HEALTH CARE COST INSTITUTE

2018 Health Care Cost and Utilization Report

February 2020

2018 Health Care Cost and Utilization Report

On behalf of the Health Care Cost Institute, I am excited to release the *2018 Health Care Cost and Utilization Report*. The report draws on data from more than 2.5 billion medical and prescription drug claims for approximately 40 million individuals enrolled in employer-sponsored health insurance annually between 2014 and 2018.

Between 2014 and 2018, per-person spending grew at an average annual rate of 4.3%, climbing to $5,892. That estimate is consistent with National Health Expenditure data from the Centers for Medicare & Medicaid Services. That rise outpaced growth in per-capita GDP, which increased at an average rate of 3.4% over the same period. Notably, however, per-capita GDP grew slightly faster than health care spending per person from 2017 to 2018.

I would like to note two additions to this year's report. First, we break out the factors behind the increase in health care spending. After adjusting for inflation, about three-fourths of the increase in per-person spending is explained by growth in prices for health care services. This builds on revisions implemented in the 2017 Health Care Cost and Utilization Report, where changes in the mix or intensity of services used for three of the four categories (prescription drugs being the exception) are captured in our measure of utilization. Overall, the services used became somewhat more resource-intensive over the study period, an impact that is reflected in changes attributed to the age/gender composition of the population and the quantity of services used. And therefore, the increase in prices means people are paying more for the exact same set of services – and they aren't necessarily getting any benefit for the higher costs.

The second addition is an illustration of how manufacturer rebates for prescription drugs may affect the findings presented in the report. Rebate data is not present on the pharmacy claims on which this report is based and is notoriously difficult to obtain. In recent years, certain states have taken steps to increase the availability of this information. Data from Massachusetts shows that for those with commercial insurance the percentage of gross pharmacy spending accounted for by rebates grew from 6.5% in 2014 to 15.6% in 2018. Applying these figures to our data, we find that spending per person declined from an average annual rate of 4.3% to an average annual rate of 3.8% between 2014 and 2018.

This will be the final Health Care Cost and Utilization Report to feature data from UnitedHealthcare who have decided to terminate their data sharing arrangement with HCCI. Happily, as we announced in November 2019, HCCI has entered a new partnership with Blue Health Intelligence, which will add significantly to HCCI's existing data arrangements with other payers, and will allow us to continue to provide a critical resource to those seeking to understand the drivers of health care spending. We are grateful to BHI, and to our founding partners, Aetna-CVS, Humana, and Kaiser Permanente for allowing us to continue the important work of better understanding US health care spending trends.

As in previous years, all data underlying the figures and analysis presented in this report are available for download on our website. In addition, we have again produced an interactive state tool for those interested in exploring how health care spending trends compare across the country.

Finally, I would like to acknowledge Jeannie Fuglesten Biniek and John Hargraves, authors of this year's report, the rest of the HCCI team for their assistance and diligence in helping Jeannie and John review and fact check the final product, and additional technical advice and input from Michael Chernew, Leemore Dafny, and Dale Yamamoto.

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About HCCI

The Health Care Cost Institute was launched in 2011 to promote independent, nonpartisan research and analysis on the causes of the rise in U.S. health spending. HCCI holds one of the largest databases for the commercially insured population, and in 2014 became the first national Qualified Entity (QE) entitled to hold Medicare data.
For more information, visit healthcostinstitute.org, email us at info@healthcostinstititute.org, or follow us on Twitter @healthcostinst

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If you are interested in exploring state trends, the data that powers this report, or our methodology visit:

https://healthcostinstitute.org/health-care-cost-and-utilization-report/annual-reports

Executive Summary

The 2018 Health Care Cost and Utilization Report presents data on health care spending, utilization, and average prices from 2014 through 2018 for individuals under the age of 65 who receive health insurance coverage through an employer. The report relies on de-identified commercial health insurance claims contributed by Aetna, Humana, Kaiser Permanente, and UnitedHealthcare for the years 2014 through 2018.The key findings are:

- In 2018, per-person spending increased to $5,892. This total includes amounts paid for medical and pharmacy claims but does not subtract manufacturer rebates for prescription drugs. The average out-of-pocket spending increased to $907 per person.
- Health care spending grew 4.4% in 2018, slightly above growth in 2017 of 4.2%, and the third consecutive year of growth above 4.0%.
- After adjusting for inflation, prices accounted for three-quarters of spending growth between 2014 and 2018, contributing $453 to spending per person over the five-year period.
- Average prices grew 2.6% in 2018. While that is the lowest rate of growth over the period, consistent year-over-year increases mean that prices were 15.0% higher in 2018 than 2014.
- Utilization grew 1.8% from 2017 to 2018, the fastest pace observed during the five-year period. And because of the higher price levels, the effect of the increase in utilization in 2018 on total spending was higher than it would have been in 2014.

This report examines trends within four categories of service: inpatient admissions; outpatient visits and procedures; professional services; and prescription drugs. All data were weighted to reflect the age, gender, and geographic mix of the employer-sponsored insurance (ESI) population.

Definitions of Reported Measures

Spending per person: Total expenditures on medical and pharmacy claims, including payer and patient shares, divided by the number of people under 65 with ESI coverage. The prescription drug component reflects point-of-sale expenditures and does not include manufacturer rebates provided through separate transactions because these data are not available.

Out-of-pocket spending per person: Total payments due from patients for health care services, including deductibles, co-payments, and co-insurance, divided by the number of people under 65 with ESI coverage.

Utilization: Calculated as the count of inpatient admissions, outpatient facility visits, outpatient facility procedures, and professional services, weighted by intensity of services provided, divided by the number of people under 65 with ESI coverage. In general, weighting by intensity of services provided resulted in a larger share of spending growth attributed to changes in utilization (versus prices) than non-intensity-adjusted measures of utilization. We describe our methodology for intensity adjustments in more detail in the appendix. Prescription drug utilization is the count of days covered by a filled prescription and is not weighted by intensity, because no such measures are available.

Average Price: Measures spending per service (admissions, visits, procedures, or days supplied depending on the service category). Spending and utilization (adjusted for service-mix intensity except in the case of prescription drugs) were aggregated across all services in a category. The average price per service in a category was then calculated by dividing total spending by total utilization. The year-to-year change in average prices reflects both inflation and service price growth above inflation.

Average Out-of-Pocket Price: The average amount for which individuals receiving a service were liable. Calculated as the sum of out-of-pocket amounts due in a service category divided by the number of people who received a service in that category. In contrast to spending per person and out-of-pocket spending per person, the denominator varies by service category.

Factors Contributing to Spending Growth

Between 2014 and 2018, total annual spending per person increased 18.4%, from $4,978 to $5,892. Growth in spending was driven by both increases in average prices and utilization [Figure 1].

To better understand why spending increased, we broke out the factors contributing to the increase in spending per person over the five-year period. First, to capture the change in spending attributed to general inflation, we first adjusted all dollar amounts to 2018 dollars using the consumer-price index. Between 2014 and 2018, general inflation accounted for $304 of the total increase in spending of $914 per person.

Figure 1: Cumulative Change in Spending per Person, Utilization, and Average Price since 2014

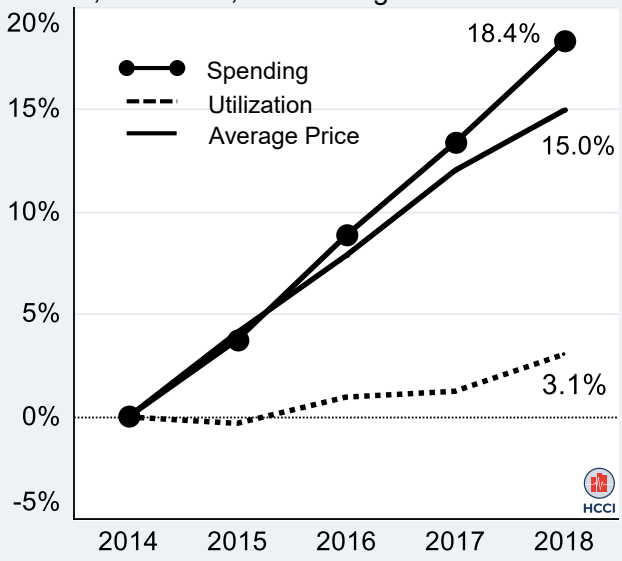
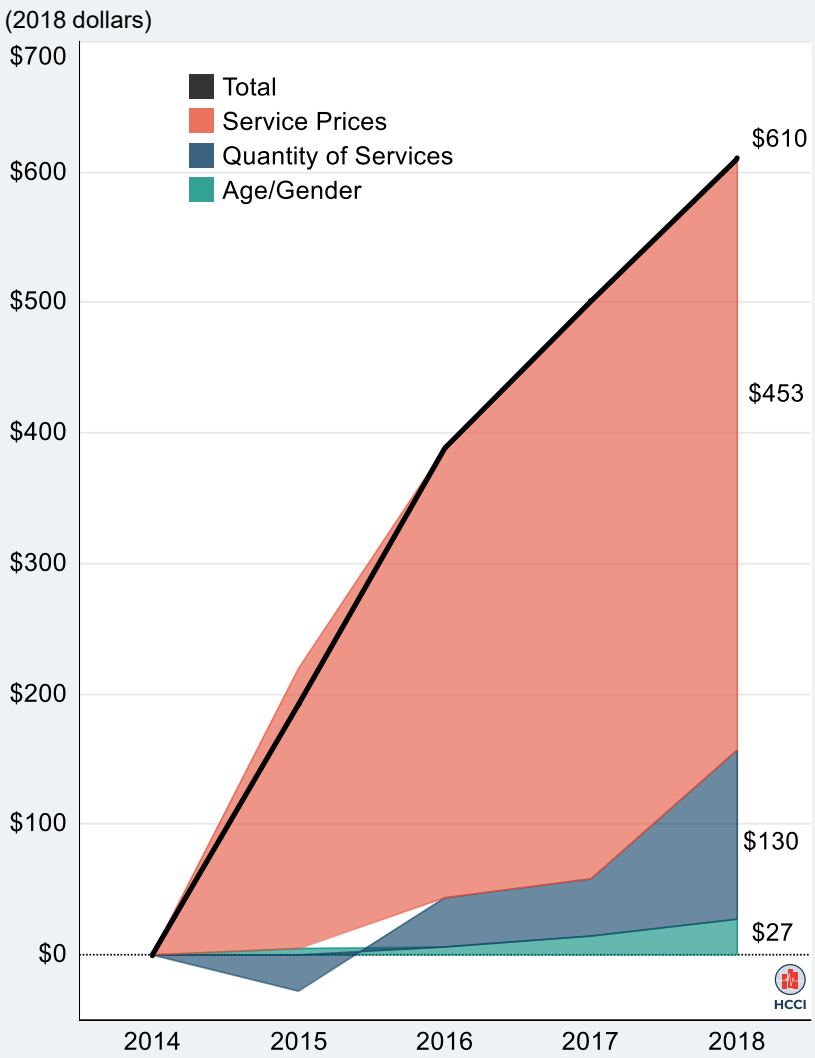


Figure 2: Factors Contributing to Growth in Spending per Person



After accounting for inflation, health care spending increased $610 over the five-year period. Three factors contributed to this increase [Figure 2]:

- Service price growth accounted for just about three-quarters ($453) of the cumulative increase above inflation over the five-year period.
- Increases in the quantity of services used accounted for 21% ($130) of the cumulative increase beyond inflation, with much of that contribution coming in the last year of the period.
- The population with employer-sponsored insurance got slightly older and slightly more female on average between 2014 and 2018, which accounted for just over 4% ($27) of the growth above inflation in spending per person.

Note, unless otherwise stated, in the remainder of this report changes in prices include both inflation and service price growth above inflation, and changes in utilization include both the effect of the change in the age/gender composition of the population with ESI and changes in quantity of services used.

Increase in Health Care Spending between 2014 and 2018

Per-person spending grew to $5,892 in 2018. As shown on Figure 3, the largest category of spending was professional services ($1,985), followed by facility payments for outpatient visits and procedures ($1,662), facility payments for inpatient admissions ($1,128), and prescription drugs ($1,118). Note that spending on prescriptions drugs reflects negotiated discounts from wholesale or list prices but does not account for manufacturer rebates provided through separate transactions.

Growth in both average prices and utilization contributed to spending growth. Between 2014 and 2018, utilization grew a cumulative 3.1%. Over the same period, prices increased 15.0% [Figure 4].

Across the four service categories, the contribution of average prices and utilization to spending growth varied. In all cases, growth in average prices drove cumulative spending growth. For three of the four services, utilization also grew, though by a substantially smaller amount. Utilization of inpatient admissions declined slightly over the five-year period.

Figure 3: Spending per Person in 2018

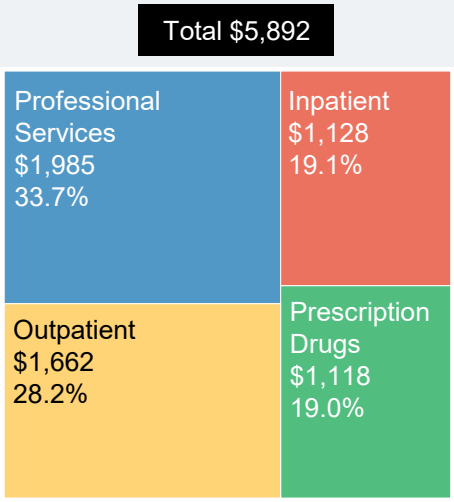
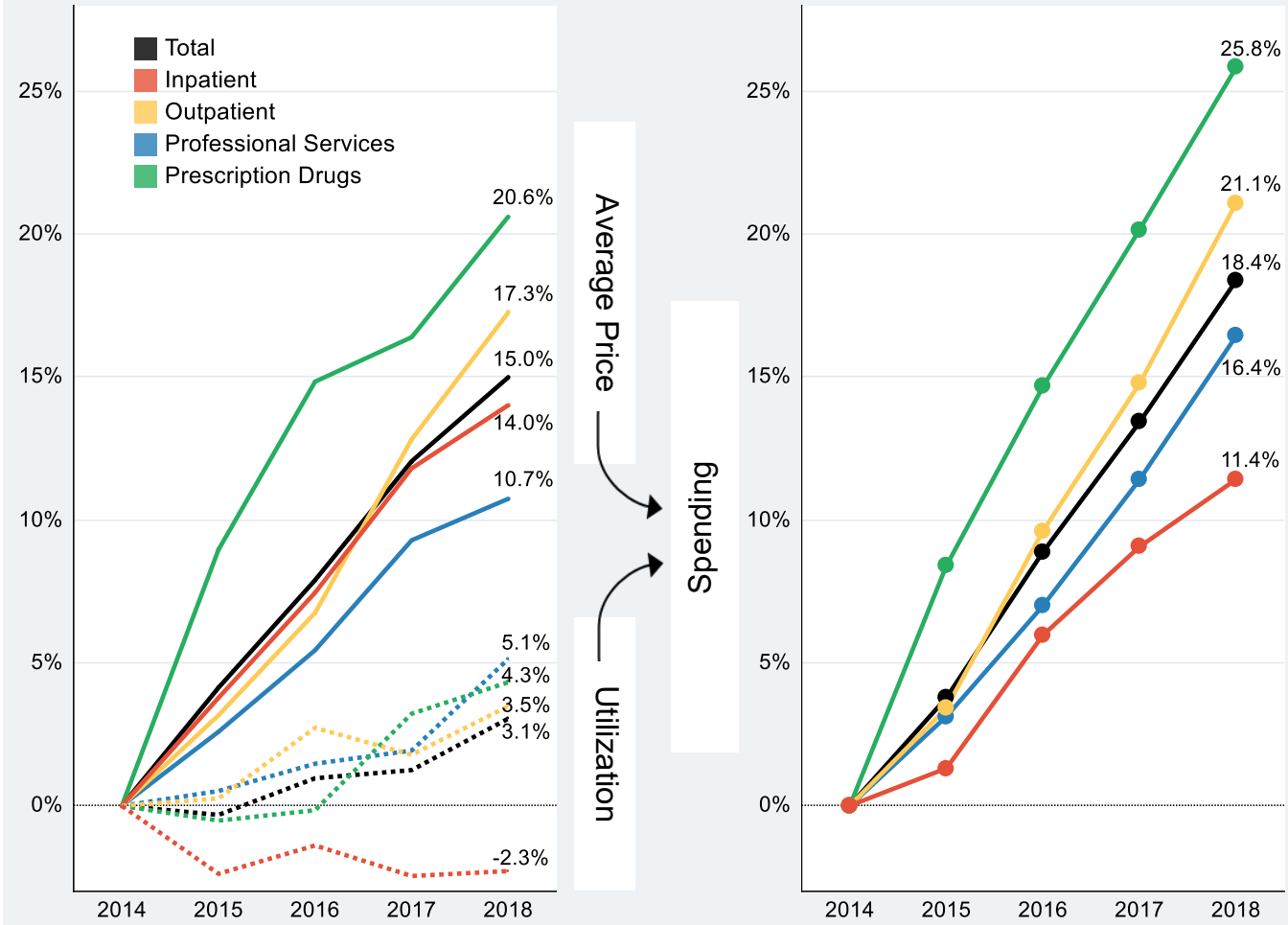


