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Colorado Coalition for the Medically Underserved

Access to Care Improving in Colorado

OCTOBER 2015

Updated December 2015

The ability of Coloradans to access health care improved a bit in 2015, according to the Colorado Access to Care Index.

The index score increased to 7.8 in 2015 from 7.7 in 2013, both out of a possible 10 points, showing that access to care is trending upward and that disparities based on income are narrowing.

Most of the improvement resulted from the historic increase in health insurance coverage in the wake of Colorado's decision to expand Medicaid eligibility, along with other Affordable Care Act (ACA) provisions. The majority of those changes went into effect in 2014.

The index, a collaborative project of the Colorado Health Institute and the Colorado Coalition for the Medically Underserved (CCMU), is intended to support public policy discussions that are moving from a focus on coverage to a focus on ensuring that all Coloradans have access to affordable and effective health care.

It is designed to help communities across Colorado better understand challenges around how their residents access health care and to guide conversations about how to address the challenges.

The overall score is based on three components of access — Potential Access, Barriers to Care and Realized Access. Factors such as the ability to make a doctor's appointment, receive preventive care and many more determine the score.

The index was first released in March, but was based on 2013 data. The 2015 index, using the latest available data, shows that the impact of rising health insurance coverage is just beginning to ripple through the system.

Takeaways from the 2015 Colorado Access to Care Index include:

- **Coloradans aren't finding it much harder to get health care.** Despite predictions that the spike in insurance coverage would strain the health care system, the index doesn't indicate that this is happening to the degree that many had feared.
- **Cost is still a barrier to getting health care.** Although slightly fewer people cite this problem than in 2013, it is among the most frequently reported reasons for not getting care.
- **Disparities persist, although some are narrowing.** Disparities in access to care by income decreased a bit, largely due to expanded Medicaid eligibility. Geographic disparities remained consistent, with Coloradans in rural areas of the state having more limited access to care than those in urban areas. A number of regions saw no change in their overall scores from 2013 to 2015.

Measuring Access to Care: What the Index Tell Us

Now that more Coloradans than ever have health insurance, policy discussions are shifting from how to increase coverage to how to increase access.

Potential Access

Indicators in the Potential Access category are the building blocks of access to care. The score in this category increased from 7.4 in 2013 to 7.8 in 2015, the largest increase among the three categories, reflecting greater health and dental insurance coverage.

The increased rate of health insurance coverage can be attributed to the ACA. The increased rate of dental coverage is due to Colorado's new Medicaid adult dental benefit.

However, following a national trend, Colorado is also seeing higher rates of underinsurance — defined as having excessive out-of-pocket medical expenses relative to family income —which tempered the effect of greater insurance coverage.

Barriers to Care

The Barriers to Care section measures how difficult it is to access health care. The score in this category did not change from 2013 to 2015, remaining at 8.8 because some indicators moved up while others went down.

Fewer Coloradans are forgoing treatment because of cost, probably because more people have insurance coverage. Still, a few of the logistical barriers, such as the inability to get an appointment as soon as one was needed, were cited more often in 2015 than in 2013.

One factor contributing to the relatively good Barriers to Care score is that people only report these barriers when they attempt to get care. For example, during any given year, most people don't need specialist care, so they wouldn't report a problem getting needed specialist care.

Realized Access

Realized Access indicators measure if a patient actually sees a provider. Colorado's score increased from 6.7 in 2013 to 6.9 in 2015.

Indicators in this category mostly address recommended preventive care visits. The small increase in this score is surprising, considering significant increases in insurance coverage. But there are many reasons people may not get preventive care: they may not know it's recommended, they may not think they need it or they just don't have time.

Geographic Disparities Persist

Even though many regions had a higher access to care score in 2015 than 2013, geographic disparities still exist (See Map 1.)

