HCCI HEALTH CARE COST INSTITUTE

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Trends in Children's Health Care Costs and Utilization

A summary of the Children's Health Care Spending Report: 2007—2010

KEY FINDINGS

- Aggregate spending on children's healthcare outpaced inflation (2007—2010).
- Rising prices drove spending increases for all major health care service categories.
- Expenditure on professional procedures contributed the most to overall spending.
- Out-of-pocket spending rose 6.8% between 2009 and 2010, to $371 per insured child.
- HCCI observed notable increases in prescription drug utilization, mental health service use and prices, and emergency room prices.

This research brief highlights findings from the Health Care Cost Institute's (HCCI) *Children's Health Care Spending Report: 2007—2010*.[1] The report tracks changes in expenditure and utilization of health care services for children age 18 and younger, who were covered by employer-sponsored private health insurance (ESI). Our recently released *Health Care Cost and Utilization Report: 2010* found that the health expenditure for children grew faster in 2010 than in any other age group.[2]

Data used in *Children's Health Care Spending Report: 2007—2010* was collected from the health care claims of children who were covered by employer-sponsored private health insurance. The report does not include information about uninsured children, children covered by individual health insurance, or children insured through a public program, such as the Children's Health Insurance Program (CHIP).[3] As a result, the levels and changes in spending, prices, utilization, and mix of services are generalizable only for children covered under ESI.

Coverage and Changes in Coverage

ESI is the most common form of health insurance in the United States with roughly 156.5 million Americans having ESI.[4] Of these beneficiaries, more than 26 percent were age 18 and younger in 2010 (Table 1). For 2010, HCCI estimated the commercially insured population of children was 41.4 million. The three-year trend for the number of covered children showed a decline of 5.7 percent (2007—2010).

Health Care Spending on Children

HCCI estimated that total health care spending in 2010 was $666.1 billion for all beneficiaries under 65 with ESI.[5] Spending on health care for children with ESI was $87.9 billion in that year. The estimated total spending on children rose 11.9 percent between 2007 and 2010, compared to 8.9 percent for all beneficiaries (Table 2).

Estimated per capita spending for the population younger than 65 with ESI was $4,255 in 2010 (Table 2). Per capita spending on children was less than half that amount ($2,123). However, the 2010 figure represents an 18.6 percent increase in spending on children since 2007. In contrast, per capita spending for all beneficiaries rose 15.8 percent in the same period, and inflation as measured by the consumer price index rose only 5.2 percent.[6]

Spending per capita on children differed across the four census regions (Northeast, South, Midwest, and West). As seen in Figure 1, this difference grew over the 2007—2010 period. Per capita expenditure on children was highest in the Northeast ($2,280) and lowest in the West ($1,969) — a difference of $311 in 2010.

A comparison of age groups within the population of children covered by ESI showed differences in the population share, the distribution of total expenditure, and per capita spending (Table 3). About 17 percent of children were infants or toddlers

(children age 0-3) in 2010, but they accounted for about 31 percent of total children's health care expenditure, and had the highest per capita costs ($3,896). Teenagers (children age 14-18) were the largest sub-population of children (29.0% in 2010), accounted for about 31 percent of total expenditure, and had the second highest level of per capita spending ($2,272). The disproportionately high spending on infants and toddlers was offset by lower levels of spending on children age 4-13 years.

Spending on Children by Health Care Service Categories

HCCI analyzed four major categories of health care spending: inpatient facility, outpatient facility, professional procedures, and prescription drugs. More than 40 percent of children's health care spending was on professional procedures, an average of $855 per capita in 2010 (Figure 2). This was followed by outpatient services (23.9% of spending), inpatient admissions (22.2% of spending), and prescription drugs (13.6% of spending) in 2010. Between 2007 and 2010, there was a steady increase in expenditure, with the share for outpatient facility claims growing the fastest (28.4%).

Out-of-Pocket Spending

Payments for services were generally shared between the payer and beneficiary. The payments made by beneficiaries (out-of-pocket spending) were about 17.5 percent of all health care spending on children, compared to 17.1 percent in 2009. Per capita children's out-of-pocket expenditure was $371 in 2010 — an increase of 6.8 percent from 2009 levels ($347). Out-of-pocket spending was highest for children age 0-3 ($491) in 2010, but grew fastest for teenagers (8.8% between 2009 and 2010).

