



HEALTH CARE COST INSTITUTE

Children's

Health
Services

2020
Report



Executive Summary

The population with employer-sponsored health insurance (ESI) includes individuals who receive health insurance coverage from an employer, including employees and their dependents, such as spouses and eligible children. Half of the children in the U.S. are covered by ESI, making this form of coverage the largest source of insurance for American children.

In this report, we present data on health care spending, utilization, and average prices among children (under age 18) who receive health insurance coverage through an employer. In HCCI's 2020 data, one-quarter of ESI enrollees were 18 years old or younger. The report relies on de-identified commercial health insurance claims contributed by CVS Health/Aetna, Humana, and Blue Health Intelligence. The key findings are:



In 2020, average per person spending among those under the age of 18 was \$2,966. In comparison, average per person spending among those ages 18-64 was over twice as high, \$6,429.



The difference in spending between adults and children is largely due to lower use of health care services, on average, among children. Prices for health care services generally were similar across the two populations.



A greater share of children's health care spending was on hospital inpatient and professional (physician and other clinician) services compared to adults.

- 26% of children's spending was on hospital inpatient care—the majority of which was newborn services—compared to 18% of adult health spending.
- 40% of children's spending was on professional services—largely in-office primary care visits—compared to 30% of adult spending.



Total health care spending grew more for children (16.1%) than adults (13%) from 2016-2019, however there was a more substantial drop in health care spending among children in 2020. As a result, from 2016 to 2020, spending per person increased only 2.5% among children compared to 10% among adults.

This report examines trends across four broad categories of services: inpatient admissions; outpatient services; professional (i.e., physician and other clinician) services; and prescription drugs. We also look at granular trends within each category. All data were weighted to reflect the age, sex, and geographic mix of the employer-sponsored insurance (ESI) population by year. We do not adjust for changes in the composition of services provided over time. We believe the racial and ethnic distribution of the population in HCCI's data is similar to the national ESI population. Nationally, however, Black, American Indian and Alaska Native, and Hispanic populations are under-represented in ESI, so health care costs and use among these people are likely under-represented in this report's findings.

Definitions of Reported Measures

Spending per person: Total expenditures per person on medical and prescription drug claims (defined as sum of payer paid and patient out-of-pocket amounts) weighted by age, sex, and geographic mix of the ESI population. The prescription drug component reflects point-of-sale expenditures and does not include manufacturer rebates provided through separate transactions because these data are not readily available at the transaction level.

Out-of-pocket spending per person: Total payments per person paid by patients for health care services (defined as sum of deductibles, co-payments, and co-insurance amounts) weighted by age, sex, and geographic mix of the ESI population.

Utilization: The count of inpatient admissions, outpatient facility procedures, professional services, and days covered by a filled prescription. In the results presented in this report, utilization does not account for changes in the mix of services over time.

Average Price: Spending per service (admissions, visits, procedures, or days supplied depending on the service category). Spending and utilization 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-over-year change in average prices reflects both inflation and service price growth above inflation as well as any changes in the mix of services provided.

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.



Children's Health Care Spending and Use by Service

Per-person spending among children with ESI grew from \$2,893 in 2016 to \$3,360 in 2019, and then declined to \$2,966 in 2020. Over the same period, per-person spending among adults was about twice as high as per-person spending among children in each year, as shown in Figure 1.

The largest category of spending among children in 2020 was professional services (\$1,181), followed by facility payments for inpatient visits (\$769), facility payments for outpatient visits (\$594), and prescription drugs (\$422). Children's spending in all service categories declined from 2019 to 2020. Outpatient and professional services had the largest decreases in spending per person in 2020 among both children and adults.

Although professional services was the largest category of spending for children and adults, these services made up a larger share of children's spending than adults (40% and 30%, respectively). Children also had a greater share of spending on inpatient care than adults (26% of spending compared to 18%) with most of this spending on newborn care. A greater share of adult spending was on outpatient care (28% among adults compared to 20% among children) and on prescription drugs (24% compared to 14% among children).