- The difference in scores between the lowest-scoring and highest-scoring region remained the same from 2013 to 2015. And regions with the lowest scores in 2013 tended to have the lowest scores in 2015.
- The Eastern Plains and Southeast Colorado have relatively low access to care scores. Rural areas generally don't have the number and variety of providers as urban and suburban communities.
- Cheyenne, Elbert, Kit Carson, and Lincoln counties (HSR 5) have the lowest score, 6.9.
- The Front Range has high access to care scores. Boulder and Broomfield counties (HSR 16) had the highest score in the state at 8.3.

Overall access to care scores for each region, as well as the Potential Access, Barriers to Care and Realized Access scores, are available at the end of this brief. (See Table 1.)

Figure 1. Coloradans with Insurance, 2009-2015

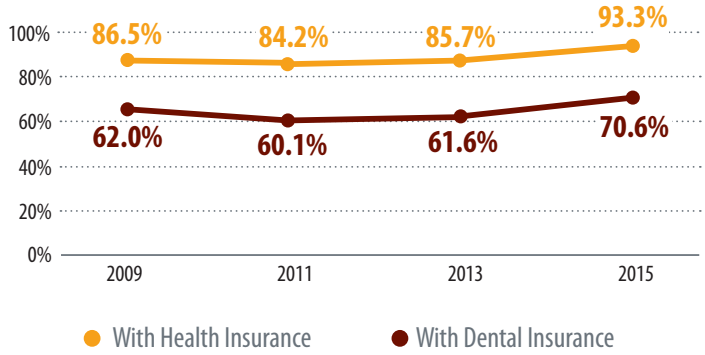
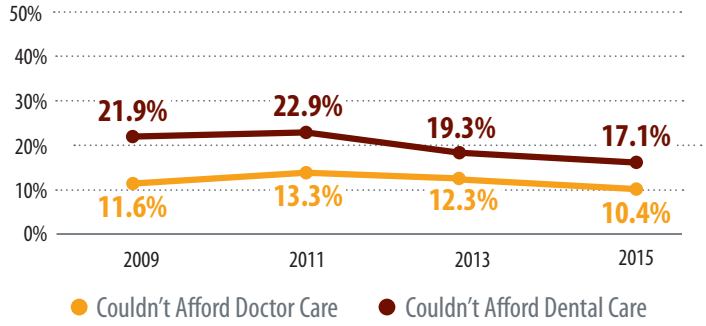


Figure 2. Couldn't Afford Medical or Dental Care in Past 12 Months, 2009-2015



Income Disparities Shrink

The income gap is shrinking. Coloradans making more than 400 percent of the federal poverty level (FPL) in 2013 scored 2.2 points higher than those with annual earnings at or below 138 percent of the FPL. The difference in scores between the two groups narrowed to 1.5 points in 2015. This is most likely because the state expanded Medicaid eligibility to more low-income Coloradans, who now have a better chance of getting health care.

Hispanics still have a lower score, due to lower rates of health insurance and dental insurance than non-Hispanic whites. Hispanics also have less realized access.

Conclusion

The Colorado Access to Care Index score has improved slightly, largely due to more Coloradans having health insurance.

The ACA and Medicaid expansion modestly increased the access to care score for the state as a whole. This stands in contrast with some predictions that access to care would suffer because the health care workforce couldn't adequately serve all the new insurance enrollees.

And although disparities still exist, some are shrinking.

