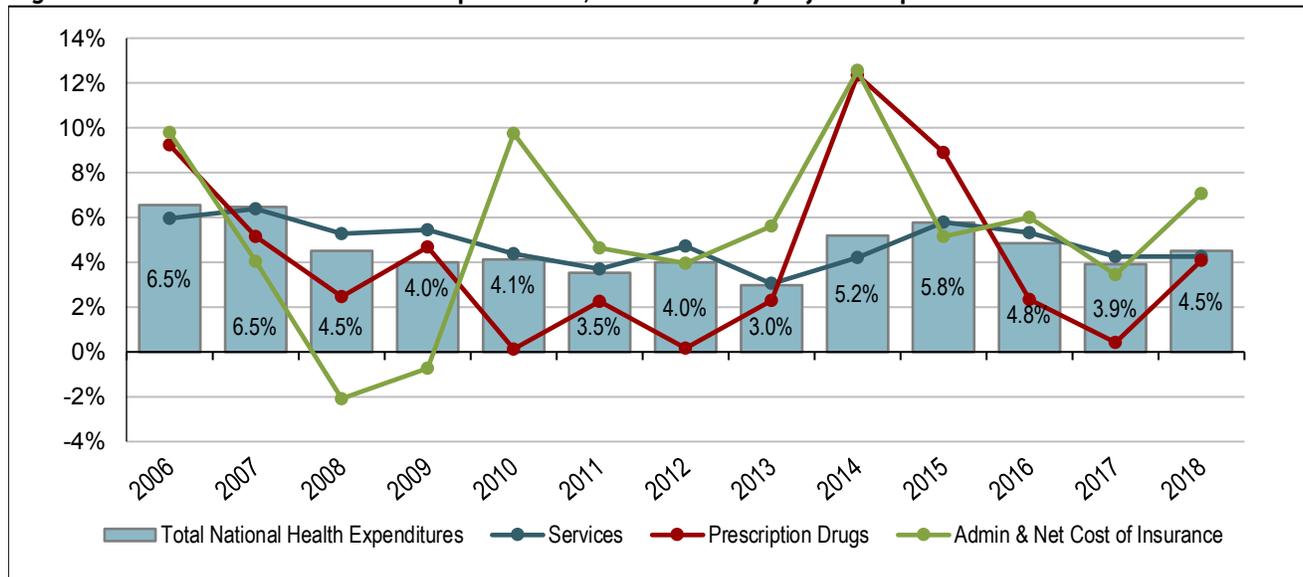
Figure 2 presents another way to divide NHE, identifying the largest components of the major spending categories. The largest components of health care services are hospitals and physicians, which together account for more than half (52.6%) of NHE. Health care products are dominated by prescription drugs (9.5% out of 12.9%), 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 (68.7%).

<sup>1</sup> 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 2018. During 2006 and 2007, the years immediately preceding the recession, the growth rate stood at 6.5%. In 2008, the first year of the recession, the rate dropped to 4.5%, remaining close to 4% from 2009 (the start of the recovery) through 2012, and dipping to the all-time low of 3.0% in 2013.<sup>2</sup> NHE growth accelerated to 5.2% in 2014 and 5.8% in 2015, corresponding to a period of expanded health insurance coverage, before moderating to 4.8% in 2016 and 3.9% in 2017. Our HSEI data, incorporating final full year 2018 QSS data, show 4.5% growth in 2018, close to the recent [CMS projection of 4.4%](#).

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



Source: Data for 2006 – 2017 from CMS Office of the Actuary. 2018 estimates from 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 88% 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 rates in administration and the net cost of insurance in 2014 is due partly to expanded coverage and partly to higher