Figure 1: Annual Spending per Person, 2016–2020

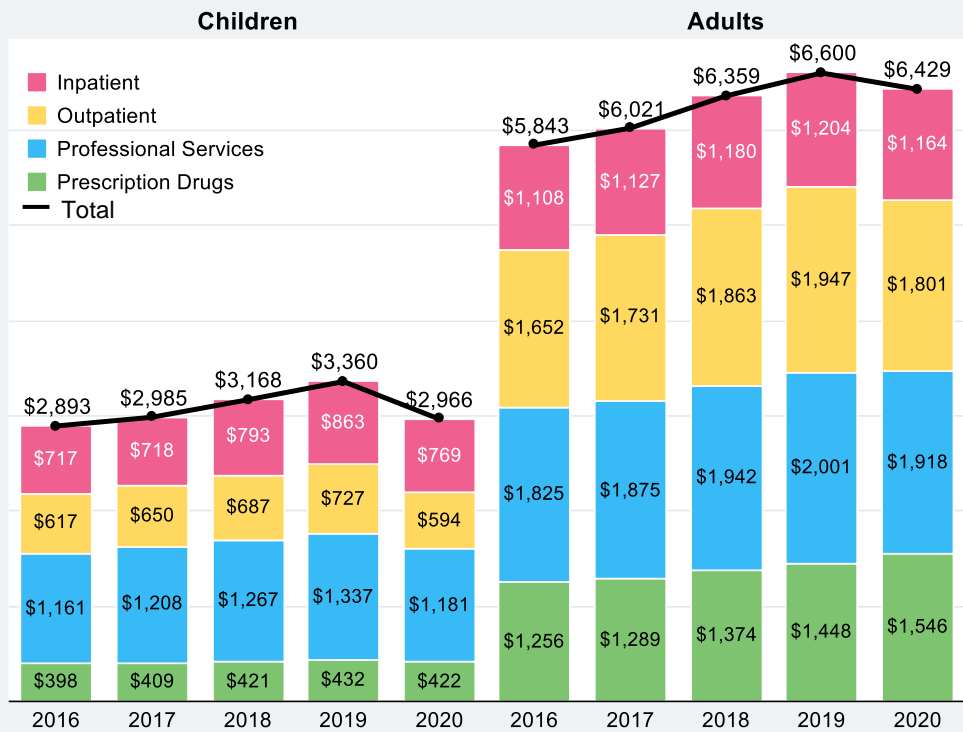
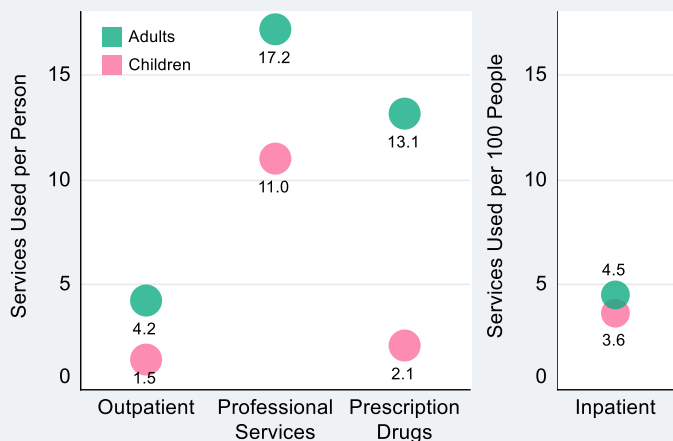


Figure 2: Utilization of Services in 2020 for Children and Adults



Lower health care spending among children was driven by lower use of health care services. As shown in Figure 2, children used fewer services than adults in all categories. Similar rates of inpatient hospital utilization between children and adults is driven largely by newborn care, which makes up the majority of children's inpatient hospital use.

The biggest difference in service utilization rates between children and adults was in prescription drugs. Children used 2.1 prescriptions per person, compared to 13.1 among adults, on average. Utilization was also lower among children than adults in the categories of professional services (11 procedures per child compared to 17.2 per adult) and outpatient services (1.5 procedures per children compared to 4.2 per adult).