Figure 4: Cumulative Change in Spending per Person, Utilization, and Average Price by Service Category



Note: Utilization and average prices account for changes in the type or intensity of services used, with the exception of prescription drugs. Prescription drug spending is the amount paid on the pharmacy claim, which reflects discounts from the wholesale price, but not manufacturer rebates.

Changes in Service Category Spending

Annual spending per person increased year-over-year in every year between 2014 and 2018 [Figure 5]. On average, per-person spending grew by $229 a year.

Spending increased across all categories of service

Outpatient and professional services had the largest increases in spending per person in 2018 [Figure 6].

- The increase in per-person spending on facility payments for outpatient visits and procedures was $87 in 2018, the largest annual increase between 2014 and 2018 for this category.
- Professional service spending per person rose $86 in 2018, reflecting an acceleration in spending growth consistent with previous year trends.

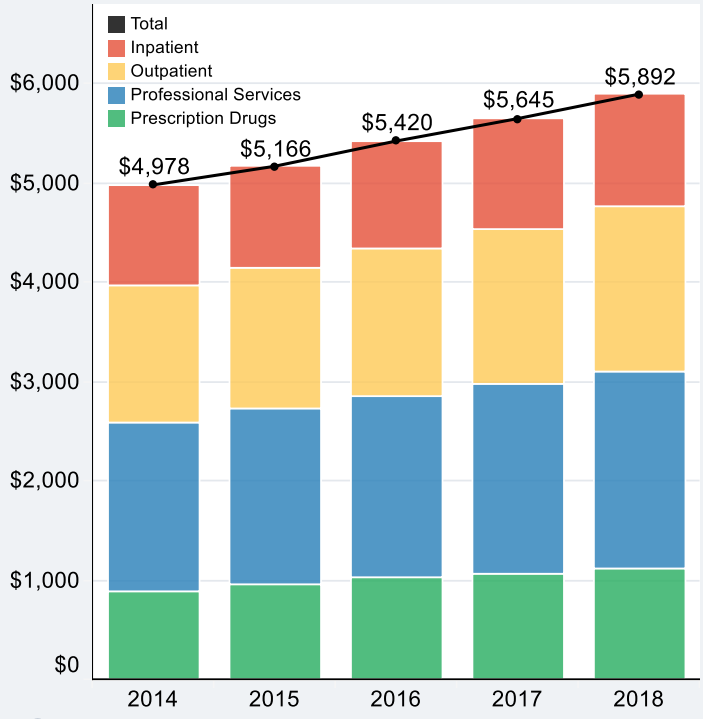
Inpatient services and prescription drugs also saw an increase in spending per person in each year of the period.

- Per-person spending on facility payments for inpatient admissions increased $24 in 2018, a smaller annual increase than in 2016 or 2017, but above the rise in 2015.
- Per-person spending on prescription drugs rose $50, similar to increases in 2016 and 2017, but smaller than the rise in 2015. As noted before, this total does not reflect manufacturer rebates.

Health care spending growth outpaced growth in the economy

Between 2014 and 2018, health care spending per person for individuals with ESI grew at an average annual rate of 4.3%, above the 3.4% average annual rate of growth in U.S. per-capita GDP. Annual rates of growth in health care spending and per-capita GDP varied across the five-year period. Between 2014 and 2017, growth in health care spending outpaced growth in the economy. However, in 2018, health care spending per person grew 4.4%, which was slightly lower than the per-capita GDP growth rate of 4.8%.

Figure 5: Annual Spending per Person, 2014-2018



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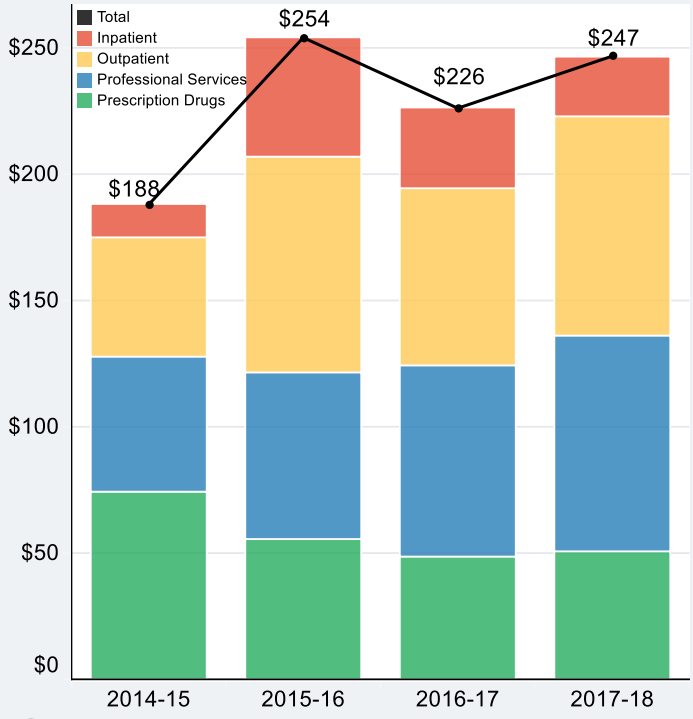
Note: Prescription drug spending is the amount paid on the pharmacy claim, which reflects discounts from the wholesale price, but not manufacturer rebates.

Figure 6: Annual Change in Spending per Person



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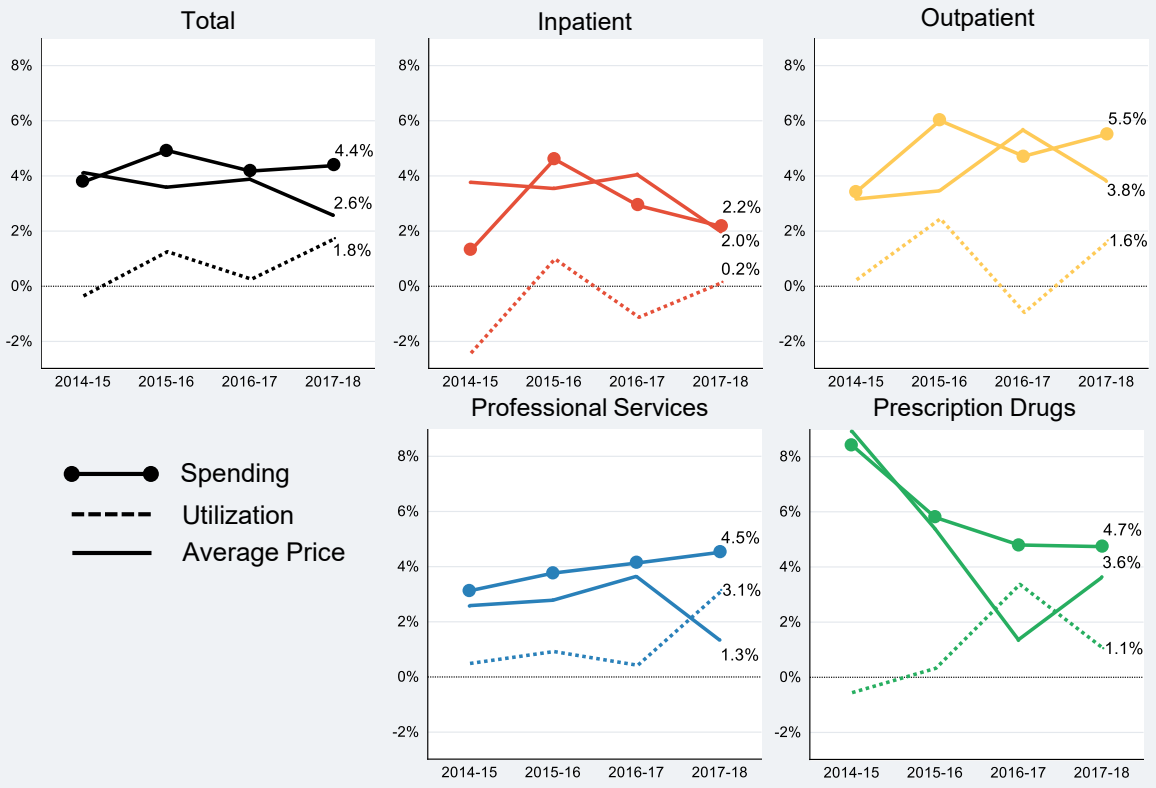
Note: Prescription drug spending is the amount paid on the pharmacy claim, which reflects discounts from the wholesale price, but not manufacturer rebates.

Annual Changes in Utilization and Average Price

Figure 7: Annual Percent Change in Spending Per Person, Utilization, and Average Price



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Note: Utilization and average prices account for changes in the type or intensity of services used, with the exception of prescription drugs. Prescription drug spending is the amount paid on the pharmacy claim, which reflects discounts from the wholesale price, but not manufacturer rebates.

Year-to-year changes in spending are the product of changes in utilization and changes in prices. Between 2014 and 2017, increases in spending closely tracked changes in prices. Over the same period, changes in utilization were much smaller. Despite price growth slowing substantially from 2017 to 2018, an uptick in utilization drove spending growth above 4.0%. The effect of the increase in utilization on total spending was higher than a similar increase would have been earlier in the period because price levels had increased steadily over the preceding four years.

Utilization increased across all service categories in 2018, rising 1.8%, the largest increase over the five-year period.

- Inpatient admissions rose 0.2% in 2018.
- Outpatient visits and procedures rose 1.6% in 2018.
- After several years of relatively small increases, utilization of professional services rose 3.1% in 2018, the largest increase of any category in any year between 2014 and 2018.
- Utilization of prescription drugs grew a modest 1.1% in 2018.

Price growth continued to slow, rising on average 2.6% in 2018, the lowest rate of growth between 2014 and 2018.

- The average price of an inpatient admission rose 2.0% in 2018, substantially lower than the near 4.0% annual increases between 2014 and 2017.
- Outpatient visits and procedures was the category with the highest growth in average prices, rising 3.8% in 2018. That is, however, below the 2017 increase, which was 5.7%.
- The average price of professional services had the lowest growth among the four categories, rising 1.3% in 2018. That was also the smallest increase for this category between 2014 and 2018.
- Prescription drug prices rebounded slightly, increasing 3.6% in 2018, following growth of 1.4% in 2017. Unlike other service categories, prices for prescription drug are not adjusted for changes in the mix of drugs used. Year-to-year changes reflect changes in both the average price paid for the same drug, as well as changes in which drugs are used.

Annual Spending Differed by Age and Gender

The ESI population includes individuals who receive health insurance coverage from their employer, as well as their dependents, such as spouses and eligible children. In 2018, one-quarter of this group was 18 years old or younger [Figure 8].

Per-person spending was highest for those between 55 and 64 years old. In general, per-person spending increases with age [Figure 9]. One exception are children between 0 and 3 years old, who have the highest per-person spending among those under 18. Additionally, males between 14-18 have higher spending ($3,278) than males between 19 and 25 ($2,602).

The comparison of spending across men and women depends on the age group. There are larger differences in per-person spending between the genders for age groups that include prime childbearing years. Per-person spending for women between 26-44 was $6,382, while men in this age group had average per-person spending of $3,549. In contrast, among 55-64 year olds, spending was similar among men ($10,891) and women ($10,688).

