



CENTER FOR IMPROVING
VALUE IN HEALTH CARE

Interactive CO APCD Condition Prevalence Report: Methodology

5/1/2018

Metrics Description

The prevalence for a selected condition on this website is calculated based on the number of individuals found to have had one or more services for that diagnosis, divided by the total number of eligible individuals. For instance, the prevalence of Diabetes type II for females ages 18-34 in Boulder County in 2015 is calculated as the number of females ages 18-34 in Boulder County who received services for Diabetes type II during this period, divided by the total number of females ages 18-34 in Boulder County in the CO APCD in 2015.

The prevalence of Diabetes Type II, Hypertension, Chronic Obstructive Pulmonary Disease (COPD), Congestive Heart Failure, Depression, Breast Cancer (Malignant neoplasms breast), Cervical Cancer (Malignant neoplasms cervix uterus), Lung Cancer (Malignant neoplasms lung), and Colorectal Cancer (Malignant neoplasms colorectal) are estimated for adult population, all eligible individuals 18 years of age or older. Asthma and Diabetes Type I include prevalence for individuals age 0 to 17.

This report uses information from the [Johns Hopkins Expanded Diagnosis Clusters](#) (EDCs), a module of the [Adjusted Clinical Groups \(ACG\) System](#) software. The ACG System measures the morbidity burden of patient populations based on diagnostic and pharmaceutical code information found in insurer claims. A person assignment to a chronic condition group (e.g. Diabetes type II), is based on primary, secondary or tertiary diagnoses codes recorded more than one time. For example, a single diagnosis for Type II Diabetes will not classify the person on the Diabetes type II chronic condition, two diagnoses are needed to be classified with the chronic condition. Person to chronic condition (EDC) is a one-to-many relationship, meaning a person will be counted for Diabetes Type II as well as for Hypertension if he/she is found to have both conditions within a calendar year period. The EDC software complements the unique person-oriented approach underpinning the ACG System by standardizing condition definitions in order to monitor health across a population.

Demographic Characteristics

Demographic characteristics reflect the information available in a person's most recent record in a calendar year. For example, if the most recent record is from March 2015, the person's demographic information—location of residence, gender, etc. —will reflect their status as of March 2015. The only exception to this is the age characteristic, which is calculated as of December 31st of the reporting year. Age groups available in this report are: 0 to 17 (“Child”), 18 to 34 (“Young Adult”), 35 to 64 (“Mature Adult”), 65 or older (“Senior Adult”). All these age groups are shown in the report for Asthma and Diabetes Type I, however for the rest of the other conditions only the adult population 18 and above is displayed. In addition, the Gender filter displays data for Females, Males and Aggregated (All), except of Cervical and Breast Cancer which are only showing Females.

Only residents of Colorado are reflected in the data. State resident status is also determined based on the most recent record, which indicates whether the person resides in a ZIP code within Colorado. The measures are displayed by rural and urban counties, a grouping based on the U.S. Office of Management and Budget county-level designation: counties that are part of a Metropolitan Statistical Area are considered “urban”; all other counties are considered “rural.”¹

¹ Colorado Rural Health Center (2016). *Colorado: County Designations, 2016*. Retrieved from <http://coruralhealth.wpengine.netdna-cdn.com/wp-content/uploads/2016/03/2016.CountyDesignations.pdf> on July 13, 2017.

Geographic Groupings

Geographic breakdowns in the report are counties and Health Statistics Regions (HSR). HSR geographic areas are derived by the Colorado Department of Public Health and Environment in partnership with state and local public health officials². Typically, an HSR represents a group of adjacent counties. Some HSRs, however, represent the area of a single county.

Conditions

The conditions shown in the report are: Asthma, Hypertension, Diabetes Type II, Diabetes Type I, COPD, Congestive Heart Failure, Breast Cancer (Malignant neoplasms breast), Cervical Cancer (Malignant neoplasms cervix uterus), Lung Cancer (Malignant neoplasms lung), Colorectal Cancer (Malignant neoplasms colorectal). For Asthma, Hypertension, Diabetes Type II, Diabetes Type I, the report combines the EDC values for those conditions *with or without complications status*.

Payer Types

Payer type is created by assigning each person to an *annualized* payer type based on their primary medical insurance information during a reporting year, regardless of whether the person had insurance for just a single month, the full year, or any number of months in-between. For months with overlapping insurance for distinct payer types, a hierarchy is implemented, favoring the month-level assignment to Medicare Advantage first, Commercial second, Medicaid last. The annualized assignment is based on the payer type with the highest number of months with commercial, Medicaid or Medicare Advantage insurance, based on the initial month-level assignment. In the event of a tie in number of months with insurance for a particular payer type, a similar hierarchy is implemented. For example, a person with commercial insurance for six months and Medicare Advantage insurance for the other six will receive the Medicare Advantage payer type at the annual level. A person with just four months of insurance during a year, two of them commercial, two Medicare Advantage, will receive the same annualized payer type, i.e., Medicare Advantage.

Pharmacy and dental insurance eligibility information, or secondary insurance information, is not considered when assigning a payer type. Once a person is assigned a payer type, all medical and pharmacy claim records for that person are associated with that assignment, regardless of the insurance type information on the claim record. The payer types available in this report are: Commercial, Medicaid, Medicare Advantage, and a combination of all three types labeled as "All Payers."

Comparison to Statewide and Ratio Benchmark

The statewide prevalence is used to compare the counties' or HSRs'³ prevalence. The ratio to statewide is constructed by dividing each county or HSR prevalence by the statewide prevalence. The resulting ratio values can be interpreted as follows:

- A ratio value below 1.0 means that the county / HSR prevalence is lower than statewide prevalence, for example a ratio of .85 reflects a county value that is 15% below the statewide prevalence.
- A ratio value above 1.0 means that the county / HSR prevalence is higher than statewide prevalence, for example a ratio of 1.15 reflects a county prevalence that is 15% above the statewide prevalence.
- A ratio value of 1.0 means that the county / HSR prevalence is equal to the statewide prevalence.

Data Suppression

Following privacy protection standards used by the Centers for Medicare & Medicaid Services (CMS), data are suppressed for values based on fewer than 11 eligible individuals in a geographic area or fewer than 11 persons identified for a specific condition in a geographic area (e.g., 10 or fewer individuals identified for diabetes type II). Throughout the reports, a blank table cell or a data point not displayed in a chart indicates that data has been suppressed due to low volume. In some rare cases, the records for Medicare Advantage under 65 years old have been

² <http://www.chd.dphe.state.co.us/HealthDisparitiesProfiles/dispHealthProfiles.aspx>

³ See Description of Cost Measures section above for more information on the PPPY calculation.

suppressed, as the eligibility rules cover sick individuals with special conditions (ESRD, ALS). The presence of these conditions in Medicare Advantage members younger than 65 years of age explains their very high prevalence of Hypertension.

Data Limitations

Data presented in this report are the result of a process that strives to ensure the high quality, reliability, and accuracy of the final product. 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) include: Baca, Cheyenne, Costilla, Custer, Dolores, Gilpin, Hinsdale, Jackson, Kiowa, Lincoln, Mineral, Ouray, Phillips, San Juan, Sedgwick, Saguache, and Washington.

Data Vintage

Information regarding the payers and covered lives represented in this public report is available in the [Member by Payer by Year](#) reference guide.

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