CIVHC
CENTER FOR IMPROVING VALUE IN HEALTH CARE

CO APCD Insights Dashboard: Methodology

Summer 2022, based on March 14, 2022 CO APCD data warehouse refresh

The Colorado All Payer Claims Database (CO APCD) Insights Dashboard enables users to understand how the database has changed over time related to the number and types of payers, number of insured people included in the database by payer, county and across the state, and volume and types of claims available.

The CO APCD includes claims for Medicaid, Medicare Advantage and Fee-for-Service (FFS), and commercially insured lives with the exception of most ERISA-based self-insured employer claims. This report also provides the percent of insured lives and percent of total lives represented in the CO APCD based on the American Community Survey (ACS) data from the U.S. Census Bureau. It is important to note that the ACS data on covered lives includes insured people covered by federal plans such as the VA, Tricare and Indian Health Services which are not available in the CO APCD.

The current report is based on January 2013 through December 2021 submissions from health insurance payers and uses (a) eligibility records showing the number of people with medical, pharmacy and dental coverage regardless of whether they used their insurance, and (b) actual medical, dental and pharmacy claim records. For the CO APCD comparison against ACS population estimates, the report relies on January 2013 through December 2020 eligibility records which indicate coverage for medical services. Only data through 2020 is currently available through ACS population estimates.

The report also includes information on volume of behavioral health services (covering both mental health and substance use related services) present on the CO APCD medical claims: number of people with one or more behavioral health service during a year, and number of claims with one or more behavioral health service during a year. The CO APCD receives limited substance use disorder (SUD) claims due to Federal Regulations that prohibit the sharing of SUD claims under certain circumstances.

Data is also available for dental claim volume trends and the number of covered lives by employer group size by county.

The following information is included in the tabs (bold) and sub-tabs of the report:

- **CO APCD Overview**
- **Population Information**
  - Total People by Year
  - Insured People and Population by County
  - Population Over Time
- **Payer Information**
  - Payer Volume by Year (including named commercial payers and fully insured vs. self-insured covered lives)
  - Insured People by Payer
  - Insured People by Payer Trend
  - Employer/Member Commercial Coverage

- **Claim Volumes**
    - Claim Volume by Year
    - Behavioral Health Services
    - Dental Services

Definitions and Methods

Insured People

Each person that is uniquely identified in the CO APCD is counted as a distinct person in this report. The number of insured people represents a count of distinct persons represented in the CO APCD. This report provides information on unique insured people based on CO APCD *eligibility* records (which indicate how many people have insurance coverage regardless of whether or not they used it), and based on CO APCD *claim* records (which show the number of individuals with coverage that used services during the year).

In the **Overview tab,** counts of distinct people in the CO APCD that match the respective payer types and coverage types is based on **any coverage type during any month of the year(s) selected**. For example, Person A who has *medical, pharmacy, and dental* eligibility from January through April 2020, with no coverage of any kind for the rest of the year, is counted only once in the total number of people across all payers (and counted once in each of the three coverage types, as well). Person B who has medical eligibility from January through June 2020 and no other type of coverage during the year is also counted only once in the total. Person C who has continuous 2020 medical coverage by a commercial payer for January through November 2020, and switches to Medicare FFS in December 2020, is counted only once in the total number of people across all payers, and is counted as one person in Commercial and one person in Medicare FFS when selecting individual payer types.

Alternatively, on the **Insured People and Population by County tab**, CO APCD counts of people **only include individuals with medical coverage** (leaving out those with dental or pharmacy coverage) and only those with coverage **during the month of December of each year.** This point in time methodology was used in order to more closely align with the ACS Census data which was used for the denominator in the population percentage estimates on this tab (see more info below). As a result, individuals like Person A and Person B in the example above are dropped from the count entirely on the counts displayed on the "Insured People & Population by County" tab because they didn't have coverage in December. Person C will be counted in the All Payers and Medicare results because they did have medical coverage through Medicare FFS in December, but will not be counted in Commercial because they didn't have that type of coverage in that month.

As a result of the methodology differences above, users should not compare totals of unique people statewide or by payer type between the two tabs. Instead, users should determine what they want to understand or convey (total unique lives at any point during a year with any type of coverage, or medical coverage only at one point in time) and select the appropriate data to reference.

