Utah Primary Care Spend Calculation Project

A Report for the Utah Academy of Family Physicians

Office of Health Care Statistics
Center for Health Data and Informatics
Utah Department of Health

288 North 1460 West
PO Box 144004
Salt Lake City, UT 84114-4004
Phone: 801-538-6700
http://stats.health.utah.gov/

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About this Report

The Utah Department of Health, Office of Health Care Statistics (OHCS) produced this primary care spend report for the Utah Academy of Family Physicians (UAFP). In late 2020, the Office of Health Care Statistics was tasked with using the Utah All Payer Claims Database (APCD) to calculate the total amount of spending on primary health care services as a percentage of all healthcare expenditures, using data from 2018 and 2019 as two separate calculations, while using the Maine Quality Forum's definition of primary care.[1] As part of this project, OHCS was also tasked with providing the UAFP with a description of the methodology used to perform the calculations, a description of the limitations, a breakout of primary care spending across payer types for each year, and a breakout by age cohorts and outcomes data for the aforementioned years, leveraging the Utah Healthcare Facility Database.

About the Data

Utah's All Payer Claims Database

The OHCS is responsible for managing the APCD under authority granted to the Utah Department of Health (UDOH) and the Utah Health Data Committee (HDC).[2] Licensed commercial health insurance carriers and pharmacy benefit managers covering 2,500 or more Utahns are required to submit member eligibility, medical claims, dental claims, and pharmacy claims as well as a healthcare provider file by administrative rule.[3] In addition to commercial insurance data, the APCD collects data from Medicaid. The OHCS contracts with Milliman MedInsight for APCD data collection and processing. Milliman also enhances these data with risk adjusters, cost calculations, quality measures, and patient-provider attribution before delivering the APCD back to the OHCS on a semi-annual basis.

Utah Healthcare Facility Database

The UDOH and the HDC developed a health care facility encounter database and began collecting inpatient discharge from all licensed hospitals in Utah and the Veterans Administration Medical Center in 1992. In addition to these important data, ambulatory surgery and emergency department encounter data collection was established in 1996. These data represent almost every hospitalization, emergency department visit, and ambulatory surgery in Utah for any given year regardless of payer.

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[1] https://mhdo.maine.gov/_mqfdocs/MQF%20Primary%20Care%20Spending%20Report__Jan%202020.pdf
[2] Utah Code 26-33a-104, https://le.utah.gov/xcode/Title26/Chapter33A/26-33a-S104.html.
[3] Utah Administrative Rule R428-15, https://rules.utah.gov/publicat/code/r428/r428-015.htm.

About the Office of Health Care Statistics

The OHCS implements the goals and directions of the HDC. The office collects, analyzes, and disseminates health care data. These data help people understand cost, quality, access, and value in our healthcare system and allow users to identify opportunities for *improvement.*

The data sets under the purview of the office include:

- **Consumer Assessment of Healthcare Providers and Systems (CAHPS)**—Annual customer satisfaction surveys relating to health plan performance.
- **Healthcare Effectiveness Data and Information Set (HEDIS)**—Annual quality measures relating to health plan performance.
- **Healthcare Facility Data (HFD)**—A collection of information about all inpatient, emergency room, and outpatient surgery/diagnostic procedures performed in the state.
- **All Payer Claims Data (APCD)**—A collection of data about health care paid for by third parties, including insurers, plan administrators, and dental and pharmacy benefits plans.
- **Patient Safety Surveillance and Improvement Program (PSSIP)** —A reporting mechanism which captures patient safety events (injuries, deaths, or other adverse events) associated with healthcare delivery and administration of anesthesia, which fosters conversations on how to minimize adverse patient safety events in Utah.

Utah Health Data Committee

The HDC was created by Utah Code 26-33a.[4] Members are appointed by the governor, confirmed by the senate, and represent various perspectives from industry and the community—public health, purchasers, providers, payers, and patients. By law, members are required to have experience with health data.

HDC Mission Statement (Adopted 1994, Amended 2020)

The mission of the HDC is to support health improvement initiatives through the collection, analysis, and public release of healthcare information. Through public-private collaboration, the HDC actively participates in the planning, development, implementation, and maintenance of a statewide health data reporting system, which provides accurate and independently validated information regarding healthcare in the state of Utah. The HDC implements policies to transform data into objective baseline, trend, and performance measurement information, which is made available while preserving patient privacy and confidentiality.