Changes in Children’s Health Care Spending

As shown in Figure 3, total spending among children and adults increased each year between 2016 and 2019. The cumulative increase in spending over this period was 16.1% (\$467) among children and 13.0% (\$757) among adults. In 2020, spending in both populations decreased with a much larger drop in spending among children. Over the full five-year period from 2016-2020, there still was a cumulative increase in total spending among children (2.5%) and adults (10.0%).

Out-of-pocket (OOP) spending includes payments made by patients for health care services and prescription drugs covered by insurance but does not include the cost of insurance or premiums. OOP spending includes deductibles, co-payments, and co-insurance, so estimates are a function of medical benefit design offerings by employers. On average, in 2020, per person OOP spending was \$390 among children, compared to \$827 among adults.

Among both children and adults, the growth in OOP spending was lower than the growth in total spending over 2016–19, as shown in Figure 4 (11.9% among children and 7.9% among adults). As noted above, total and OOP spending both declined in 2020, with larger drops among children. In both populations, OOP spending had a steeper drop in 2020, since it is more closely tied to utilization of services through copay and coinsurance design than total spending.

There was a cumulative decrease of 12.9% (\$58) in OOP spending among children over this five-year period and a smaller decrease (2.5%, \$21) in OOP spending among adults. The larger decrease in OOP spending reflects the decline in children’s use of health care services in 2020, the first year of the COVID-19 pandemic, which was greater than the drop in use among adults in that year.

Figure 3: Cumulative Change in Spending per Person by **Adults** and **Children**

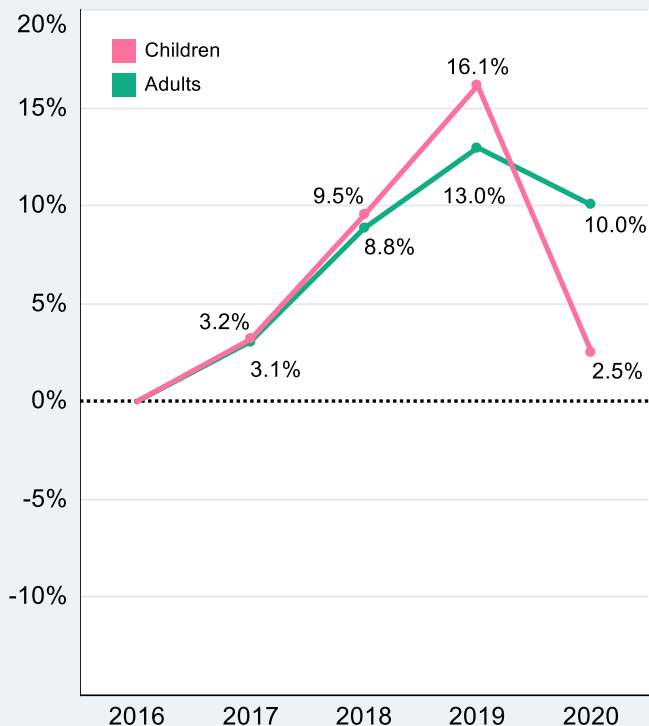
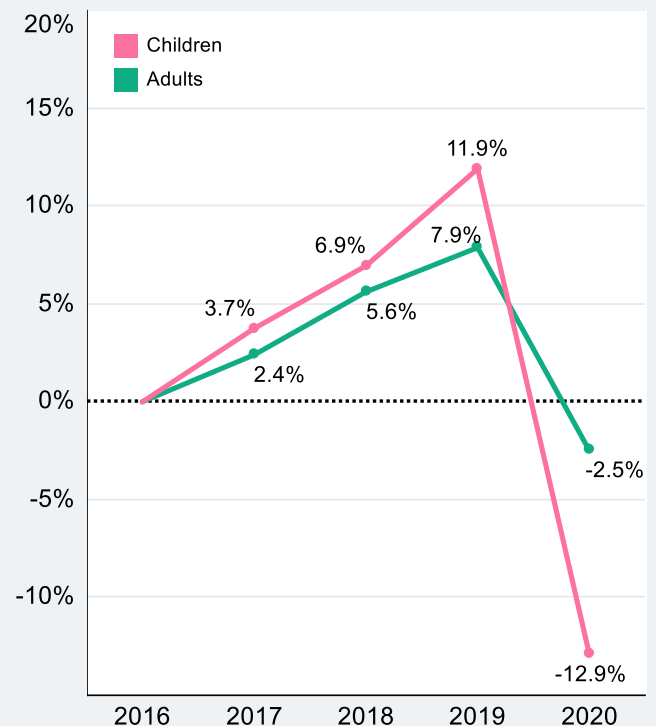