Figure 8: 2018 ESI Age Distribution

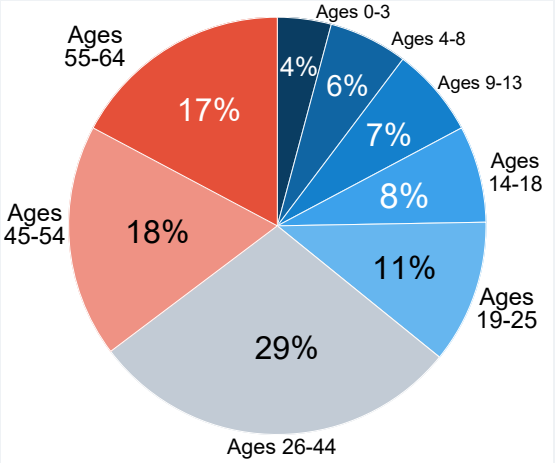
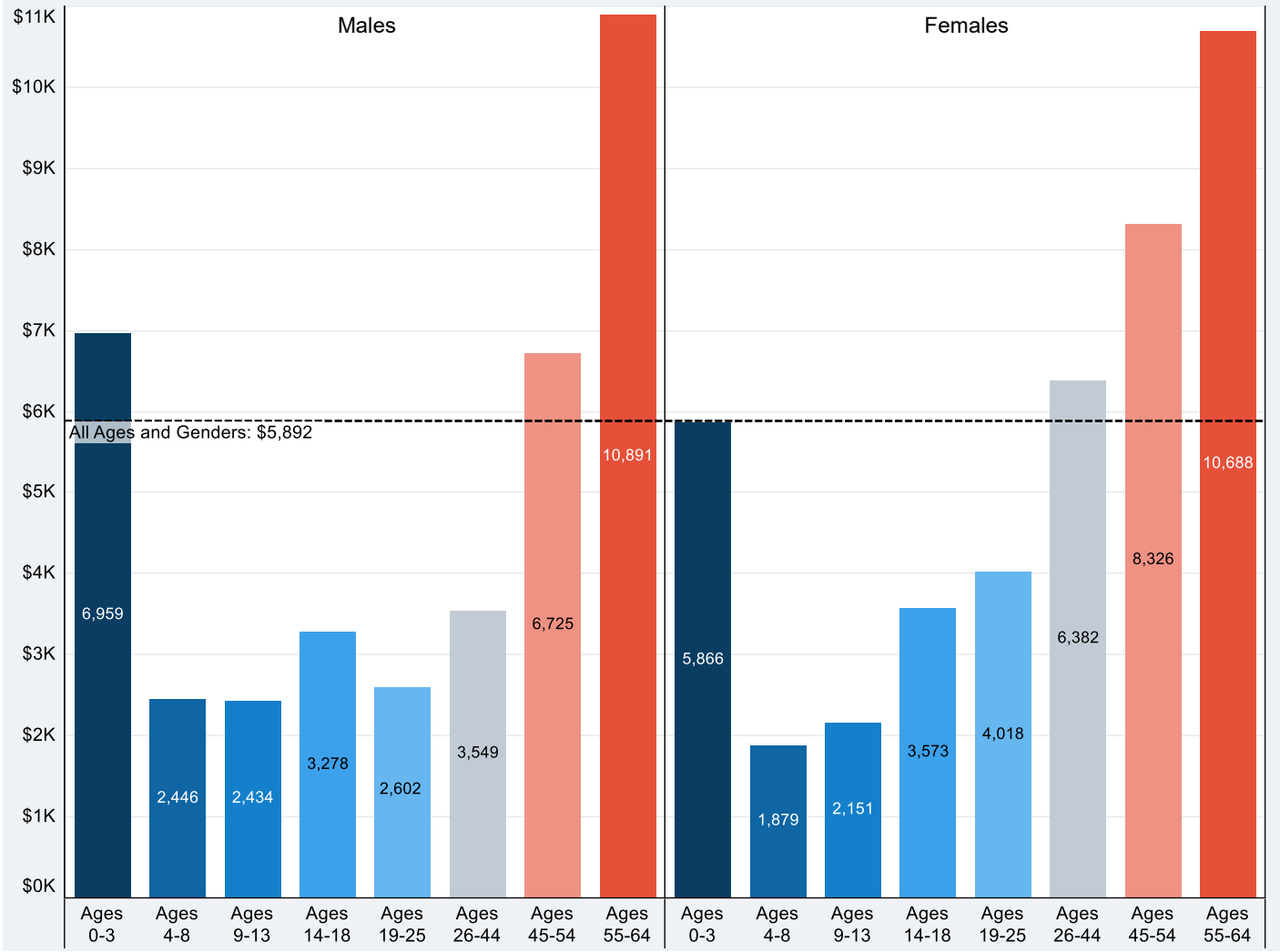


Figure 9: 2018 Spending per Person by Age



Spending for Individuals Diagnosed with Select Chronic Conditions

Figure 10: Proportion of the ESI Population Diagnosed with Multiple Chronic Conditions, 2018

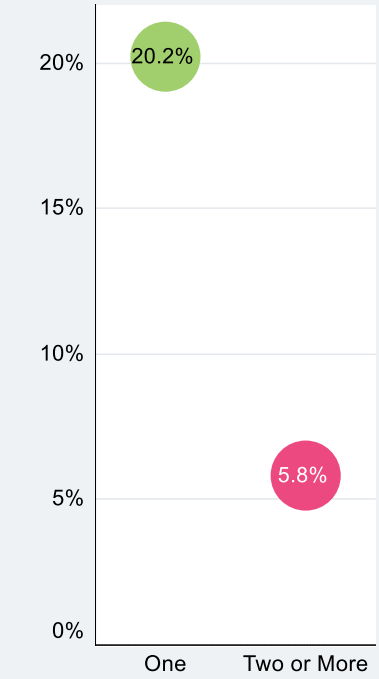
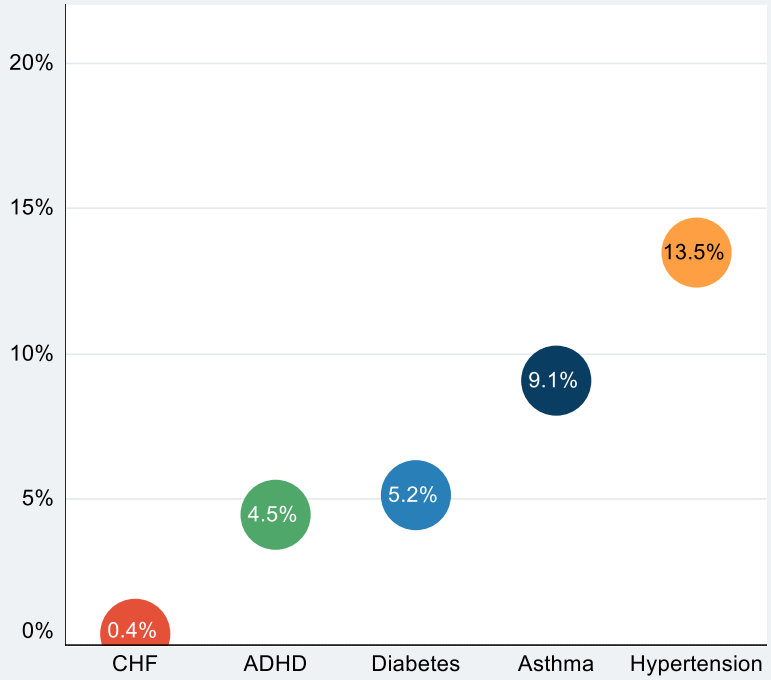


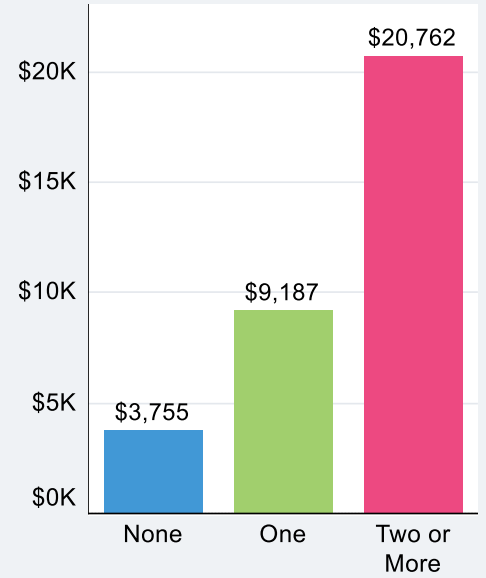
Figure 11: Proportion of the ESI Population Diagnosed with Select Chronic Conditions. 2018



The share of the ESI population with a diagnosis in claims data for at least one of five selected chronic conditions – hypertension, asthma, diabetes, attention-deficit/hyperactivity disorder (ADHD), and congestive heart failure (CHF) – was 20.2% in 2018. An additional 5.8% of the ESI population was diagnosed with two or more of these conditions [Figure 10]. Of these five chronic conditions, the one that was most commonly diagnosed was hypertension [Figure 11].

Per-person spending for individuals with at least one chronic condition was substantially higher than for individuals with none. Those with one chronic condition had average per-person spending of $9,187 in 2018 and those with two or more had average per-person spending of $20,762. That compares to average per-person spending of $3,755 for individuals with no chronic conditions [Figure 12].

Figure 12: 2018 Spending per Person by Number of Chronic Conditions



Out-of-Pocket Spending Trends

Out-of-pocket (OOP) spending includes payments made by patients for health care services and prescription drugs covered by insurance. This spending includes deductibles, co-payments, and co-insurance, so our data are affected by the design of individual insurance plans. In addition, some individuals may use flexible spending accounts (FSAs), health savings accounts (HSAs), and health reimbursement accounts (HRAs) to pay for these costs. These types of accounts confer tax savings for which we do not account.

Total out-of-pocket spending increased year-over-year each year between 2014 and 2018. The cumulative increase over the five-year period was 14.5%, or $114. That increase, while rapid, was lower than the cumulative growth in total spending [Figure 13].

Over the five-year period, the share of members enrolled in consumer-directed health plans rose from 25.8% in 2014 to 33.5% in 2018 [Figure 15]. These plans had a deductible of at least $1,350 for individual coverage and $2,700 for family plans in 2018 and require individuals to pay out of pocket for all health care expenditures up to their deductible amount. They are eligible for health savings accounts, which provide a tax-preferred vehicle for saving and paying for health care expenses.

Figure 13: Cumulative Change in Out-of-Pocket and Total Spending per Person since 2014

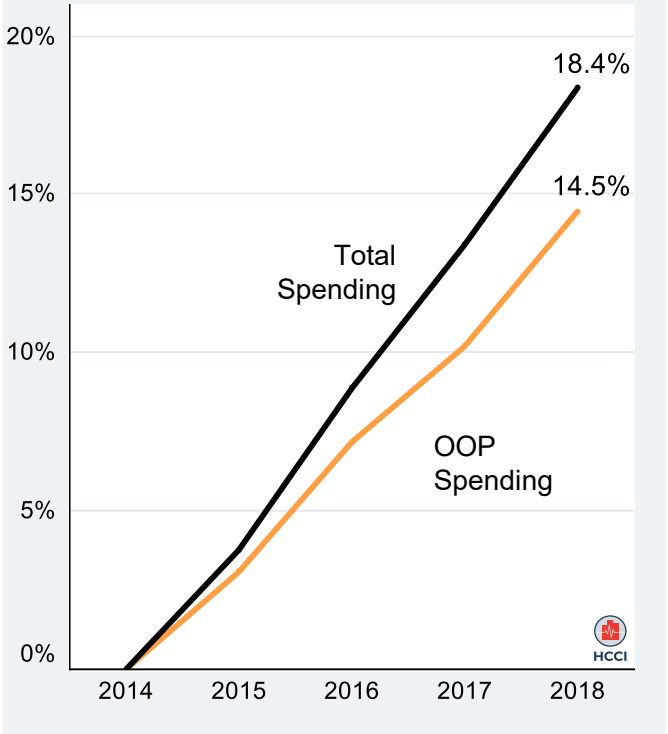


Figure 14: Annual Out-of-Pocket Spending

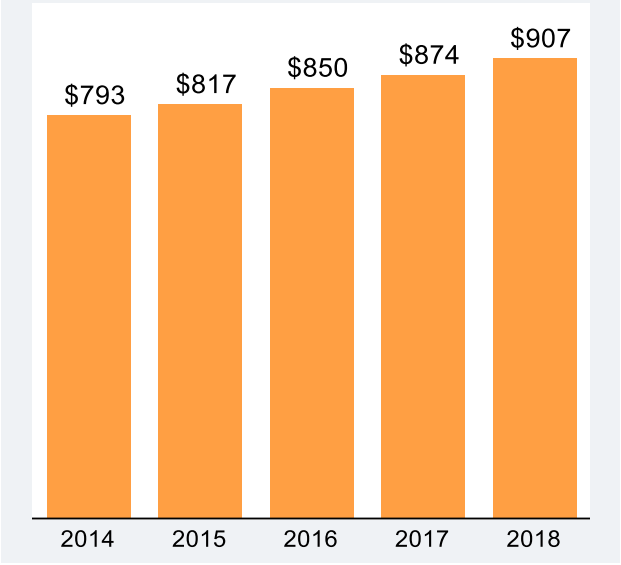
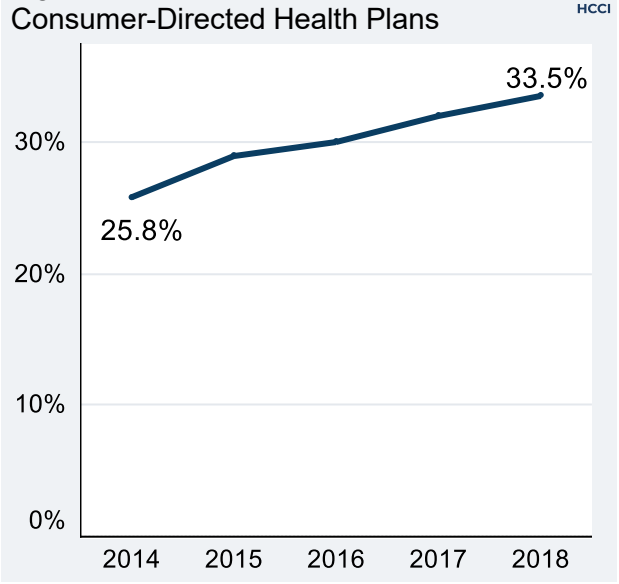


Figure 15: Share of People Enrolled in Consumer-Directed Health Plans



After Including Estimates of Prescription Drug Rebates, Average Annual Growth in Total Spending per Person was 3.8%

A limitation to the analysis of health care spending trends is the lack of publicly available data on prescription drug rebates. Prescription drug rebates are discounts negotiated between drug manufacturers and pharmacy benefit managers and/or health insurance plans. These discounts result in lower spending on prescription drugs than what is reflected on pharmacy claims. Thus, because our report relies on data from medical and pharmacy claims, we over-estimate total spending. Additionally, if rebates increased as a share of pharmacy spending over the five-year period, we would also over-estimate the percent growth in total spending.

To isolate the potential effect of prescription drug rebates on our analysis we first separated medical and gross prescription drug spending. Medical spending accounted for a rising share of the increase in total spending over the five-year period, ranging from 60% in 2014 to 80% in 2018 [Figure 16]. Excluding gross prescription drug spending and focusing just on medical spending reduces the average annual growth rate from 4.3% to 3.8% over 2014 to 2018.

Next, we estimated spending in each year net of prescription drug rebates using information collected by the state of Massachusetts for commercial plans operating in the state. Those data show that prescription drug rebates increased as a share of pharmacy spending for commercial health insurance plans, rising from 6.5% in 2014 to 15.6% in 2018. While these data reflect only one state, they are generally consistent with data reported by the state of California for the commercially insured in 2016 and 2017, as well as a report by Altarum for 2016.

Annual growth in prescription drug spending net of rebates was lower in every year and decelerated more sharply over 2014 and 2018 compared to gross prescription drug spending [Figure 17]. After incorporating the estimates of prescription drug spending net of rebates into the measure of total per-person spending, average annual growth over 2014 to 2018 is 3.8%, one-half of a percentage point below the rate when gross prescription drug spending is included. The entire effect of rebates is to lower average net price of prescription drugs.

Under the assumptions used here, cumulative growth in average prescription drug prices was 8.9% from 2014 to 2018, compared to 20.6% using spending reported on pharmacy claims. It is worth noting that the point-of-sale prices calculated using gross prescription drug spending are relevant for certain out-of-pocket payments, such as when someone must pay the full price because they have not yet met their deductible, or when co-insurance amounts are calculated as a percent of the point-of-sale price.