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[4] Utah Health Data Authority Act https://le.utah.gov/xcode/Title26/Chapter33A/26-33a.html

Contact Information

For more information, questions, or comments, please contact:

Sterling Petersen, MPP
Analytics Lead, Office of Health Care Statistics
Utah Department of Health
sterlingpetersen@utah.gov

Carl Letamendi, PhD, MBA, GStat
Bureau Director, Office of Health Care Statistics
Utah Department of Health
cletamendi@utah.gov

Acknowledgements

Methodology

Quality Checks

Understanding local insurance practices and trends are vital to ensuring the data used are accurate and represent the population measured. Data from the Utah All Payer Claims Database (APCD) covering 2018 and 2019 were assessed at the payer level to evaluate suitability for inclusion in the primary care spending analysis. Payers that did not meet minimum quality levels were excluded from analysis. The following quality checks were used as a guideline to determine inclusion:

- Per Member Per Month (PMPM)
    - *Are the payers' average PMPMs within historical expected ranges for the relevant line of business?*
        - *Commercial PMPM between $250–$350[5].*
        - *Medicare between $500–$700.*
        - *Medicaid/CHIP between $150–$250.*
- Financial Field Sums
    - *Are the payers' financial field sums within historical expected ranges across claim types (inpatient, outpatient, and professional)?*
        - *Share of spending on commercial inpatient claims between 21%–27%.*
        - *Share of spending on commercial outpatient claims between 31%–42%[6].*
        - *Share of spending on commercial professional claims between 32%–40%.*
        - *Share of spending on Medicaid and Medicare inpatient claims between 33%–42%.*
        - *Share of spending on Medicaid and Medicare outpatient claims between 22%–27%.*
        - *Share of spending on Medicaid and Medicare professional claims between 22%–33%.*
- HCPCS/CPT Codes
    - *Do the payers' HCPCS/CPT code distributions follow expectations for completeness?*
        - *50%–60% of commercial HCPCS/CPT codes should start with 9.*
        - *15%–20% of commercial HCPCS/CPT codes should start with 8[7].*
        - *6%–8% of commercial HCPCS/CPT codes should start with 7.*
        - *45%–55% of Medicaid HCPCS/CPT codes should start with 9.*

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[5] After further investigation, one commercial plan was included despite having an average PMPM around $400.
[6] After further investigation, one commercial plan was included despite having outpatient spending above 42%.
[7] After further investigation, two commercial plans were included despite falling slightly out of this range.

- *8%–15% of Medicaid HCPCS/CPT codes should start with 8.*
- *6%–8% of Medicaid HCPCS/CPT codes should start with 7.*
- *35%–50% of Medicare HCPCS/CPT codes should start with 9.*
- *15%–25% of Medicare HCPCS/CPT codes should start with 8[8].*
- *6%–9% of Medicare HCPCS/CPT codes should start with 7.*
- *Fewer than 1% of all insurance types HCPCS/CPT codes should be missing.*
- National Provider Identifiers
  - *Are the payers' billing and servicing provider NPIs complete and valid?*
    - *No more than 2.5% of the claims should have missing or invalid NPIs.*

Ultimately, the following payers were included in the analysis:

- Aetna (Commercial, Medicare Part C)
- Cigna (Commercial)
- Humana (Medicare Part C)
- UnitedHealthcare (Commercial, Medicare Part C)
- WellPoint (Commercial)
- Molina (CHIP, Medicaid)
- PEHP (Commercial)
- Regence (Commercial)
- SelectHealth (Commercial, CHIP, Medicaid)
- EMI (Commercial)
- University of Utah Healthy U (Medicaid)

These payers cover approximately 100% of the Children's Health Insurance Population (CHIP) population, 54% of the commercially-insured population, 59% of the Medicaid population, and 82% of the Medicare Part C population in Utah, which makes these results well-representative of the respective underlying populations.

Tabulating Primary Care Spending
The methodology used to compute primary care spending follows the methodology used by the Maine Quality Forum in their 2020 annual report.[9] Beyond use of the Maine Quality Forum methodology, the OHCS also used the set of data quality checks outlined above. These data quality checks ensure inclusion of complete and accurate data.