Claim Volume

This report displays the claim volume, a count of uniquely identified claim records in the CO APCD. Each distinct claim counts as one, though a claim can cover one or more services.

Payer Volume

Payer volume in this report provides a count of uniquely identified payers in the CO APCD. Many payers have multiple lines of business and submit them separately to the CO APCD but they are counted as one payer family in this report. For example, Aetna's PPO, HMO and self-insured submissions may be provided as separate submissions, but "Aetna" as the payer family category is counted as only one payer.

ACS Population Estimates and CO APCD Comparison

This report also includes a comparison of the number of insured people in the CO APCD against the total state population and population with insurance—by insurance type and overall—using American Community Survey (ACS) population estimates produced by the U.S. Census Bureau. The following three ACS Subject Tables were used for total population and health insurance coverage comparisons:

- Table S2701 – *Selected Characteristics of Health Insurance Coverage in the United States* (formerly titled as *Private Health Insurance Coverage by Type* through 2014)
- Table S2703 – *Private Health Insurance Coverage by Type and Selected Characteristics* (formerly titled as *Private Health Insurance Coverage by Type* through 2016)
- Table S2704 – *Public Health Insurance Coverage by Type and Selected Characteristics* (formerly titled as *Public Health Insurance Coverage by Type* through 2016)

For all Reporting Years, comparisons are based on ACS *5-year* estimates for *state*-level calculations, and on the ACS *5-year* estimates for *county*-level calculations. For example, the 2019 statewide values are based on comparing 2019 CO APCD numbers with the state ACS 2019 5-year estimates for the 2015-2019 timeframe; similarly, the 2019 Denver County values compare 2019 CO APCD numbers with the Denver County, Colorado ACS 5-year estimates for the 2015-2019 timeframe.

In order to have a more appropriate comparison between CO APCD numbers and the ACS, which is based on a population sample surveyed on a rolling basis throughout the calendar year, the CO APCD information represents individuals with eligibility records for **medical services only** during the month of December of each year. If all CO APCD individuals with eligibility for medical services at any time during the 12 months of the year were included instead, the resulting number would have represented an overcount compared to the ACS sample. The CO APCD person selection used for this report should not be interpreted as the equivalent of the ACS sampling technique, but rather as a proxy created for the purposes of a directional comparison. As such, the resulting calculations should be interpreted with caution.

Two percentage calculations are displayed in the report:

- **Percent of Total Population in the CO APCD**: calculated as the number of insured people in the CO APCD that are eligible for medical coverage divided by the ACS total population estimate for the same geography. For any of the payer types selected, the numerator represents insured people in CO APCD of the selected payer type divided by the ACS-based denominator representing all people with ***any*** **insurance type** ***and*** **any uninsured individuals**. For example, when selecting "commercial" statewide, a 35% percent of total population result means that the number of commercially insured people in the CO APCD represents 35% of all Coloradans regardless of whether or not they have any insurance coverage and regardless of the insurance type they hold.
- **Percent of Insured Population in the CO APCD**: calculated as the number of insured people in the CO APCD that are eligible for medical coverage divided by the ACS population with insurance

estimate for the same geography. When a specific payer type is selected, the denominator reflects the estimate for number of insured people from the ACS **specific to that payer type**. For example, a result of 50% for commercial means that out of the commercially insured Coloradans as estimated by the ACS for the respective geography, the CO APCD has an estimated 50% of those lives included. **NOTE**: ACS estimates for Medicare Advantage covered lives are not available, therefore Insured Population and Percent of Insured Population reflect N/A when Medicare Advantage is selected.

For these two calculations, values above 100% are occasionally possible due to the difference in methodologies used for numerator and denominator. In the report, values above 100% are displayed as 100%.

The report also includes ACS estimates for total population and for insured and uninsured population, at the state and county level.

Demographic Characteristics

The statistics used for comparison with the ACS estimates, and those that are displayed at the county level are based on Colorado residents only, while the rest include non-Colorado residents as well, if they appear in the CO APCD. For people with medical coverage, the portion of non-CO residents in the CO APCD (based on either a known state other than CO or an unknown zip code) is .5%-3% depending on the year being evaluated. Resident status is determined based on the most recent insurance eligibility record available in a given year, which indicates whether the person resides in a ZIP code within Colorado. All calculations are based on where Colorado residents live, not where they received care.

Geographic Groupings

Geographic breakdowns in the report are available across the 64 Colorado counties.