Map 1. Colorado Access to Care Index Scores by Health Statistics Region, 2015

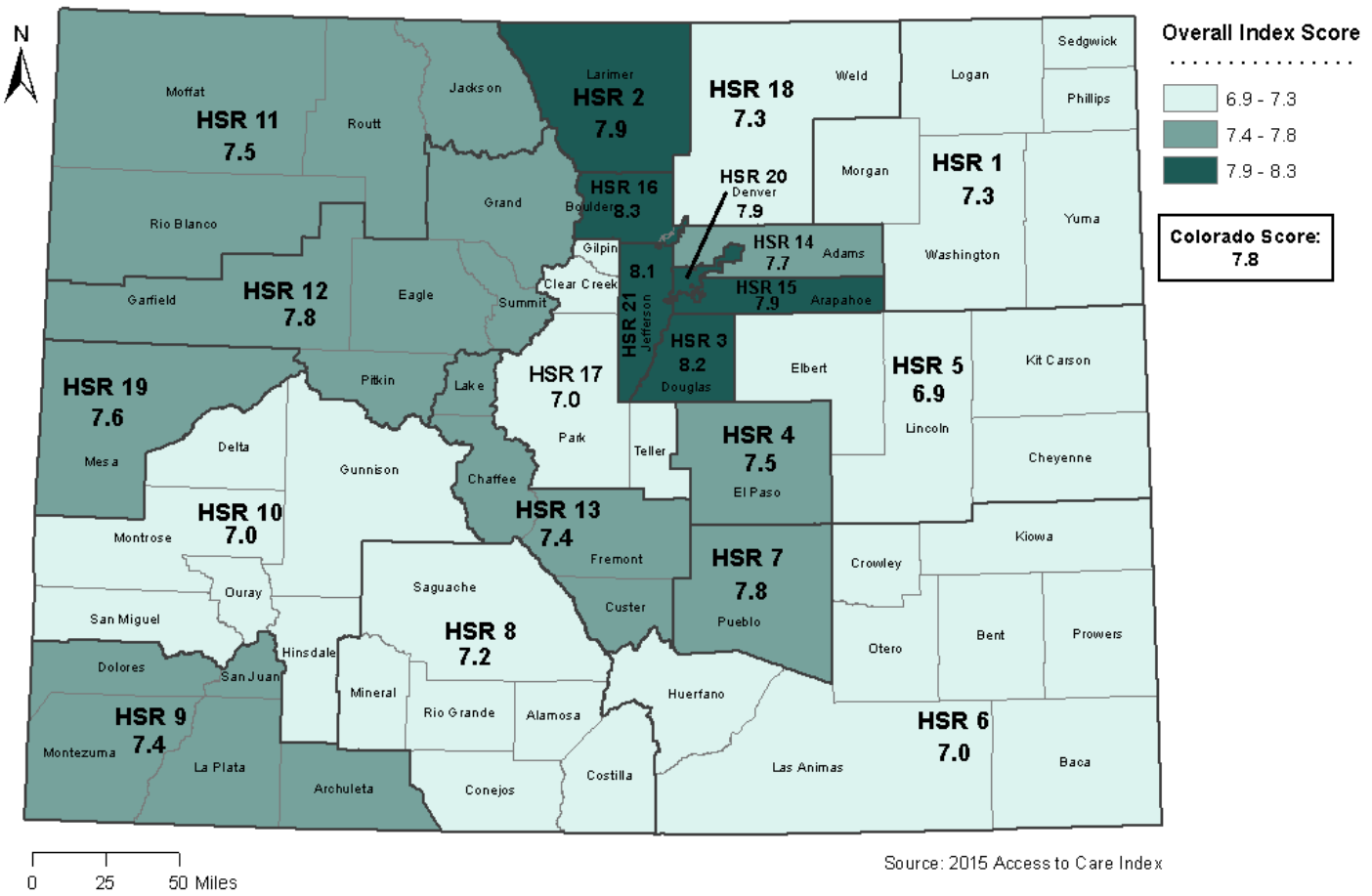


Table 1: Comparing Access to Care Scores by Community, 2013-2015

	Overall Score	Potential Access Score	Barriers to Care Score	Realized Access Score
State of Colorado				
2013	7.7	7.4	8.8	6.7
2015	7.8	7.8	8.8	6.9
Health Statistics Region 1				
2013	7.2	6.3	8.9	6.3
2015	7.3	6.7	8.8	6.4
Health Statistics Region 2				
2013	7.9	7.3	9.0	7.5
2015	7.9	7.6	8.7	7.3
Health Statistics Region 3				
2013	8.1	7.0	9.4	8.0
2015	8.2	7.2	9.2	8.3