Figure 16: Annual Change in Medical and Prescription Drug Spending per Person

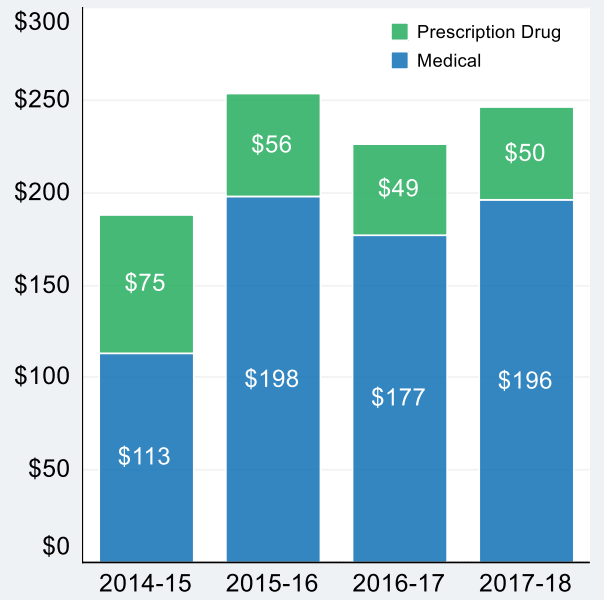
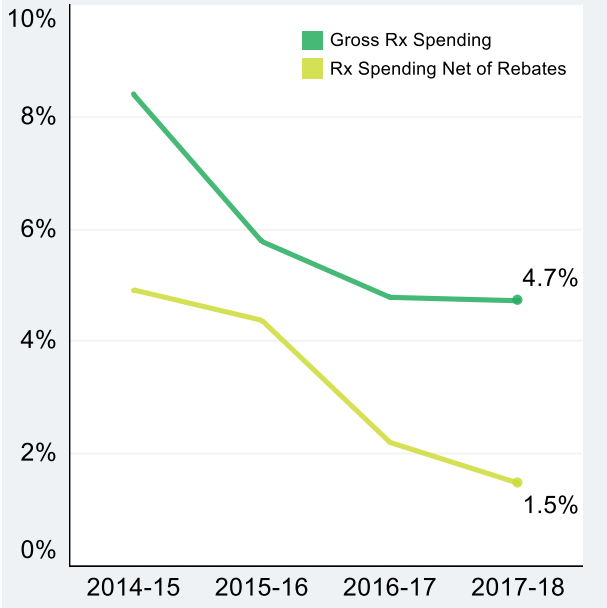


Figure 17: Comparison of Annual Growth in Prescription Drug Spending per Person



Service Category and Subcategory Trends

The health care claims in the underlying data were categorized into four service categories: inpatient facility, outpatient facility, professional services, and prescription drugs. This classification reflects the way claims were processed and paid, and not necessarily how patients interacted with health care providers. In many cases, a single episode of care can have claims in multiple categories. It is also possible that the classification of claims for similar types of episodes vary by provider, or groups of providers, depending on how claims were submitted. Such variation can also occur across years within the same provider. See the accompanying methodology document for further detail.

Year-to-year changes in spending, use, and average price for each service category can reflect changes in the site of service for certain procedures. For example, if mammograms that had previously been performed in a physician's office, and therefore classified as a professional service, are shifted to an outpatient facility, the trends in spending, use, and price for the radiology subcategory in outpatient facility and professional services categories will be affected. These service category-level shifts were not examined, but their possibility should be noted when interpreting the findings presented in the remainder of this report.

As stated before, prescription drug spending includes the amount paid for pharmacy claims. These point-of-sale prices reflect discounts from the wholesale or list prices of prescription drugs, but do not account for manufacturer rebates that occur in separate transactions.

Inpatient Spending Trends

Inpatient spending includes payments to facilities, such as hospitals, skilled nursing facilities, and hospice providers, for services delivered during an admission or other overnight stay. In many cases, this spending will not include payments to the physician or other clinicians, which will instead be captured in the professional services category.

Per-person spending on inpatient admissions rose $116 (11.4%) between 2014 and 2018 [Figure 19]. That reflects an increase of $24 in 2018, below the increase in the previous two years ($33 in 2017 and $47 in 2016), but slightly higher than the first year of the period.

Surgical admissions account for approximately half of inpatient spending. Surgical admissions spending also had the largest cumulative growth between 2014 and 2018, rising 11% over the five-year period.

Medical admissions accounted for 28% of inpatient spending in 2018. After declining slightly from 2014 to 2015, the year-to-year change in spending on medical admissions has grown each year. Over the five-year period, per-person spending on medical admissions rose 8%, or $23.

Labor/delivery/newborn admissions represented 17% of inpatient spending. Between 2014 and 2018, per-person spending on this category increased steadily, for a cumulative change of $27 (16%).

Per-person spending on mental health admissions increased year-over-year in each year between 2014 and 2018, rising a cumulative $8 (33%). Spending on substance use admissions also grew over the five-year period, increasing $8 (60%) between 2014 and 2018. Both categories represent a small share of total inpatient spending.

Figure 18: Share of 2018 Inpatient Spending by Service Subcategory

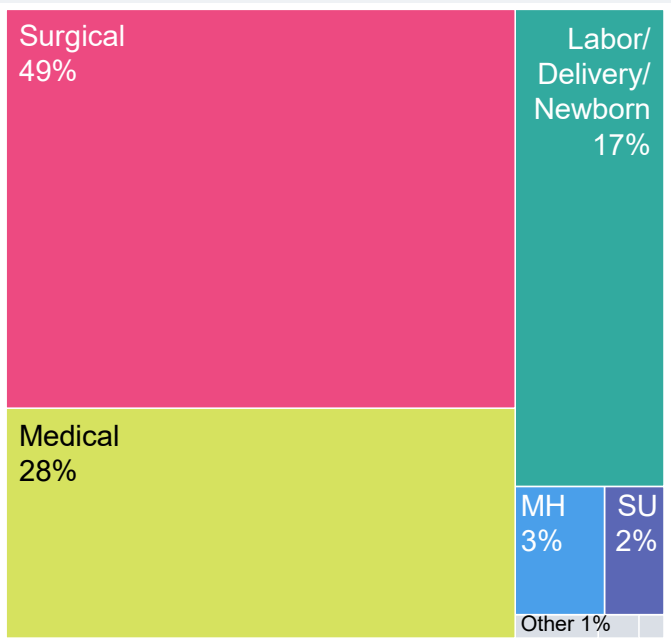
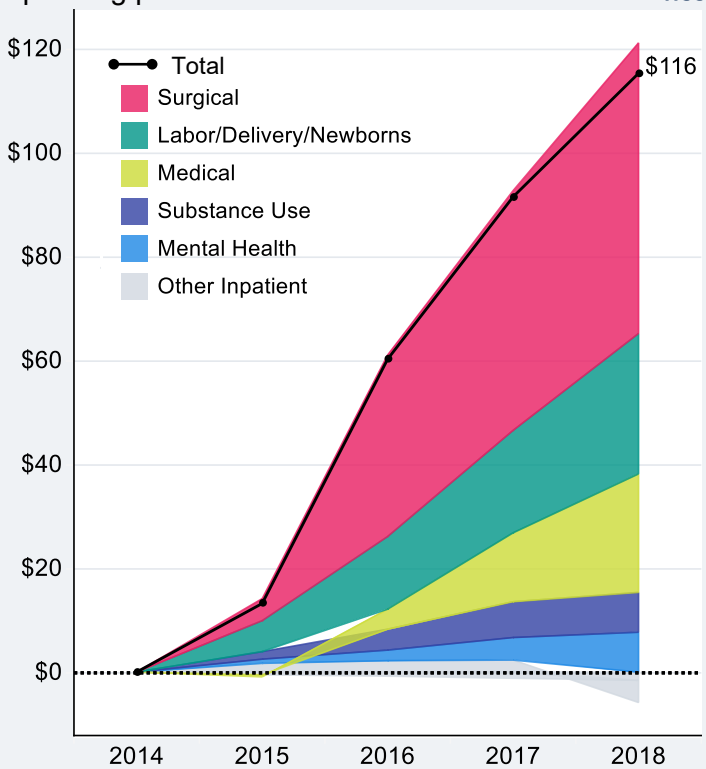


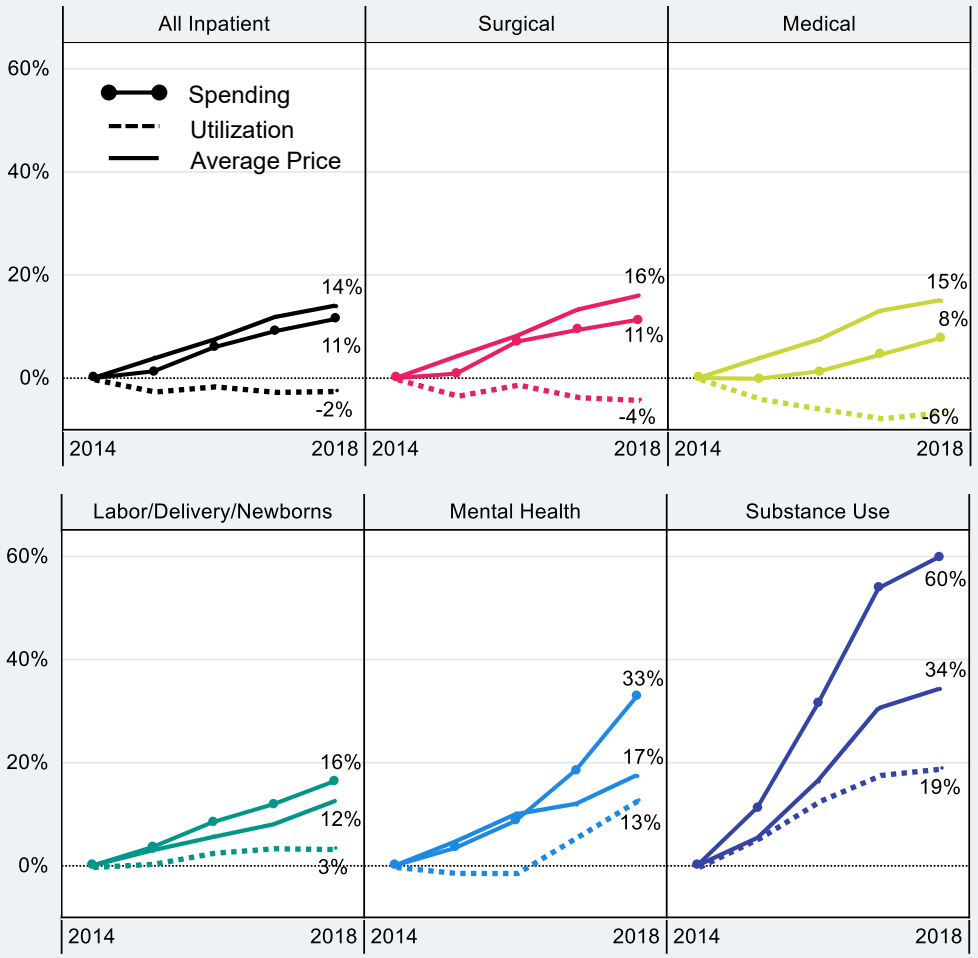
Figure 19: Cumulative Change in Inpatient Spending per Person since 2014



Inpatient Admission Utilization and Average Price

Overall, growth in the average price of an inpatient admission more than offset small declines in the number of inpatient admissions between 2014 and 2018, leading to cumulative spending growth of 11% over the five-year period [Figure 20]. Within each sub-category of inpatient admissions, average prices grew steadily between 2014 and 2018. However, utilization trends varied.

Figure 20: Cumulative Change in Inpatient Spending per Person, Utilization, and Average Price since 2014



Note: Utilization and average prices account for changes in the type or intensity of services used

Surgical admissions:

- Utilization declined 4% between 2014 and 2018.
- The average price grew steadily, rising a cumulative 16% by 2018.

Medical admissions:

- Utilization declined steadily between 2014 and 2017, before leveling off in 2018, for an overall decline of 6% between 2014 and 2018.
- The average price increased each year, rising 15% over the five-year period.

Labor/Delivery/Newborn admissions:

- Utilization rose slightly in 2016 before leveling out, leading to a 3% cumulative increase over the five-year period. This was the most common type of inpatient admission among the ESI population.
- The average price increased consistently year-over-year, for a 12% cumulative increase between 2014 and 2018.

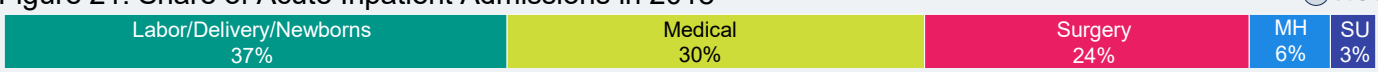
Mental health admissions:

- Utilization initially declined before rising sharply between 2016 and 2018. By the last year of the period, utilization had increased 13% compared to 2014.
- The average price rose in each year of the period, increasing 17% between 2014 and 2018.

Substance use admissions:

- Utilization rose steadily between 2014 and 2018, though growth tapered somewhat in the last year of the period. Cumulative growth in utilization was 19% over the five-year period. Even after that growth, this was the least common type of inpatient admission among the ESI population.
- Average price also rose sharply, increasing 34% between 2014 and 2018.

Figure 21: Share of Acute Inpatient Admissions in 2018



Inpatient Admissions Average Price and Out-of-Pocket Price

The average price of an inpatient admission varied across subcategories and increased year-over-year within each subcategory [Figure 22].

- Surgical admissions had the highest average price, increasing from $37,796 in 2014 to $43,810 in 2018. That is more than twice the amount for medical admissions, the subcategory with the second highest average price, which grew from $17,097 in 2014 to $19,672 in 2018.
- The price of labor/delivery/newborn admissions was substantially lower than surgical or medical admissions, averaging $8,761 in 2014 and $9,851 in 2018.
- The average price of mental health admissions rose nearly $1,500 over the five-year period, rising from $8,408 to $9,879.
- The average price of substance use admissions grew even more, rising from $8,641 in 2014 to $11,598 in 2018, an increase of nearly $3,000.

Despite variation in average price, the average out-of-pocket price was similar across most subcategories of inpatient admissions and grew between 2014 and 2018 for all but surgical admissions [Figure 23].

- On average, patients were responsible for $949 in out-of-pocket spending for each surgical admission in 2018. That amount declined slightly over the period, falling from $985 in 2014.
- Similarly, patients were responsible for $950 in out-of-pocket spending per medical admission in 2018. That amount reflects a small increase from $896 in 2014.
- The out-of-pocket price for labor/delivery/newborn admissions increased in each year, rising from $909 in 2014 to $1,017 in 2018.
- On average, patients paid almost $100 more out of pocket for mental health admissions in 2018 compared to 2014.
- Substance use admissions carried higher out-of-pocket prices compared to the other subcategories of inpatient admissions, and experienced larger growth. Patients were responsible for $1,237 in out-of-pocket spending per substance use admission in 2014 and $1,603 in 2018, an increase of $366.