Utilization and Intensity of Facility Services and Professional Procedures

Between 2007 and 2010, inpatient admissions and outpatient visits declined while outpatient other facility claims and professional procedures rose.[7] On average, every 1,000 insured children had roughly 40 inpatient admissions, 226 outpatient visits, 1,027 outpatient other claims, and 10,597 professional procedures. Utilization of mental health and substance abuse inpatient admissions, specialist visits (both for office and preventive services), and outpatient lab/pathology services all experienced growth of more than 10 percent from 2007 through 2010. During the same period, service intensity rose for inpatient admissions and outpatient visits but fell for outpatient other claims and professional procedures.

Prices of Facility Services and Professional Procedures

For children, the price paid for an average inpatient admission increased 16 percent from 2007 to 2010 to $11,995. The price of a surgical admission increased 18.9 percent over the same period to $35,496, and a mental health and substance abuse admission increased 20.6 percent to $8,002 (see discussion below).

Outpatient visit prices increased at more than twice the rate of inpatient admission prices (34.4% from 2007-2010) with emergency room (ER) prices increasing 35.0 percent (see discussion below). Over the same 2007—2010 period, outpatient other prices increased 12.8 percent, and prices for professional procedures increased 9.2 percent.

Even after controlling for changes in intensity, prices outpaced utilization for all major service categories between 2007 and 2010.

Prescription Drugs

Per capita spending on prescription drugs for children was $289 in 2010, a 19.2 percent increase from 2007 levels. At the same time, utilization of prescription drugs among all children declined 1.6 percent as compared to 2007. The price per prescription in 2010 was 21.1 percent higher than in 2007. On average, there were roughly 3.3 prescriptions per child per year. From 2007—2010, the fastest growing classes of drugs prescribed were cardiovascular (24.8%), hormones (20.8%), and central nervous system (10.4%).

Brand name prescription drug use declined 29.2 percent, and generic drug use increased 14.0 percent during the 2007—2010 period. Teenagers had the highest per capita expenditure ($428) on prescription drugs, and the highest rate of growth in spending on prescription drugs (31.2%). Teenagers were the only age group to experience an increase in prescription drug use between 2007 and 2010 (5.5%). For teenagers, brand name prescription drug use declined 25.7 percent while generic prescriptions rose 23.3 percent between 2007 and 2010. On average, there were 4.1 prescriptions per teenager in 2010.

Mental Health

Though use of inpatient services among children declined 2.8 percent between 2007 and 2010, inpatient admissions for mental health and substance abuse treatment increased by 23.8 percent in the same period. Mental health service use was highest for teenagers. The average mental health and substance abuse facility fee was $8,002 in 2010 — an increase of 20.6 percent from 2007. During this period, there was a 6.8 percent increase in the intensity of services provided. At the same time for all children, central nervous system drug use rose 10.4 percent and prices increased 6.8 percent. Central nervous system drugs accounted for roughly 21 percent of all prescriptions filled in 2010. Central nervous system drug use was approximately 1.2 prescriptions per teenager in 2010.

Emergency Room

Between 2007 and 2010, ERs were an increasingly expensive place for children's care. The facility charge associated with the average ER visit increased 35.0 percent from $684 in 2007 to $923 in 2010. At the same time, ER use declined 4.7 percent; ERs saw 176 visits per 1,000 children with ESI in 2010.

Children utilizing ER services demanded more resources in 2010 as compared to 2007 as measured by the increase in service intensity (7.3%). After adjusting prices for the mix of services provided, the price paid for an ER visit (facility fee), excluding any professional procedures, still rose by 25.8 percent during the study period.

Conclusions

Despite declines in the population of children covered by ESI, health care spending for this population rose between 2007 and 2010. For children with ESI, aggregate, per capita and out-of-pocket spending growth outpaced inflation. Health care expenditure varied by both region and age group. Professional procedures consumed the greatest share of health care spending on children. Decomposition of health care costs for children revealed that rising expenditure on facility services and professional procedures were primarily driven by rising prices.

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1. Health Care Cost Institute. Children's Health Care Spending Report: 2007-2010. [Internet] Washington (DC): HCCI 2012.

2. Health Care Cost Institute. Health Care Costs and Utilization Report: 2010. [Internet] Washington (DC): HCCI 2012.

3. Medicaid and CHIP Program Information. Available from: http://www.medicaid.gov/.

4. HCCI estimates are based on a weighting scheme using 3-year American Community Survey (ACS) estimations of the insured population of the United States. Description of the HCCI methods for calculating weights can be found at http://www.healthcostinstitute.org/methodology. Use of ACS led HCCI to have estimates of the under 18 population with ESI in 2010 that are slightly different from those reported by the Kaiser Family Foundation, which were based on the Current Population Survey. KFF estimates the population of children with ESI at 39.6 million in 2009-2010. (See The Kaiser Family Foundation, statehealthfacts.org. Data Source: Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2010 and 2011 Current Population Survey (CPS: Annual Social and Economic Supplements). [Internet]. 2012 (cited 13 June 2012). Available from: http://www.statehealthfacts.org/profileind.jsp?ind=127&cat=3&rgn=1).

