

2017 Colorado Access to Care Index

Data Sources and Methods

APRIL 2018

The Colorado Health Institute (CHI) followed three guiding principles when selecting indicators for the 2017 Access to Care Index. Metrics must be:

1. Relevant measures of access to care;
2. Available at the county level whenever possible; and
3. Trendable over time

Below is description of methods used to calculate scores, followed by descriptions of data sets and indicators used in each domain of the Access to Care Index.

Calculating the Scores

The scoring methodology was modeled after the National Health Security Preparedness Index, a collaboration of the Association of State and Territorial Health Officials, the Robert Wood Johnson Foundation and others.

CHI first compiled the most recent data available for each of the metrics within the potential access, pathways to care and realized access sections.

Next, CHI converted each indicator into a score on a scale of zero to 10, where zero represents no access to care and 10 represents universal access. For example, an insured percentage of 80.1 became a score of 8.01.

The first step in developing these scores is establishing an aspirational benchmark. For most metrics, this benchmark was 100 percent — for example, a goal of 100 percent health insurance coverage. Workforce benchmarks are the exception. To create an aspirational benchmark for workforce, CHI needed to determine the optimal provider-to-population ratio. The highest provider-to-population ratio of any state from 2006 to 2014 was identified as this optimal ratio. (Washington, D.C.'s provider-to-population ratio was an outlier and therefore excluded from this calculation.)

CHI found the score for each of the three domains —

potential access, pathways to care and realized access — by calculating the average score of all metrics within a domain. All metrics were treated as equally important; CHI did not weigh some metrics higher than others.

Finally, the average of the three component scores serves as the overall Access to Care Index score.

County-level data are used wherever available; however, some data are available only by Health Statistics Region (HSR). For these indicators, HSR values were applied to every county in the region. These instances are noted below and in the interactive online Index.

The 2017 Access to Care Index uses some metrics that were not included in the 2013 and 2015 versions. Because of this, CHI retroactively recalculated 2013 and 2015 scores to allow for trending.

Data Sets

Data for the metrics come from the five sources below.

Colorado Health Access Survey

The Colorado Health Access Survey (CHAS) is the premier source of information on health insurance coverage, access to care and use of care in Colorado. More than 10,000 randomly selected households participate, and data are statistically weighted to be representative of the state's population. The CHAS is fielded, analyzed and managed by the Colorado Health Institute. It is funded by the Colorado Trust with additional support from the Colorado Health Foundation and the Department of Health Care Policy and Financing. The CHAS is a biennial survey, fielded in 2009, 2011, 2013, 2015 and 2017. More information is available at <https://www.coloradohealthinstitute.org/research/colorado-health-access-survey>

Department of Regulatory Agencies

The Colorado Department of Regulatory Agencies (DORA) maintains a database of actively licensed health care providers in the state. The database only notes

whether a provider has an active license. It cannot say which providers are currently practicing medicine or how many hours per week they practice. Providers are assigned to a county in the Access to Care Index based on the address on their license. The 2017 Access to Care Index uses a provider list pulled from the DORA website on April 1, 2017. More information is available at <https://apps.colorado.gov/dora/licensing/Lookup/GenerateRoster.aspx>

American Community Survey

The American Community Survey (ACS) is an annual survey of more than 50,000 Coloradans on topics ranging from housing status to income to employment and other demographics. Data are weighted to be representative of the population. The ACS is produced by the United States Census Bureau. The most recent year of data available for use in the Access to Care Index is 2016. More information is available at <https://www.census.gov/programs-surveys/acs/>

All Payer Claims Database

Colorado's All Payer Claims Database (APCD) is the state's most comprehensive source of data on health care claims. It includes information from the majority of private health care plans, Medicare and Health First Colorado (the state's Medicaid program). The APCD is maintained by the Center for Improving Value in Health Care. Data are collected on an ongoing basis, and data on specified public metrics are provided annually. The most recent year of public data from the APCD is 2015. More information is available at <http://www.civhc.org/>

Pregnancy Risk Assessment Monitoring System

The Colorado Pregnancy Risk Assessment Monitoring System (PRAMS) is an annual survey funded by the Centers of Disease Control and Prevention and administered by the Colorado Department of Public Health and the Environment. The PRAMS is designed to monitor the experiences of Colorado women before, during and after pregnancy. The survey is mailed to a sample of women who have recently given birth. Data are weighed to be representative of Colorado's population of women who recently gave birth. While the PRAMS is administered annually, its small sample size required CHI to combine three years of data in order to have reliable estimates. The most recent three-year data set available is 2013 through 2015. More information is available at <https://www.colorado.gov/pacific/cdphe/pregnancysurvey>

