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# CO APCD Insights Dashboard: Methodology

Spring 2025, based on March 11th, 2025 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, 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 Veterans Affairs, Tricare and Indian Health Services which are not available in the CO APCD.

The **current report is based on January 2013 through December 2024 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 2024 eligibility records which indicate coverage for medical services. Only data through 2023 is currently available through ACS population estimates.

This report highlights key areas including behavioral health services, trends across dental, vision, inpatient, outpatient, and professional claims, and covered lives by employer group size and county. It also provides demographic data on race/ethnicity, sex, and age.

The interactive report and the accompanying Excel file are organized into the following sections:

- **Overview**
  - Total Claims Overall and by Claim Type
  - Total Claim Volume by Year
  - Number of Payers by Coverage and Claim Type
  - Number of People by Coverage and Claim Type
- **Population Information**
  - Total People by Year, County, and Payer Type
  - Population Estimates
  - Total Colorado Population and Insured Population in CO APCD by County and Year
- **Commercial Payer Information**
  - Payer Volume by Year (including named commercial payers and fully insured vs. self-insured covered lives)
  - Insured People by Payer, Year, and Coverage Type
  - Insured People with Claims by Payer, Year, and Coverage Type

    - Insured People by Payer Trend
    - Employer/Member Commercial Coverage
- **Employer and Individuals**
    - Statistics available with the following breakdown of market categories:
        - **Self-Insured**
        - **Individuals (non-group)**
        - **Employers with 1 to 100 employees:**
        - **Employers with 101 or more employees**
        - **Other types**
- **Utilization**
    - Claim Volume Trend by Payer Type and Subset
        - Behavioral Health Services
        - Dental Services
        - Vision Services
        - Inpatient, outpatient, and professional services
- **Demographic Focus**
    - Volume of Unique Members by Payer Type, Reporting Year, and Demographic
        - Age
        - Sex
        - Race/ethnicity
    - Over Time Trend by Payer Type and Demographic

## 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* (Five Year Estimate Report 2019 – 2023)
- Table S2703 – *Private Health Insurance Coverage by Type and Selected Characteristics*
- Table S2704 – *Public Health Insurance Coverage by Type and Selected Characteristics*

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 2023 statewide values are based on comparing 2023 CO APCD numbers with the state ACS 2023 5-year estimates for the 2019-2023 timeframe; similarly, the 2023 Denver County values compare 2023 CO APCD numbers with the Denver County, Colorado ACS 5-year estimates for the 2019-2023 timeframe.

To enable a more meaningful comparison with the ACS— which surveys a sample of the population throughout the calendar year—CO APCD data in this report includes only individuals with **medical coverage during the month of December** each year. Including everyone with coverage at any time during the year would lead to an **overcount** relative to the ACS data. While this method does not replicate the ACS sampling approach, it serves as a **proxy** to allow for a general comparison. Therefore, the resulting estimates should be viewed as **approximate** and interpreted with caution.

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# CO APCD Overview

**Insured People:** The number of insured people represents a count of distinct persons represented in the CO APCD. Unique insured people based on ***eligibility*** records and ***claim*** records.

- **Eligibility records:** Indicate how many people have insurance coverage regardless of whether or not they used it.
- **Claim records:** Show the number of individuals with coverage that used services during the year.

**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 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.

## Payer Types and Payer Detail

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."

### Eligibility-Based Counts

- What defines payer type: Payer type is based on a person's primary insurance information.
- What's the time frame: This is evaluated per person, per eligibility month (called "person-eligibility-month level").
- What counts as coverage: If a person had at least one month of coverage with a specific payer type during the year, they are counted as having coverage with that payer type for the whole year.

**Implication: A single person can be counted under multiple payer types within the same year (e.g., if they switched insurance or had dual coverage at different times).**

### Claims-Based Counts

- What defines payer type: Here, payer type comes directly from the insurance listed on the claim itself.
- **Implication: Each claim is tied to a specific payer, so counts are based on actual claims filed with that payer—not eligibility records.**

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### Differences in Populations Counts Between Sections

In the **CO APCD Overview** section, the counts reflect the number of unique insured individuals who had any matching payer and coverage type during at least one month within the selected year(s).

On the **Population section,** only individuals with medical coverage in December of each year are included in the counts. People with only dental or pharmacy coverage, or those who didn't have coverage in December, are excluded. This "point-in-time" method was used to better match ACS Census data, which serves as the denominator for population percentage estimates.

See examples below:
**Included in the Overview section, excluded in the Population section because they didn't have medical coverage in December.**

**Person A:** Had medical, pharmacy, and dental coverage from January through April 2020. No coverage for the rest of the year.

- Counted once in the total number of people across all payers.
- Counted once under each of the three coverage types (medical, pharmacy, and dental).

**Person B:** Had only medical coverage from January through June 2020. No other types of coverage during the year.

- Counted once in the total number of people across all payers.

**Included in the Overview section. Included in the Population section** under All Payers and Medicare selection but not under Commercial, since that coverage ended in November.

**Person C:** Had continuous commercial medical coverage from January through November 2020. Switched to Medicare FFS in December 2020.