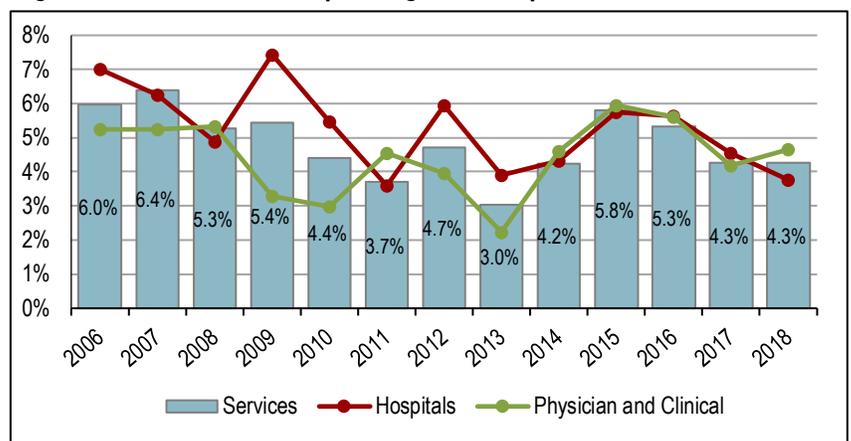
<sup>2</sup> Price inflation for the U.S. economy, as measured by the gross domestic product deflator, averaged 3.1% for 2005–2007 and 1.5% for 2009–2013, a drop of 1.6 percentage points. Thus, nearly 60% of the roughly 2.7-percentage-point decline in the health spending growth rate pre- and post-recession 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.

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 consistent with slowing expanded coverage under the ACA. Spending growth for health care services slowed from 5.8% to 5.3% between 2015 and 2016 and dropped to 4.3% in 2017. HSEI estimates for 2018 show services spending growth stable at 4.3%. Growth in prescription drug spending also slowed after 2014, falling from 12.4% in 2014 to 8.9% in 2015, 2.3% in 2016, and down to 0.4% for 2017. HSEI estimates for 2018 show prescription drug spending growth increasing to 4.1% (but this may be revised lower when rebate and other data become available).

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 5.0%, 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.

**Figure 4: Health Services Spending and Component Growth**



Source: Altarum Center for Value in Health Care

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

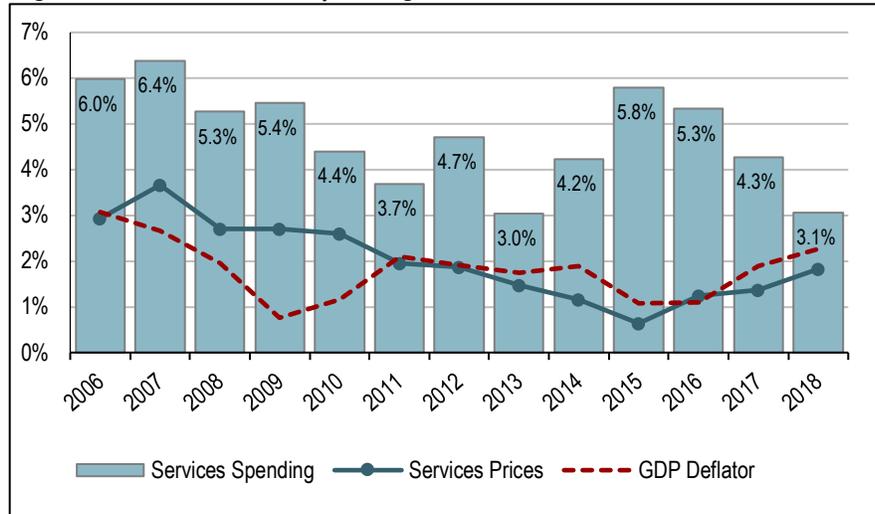
Total spending on health care can be represented by the familiar economic formula of  $P \times Q$ , where  $P$  represents the price paid for the product or service and  $Q$  represents the quantity purchased.<sup>3</sup> The percentage growth in  $P \times Q$  is well-approximated by the percentage growth in  $P$  plus the percentage growth in  $Q$ .<sup>4</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.<sup>5</sup> 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 2018, utilization growth fell further to 1.3% while price growth rose to 1.8% to play a greater role in spending growth.