	Overall Score	Potential Access Score	Barriers to Care Score	Realized Access Score
Health Statistics Region 4				
2013	7.4	6.9	8.8	6.5
2015	7.5	7.1	8.9	6.6
Health Statistics Region 5				
2013	6.8	4.8	8.9	6.8
2015	6.9	5.2	9.0	6.7
Health Statistics Region 6				
2013	6.7	6.0	8.9	5.3
2015	7.0	6.4	8.8	5.9
Health Statistics Region 7				
2013	7.5	7.9	8.7	5.8
2015	7.8	8.2	8.8	6.3

	Overall Score	Potential Access Score	Barriers to Care Score	Realized Access Score
Health Statistics Region 8				
2013	7.1	6.4	8.8	6.0
2015	7.2	6.9	8.5	6.3
Health Statistics Region 9				
2013	7.5	7.0	8.8	6.7
2015	7.4	7.2	8.7	6.4
Health Statistics Region 10				
2013	6.9	6.3	8.8	5.8
2015	7.0	6.7	8.6	5.6
Health Statistics Region 11				
2013	7.2	6.6	8.8	6.1
2015	7.5	7.1	8.7	6.7
Health Statistics Region 12				
2013	7.6	6.9	8.9	7.0
2015	7.8	7.1	8.9	7.4
Health Statistics Region 13				
2013	7.1	6.4	8.7	6.1
2015	7.4	6.7	8.8	6.8
Health Statistics Region 14				
2013	7.5	7.4	8.6	6.4
2015	7.7	7.9	8.8	6.5
Health Statistics Region 15				
2013	7.8	7.8	8.7	6.8
2015	7.9	8.2	8.8	6.7
Health Statistics Region 16				
2013	8.1	8.0	8.9	7.3
2015	8.3	8.2	8.9	7.9

	Overall Score	Potential Access Score	Barriers to Care Score	Realized Access Score
Health Statistics Region 17				
2013	6.7	5.2	8.6	6.2
2015	7.0	5.4	9.0	6.7
Health Statistics Region 18				
2013	7.0	6.3	8.7	6.2
2015	7.3	6.6	8.7	6.5
Health Statistics Region 19				
2013	7.6	7.2	8.9	6.8
2015	7.6	7.4	8.8	6.7
Health Statistics Region 20				
2013	7.7	8.1	8.6	6.4
2015	7.9	8.5	8.7	6.3
Health Statistics Region 21				
2013	7.8	7.2	8.9	7.4
2015	8.1	7.6	9.0	7.6
Non-Hispanic White				
2013	7.8	7.0	8.9	7.4
2015	8.1	7.7	9.0	7.5
Hispanic Coloradans				
2013	7.0	5.9	8.6	6.3
2015	7.4	6.9	8.6	6.7
Coloradans 0-138% FPL				
2013	6.5	5.1	8.3	6.0
2015	7.2	6.6	8.4	6.6
Coloradans 139-400% FPL				
2013	7.6	6.8	8.9	7.2
2015	7.9	7.6	9.0	7.3
Coloradans over 400% FPL				
2013	8.7	8.6	9.4	8.2
2015	8.7	8.6	9.3	8.1

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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Comparing Access to Care Scores by Community, 2013-2015

	Overall Score	Potential Access Score	Barriers to Care Score	Realized Access Score
State of Colorado				
2013	7.7	7.4	8.9	6.7
2015	7.9	7.8	9.0	6.9
Health Statistics Region 1				
2013	7.2	6.3	9.1	6.3
2015	7.3	6.7	8.9	6.4
Health Statistics Region 2				
2013	7.9	7.3	9.1	7.5
2015	7.9	7.6	8.9	7.3
Health Statistics Region 3				
2013	8.1	7.0	9.4	8.0
2015	8.3	7.2	9.3	8.3
Health Statistics Region 4				
2013	7.4	6.9	8.9	6.5
2015	7.6	7.1	9.0	6.6
Health Statistics Region 5				
2013	6.9	4.8	9.0	6.8
2015	7.0	5.2	9.1	6.7
Health Statistics Region 6				
2013	6.8	6.0	9.0	5.3
2015	7.1	6.4	8.9	5.9
Health Statistics Region 7				
2013	7.5	7.9	8.8	5.8
2015	7.8	8.2	8.9	6.3
Health Statistics Region 8				
2013	7.1	6.4	8.9	6.0
2015	7.3	6.9	8.6	6.3
Health Statistics Region 9				
2013	7.5	7.0	8.9	6.7
2015	7.5	7.2	8.8	6.4
Health Statistics Region 10				
2013	7.0	6.3	8.9	5.8
2015	7.0	6.7	8.8	5.6
Health Statistics Region 11				
2013	7.2	6.6	9.0	6.1
2015	7.5	7.1	8.8	6.7
Health Statistics Region 12				
2013	7.6	6.9	9.0	7.0
2015	7.8	7.1	9.0	7.4
Health Statistics Region 13				
2013	7.1	6.4	8.8	6.1
2015	7.5	6.7	8.9	6.8