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[8] After further investigation, one Medicare plan was included despite falling below this range.
[9] "Primary Care Spending in the State of Maine",
https://mhdo.maine.gov/_mqfdocs/MQF%20Primary%20Care%20Spending%20Report__Jan%202020.pdf

Provider Specialty

Provider specialty was determined by linking to the National Provider and Payer Enumeration System (NPPES)[10] using NPI and extracting the "primary taxonomy code," which indicates a provider's primary specialty. Since claims in the Utah APCD have both billing and servicing provider NPIs, specialty was assigned using the following logic:

- *Is the listed servicing provider NPI on the claim tied to an individual?*
    - If yes, use the servicing provider primary taxonomy code from NPPES.
    - If no, proceed to next step.
- *Is the listed billing provider NPI on the claim tied to an individual?*
    - If yes, use the billing provider primary taxonomy code from NPPES.
    - If no, proceed to the next step.
- *Is the listed servicing provider NPI on the claim tied to an organization?*
    - If yes, use the servicing provider primary taxonomy code from NPPES.
    - If no, proceed to next step.
- *Is the listed billing provider NPI on the claim tied to an organization?*
    - If yes, use the billing provider primary taxonomy code from NPPES.
    - If no, assign to "unknown primary taxonomy".

Primary Care Services

Primary care services were measured in two different ways:

- All services performed by "primary care providers" (broad measure).
- Specific "primary care services" performed by "primary care providers" (narrow measure).

Since providers with women's health specialties sometimes function as primary care providers, "primary care services" rendered by women's health specialists were included in the "broad" measure. The lists of provider specialty taxonomy codes and HCPCS/CPT procedure codes used to define "primary care providers" and "primary care services" are located in the appendix of this report.

Limitations

Various approaches have been proposed for calculating primary care spending. The results from this analysis may differ with other states' results due to variations in methods used.

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[10]"National Plan and Provider Enumeration System (NPPES)", https://nppes.cms.hhs.gov/

The Utah All Payer Claims Database (APCD) is comprised of medical claims extracted from insurer and major government payer systems. Payments to healthcare providers outside of these claims systems are not represented in the database. Payments not in the database include healthcare paid by charities, with cash, by smaller governmental programs (such as Indian Health Services), and by other non-insurance arrangements. Furthermore, spending on primary care by insurers and government programs outside of the claims system (e.g., as part of a value-based arrangement) are not included.

The APCD includes a large part of the covered Utah population. However, Medicare Part A and B and complete self-funded employer coverage are not in the APCD. Since approximately a third of Utah Medicare recipients use Medicare Part C in lieu of Part A and B, the results may not be completely representative of the broader Medicare population. Inclusion of self-funded employer data is limited to entities that opted to participate and contribute data to the APCD. As noted in the Methodology section, the data used for this analysis covers a little more than half of the commercially-insured population in Utah.

As outlined in the Methodology section, provider specialty was determined by linking NPIs listed on the claims to NPPES. The accuracy of the listed provider specialty in NPPES was not verified. Because of this, some claims may have been erroneously classified.

Primary Care Spending in Utah, by Payer Type

The tables below provide a breakdown of primary care spending in Utah for calendar years 2018 and 2019 by payer type, and utilize both the narrow and broad measures for primary care spending. Across all payer types, CHIP represents the payer with the highest proportion of primary care spending for 2018 (14.4% and 18.3%, narrow and broad measures, respectively) and 2019 (15.9% and 19.4%, narrow and broad measures, respectively). The narrow and broad measures for commercial payers were 6.6% and 9.1% across narrow and broad measures in 2018; 6.5% and 8.4% in 2019. In 2018, Medicaid narrow and broad measures were 8.0% and 10.2% respectively, and 7.3% and 9.3% in 2019. Lastly, Medicare Part C's percentage of primary care spending was 4.9% and 7.7% across narrow and broad measures in 2018, 5.1% and 8.2% in 2019.

Between the two years in this observation, the payer types that experienced an increase in primary care spending were CHIP (+1.5% narrow, +1.1% broad) and Medicare Part C (+0.2% narrow, +0.5% broad). The two payer types whose primary care spending decreased from 2018 to 2019 were commercial (-0.1% narrow, -1.6% broad) and Medicaid (-0.7% narrow, -0.9% broad). When including all payers in this observation, primary care spending using the narrow measure was 6.6% in 2018 and 6.4% in 2019; 9.1% in 2018 and 8.5% in 2019 using the broad measure.