Figure 4: Cumulative Change in Out-of-Pocket Spending by **Adults** and **Children**





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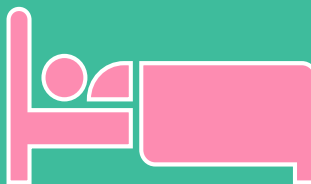
Service Category and Subcategory Trends

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 will 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. Physician services that occur in facility settings are captured in the professional services category. See the [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.

Spending on drugs includes spending on administered drugs (e.g., injections or infusions), generally paid under the medical benefit, and prescription drugs covered by the pharmacy benefit. Administered drug spending, use, and prices is captured in the professional and outpatient facility categories. 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.

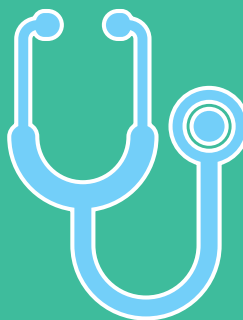
Inpatient



Outpatient



Professional Services



Prescription Drugs

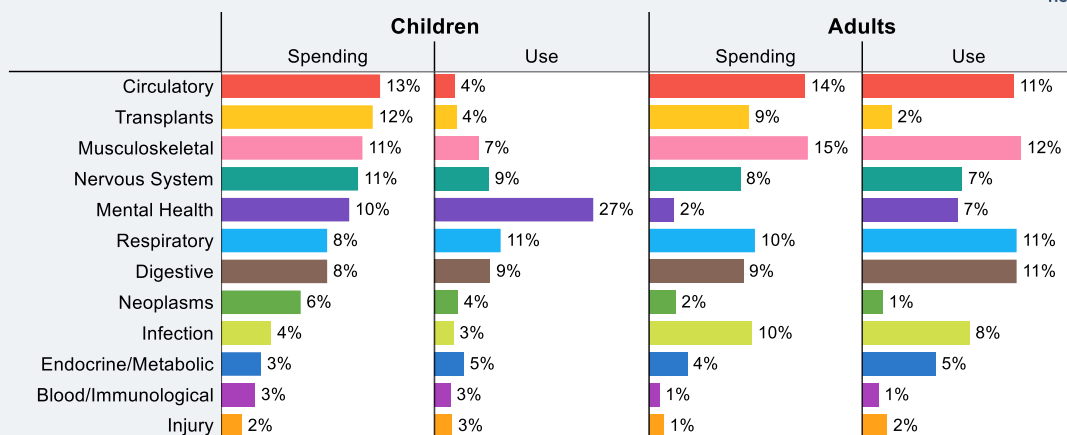




Children's Inpatient Spending and Use

Among children, average per person spending on inpatient services was \$769 in 2020 (26% of total spending per person in this age group). In comparison, average per person spending on inpatient services among adults in 2020 was \$1,164 (18% of total spending per person in this age group).