	Overall Score	Potential Access Score	Barriers to Care Score	Realized Access Score
Health Statistics Region 14				
2013	7.5	7.4	8.8	6.4
2015	7.8	7.9	8.9	6.5
Health Statistics Region 15				
2013	7.8	7.8	8.8	6.8
2015	8.0	8.2	8.9	6.7
Health Statistics Region 16				
2013	8.1	8.0	9.0	7.3
2015	8.4	8.2	9.0	7.9
Health Statistics Region 17				
2013	6.7	5.2	8.7	6.2
2015	7.1	5.4	9.1	6.7
Health Statistics Region 18				
2013	7.1	6.3	8.8	6.2
2015	7.3	6.6	8.8	6.5
Health Statistics Region 19				
2013	7.7	7.2	9.0	6.8
2015	7.7	7.4	9.0	6.7
Health Statistics Region 20				
2013	7.8	8.1	8.7	6.4
2015	7.9	8.5	8.9	6.3
Health Statistics Region 21				
2013	7.9	7.2	9.0	7.4
2015	8.1	7.6	9.1	7.6
Non-Hispanic White				
2013	7.8	7.0	9.0	7.4
2015	8.1	7.7	9.1	7.5
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More information at ColoradoHealthInstitute.org/COAccessIndex

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Colorado Access to Care Index FAQs

OCTOBER 2015

1. How can I use this tool?

Short answer: however you like! We imagined that this tool would be most helpful for groups trying to start a local dialogue/action around closing gaps in access to care. Having a conversation grounded in the data will go a long way; access is hard to talk about and anecdotes seem to be the most common way to understand it. We have also heard from groups that plan to use it in their grant reports, in presentations, in meetings, and in blog posts and articles. In the end, we want this to be the tool to help us understand whether Coloradans are able to get health care when they need it, and how that is changing.

We know that access to care is best acted upon at the local level because of the different local health care systems, so we hope this will inform that work and measure progress of major interventions over time.

We also felt it was important to explore access to care among subpopulations of Coloradans. So far, we've looked at access to care scores by geography, ethnicity and income.

2. How did you select the data metrics that you chose for the index?

We selected metrics that met these four criteria:

- Directly related to access to care.
- Available for all Coloradans.
- Available at the sub-state level.
- Can be updated in future years.

The data sources used are: the Colorado Health Access Survey (CHAS), the Behavioral Health Risk Factor Surveillance System (BRFSS), the Pregnancy Risk Assessment Monitoring System (PRAMS), MedicalQuest, and admissions data from the Colorado Hospital Association. More information on data sources and methods is available here.

3. Can you give me data at the county level rather than the health statistics region (HSR) level?

The availability of county-level data depends on the data source and the county of interest. County-level data are more likely to be available for counties with larger populations. If you are looking for county-level data, please contact Nina Roumell at the Colorado Health Institute to discuss your request. (roumelln@coloradohealthinstitute.org).

4. Does the index include any new data sources?

No. This index is a compilation of data already collected, brought together to give a more comprehensive picture of access to care.

5. Is there an index for other racial/ethnic groups, such as Native Americans, Asian Americans, etc.?

No. Unfortunately, there are insufficient data for an Access to Care Index specific to these racial/ethnic groups.