Figure 22: Average Price of Inpatient Admissions

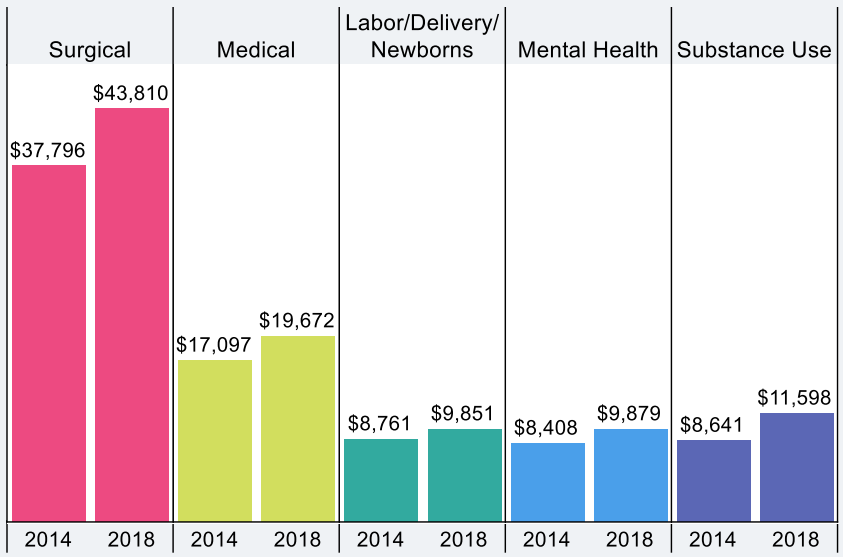
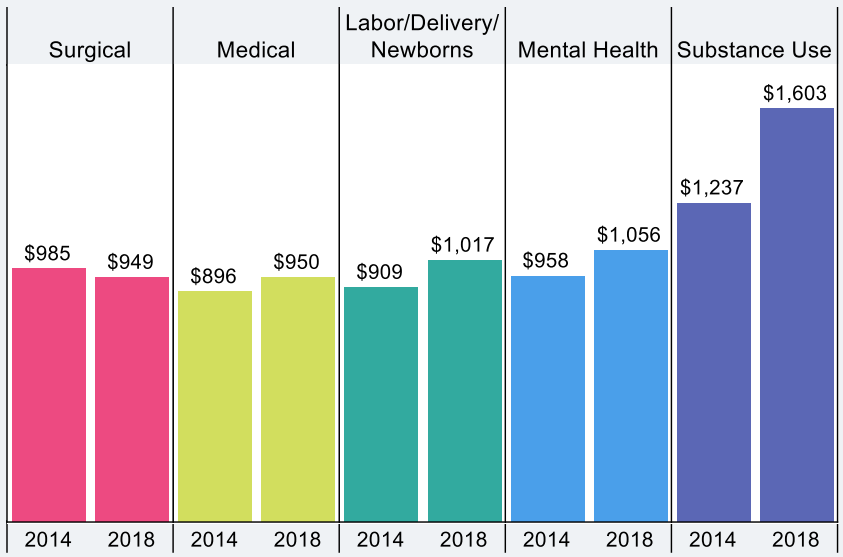


Figure 23: Average Out-of-Pocket Price of Inpatient Admissions



Outpatient Spending Trends

Outpatient spending includes payments to outpatient facilities, which include sections of a hospital, as well as standalone facilities, that provide services that do not require an overnight stay. Payments for the services provided by physicians at outpatient facilities are generally not included in the outpatient facility category, depending on how these services are billed. As with inpatient admissions, these services are often captured in the professional services category.

Between 2017 and 2018, spending per person on outpatient visits and procedures grew faster than any other service category, rising 5.5% year-over-year. That rise followed steady increases in prior years, totaling $289 over the five-year period [Figure 25].

Most outpatient spending falls into two subcategories – outpatient surgery (37%) and emergency room (24%) visits [Figure 24]. These subcategories also saw the largest growth in spending between 2014 and 2018. Over the five-year period spending on outpatient surgery visits increased $100 per person (19%) and spending on emergency room visits increased $97 per person (32%).

Radiology procedures was the next largest subcategory of outpatient spending, accounting for 13% of spending in 2018. Radiology procedures also had the next largest increase in spending between 2014 and 2018, rising by $27 (14%).

The remaining subcategories – laboratory procedures, observation visits, durable medical equipment (DME), ambulance services, and other procedures – account for about one-quarter of outpatient facility spending.

Figure 24: Share of 2018 Outpatient Spending by Service Subcategory

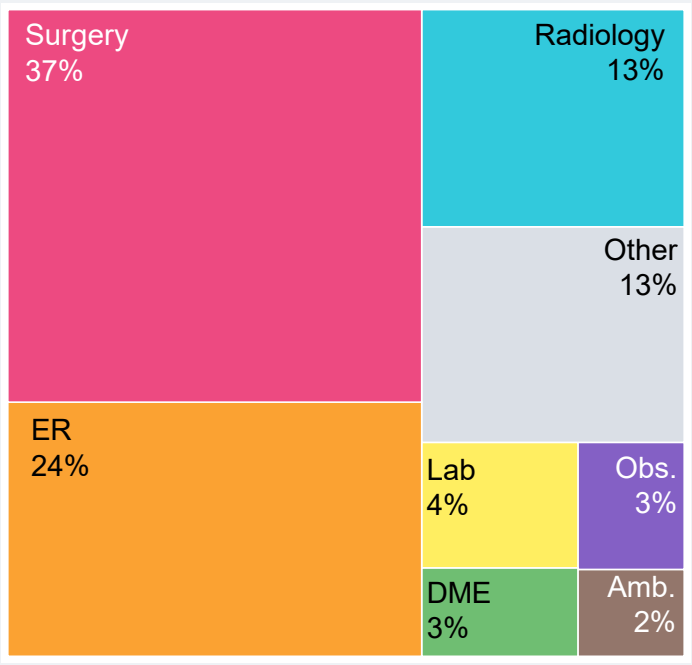
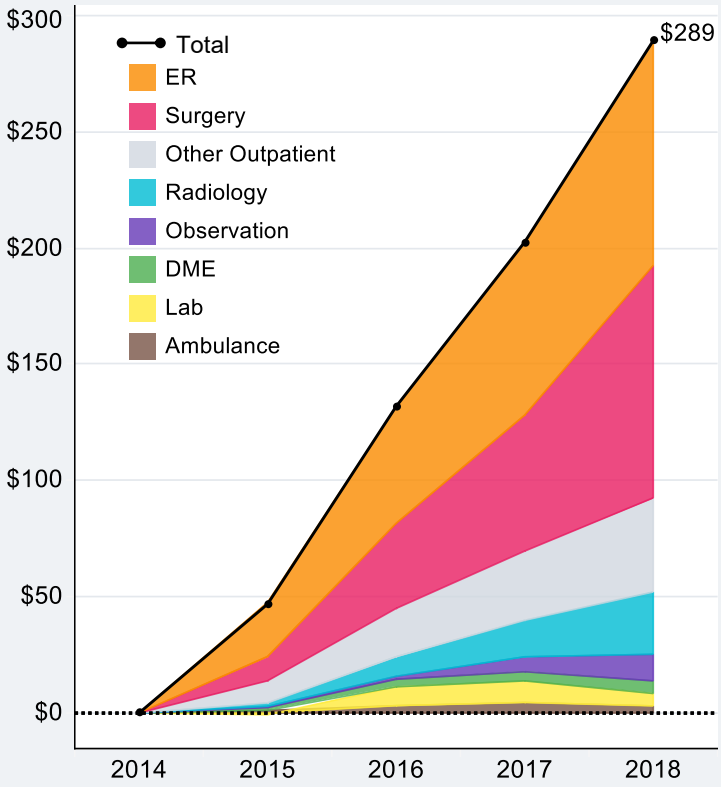


Figure 25: Cumulative Change in Outpatient Spending per Person since 2014



Methods Note:
The unit of observation for the outpatient category depended on the site of service, as well as the set of services. Outpatient visits included those services provided in the emergency room, under observation status, or as part of a surgery. In these cases, services on all individual claim lines were aggregated to a single visit. All other services provided by an outpatient facility were counted as individual procedures, and included radiology, laboratory/pathology, durable medical equipment, and ambulance claims.

Trends in Outpatient Visit Utilization and Average Price

Most common type of outpatient visit was to the emergency room in 2018

More than half of all outpatient visits were to the emergency room, while outpatient surgery accounted for little over one-third [Figure 26].

Price and utilization both contributed to outpatient spending growth

Steady growth in average prices drove cumulative spending growth of 23% for outpatient visits. Utilization also contributed, increasing slightly or remaining steady across subcategories of outpatient visits [Figure 27].

Outpatient surgery visits:

- Use of outpatient surgery fluctuated somewhat throughout the five-year period from 2014 to 2018, and in 2018 was just below the 2014-level.
- Steady growth in average price, which accelerated between 2017 and 2018, drove a 19% increase in spending.

Emergency room visits:

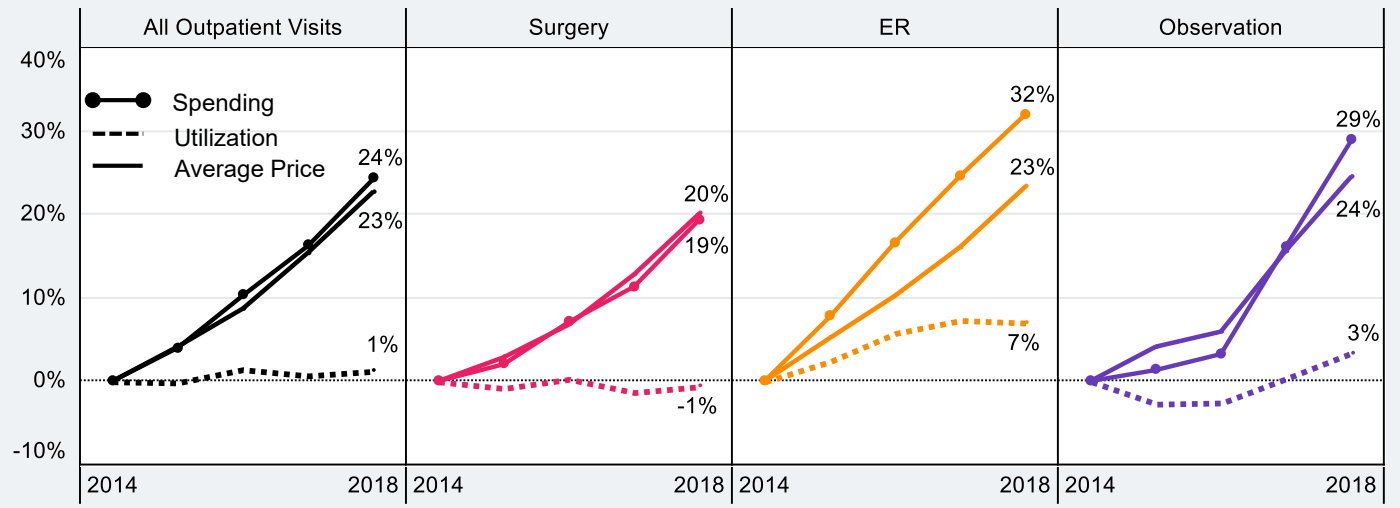
- Emergency room visits increased 7% between 2014 and 2018.
- The average price of emergency room visits rose consistently year-over-year in every year between 2014 and 2018, climbing 23% over the entire period.

Observation visits:

- Use of observation visits declined initially before rebounding at the end of the five-year period, rising 3% in total over that time.
- Average prices increased in each year, rising sharply between 2016 and 2018, contributing to a cumulative increase of 24% from 2014 to 2018.

Figure 26: Share of Outpatient Visits in 2018

Figure 27: Cumulative Change in Outpatient Visit Spending per Person, Utilization, and Average Price since 2014



Note: Utilization and average prices account for changes in the type or intensity of services used

Outpatient Visit Average Price and Out-of-Pocket Price

Average prices increased across all subcategories of outpatient visits between 2014 and 2018.

- The increase in average price was largest for outpatient surgery, rising from $4,407 in 2014 to $5,291 in 2018.
- Observation visits had the next highest average price during the period, rising from $2,012 in 2014 to $2,504 in 2018.
- Finally, the average price of an emergency room (ER) visit increased from $1,700 in 2014 to $2,096 in 2018 [Figure 28].

Out-of-pocket price trends varied by subcategory.

While all subcategories of outpatient visits saw an increase in the average amount for which patients were responsible per visit of that type, the average out-of-pocket price for ER visits increased more sharply than for observation or outpatient surgery visits. Additionally, although observation visits had a higher average price than ER visits, the out-of-pocket price for ER visits was more than double the out-of-pocket price for observations visits in nearly every year [Figure 29]. These trends are likely driven by differences in how outpatient visits of different types are treated under health insurance benefits.

Figure 28: Average Price of Outpatient Visits

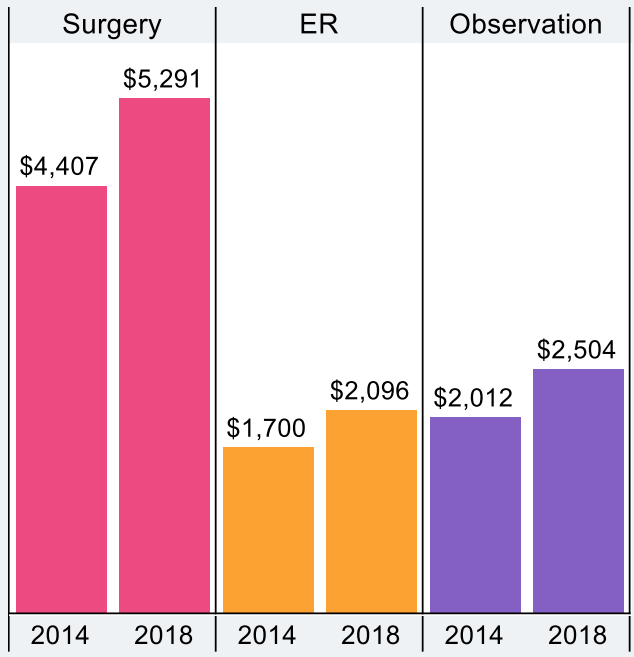
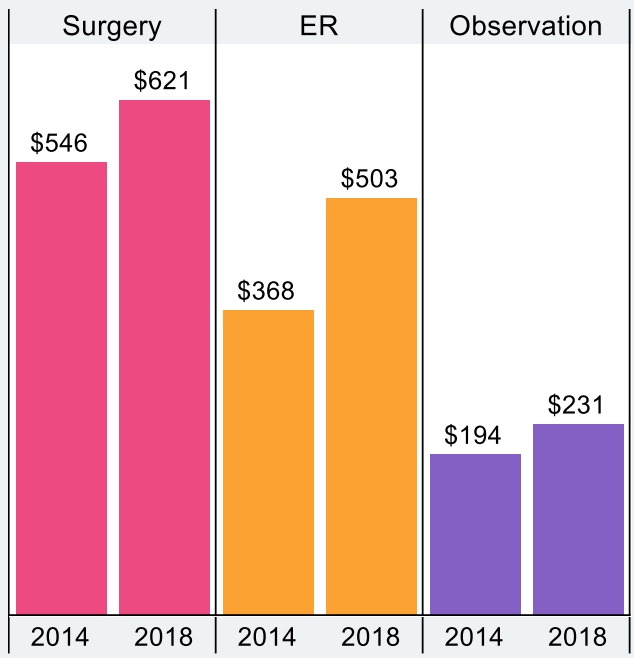