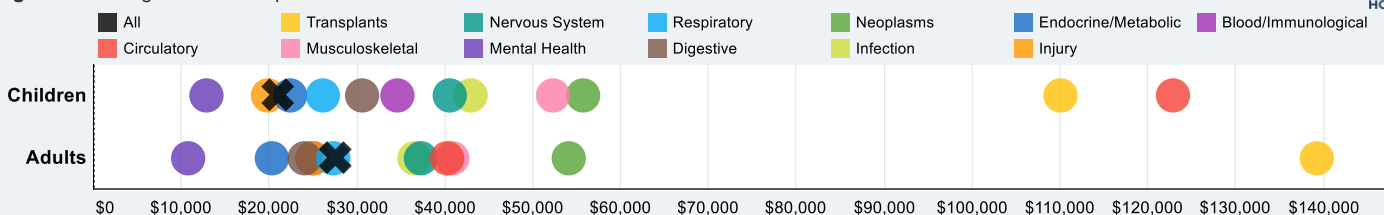
Figure 5: Share of Inpatient Spending and Utilization in 2020



Almost two-thirds of children's hospital admissions and over 40% of children's inpatient (facility) spending was care associated with newborns. Excluding newborn care, 27% of children's hospital admissions were for mental health-related diagnoses, as shown in Figure 5. The next largest categories of admissions among children were for respiratory, nervous system, and digestive conditions, which together accounted for close to 30% of admissions. Though mental health admissions accounted for a large share of use, they represented a smaller share (10%) of spending. Circulatory, transplant, musculoskeletal, and nervous system admissions accounted for close to half of children's inpatient spending.

Compared to adults, a greater share of children's admissions was for mental health (27% compared to 7%) and for cancer-related care (4% compared to 1%). Larger shares of adult admissions were for nervous system, digestive, circulatory, and infection-related needs. Among both children and adults, 11% of admissions were for respiratory conditions.

Figure 6: Average Prices of Inpatient Admissions in 2020 for Children and Adults



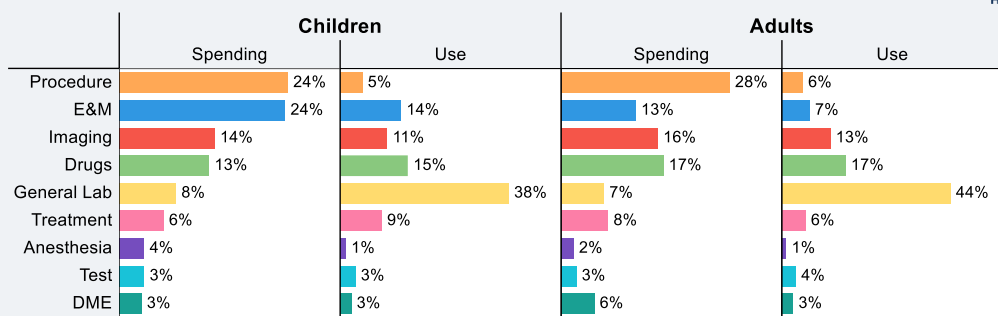
The average price of a hospital admission was slightly higher among adults (\$27,553) than among children (\$21,110). Average prices varied across subcategories, as shown in Figure 6.

- Transplants had the highest average price for adults and the second highest average price for children, though use of these services was relatively low in both populations (Figure 5).
- Circulatory admissions for children had much higher prices than adults likely reflecting differences in the severity and complexity of inpatient cardiac admissions between children and adults.
- The average price of a mental health admission, which accounted for the largest share of children's hospital admissions other than newborn care, was similar for children (\$12,833) and adults (\$10,791) and relatively lower than the prices for other types of admissions.
- Prices were similar for children and adults for digestive, respiratory, nervous system, and infection admissions.

Children's Outpatient Spending and Use

Among children, average per person spending on hospital outpatient services was \$594 in 2020 (20% of total spending per person in this age group). In comparison, average per person spending on outpatient services among adults in 2020 was \$1,801 (28% of total spending per person in this age group).