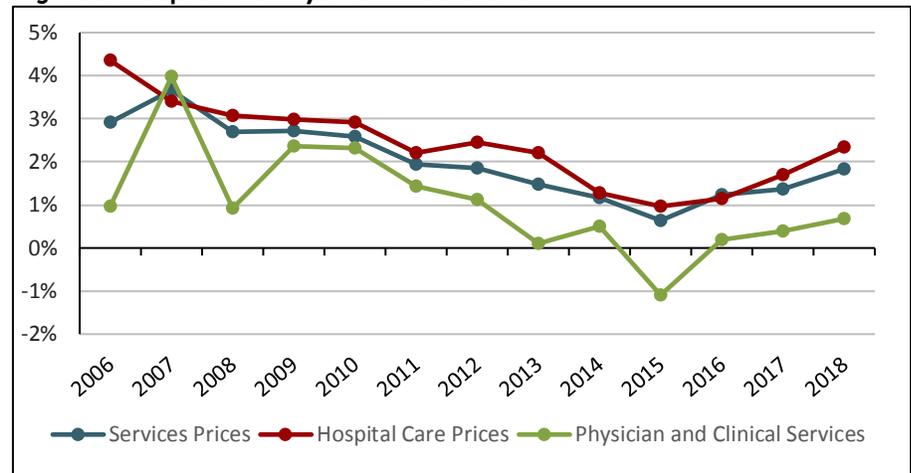
**Figure 5: Health Services Spending and Price Growth**



Source: Altarum Center for Value in Health Care

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 2018, physician price growth remains low, but hospital price growth appears to be accelerating.

**Figure 6: Hospital and Physician Price Growth**

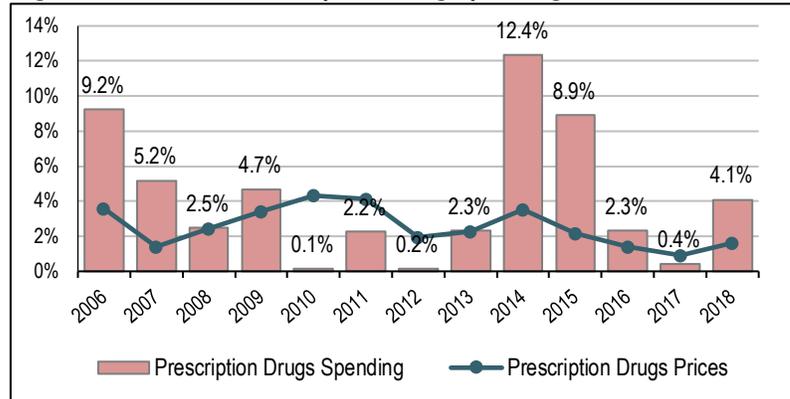


Source: Altarum Center for Value in Health Care

<sup>5</sup> 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 fell further to 0.4% in 2017. This 2017 drop was not observed in the data until Altarum incorporated the most recent CMS NHEA data due to other sources not including changes in manufacturer rebates, an ongoing measurement challenge for industry researchers. In preliminary data for 2018, drug spending growth appears to have accelerated to 4.1% year over year. This growth may be expected to increase as manufactures raise prices in early 2019 after temporarily pausing price increases due to political pressure in 2018.

**Figure 7: Growth in Prescription Drug Spending and Prices**



Source: Altarum Center for Value in Health Care

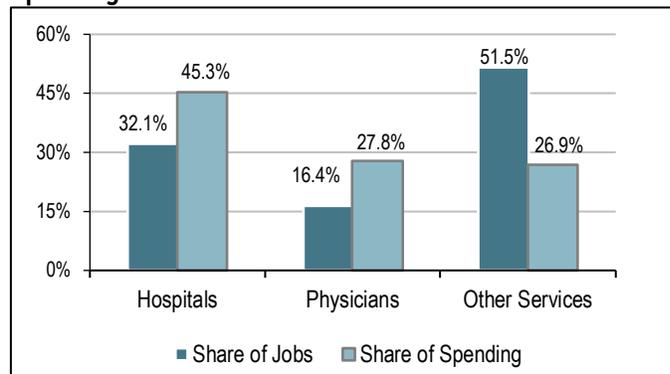
The pattern of growth in drug prices has been less volatile than drug spending, suggesting that the rapid spending growth in 2006, 2014, and 2015 was driven by utilization. This is, of course, what would be expected from the expanded coverage that occurred in each of these years. Price growth through 2017 is based upon the BLS prescription drug CPI with CMS adjustments for rebates and patent cliffs. No adjustments have been applied to the 2018 growth rates until new official CMS data are available in December 2019.