Table 1: Percentage of spending to primary care by payer type in 2018

Payer Type	Narrow	Broad	Unclassified
CHIP	14.4%	18.3%	0.0%
Commercial	6.6%	9.1%	1.0%
Medicaid	8.0%	10.2%	0.0%
Medicare Part C	4.9%	7.7%	0.4%
Combined	*6.6%*	*9.1%*	*0.8%*

Table 2: Percentage of spending to primary care by payer type in 2019

Payer Type	Narrow	Broad	Unclassified
CHIP	15.9%	19.4%	0.0%
Commercial	6.5%	8.4%	0.9%
Medicaid	7.3%	9.3%	0.0%
Medicare Part C	5.1%	8.2%	0.9%
Combined	*6.4%*	*8.5%*	*0.8%*

Primary Care Spending in Utah by Age Groups

The tables below illustrate primary care spending in Utah by age groups and use narrow and broad measures for primary care spending. Consistent with the higher rates of primary care spending for CHIP on the previous page, the age group with the highest proportion of primary care spending in Utah is for those in the 0-17 age group. Primary care spending for the 0-17 age group was 15.4% and 18.2% in 2018 across narrow and broad measures, 14.2% and 16.8% in 2019. The age groups that experienced a slight increase in primary care spending between 2018 and 2019 were 65-74, 75-79, 80-84, and 85+; across all other age groups we observe a decrease in both narrow and broad measures between the two years.

Table 3: Percentage of spending to primary care by age in 2018

Age Group	Narrow	Broad	Unclassified
0-17	15.4%	18.2%	0.6%
18-24	6.0%	8.9%	1.3%
25-34	5.0%	8.1%	0.8%
35-44	5.2%	7.8%	1.4%
45-54	4.5%	6.6%	0.8%
55-64	3.6%	5.4%	0.6%
65-74	4.7%	7.5%	0.6%
75-79	4.5%	7.1%	0.6%
80-84	4.5%	7.2%	0.4%
85+	4.4%	7.0%	0.4%
Unknown	1.0%	1.6%	0.2%
Combined	*6.6%*	*9.1%*	*0.8%*

Table 4: Percentage of spending to primary care by age in 2019

Age Group	Narrow	Broad	Unclassified
0-17	14.2%	16.8%	0.5%
18-24	5.9%	8.3%	1.0%
25-34	4.8%	6.9%	0.9%
35-44	5.1%	7.0%	1.1%
45-54	4.4%	6.0%	0.7%
55-64	3.5%	5.1%	0.7%
65-74	4.9%	7.6%	0.9%
75-79	4.6%	7.6%	0.7%
80-84	4.9%	8.1%	0.8%
85+	4.5%	7.5%	0.9%
Unknown	1.1%	1.5%	0.2%
Combined	*6.4%*	*8.5%*	*0.8%*

Utah Hospitalizations and Emergency Department Visits

As requested by the UAFP, the table below provides 2018 and 2019 data for total hospitalizations, hospitalizations for ambulatory sensitive conditions, and emergency department visits. In 2018, there were 12,823 hospitalizations for ambulatory care sensitive conditions and 13,440 in 2019. In 2018, there were 285,041 total hospitalizations and 288,699 in 2019. Lastly, there were 735,305 emergency department visits in 2018, 745,020 in 2019.

Table 5: Ambulatory Care Sensitive Conditions, Hospitalizations and Emergency Department Visits, 2018 and 2019

	2018	2019
Hospitalizations for Ambulatory Care Sensitive Conditions (ACSCs)	12,823	13,443
Total Hospitalizations	285,041	288,699
Emergency Department Visits	735,305	745,020

Conclusion

In conclusion, this report used the Maine Quality Forum methodology to explore what percentage of Utah's total health care expenditure for 2018 and 2019 is attributed to primary care spending. The analysis demonstrates Utah's primary care spending is consistent with primary care spending found in other states, according to the most recent report from Maine.[11] Given that the Maine report is not inclusive of all states, it is uncertain how Utah's primary care spending fares at a national level.