Figure 7: Share of Outpatient Facility Spending and Utilization in 2020

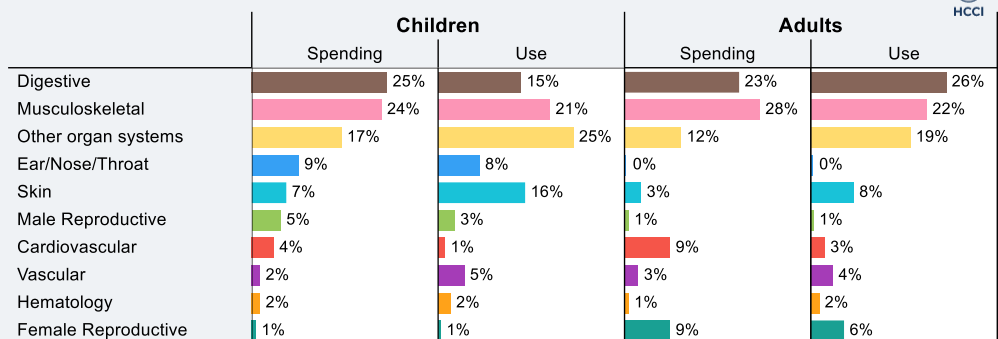


Close to half of (facility) spending on children's outpatient services fell into two subcategories: procedures (24.2%) and evaluation and management (E&M) services, including those provided in the emergency room (23.8%) (Figure 7). Imaging and outpatient (administered) drugs made up another quarter of children's outpatient spending.

Among both children and adults, general labs made up about 40% of outpatient service use, 15-17% of outpatient services were drugs, and about 5% were procedures. E&M services, including emergency room visits, made up a larger share of children's outpatient services than adults (14% and 7%, respectively). Imaging made up a slightly higher share of outpatient services among adults than children, 13% compared to 11%.

Procedures accounted for the largest share of outpatient spending among adults and children. Within the procedures category, procedures on "other organ systems" represented the largest share of children's procedures while digestive/gastrointestinal procedures accounted for the largest share of adult outpatient procedures. Musculoskeletal procedures made up over 20% of procedures for both children and adults.

Figure 8: Share of Outpatient Facility Procedure Spending and Utilization in 2020



The average price of an outpatient hospital service was similar among adults (\$416) and children (\$409). Average prices varied across subcategories but were relatively similar between adults and children in most subcategories of outpatient care, as shown in Figure 9.

- Average prices were highest for outpatient procedures for both children (\$1,931) and adults (\$2,130).
- The second highest price was for outpatient anesthesia services; the average price of these services was higher for children (\$1,162) than for adults (\$956).
- Average prices were lowest for outpatient labs for both children (\$87) and adults (\$71).

Figure 9: Average Prices of Outpatient Facility Services in 2020 for Children and Adults

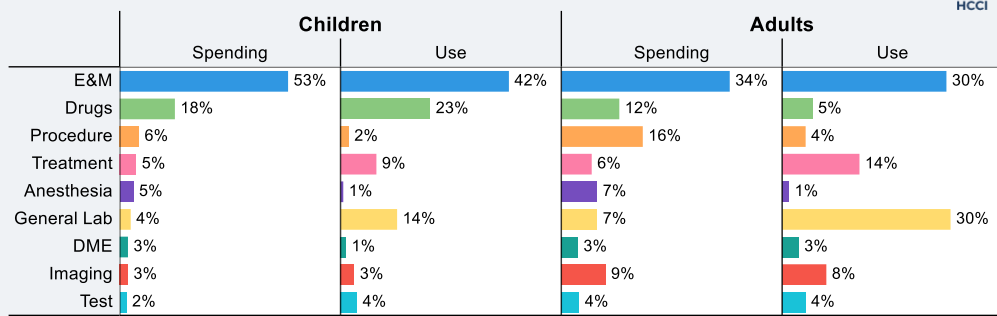




Children's Professional Services Spending and Use

Among children, average per person spending on professional (i.e., physician and other clinician services) was \$1,181 in 2020 (40% of total spending per person in this age group). In comparison, average per person spending on outpatient services among adults in 2020 was \$1,918 (30% of total spending per person in this age group).