5. The term "all beneficiaries" refers to statistics that include both children and adults. The all beneficiaries population consisted of individuals and their dependents who were younger than 65 and covered by group health insurance through an employer in the year of analysis. Usually, when all beneficiaries' metrics are greater than the metrics for children, this would suggest lower utilization/intensity/spending/price/growth for children's health care services than the adult population. All beneficiaries' metrics that are less than the metrics for children would suggest higher utilization/intensity/spending/price/growth for children's health care services than the adult population.

6. United States Department of Labor, Bureau of Labor Statistics. Consumer Price Index Detailed Report, Tables Annual Averages 2010 [Internet]. Washington (DC): BLS; [cited 2012 May 7]. Available from: http://www.bls.gov/cpi/cpid10av.pdf

7. In the *Health Care Cost and Utilization Report: 2010*, HCCI referred to facility claims that were not for an emergency room (ER), outpatient surgery, or observation as "Outpatient Procedures". To help distinguish these other outpatient facility claims that might take place in other types of facilities such as a laboratory, a radiology clinic, or home health environment, HCCI has renamed this category as "Outpatient Other".

Table 1: Estimated Coverage of All Beneficiaries and Children Population: 2007-2010 (millions)

	2007	2008	2009	2010	Percentage Change 2007-2010
All Beneficiaries (0—64)	166.3	164.3	157.8	156.5	-5.9%
Children (Ages 0—18)	43.9	43.3	41.6	41.4	-5.7%
Children's Percentage of Population	26.4%	26.4%	26.4%	26.5%	-

Table 2: Estimated Total and Per Capita Expenditure: 2007-2010

	2007	2008	2009	2010	Percentage Change 2007-2010
Estimated Total Expenditure ($ Billions)					
All Beneficiaries	$ 611.4	$ 639.9	$ 650.0	$ 666.1	8.9%
Children	$ 78.5	$ 81.9	$ 84.5	$ 87.9	11.9%
Per Capita Expenditure					
All Beneficiaries	$3,676	$3,895	$4,120	$4,255	15.8%
Children	$ 1,790	$ 1,893	$ 2,031	$ 2,123	18.6%

Table 3: Distribution of Children's Population, Total Expenditure, and Per Capita Expenditure by Age Group: 2010

Age	Distribution of Children by Age	Proportion of Health Care Expenditure	Per Capita Expenditure
0—3 Years	17.1%	31.4%	$3,896
4—8 Years	25.5%	17.4%	$1,451
9—13 Years	28.4%	20.1%	$1,506
14—18 Years	29.0%	31.1%	$2,272

Notes: All per capita expenditures weighted to reflect the national, younger than 65 ESI population. All figures rounded to the nearest integer, except for percentage changes and estimated national aggregates. Please refer to methodology and glossary for an explanation of terms at www.healthcostinstitute.org/report.