Payer Types and Payer Detail

General Payer Type Information

The main payer types available in this report are: Commercial, Medicaid, Medicare Advantage, Medicare Fee-For-Service (Medicare FFS), and a combination of all four types labeled as “All Payers.”

Assigning Payer Types

For counts based on eligibility records, payer type is defined based on primary insurance information at the person-eligibility-month level, meaning that a person is counted with coverage for a payer type if they had at least one month of coverage with the payer type during the year. As a result, one person may be counted as having more than one payer type during the year. Similarly, one person may be counted for multiple payers during the year. **For counts driven by claims**, payer type is defined based on the payer information present on the claim.

Payer-specific Caveats

On the Overview tab, Medicare Advantage, Medicaid, and Medicare FFS show multiple payers providing coverage for those plans. This is because multiple payers provide coverage for Medicare Advantage and Medicaid plans. Payers who pay for Medicare Part D are included in the Medicare FFS category, therefore there are multiple payers listed under Medicare FFS.

On the Insured People by Payer tab, data is displayed for commercial payers at the payer level, and for public payers, specifically Medicare FFS, and Medicaid. For commercial payers, the number of lives

includes those with Medicare Advantage. This tab also shows the number of insured people covered by self-insured employers and fully insured employers, overall at the payer-level (for "All Coverage Types") as well as within each coverage type (when selecting "Medical", "Pharmacy" or "Dental").

Self-insured employers pay directly for all health insurance claims incurred by their employees and dependents as opposed to employers who are fully insured and purchase through a typical group insurance arrangement. Self-insured counts in the report are computed based on the presence of a self-insurance indicator in either the risk basis field, the coverage type code field, the market category code field or the insurance product type code field. The report displays blank values for self-insured people for payers who either do not offer self-insured plans or are not submitting self-insured data. ERISA-based self-insured data is voluntary, so most data included in the CO APCD reflects non-ERISA self-insured plans.

Payers who only offer one type of coverage (i.e. dental or pharmacy), will have the same number represented in both the "all coverage types" and "all claims types" as well as in the specific coverage and claims category type. For example, Delta Dental shows over a million claims in the "All Claims Type" results as well as in the "Dental Claims" results.

Since not all payers indicate fully vs. self-insured coverage in their submitted records or have self-insured lines of business, total covered lives may not always directly match self-insured and fully-insured totals for some payers. Claims versus coverage for Dental and Pharmacy may be inconsistent for some payers due to submission practices. CIVHC is actively working with submitters to better understand and address data submission quality. Contact us at info@civhc.org for more information related to a specific payer, or visit the Report Resources section on the dashboard page for a more detailed payer submission document.

Medicare Fee For Service (FFS) Claims Submissions

Medicare FFS claims for medical and pharmacy are submitted on an annual or quarterly basis as opposed to a monthly basis for all other payers. For 2021, some medical and pharmacy claims data are available from supplemental plans, however, it is important to note when viewing Medicare FFS data and all payer data, complete claims for Medicare FFS are not represented. Complete claims for Medicare FFS are available for medical claims through December 2020, and for pharmacy claims through December 2019. Medicare FFS does not offer dental coverage and therefore it is not available. For more information about what's currently available in the CO APCD (paid through dates), click here.

Coverage Types

Coverage types are determined based on indicators on CO APCD eligibility records and provide information on whether a person has coverage for medical, pharmacy, dental (or a combination of these), in a given month.

Claim Types

Claim types are determined based on the source file and layout of the submitted claim that identifies it as medical or pharmacy claim. Claims are classified as a dental claim type if they have a Dental Procedures and Nomenclature codes (CDT) present on each claim line, or if they were submitted to the CO APCD by a dental carrier (i.e. a submitter of dental service claims records only, no medical or pharmacy records).

Behavioral Health Services

Behavioral health services refer to services on medical claims which have at least one diagnosis code (ICD-9 or ICD-10) on the claim—among all admitting, principal or secondary diagnoses—categorized as a *mental illness diagnosis*[i], or at least one of the procedure codes (ICD-9, ICD-10 or HCPCS codes) classified as: *psychological and psychiatric evaluation and therapy*, or *alcohol and drug rehabilitation/detoxification*[ii].