- Counted once in the total number of people across all payers.
- Counted once under Commercial and once under Medicare FFS when analyzing individual payer types.

## Population Information

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. Payer type does not impact this number. The numerator represents the number of insured people in the CO APCD and the denominator representing all people individuals living in a county based on the ACS data.

- **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. The numerator represents the number of people in the CO APCD with the specific insurance type and denominator is reflective of the total insured

population for the payer type selected. 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.

**Important to note, CO APCD receives 100% of Medicaid and Medicare FFs claims, in the interactive report this will be displayed as 100%.**

The statistics used for comparison with ACS estimates—and those presented at the county level—are limited to Colorado residents. In contrast, statewide statistics may include non-Colorado residents if they appear in the Colorado All Payer Claims Database (CO APCD). Among individuals with medical coverage in the CO APCD, non-residents (identified by an out-of-state address or unknown ZIP code) make up approximately 0.5% to 3%, depending on the year. Residency is determined by the most recent insurance eligibility record for that year, based on whether the ZIP code is located in Colorado. All analyses are based on where Colorado residents live, not where they received care.

## Employer and Individuals

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 2017-2024-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 submission definition for the market category data element for this analysis has changed over time, which is why years prior to 2017 are not displayed.

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

## Utilization

The CO APCD classifies claims into distinct types based on the service setting, provider type, and billing format. Below is a summary of how each major claim type is identified during CIVHC's data intake and validation process.

**Outpatient Claim:** Services billed without overnight stay, primarily using UB-04 or CMS-1500 forms.

**Inpatient Claim:** Facility services involving an admission and overnight stay, billed on UB-04 forms with admission and discharge dates.

**Dental Claim:** Services billed via ADA dental forms or 837D files using CDT procedure codes.

**Vision Claim:** Services billed on CMS-1500 forms using vision-related CPT or HCPCS codes.

**Professional Claim:** Non-facility services billed by individual providers on CMS-1500 or 837P forms.

**CIVHC's data intake process verifies all claim types through business rules and quality validation checks.**

**Behavioral Health Service Claims:** The report also includes information on behavioral health services in CO APCD medical claims presented as the number of unique people with one or more behavioral health service during a year, and the number of claims identified as having a behavioral health service during a year. Behavioral health is an umbrella term for behavioral factors that can impact health, including mental health conditions, stress-linked physical conditions, and substance abuse conditions. Behavioral health services are identified in the CO APCD through admitting, principal, or secondary diagnoses and procedure codes on claims.

## Demographic Focus

The 2025 iteration of the CO Insights Dashboard also includes a new demographics tab including payer type, race/ethnicity, sex, and age of person information for people in the APCD. This data is based on CO APCD eligibility records and includes unique person with any type of coverage in the APCD.

**Age**

Age is calculated as of December 31st of the reporting year. Typical age groups used in this report are: 0 to 17 ("Child"), 18 to 34 ("Young Adult"), 35 to 64 ("Mature Adult"), 65 or older ("Senior Adult"). Only residents of Colorado are reflected in the data. State 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. For example, cost of care for people living in Eagle County may not reflect cost to receive care in Eagle County if residents in that area travel to other counties to receive care.

**Race and Ethnicity**

Race and Ethnicity Race and ethnicity data is collected in the CO APCD following the Office of Management and Budget (OMB) guidelines. All categories are based on self-identification. OMB requires a minimum of five race categories: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. OMB's minimum categories for ethnicity are: Hispanic or Latino and Not Hispanic or Latino. Only race and Hispanic ethnicity indicators are required for submission by a payer under CIVHC's Data Submission Guidelines (DSG). Any other parameters are voluntary. Please note that the data does not yet fully represent the race/ethnicity distribution in the CO APCD as all payers (public and private) are working on improving their data collection and submission. CIVHC continues to work with payers to improve these fields.

**Sex**
Sex is reported by payers in the eligibility files submitted to the CO APCD. It is typically collected at the time of health plan enrollment and reflects the information provided by the member or captured from administrative records. CIVHC does not modify sex data after intake but applies standard quality checks to identify missing, unknown, or inconsistent entries. In some cases, sex may be reported as "Unknown" if not provided by the member.

## 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.

### 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 Commercial Payer Information tab**, data is displayed for only commercial payers. 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.

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.

Each Medicaid dental claim is submitted by both Health First Colorado – Child Health Plan (HCPF) and their dental benefits administrator. Only HCPF data is displayed in the Insights Dashboard to avoid double counting claims.

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 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. As a result, Medicare FFS *claims* are not available for the complete time period displayed in the dashboard and are only available through December 2023 for medical claims and December 2022 for pharmacy claims. Medicare FFS *eligibility* records are available through December 2023. Medicare FFS does not offer dental coverage and therefore it is not available as a coverage type for Medicare. For more information about what's currently available in the CO APCD (paid through dates), click here.

## 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.

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 Vintage

This report is based on claims data in the CO APCD data warehouse as of the March 11th, 2025 release. For more information regarding the payers represented in this public report visit the Report Resources section of the dashboard webpage.

**For more information or additional questions, contact us at info@civhc.org.**