Figure 10: Share of Professional Services Spending and Utilization in 2020

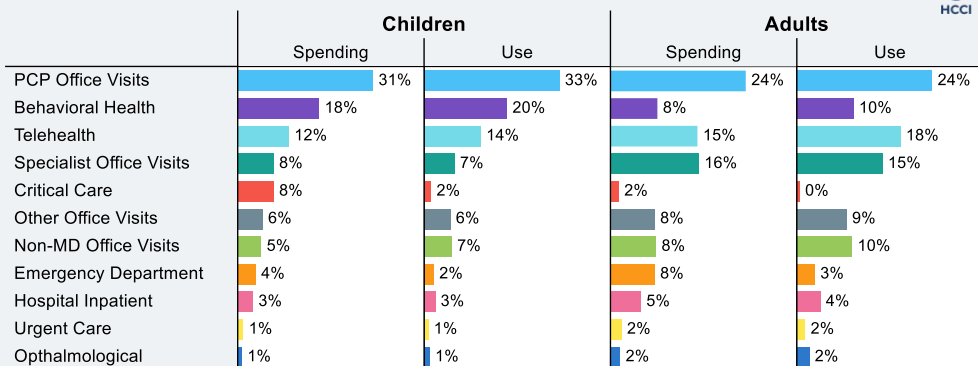


As shown in Figure 10, E&M services (e.g., physician office visits) accounted for over 50% of spending on and over 40% of use of professional services among children. The next highest share of spending on professional services was on administered drugs (17.7%), which include routine childhood vaccinations.

Compared to adults, a greater share of children's professional services was in the E&M category (41.9% compared to 29.6% among adults). Children also had a larger share of their professional services use in the category of drugs (22.5% compared to 5.4% among adults). As a share of professional services, children used general labs half as much as adults (13.9% of professional services among children compared to 30.3% among adults).

Over 40% of children's professional services were in the category of E&M services. Within that category, in-person primary care physician (PCP) office visits represented the largest share of use for both children (32.6% of all E&M use) and adults (23.6%), as shown in Figure 11. Behavioral health services represented the next largest share of E&M services among children at about 20%.

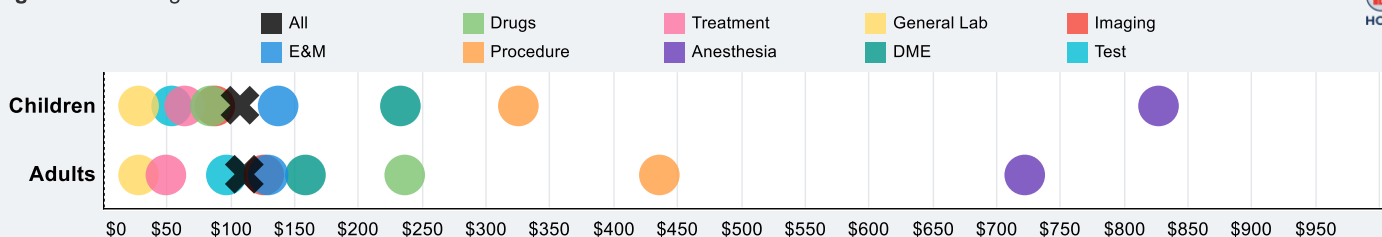
Figure 11: Share of Professional E&M Services Spending and Utilization in 2020



Among adults, behavioral health services accounted for just under 10% of total E&M use. In 2020, telehealth was the third most common E&M service among children (14%). In the same year, telehealth made up a larger share of adult E&M visits (18%). Specialist office visits accounted for a greater share of E&M services for adults than children.

Average prices varied across subcategories but were relatively similar (\$107 for children and \$111 for adults) between children and adults in most subcategories of professional services (Figure 12).