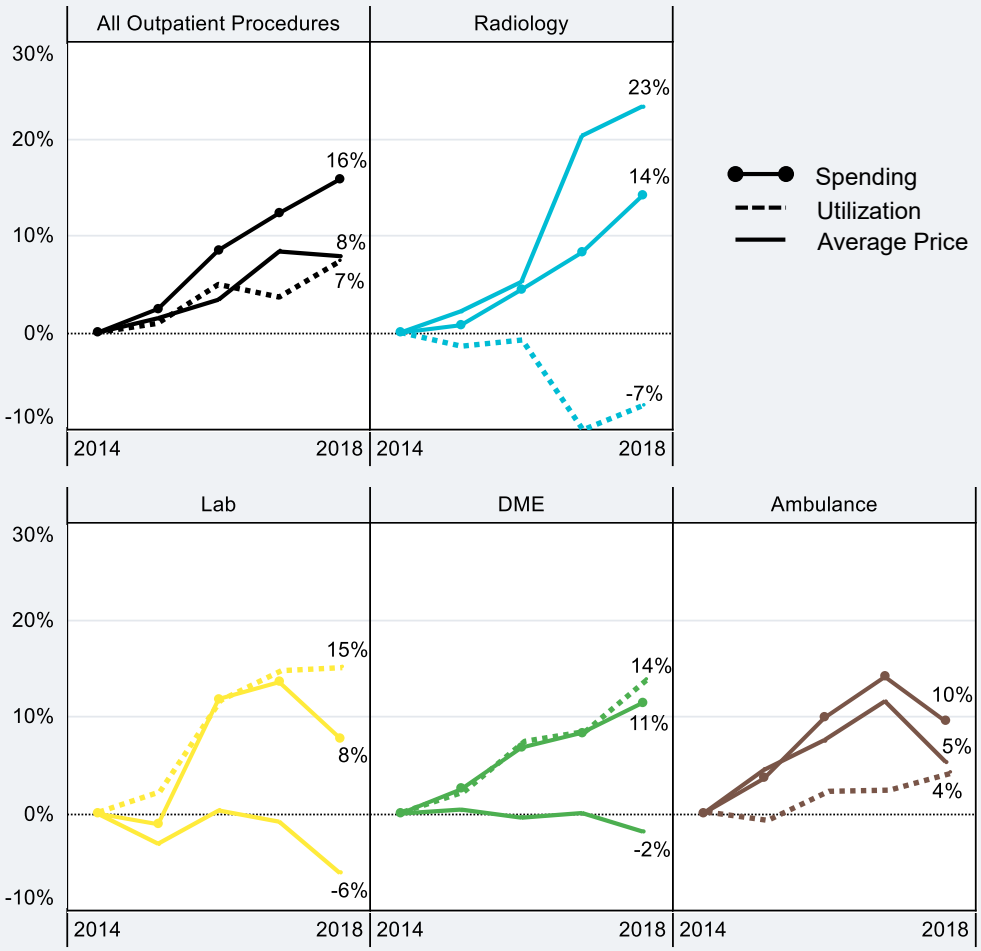
Figure 29: Average Out-of-Pocket Price for Outpatient Visits



Outpatient Procedure Utilization and Average Price

Increases in both utilization and average price contributed to 16% growth in spending on outpatient procedures between 2014 and 2018 [Figure 30].

Figure 30: Cumulative Change in Outpatient Procedure Spending per Person, Utilization, and Average Price since 2014



Note: Utilization and average prices account for changes in the type or intensity of services used. Radiology utilization and average price trends should be interpreted with caution due to coding changes.

Radiology:

- Spending on outpatient radiology procedures increased 14% between 2014 and 2018.
- Utilization and average price moved in opposite directions over the five-year period. However, to some extent this reflects coding changes. For example, five service-level codes for mammography screening and diagnostics were condensed into three codes. In addition, several chest x-ray and abdominal x-ray codes were redefined to result in fewer total codes. In both cases, this resulted in fewer procedures and higher average price.

Laboratory/pathology:

- Spending on laboratory/pathology procedures declined between 2017 and 2018. The decrease, however, was not large enough to offset a large increase earlier in the period, so spending was 8% higher in 2018 compared to 2014.
- Utilization increases drove spending growth, with use rising 15% over the period.
- A 6% decrease from 2014 to 2018 in average price per laboratory service offset some of the growth in utilization.

Durable medical equipment (DME):

- Spending on durable medical equipment increased 11% between 2014 and 2018.
- Increases in utilization drove the change in spending, rising 14% over the five-year period.

Ambulance:

- Per-person spending on ambulances decreased between 2017 and 2018 after rising steadily during the first four years of the period. Spending was 10% higher in 2018 compared to 2014.
- The average price increased steadily between 2014 and 2017 before declining in 2018 when it was 5% higher than the 2014 level.
- There were small, but steady increases in utilization over the period totaling 4% between 2014 and 2018.

Figure 31: Share of Outpatient Procedures in 2018

Outpatient Procedure Average Price and Out-of-Pocket Price

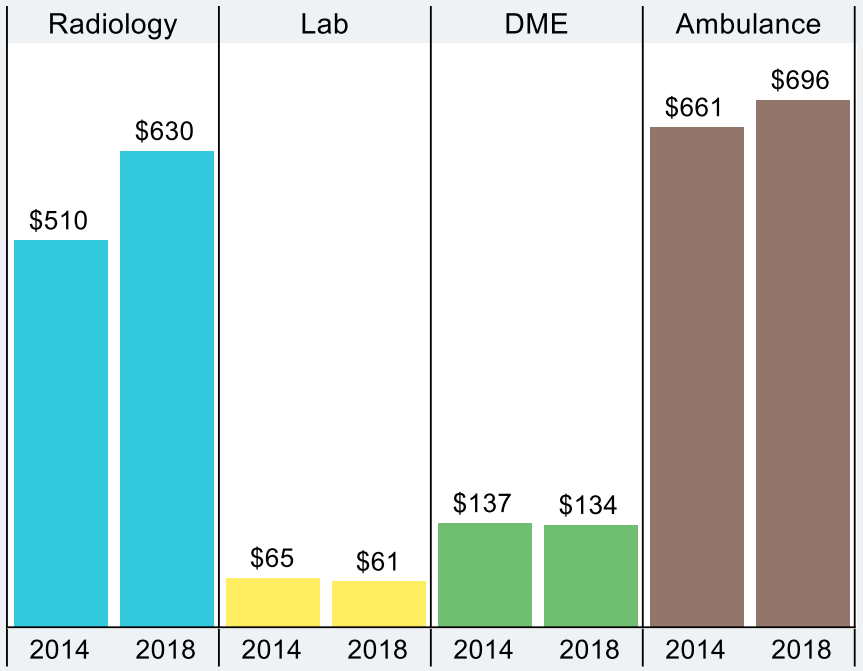
The trends in average price per outpatient procedure varied by procedure type.

- Ambulances had the highest average price in each year, increasing from $661 in 2014 to $737 in 2017 before falling to $696 in 2018.
- The next highest average price was for radiology procedures, which ranged from $510 in 2014 to $630 in 2018.
- The average price of durable medical equipment (DME) was consistent across the period, averaging approximately $136.
- Lab procedures had the lowest average price at just above $60 per laboratory procedure.

The trend in average out-of-pocket price for outpatient procedures also varied across subcategories of services.

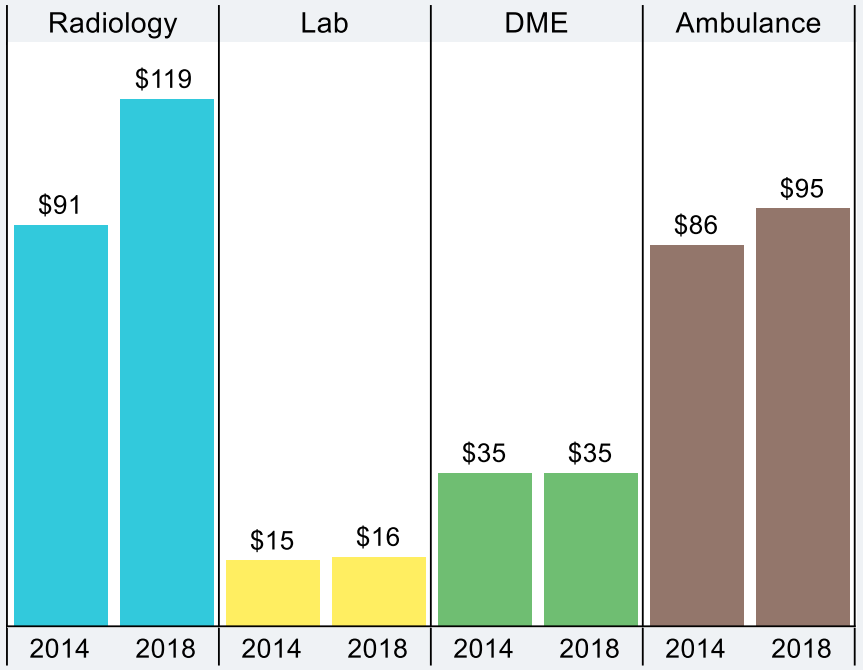
- Patients had the highest out-of-pocket price for radiology procedures in each year of the period. The amount they were liable for increased from $91 in 2014 to $119 in 2018 per radiology procedure.
- Ambulances had similar, but slightly lower out-of-pocket expenses, increasing from $86 in 2014 to $95 in 2018.
- The out-of-pocket price for both DME and laboratory procedures was relatively stable over the five-year period at approximately $36 and $16, respectively.

Figure 32: Average Price of Outpatient Procedures



Note: Differences in average prices for radiology should be interpreted with caution due to coding changes that occurred between 2014 and 2018.

Figure 33: Average Out-of-Pocket Price of Outpatient Procedures



Note: Differences in average prices for radiology should be interpreted with caution due to coding changes that occurred between 2014 and 2018.

Professional Services Spending Trends

Professional services spending includes payments to physicians and other members of a clinical care team, as well as payments for certain things these providers sell as part of their services, such as drugs that are administered by a physician. Often, professional services occur in a doctor's office. However, this category also includes services provided by physicians in hospitals during an inpatient admission, as well as in the emergency room and other outpatient settings.

Spending on professional services rose steadily over the five-year period, increasing a cumulative $280 (16%) from 2014 to 2018 [Figure 35]. That growth accelerated over the period and was driven by increases in spending on office visits and administered drugs

Office visits accounted for the largest share of spending among professional services (21%) in 2018 [Figure 34] and increased $62 over the period, making it the subcategory with the second largest increase in spending.

The largest growth in spending occurred among administered drugs, which increased a cumulative $108 over the period, including a $41 increase between 2017 and 2018. Over the five-year period, the increase in spending on administered drugs accounted for 39% of the increase in spending among professional services.

In 2018, spending on psychiatry services rose $19, or 7% of the total change in spending. That increase is notable because psychiatry accounts for only 3% of spending in this category.

Figure 34: Share of 2018 Professional Services Spending by Subcategory

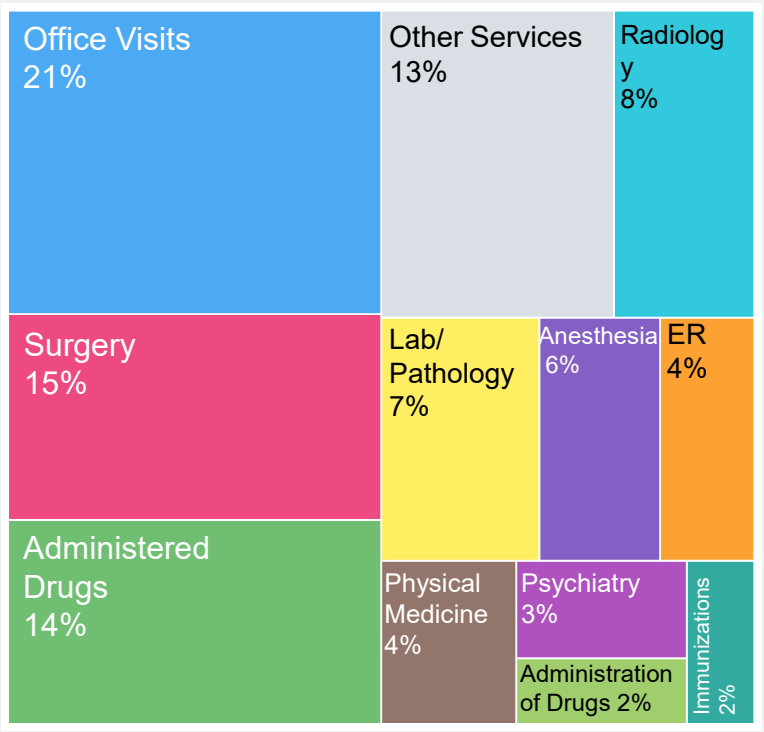
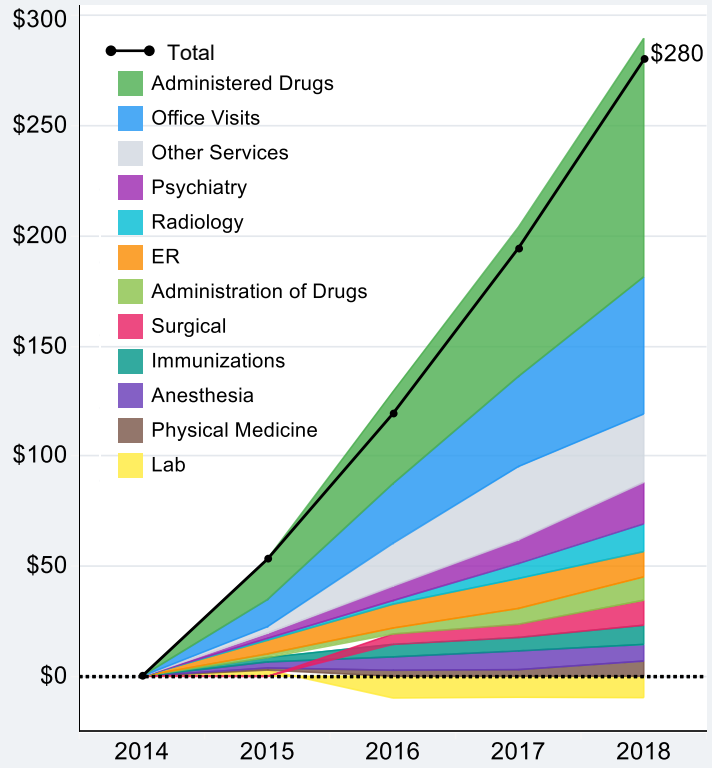


Figure 35: Cumulative Change in Professional Services Spending per Person since 2014