Indicator List

Potential Access

Health Insurance Rates

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans with health insurance at the time of the survey
- **Geography:** HSR

Dental Insurance Rates

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans with dental insurance at the time of the survey
- **Geography:** HSR

Physicians per 1,000 Residents

- **Year used in scoring:** 2017
- **Source:** DORA
- **Description:** The total number of physicians listed as actively licensed by the state of Colorado, per 1,000 residents
- **Geography:** County

Nurse Practitioners and Physicians' Assistants per 1,000 Residents

- **Year used in scoring:** 2017
- **Source:** DORA
- **Description:** The total number of nurse practitioners and physicians' assistants listed as actively licensed by the state of Colorado, per 1,000 residents
- **Geography:** County

Dentists per 1,000 Residents

- **Year used in scoring:** 2017
- **Source:** DORA
- **Description:** The total number of dentists listed as actively licensed by the state of Colorado, per 1,000 residents
- **Geography:** County

Psychologists per 1,000 Residents

- **Year used in scoring:** 2017
- **Source:** DORA
- **Description:** The total number of psychologists listed as actively licensed by the state of Colorado, per 1,000 residents
- **Geography:** County

English Speaker at Home

- **Year used in scoring:** 2016
- **Source:** ACS
- **Description:** Percentage of households not in linguistic isolation; a household is identified by the U.S. Census Bureau as being “linguistically isolated” if all household members age 14 or older have at least some difficulty with English.
- **Geography:** County

Pathways to Care

Able to Get a Timely Doctor’s Appointment

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who were able to get an appointment as soon as they felt it was needed in the past year
- **Geography:** HSR

Able to Afford Doctor Care

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who were able to afford all needed doctor care in the past year
- **Geography:** HSR

Able to Afford Dental Care

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who were able to afford all needed dental care in the past year
- **Geography:** HSR

Able to Afford Prescriptions

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who were able to afford all needed prescriptions in the past year
- **Geography:** HSR

Able to Afford Specialist Care

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who were able to afford all needed specialist care in the past year
- **Geography:** HSR

Had a Usual Source of Care

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who had a place they usually go for health care
- **Geography:** HSR

Provider Took Insurance

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who were able to find a provider that accepted their insurance in the past year
- **Geography:** HSR

Had No Transportation Barriers

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who did not face problems accessing a provider due to transportation issues in the past year
- **Geography:** HSR

Treated Respectfully by Provider

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who did not report that they had been treated disrespectfully or judged unfairly by a provider in the past year
- **Geography:** HSR

Realized Access

Last ER Visit for an Emergency

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who had an emergency room visit in the past year whose last visit was for something they felt could not have been treated in a non-emergency setting
- **Geography:** HSR

Appropriate Asthma Rx

- **Year used in scoring:** 2015
- **Source:** APCD
- **Description:** The percentage of patients 5 to 64 years old identified as having persistent asthma and appropriately prescribed medication (at least one asthma controller) during the previous year
- **Geography:** County

Breast Cancer Screening

- **Year used in scoring:** 2015
- **Source:** APCD
- **Description:** The percentage of women age 50-74 who had a mammogram to screen for breast cancer in the previous two years
- **Geography:** County

Cervical Cancer Screening

- **Year used in scoring:** 2015
- **Source:** APCD
- **Description:** The percentage of women 21 to 29 years old with one or more Pap test screenings for cervical cancer during the previous three years, or the percentage of women 30 to 64 years old with cytology and human papillomavirus co-testing during the previous five years.
- **Geography:** County

Colorectal Cancer Screening

- **Year used in scoring:** 2015
- **Source:** APCD
- **Description:** The percentage of Coloradans 50 to 75 years old who had a fecal occult blood or fecal immunological test during the past year, a flexible sigmoidoscopy during the previous five years, or a colonoscopy during the previous 10 years
- **Geography:** County

Dental Visit

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who visited a dentist or dental hygienist in the past year
- **Geography:** HSR

Timely Prenatal Care

- **Years used in scoring:** 2013-2015
- **Source:** PRAMS
- **Description:** The percentage of pregnancies for which women received prenatal care in the first trimester (excludes those for whom prenatal care initiation data are missing)
- **Geography:** County

Well-Child Visit

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans under age 20 who had a preventive care visit in the past year
- **Geography:** HSR

Got Needed Mental Health Care

- **Year used in scoring:** 2017
- **Source:** CHAS
- **Description:** The percentage of Coloradans who reported needing mental health care in the past year and subsequently received these services
- **Geography:** HSR



The Colorado Health Institute is a trusted source of independent and objective health information, data and analysis for the state's health care leaders. The Colorado Health Institute is funded by the Caring for Colorado Foundation, Rose Community Foundation, The Colorado Trust and the Colorado Health Foundation.

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