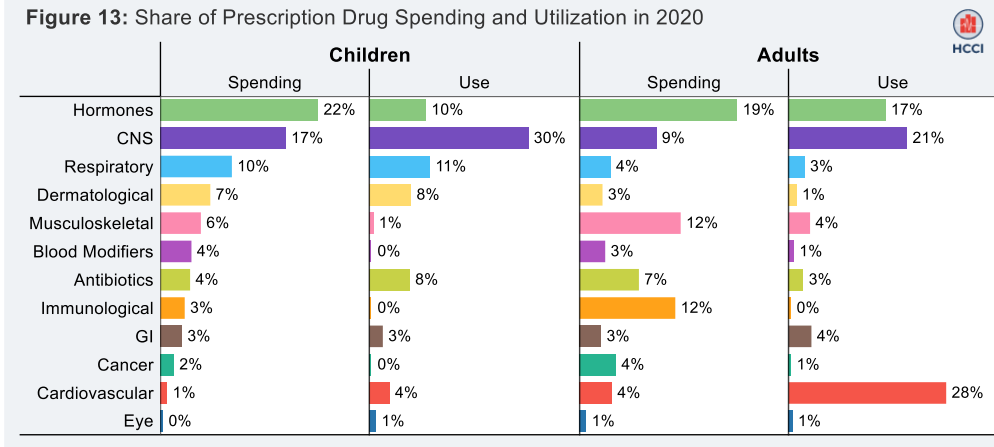
Figure 12: Average Prices of Professional Services in 2020 for Children and Adults





Children's Prescription Drugs Spending and Use

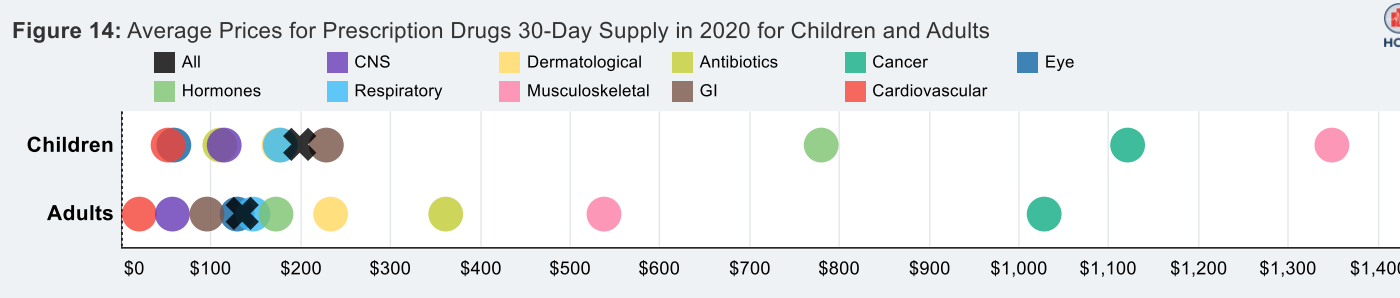
Prescription drug spending includes payments made for drugs dispensed by retail and mail-order pharmacies. This does not include certain drugs administered by physicians or other health care providers during inpatient admissions, in outpatient facilities, or in doctors' offices. Additionally, estimates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



Among children, average per person spending on prescription drugs was \$422 in 2020 (14% of total spending per person in this age group). In comparison, adults spent more than 3.5 times as much on average. Among adults, average per person spending on prescription drugs in 2020 was \$1,546 (24% of total spending per person in this age group).

The largest subcategory of prescription drug spending among children was hormones (21.9%), including insulin, followed by central nervous system agents (CNS, 17.4%), which include most mental health medications, and respiratory drugs (9.9%), including for common childhood conditions such as asthma (Figure 13). Close to 30% of prescription drug use was in the sub-category of CNS agents; hormones made up 10.4% of use, while respiratory drugs made up 11.2% of use. Dermatological drugs and antibiotics each made up close to 8% of use.

Approximately 40% of prescription drug use was in the subcategories of hormones and CNS agents for both adults and children. A greater share of children's prescription drug use was associated with respiratory drugs (11.2%) compared to adults (3.0%) and with dermatological drugs (7.8% among children compared to 1.5% of adult use). Children's antibiotic use was also higher than adults (7.6% of use among children compared to 2.6% of adult use). A much greater share of adult prescription drug use was cardiovascular drugs, 28.2%, compared to 3.9% of children's use.



Average prices are measured for a 30-day supply. These estimates do not reflect manufacturer rebates, coupons, or other discount programs, because those data are not available.

The average price of a prescription drug was similar among adults (\$136) and children (\$199) (Figure 14). Average prices varied across subcategories, some with relatively similar prices and others with more divergent average prices. This variation may be due to the mix of specific drugs within a category taken by children compared to adults.