Professional Services Average Price and Utilization

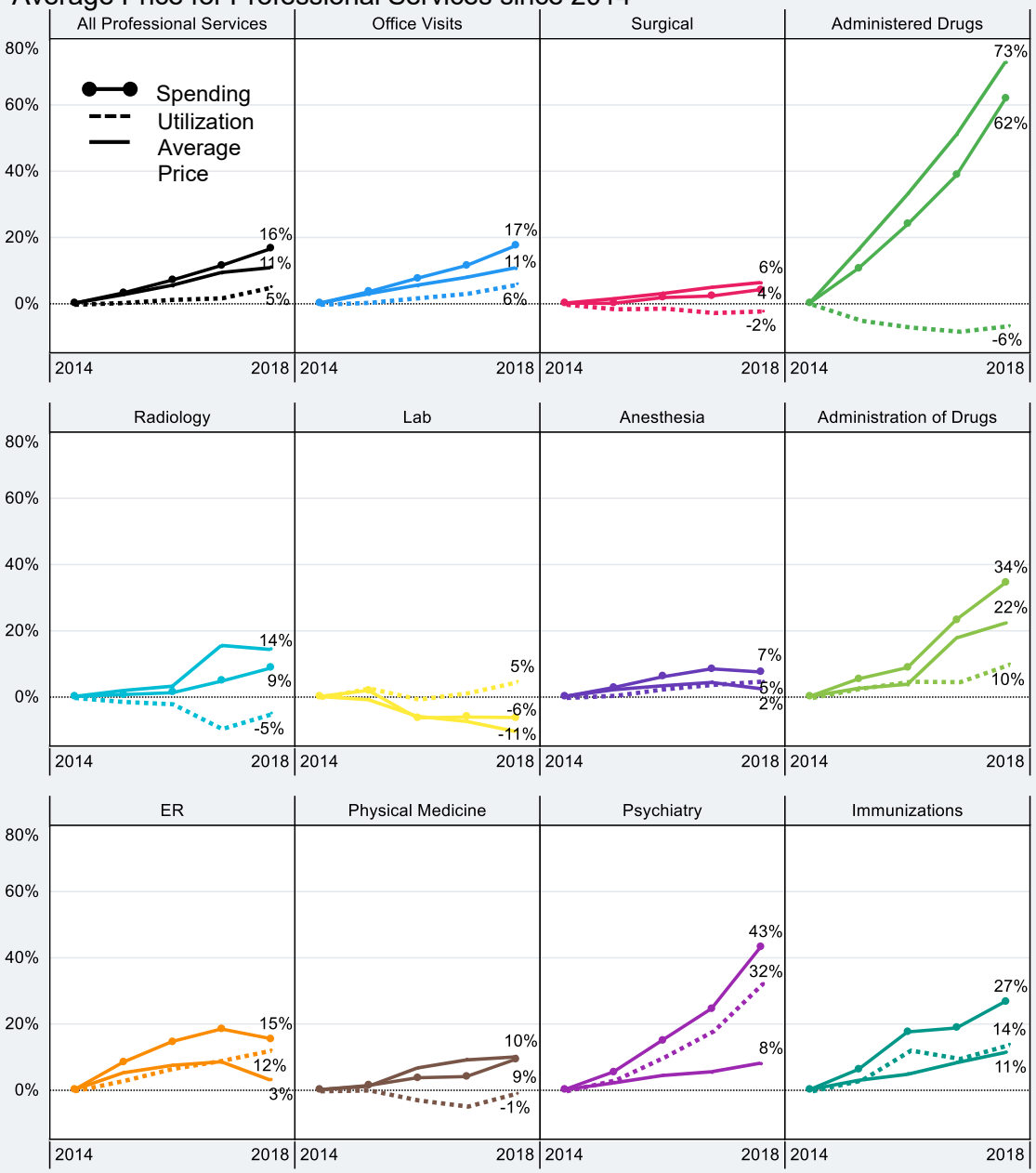
Increases in both utilization and average price drove 16% spending growth in professional services between 2014 and 2018 [Figure 36]. For the first four years of the period, rising average prices were the primary factor behind increases in spending. However, between 2017 and 2018, average prices increased only slightly and an uptick in utilization had a larger impact on spending growth overall. Over the five-year period, utilization increased 5% and average prices grew 11%.

Administered drugs: The average price of administered drugs increased dramatically over the five-year period, rising 73% from 2014 to 2018.

Psychiatry: Several large year-over-year increases in the utilization of psychiatry services and moderate price growth drove a 43% increase in spending on this subcategory. From 2014-2018 use increased 32% and prices increased 8%.

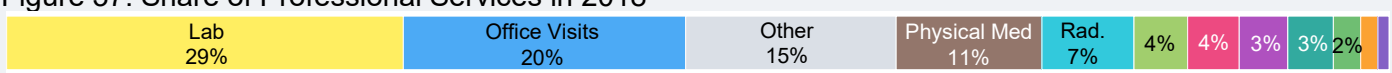
Surgical procedures: In contrast to inpatient and outpatient categories, professional services associated with surgery had relatively low spending growth, rising 4% between 2014 and 2018. Growth in average prices over the period (6%) more than offset small declines in utilization (-2%).

Figure 36: Cumulative Change in Spending per Person, Utilization, and Average Price for Professional Services since 2014



Note: Utilization and average prices account for changes in the type or intensity of services used

Figure 37: Share of Professional Services in 2018

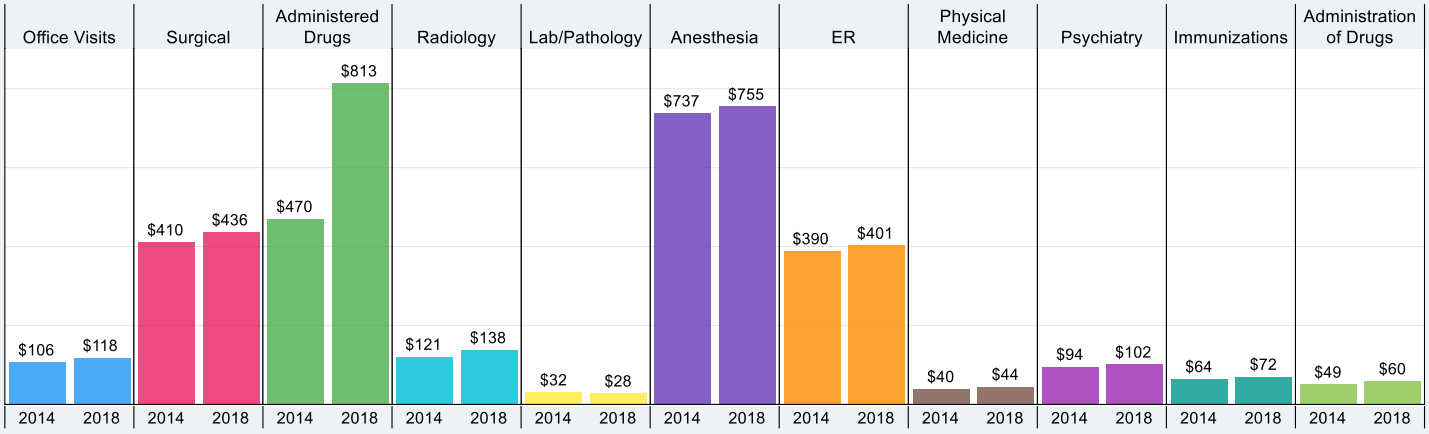


Professional Services Average Price and Out-of-Pocket Price

The trend in average prices for professional services varied by type of procedure [Figure 38]. Across most subcategories, the average price increased slightly between 2014 and 2018, rising less than $30 within each subcategory except administered drugs.

- The largest increase in average price occurred for administered drugs, which nearly doubled, increasing from $470 in 2014 to $813 in 2018. The increase made administered drugs the highest priced subcategory by 2018. It was the second highest priced subcategory in 2014.
- Anesthesia procedures were the highest priced subcategory in 2014, with an average price of $737, and the second highest priced subcategory in 2018, with an average price of $755.
- Surgical and emergency room (ER) procedures were the third and fourth highest priced subcategories, respectively, and averaged around $400 or slightly above during the five-year period.

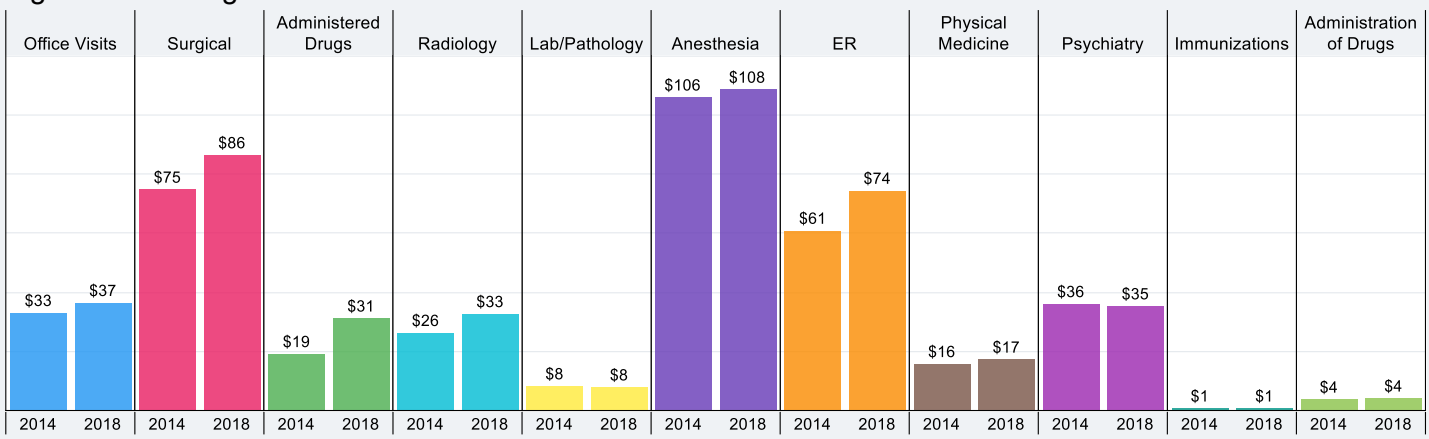
Figure 38: Average Prices for Professional Services



The average out-of-pocket price for professional services ranged from $1 for immunizations to just over $100 for anesthesia procedures in both 2014 and 2018. The magnitude of changes in average out-of-pocket price also varied across subcategories [Figure 39].

- The largest increase in out-of-pocket price occurred for emergency room procedures, which rose from $61 in 2014 to $74 in 2018. These prices generally include payments to physicians who bill separately for services provided during an ER visit and are in addition to any outpatient facility payments.
- The next largest increase in average out-of-pocket price was for administered drugs and surgical procedures which rose $12 and $9, respectively. Again, these reflect the payments to physicians and are often associated with either an inpatient admission or outpatient visit.

Figure 39: Average Out-of-Pocket Prices for Professional Services

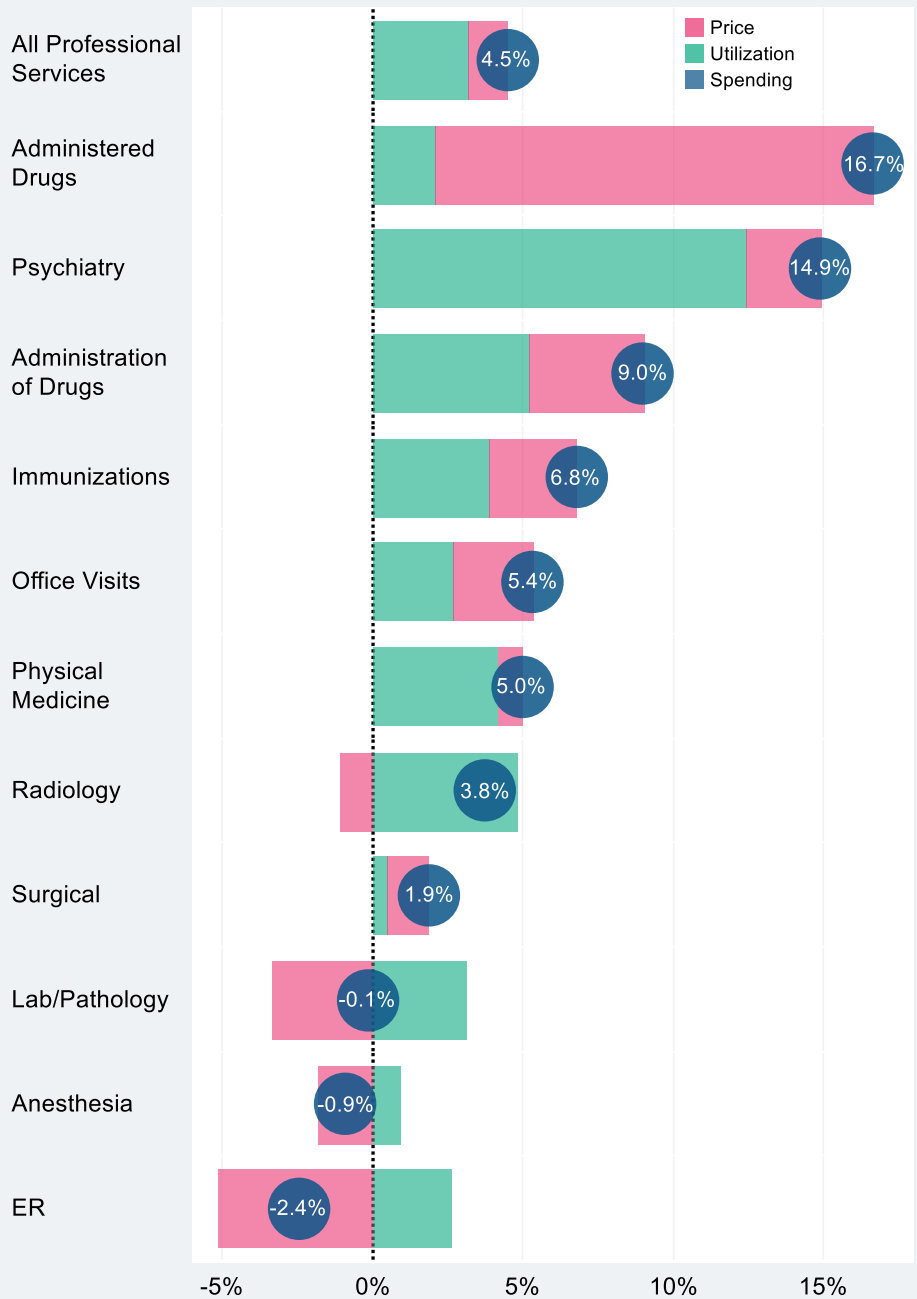


Professional Services Utilization

Within the professional services category, increases in utilization (inclusive of changes driven by differences across years in the age-gender composition of the population) between 2017 and 2018 accounted for a larger share of spending growth than the increase in average prices (inclusive of both inflation and price growth above inflation). This was true across nearly all subcategories of professional services and stands in contrast to trends in other service categories [Figure 40].

- Across all professional services, increases in utilization accounted for more than two-thirds of the 4.5% increase in spending per person.
- Radiology, physical medicine, psychiatry, and administration of drugs saw increases in utilization that were above 4.0% in 2018.
- Psychiatry services saw the largest growth in utilization of any subcategory of service. A 12% growth in utilization drove spending in this subcategory.
- The increase in spending on administered drugs was driven almost entirely by growth in average prices. This was one of the few subcategories where an increase in the average price was larger than the growth in utilization.
- Though utilization increased across lab/pathology, anesthesia, and ER services, a decrease in average prices more than offset that growth, so that spending decreased between 2017 and 2018.