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#### IV. Health Care Services Jobs and Productivity

The health care services industry is a major employer, accounting for more than 16 million jobs, 10.8% of all U.S. jobs (an all-time high).<sup>6</sup> 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.

**Figure 8: Comparison of Distribution of Health Services Spending and Jobs in 2018**



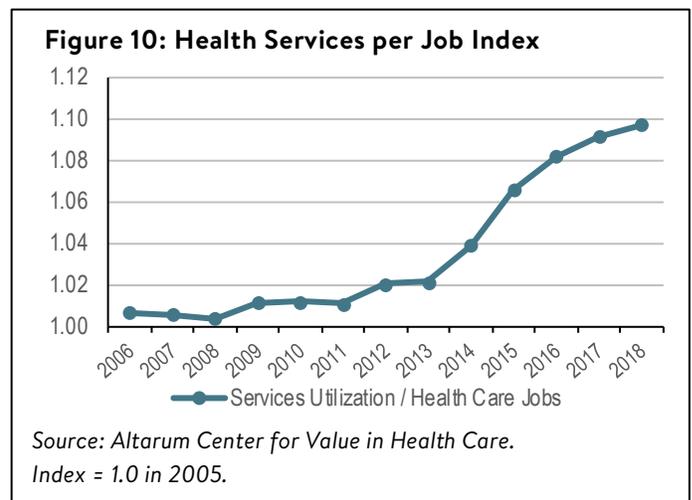
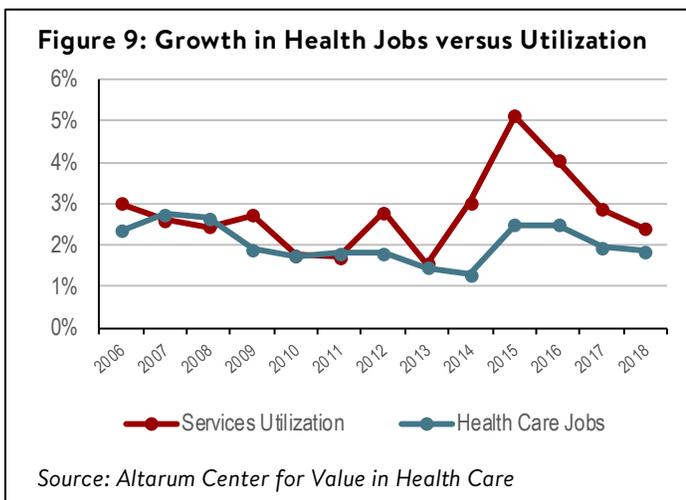
Source: Altarum Center for Value in Health Care

<sup>6</sup> Labor data used in this report come from the BLS Current Employment Statistics monthly survey.

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 in the amount of nonlabor costs, associated with different categories of services.<sup>7</sup> For example, the nonlabor share of hospital costs is about 48%, but for nursing homes, it is 38%.<sup>8</sup>

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.<sup>9</sup> Figure 9 compares growth rates for jobs and utilization from 2006 through 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 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 nearly 10% as of 2018 (Figure 10).<sup>10</sup>



<sup>7</sup> “Nonlabor costs” refers to costs not associated with employment such as supplies, equipment, and other capital investments.

<sup>8</sup> Turner, A., & Hughes-Cromwick, P. (2013, February). Connecting U.S. health expenditures with the health sector workforce. *Business Economics*, 48(1), 42–57.

<sup>9</sup> More precisely, the formula is spending growth minus price growth, divided by the sum of 1 and the price growth.

<sup>10</sup> Note that utilization growth may be somewhat overstated in 2014 and 2015 due to reductions in uncompensated care, which may cause spending to rise faster than  $P \times Q$ .