Figure 1: Per Capita Spending on Children by Region: 2007-2010

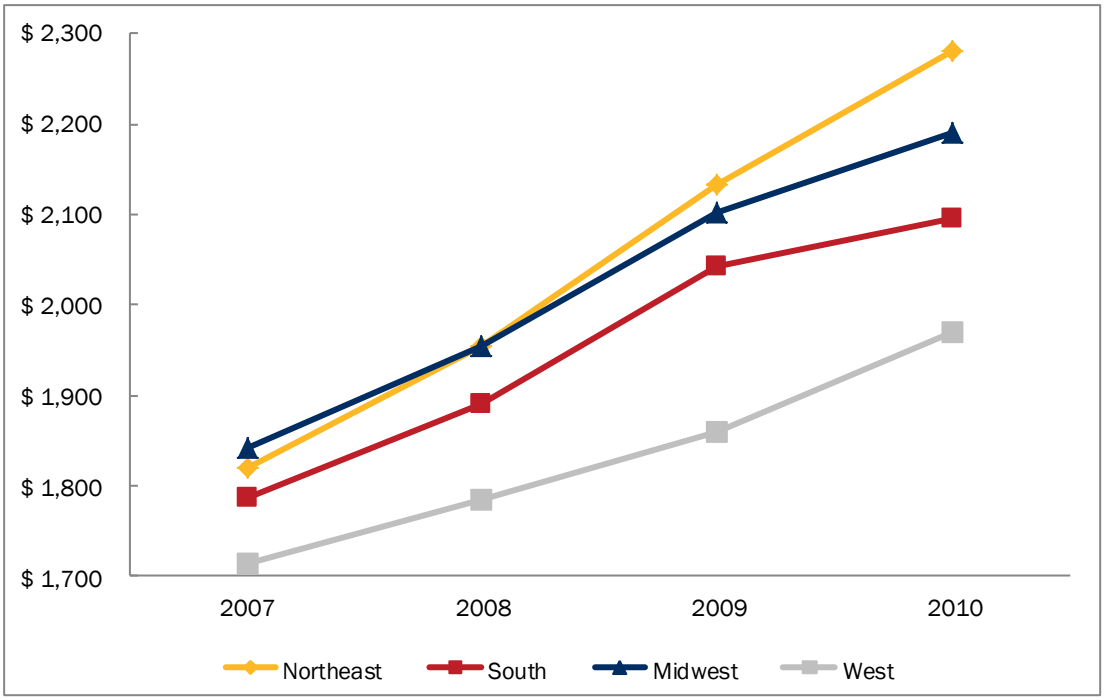
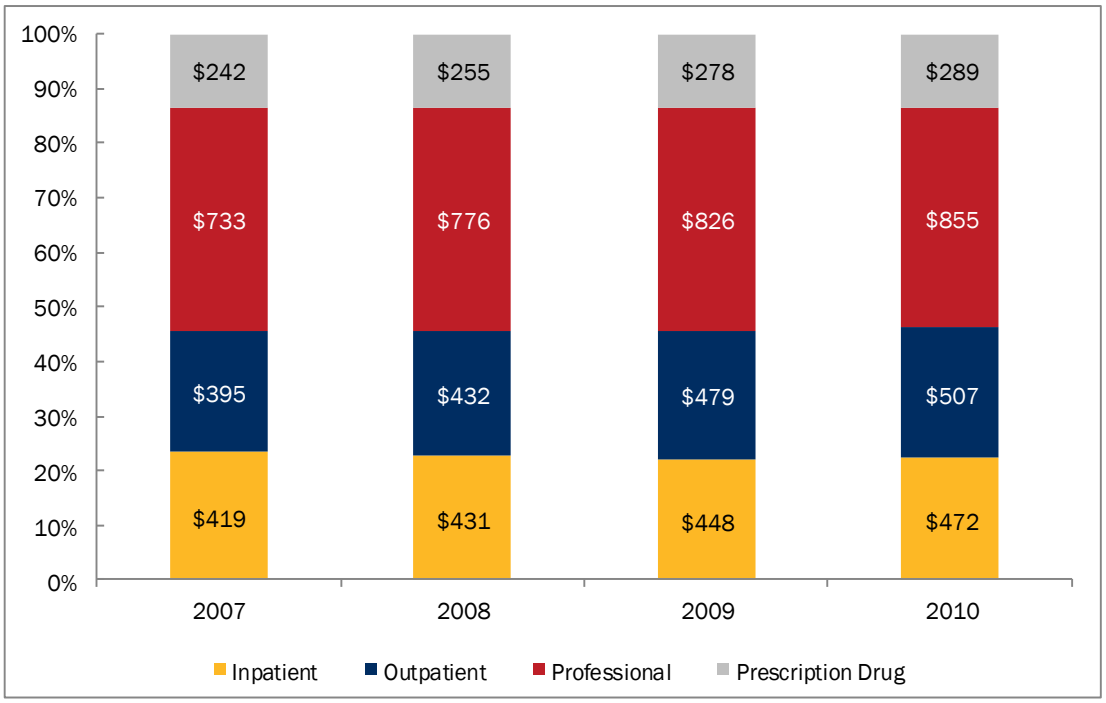


Figure 2: Distribution of Children's Health Expenditure by Major Service Category: 2007-2010



Data and Methods

HCCI has access to roughly 3 billion health insurance claims for more than 33 million individuals covered by ESI from 2007 to 2010 (including both fully insured and self-funded benefit programs). This data was contributed to HCCI by a set of large health insurers who collectively represent almost 40 percent of the US private health insurance market. HCCI received from the data contributors de-identified, Health Insurance Portability and Accountability Act (HIPAA) compliant information that included the allowed cost, or actual prices paid to providers for services. The numbers in this report reflect the actual expenditure on health care by payers and beneficiaries who filed claims with their group ESI.

HCCI provides full methodology, supplemental data dictionaries, and glossaries at www.healthcostinstitute.org/methodology.

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