As mentioned in the introduction, the CO APCD receives limited substance use disorder (SUD) related records due to Federal Regulations. For a list of the codes used to calculate behavioral health codes and a breakout of SUD vs Behavioral Health codes, download our Behavioral Health and Substance Use Volume Excel file. (Please note that data in the downloadable file does not exactly match the dashboard results because it is based on an older data warehouse refresh).

Employer/Member Commercial Coverage by Group Size

Statistics for employer and member coverage by employer group size are based on eligibility records from commercial payers only, and include records with any coverage type. Calculations have been restricted to the 2017-2021-time frame due to changes over time in the data collection of the Market Category Code field, which is the key field used for this analysis. Group size categories are based on the Market Category Code field except for the 'Self-Insured' category, which is defined based on multiple fields (refer to the self-insured counts definition available for the Insured People by Payer tab, in the Payer-specific Caveats section above). Employer counts are calculated as counts of distinct Employer Tax ID values submitted on eligibility records. Geographical breakdowns are based on the county of residence of the insured person, rather than the county of the employer.

Statistics are available with the following breakdown categories:

- **Self-Insured:** Employer-based coverage where the company takes on the responsibility of paying all medical claims. These employers can contract for insurance services with a third-party administrator, or they can be self-administered.[1]
- **Individuals (non-group)**: Policies sold and issued directly to individuals.
- **Employers with 1 to 100 employees:** Policies sold and issued directly to employers having 100 or fewer employees.
- **Employers with 101 or more employees:** Policies sold and issued directly to employers having 101 or more employees.
- **Other types:** Policies sold directly to an individual on a franchise basis or as group conversion policies, policies sold and issued directly to small employers through a qualified association trust, and polices sold to other types of entities.

Data Suppression

Following privacy protection standards used by the Centers for Medicare & Medicaid Services (CMS), data points resulted from the CO APCD are suppressed if they represent fewer than 11 units, for example, fewer than 11 insured people, or fewer than 11 claims. Data points impacted by low volume are displayed as blank values on the dashboard. Suppression is not applied for number of payers.

[1] https://www.healthcare.gov/glossary/self-insured-plan/

CO APCD counts of people and claims are rounded to the nearest tenth throughout the report. Rounding of values is applied after the suppression of values described above. As such, non-suppressed counts between 11 and 14 will be displayed as '10' in the report.

Data Limitations

Data presented in this report are the result of a process that strives to ensure high quality, reliable, and accurate information. Potential areas of concern are investigated and addressed accordingly, on a regular basis, and while every effort is made to address all known areas of concern for this report, some may remain.

Data for small population breakdowns or for rare events should be interpreted with caution, since they are prone to significant fluctuations. Colorado counties with small populations (fewer than 5,000 people overall) at one point during the reporting time frame include: Baca, Cheyenne, Costilla, Custer, Dolores, Gilpin, Hinsdale, Jackson, Kiowa, Lincoln, Mineral, Ouray, Phillips, San Juan, Sedgwick, Saguache, and Washington.

Data Vintage

More information regarding the payers represented in this public report visit the Report Resources section of the dashboard webpage.

Terms & Conditions of Use

CIVHC takes reasonable steps to ensure CO APCD data integrity but is not responsible for the accuracy or completeness of data submissions made by payers to the CO APCD. CIVHC is not responsible for the results of additional analysis that may be conducted and distributed using this publicly available data source.

---

[i] For this purpose we used the following crosswalks:

a) Clinical Classifications Software (CCS) for ICD-10-CM (beta version). Healthcare Cost and Utilization Project (HCUP). October 2018. Agency for Healthcare Research and Quality, Rockville, MD. https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccsr_archive.jsp

b) Clinical Classifications Software (CCS) for ICD-9-CM. Healthcare Cost and Utilization Project (HCUP). March 2017. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp

[ii] For this purpose we used the following crosswalks:

a) Clinical Classifications Software (CCS) for ICD-10-PCS (beta version). Healthcare Cost and Utilization Project (HCUP). November 2019. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/toolssoftware/ccs10/ccs10.jsp

b) Clinical Classifications Software (CCS) for ICD-9-CM Procedures. Healthcare Cost and Utilization Project (HCUP). February 2016. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/toolssoftware/procedure/procedure.jsp

c) HCUP CCS-Services and Procedures. Healthcare Cost and Utilization Project (HCUP). October 2020. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/toolssoftware/ccs_svcsproc/ccssvcproc.jsp