Figure 40: Drivers of Annual Spending Growth 2017 to 2018 – Use and Price



Prescription Drug Spending

Prescription drug spending includes payments made for drugs dispensed by retail and mail-order pharmacies. This does not include certain drugs which are administered by physicians or other health care providers during inpatient admissions, in outpatient facilities, or in doctor's offices. Additionally, estimates of prescription drug spending reflect amounts on pharmacy claims, which do not include manufacturer rebates, coupons, or other discount programs.

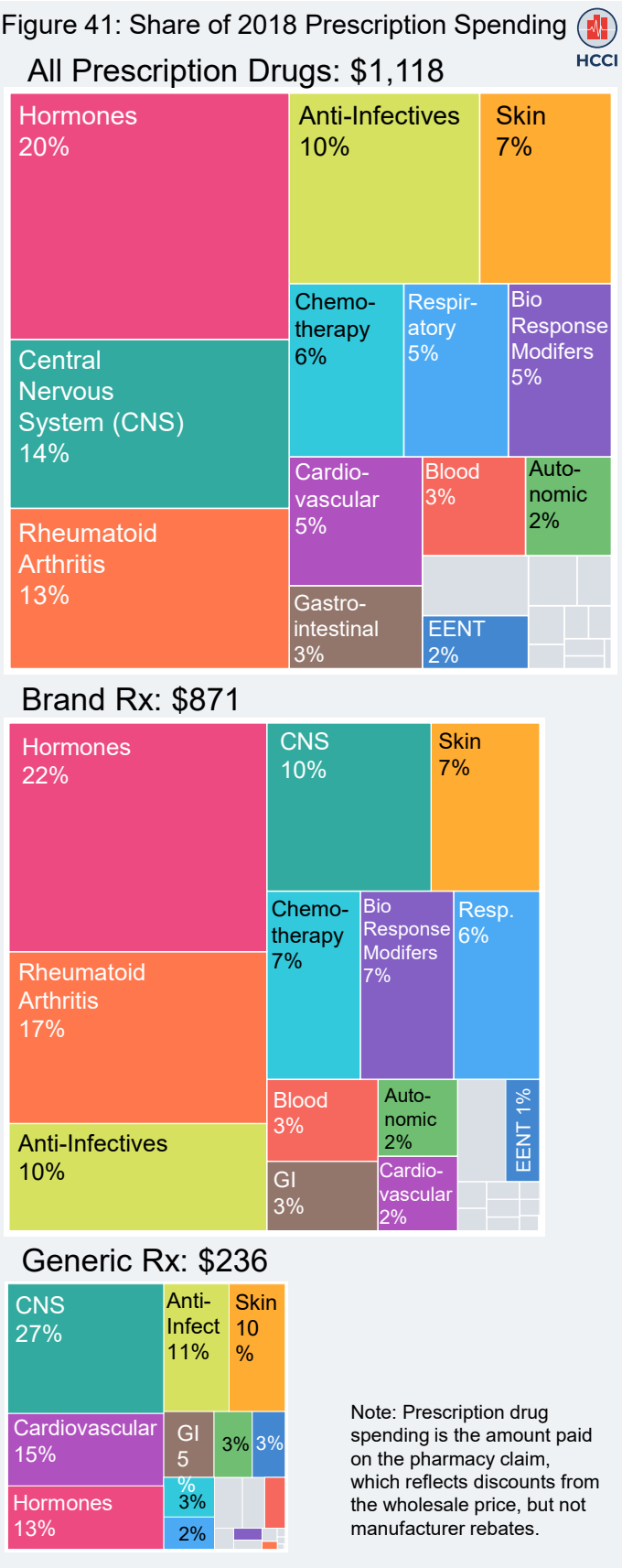
Per-person spending on prescription drugs, based on point-of-sale payments, totaled $1,118 in 2018. This includes $871 on brand prescriptions and $236 on generics [Figure 41]. Compared to 2014, spending was 26% higher. That increase includes both increases in expenditures for the same drugs, as well as increases in expenditures for newly approved medications. Additionally, it does not reflect the offsetting effect of manufacturer rebates.

The largest subcategory of prescription drug spending is hormones (20%), followed by central nervous system (CNS) (14%), and rheumatoid arthritis (13%). Though these represent the largest categories of spending, they exhibit diverging trends in recent years. Since 2014, spending per person on hormones has increased 48% and spending per person on rheumatoid arthritis treatments has grown substantially, rising a cumulative 130%. Spending on CNS prescriptions, however, has declined 11%.

As noted previously, these estimates reflect the amounts on pharmacy claims data, and therefore, do not account for manufacturer rebates. The limited data available from Massachusetts show that rebates offset 6% to 16% of total spending on prescription drugs among individuals with commercial insurance during this time period.

Methods Note:
These estimates do not reflect manufacturer rebates, coupons, or other discount programs, because those data are not available. They do, however, include negotiated discounts from the wholesale or "list" price, and are the amounts that appear on the pharmacy claim. Thus, the term, "point-of-sale" price is used to describe the spending per filled day. Any additional manufacturer rebates occur through separate transactions. The degree to which rebates offset point-of-sale spending varies across types of drugs, as well as across specific products, depending on details of the negotiations between manufacturers and pharmacy benefit managers (PBM). Further, how the value of the rebates is distributed across PBMs, insurers, and consumers also varies. Information on these aspects of manufacturer rebates are not available in pharmacy claims data. The change in point-of-sale prices estimated in this report reflects a combination of higher point-of-sale prices for the same drugs and shifts in use to more expensive products, including those introduced during the period.

Figure 41: Share of 2018 Prescription Spending



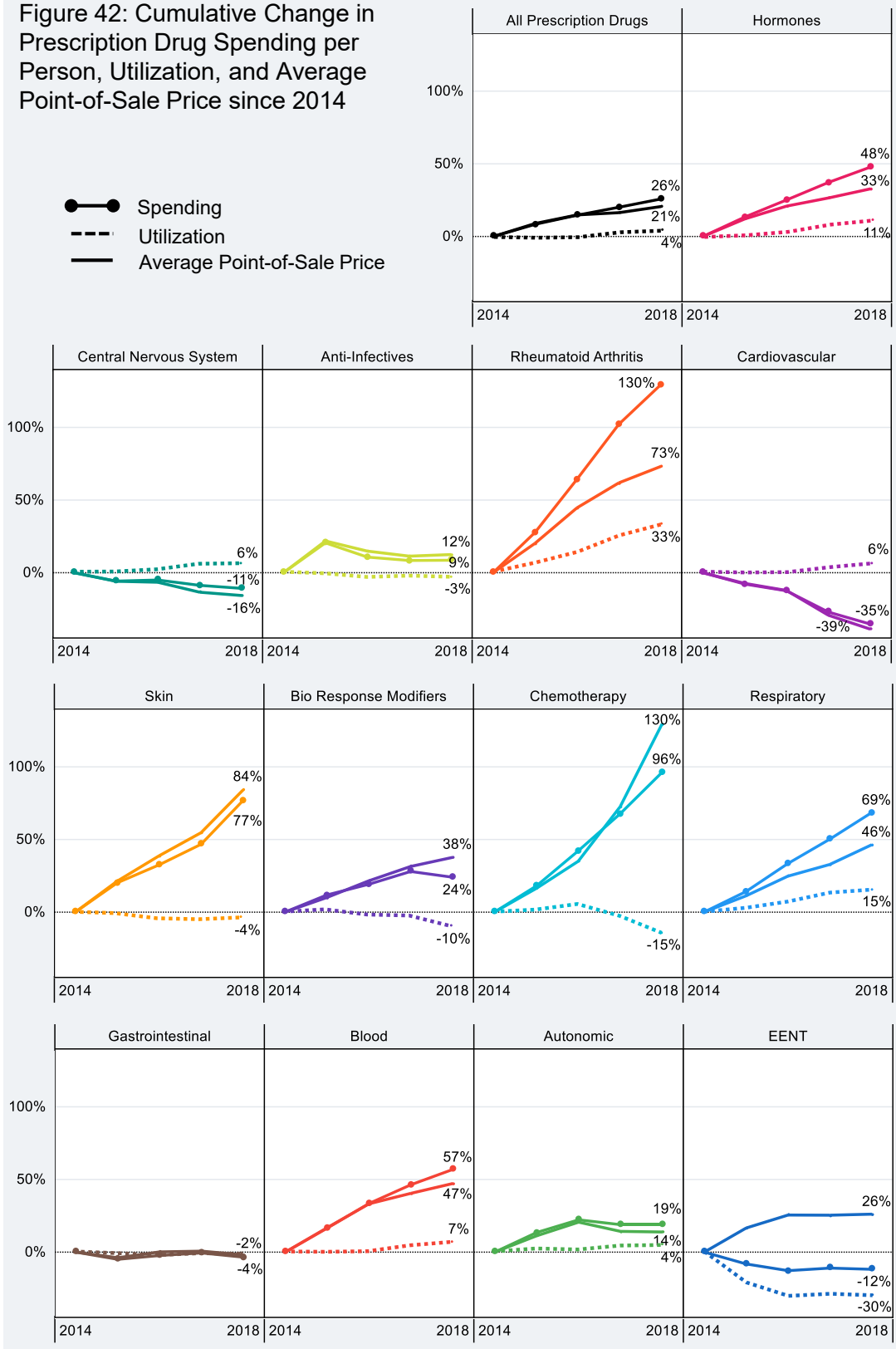
Note: Prescription drug spending is the amount paid on the pharmacy claim, which reflects discounts from the wholesale price, but not manufacturer rebates.

Prescription Drug Utilization and Average Price

Utilization is measured as the number of filled days per person and was steady from 2014 to 2016, rising slightly between 2016 and 2018, for a cumulative increase of 4% over the five-year period. Trends varied by subcategory [Figure 42]. For example, use of rheumatoid arthritis medications increased steadily, rising 33% from 2014 to 2018. On the other hand, use of ear/eye/nose/throat (EENT) prescriptions declined sharply from 2014 to 2015, before flattening out, with a total decline of 30% between 2014 and 2018. That change likely reflects the over-the-counter availability of Flonase®.

The average point-of-sale price for prescription drugs was 21% higher in 2018 compared to 2014. Over the five-year period the annual growth rate slowed substantially. This trend is partly explained by newly available generics for commonly prescribed drugs. The generics have lower point-of-sale prices per filled day. For example, the average point-of-sale price for cardiovascular prescriptions declined 39% between 2014 and 2018, corresponding to greater generic availability and use.

Figure 42: Cumulative Change in Prescription Drug Spending per Person, Utilization, and Average Point-of-Sale Price since 2014



Note: Prescription drug spending is the amount paid on the pharmacy claim, which reflects discounts from the wholesale price, but not manufacturer rebates. Average point-of-sale price includes both spending on the same drugs and spending on new products introduced between 2014 and 2018

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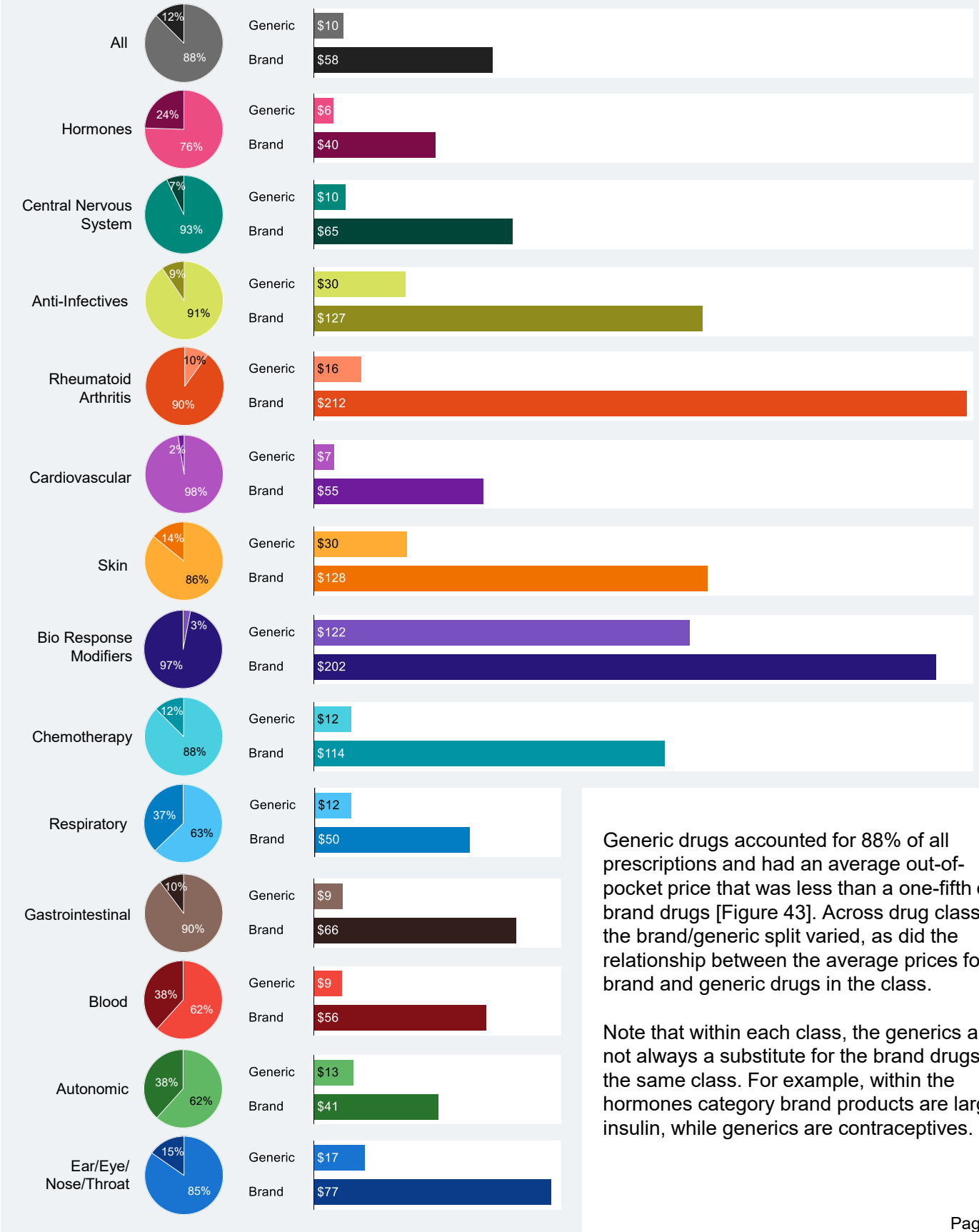
Prescription Drug Out-of-Pocket Costs for 30-day Supply

Figure 43: Share of Days Supplied

Average Out-of-Pocket Price per 30-day Supply 2018



Generic drugs accounted for 88% of all prescriptions and had an average out-of-pocket price that was less than a one-fifth of brand drugs [Figure 43]. Across drug classes the brand/generic split varied, as did the relationship between the average prices for brand and generic drugs in the class.

Note that within each class, the generics are not always a substitute for the brand drugs in the same class. For example, within the hormones category brand products are largely insulin, while generics are contraceptives.

See Our Related Work:

Interactive State Tool

Complete Methodology

Downloadable Data

HCCI Service Category Crosswalk

Previous Health Care Cost and Utilization Reports

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