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https://www.pcpcc.org/sites/default/files/resources/MQF%20Primary%20Care%20Spending%20Report__Jan%202020.pdf

Appendix A – Primary Care Specialty Taxonomy Codes

Allopathic & Osteopathic Physicians
207Q00000X – Family Medicine Physician

207R00000X – Internal Medicine Physician

207RG0300X – Geriatric Medicine (Internal Medicine) Physician

207V00000X – Obstetrics & Gynecology Physician

207VG0400X – Gynecology Physician

208000000X – Pediatrics Physician

2083P0500X – Preventive Medicine/Occupational Environmental Medicine Physician

208D00000X – General Practice Physician

Ambulatory Health Care Facilities
261QF0400X – Federally-Qualified Health Center (FQHC)

261QP2300X – Primary Care Clinic/Center

261QR1300X – Rural Health Clinic/Center

Nursing Service Providers
163W00000X – Registered Nurse

Other Service Providers
175F00000X – Naturopath

175L00000X – Homeopath

Physician Assistants & Advanced Practice Nursing Providers
363A00000X – Physician Assistant

363AM0700X – Medical Physician Assistant

363L00000X – Nurse Practitioner

363LA2200X – Adult Health Nurse Practitioner

363LF0000X – Family Nurse Practitioner

363LP0200X – Pediatric Nurse Practitioner

363LP2300X – Primary Care Nurse Practitioner

363LW0102X – Women's Health Nurse Practitioner

363LX0001X – Obstetrics & Gynecology Nurse Practitioner

364S00000X – Clinical Nurse Specialist

Appendix B — Primary Care Services

Alcohol and drug rehabilitation/detoxification
99408, 99409

Consultation, evaluation, and preventative care
99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99356, 99357, 99358, 99359, 99360, 99367, 99381, 99382, 99383, 99384, 99385, 99386, 99387, 99391, 99392, 99393, 99394, 99395, 99396, 99397, 99401, 99402, 99403, 99404, 99406, 99407, 99411, 99412, 99420, 99429, 99487, 99490, 99491, 99497, 99498, G0108, S0610, S0612, S0613

Diagnostic physical therapy
96110

Diagnostic procedures, male genital
G0102

HCPCS not classified
G8420, G8427, G8482, G8709, G8711, G8730, G8950, G9903, G9964, G9965, G9966, G9967

Laboratory - Chemistry and Hematology
G0103

Mammography
G0202

Microscopic examination (bacterial smear, culture, toxicology)
G0475, G0476

Nonhospital-based care (e.g., home health care, hospice)
99304, 99305, 99306, 99307, 99308, 99309, 99310, 99315, 99316, 99318, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99339, 99340, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350, G0151, G0249

Other diagnostic procedures, female organs
G0101, G0123

Other Laboratory
G0472

Other non-OR therapeutic cardiovascular procedures
G0166

Other therapeutic procedures
96372, 96373, 96374

Pathology
G0145

Prophylactic vaccinations and inoculations
90281, 90287, 90288, 90291, 90296, 90371, 90375, 90376, 90384, 90385, 90386, 90389, 90393, 90396, 90399, 90460, 90461, 90465, 90466, 90467, 90468, 90471, 90472, 90473, 90474, 90476, 90477, 90581, 90585, 90586, 90587, 90620, 90621, 90625, 90630, 90632, 90633, 90634, 90636, 90644, 90645, 90646, 90647, 90648, 90649, 90650, 90651, 90653, 90654, 90655, 90656, 90657, 90658, 90659, 90660, 90661, 90662, 90663, 90664, 90665, 90666, 90667, 90668, 90669, 90670, 90672, 90673, 90674, 90675, 90676, 90680, 90681, 90682, 90685, 90686, 90687, 90688, 90689, 90691, 90697, 90698, 90700, 90701, 90702, 90703, 90704, 90705, 90706, 90707, 90708, 90712, 90713, 90714, 90715, 90716, 90717, 90718, 90719, 90720, 90721, 90723, 90725, 90727, 90732, 90733, 90734, 90735, 90736, 90738, 90739, 90740, 90743, 90744, 90746, 90747, 90748, 90749, 90750, 90756, G0008, G0009

Psychological and psychiatric evaluation and therapy
90785, 96160, 96161, 99354, 99355

Telehealth
98966, 98967, 98968, 98969, 99441, 99442, 99443, 99444, 99495, 99496