6. What about age groups?

Some indicators of access to care, such as insurance coverage, apply to all age groups. But other indicators are different, and the index contains a few that are age-specific — well visits for children and colonoscopies for adults age 50 and older, for example. We are also currently developing a Children's Access to Care Index.

7. Can we get an index for income, insurance, or race/ethnicity by HSR or cross-tabulate the different demographics (e.g. an index for low-income Hispanics)?

No. Many measures used in the Colorado Access to Care Index come from surveys that do not have a sufficiently large sample size to look at more than one variable at a time. As a result, we can't build an index for a particular sub-group within an HSR or for those who are part of a particular income group and a particular racial or ethnic group.

While we cannot construct an entire index for these groups due to data limitations, there is sufficient data to look at some measures this way. If you are looking for specific measures for specific groups, please contact Nina Roumell at the Colorado Health Institute to discuss your request. (roumelln@coloradohealthinstitute.org).

8. Will this be updated over time?

Yes. The Colorado Access to Care Index was launched in March 2015, using data from 2013. This provided a baseline measure of access to care in Colorado before large policy changes went into effect in 2014, including expanded Medicaid eligibility and the availability of subsidized insurance through Connect for Health Colorado.

The first Access to Care Index update occurred in October 2015, using 2015 data to see how access to care had changed after these major policy changes went into effect.

Going forward, the index will be updated every other year when new Colorado Health Access Survey (CHAS) data become available.

9. How did you calculate the scores for the index?

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

This was a multi-step process. A full explanation is available in the "Data Sources and Methods" document, available at ColoradoHealthInstitute.org/COAccessIndex.

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Colorado Access to Care Index Data Sources and Methods

OCTOBER 2015

The Colorado Access to Care Index is based on five data sources outlined below. Additional information about each data source can be found by following the links in the box on Page 4. Also, the blue type in the title of each source is hyperlinked.

Colorado Health Access Survey (CHAS)

What It Is: The Colorado Health Access Survey – the CHAS – is the premier source of information on health insurance coverage, access to health care, and how health care is used in Colorado. More than 10,000 randomly selected households participated in the 20-minute survey. The 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.

Time Points: Data are available from 2009, 2011, 2013 and 2015.

CHAS Metrics Used:

Potential Access

- Coloradans with or without health insurance at the time of the survey.
- Coloradans who are adequately insured or underinsured for medical care in the past 12 months.
  - The CHAS defines underinsurance for families earning at least 200 percent of the federal poverty level (FPL) as spending as least 10 percent of annual income on out-of-pocket medical expenses, not including the cost of purchasing health insurance. For families below 200 percent FPL, underinsurance is defined as spending at least five percent of annual income on out-of-pocket medical expenses.
  - The CHAS defines adequately insured as those who had coverage for all of the 12 months prior to the survey, did not meet either of the two out-of-pocket cost definitions of underinsurance, and did not have an uninsured family member.
- Coloradans with or without dental insurance at the time of the survey.

Barriers to Care

- No usual source of care (other than the emergency department).

In the past 12 months:

- Did not see a doctor due to cost.
- Did not fill a prescription due to cost.
- Did not see a specialist due to cost.
- Did not get dental care due to cost.
- Unable to get an appointment at the doctor's office as soon as you thought one was needed.
- Unable to find transportation to the doctor's office or the doctor's office was too far away. *
- Told by the doctor's office they weren't accepting patients with your type of health insurance.
- Needed mental health care or counseling but didn't get it at that time. *
- Did not seek an appointment because you were uninsured. *

*Asked for the first time in 2013

Realized Access

- Visited a dentist or dental hygienist in the past 12 months.
- Well-child visits (visit for a check-up, physical examination or other preventive care) for those under age 19 in the past 12 months.
- Of those who visited a hospital emergency room in the past 12 months, those who went for a condition that could have been treated by a regular doctor if one had been available.

Notes and Limitations:

- The Colorado Health Access Survey is conducted every other year. The complete survey form is available at http://bit.ly/Hy47hT.

- The "did not seek an appointment because you were uninsured" indicator should be interpreted with caution. Because the denominator – the number of uninsured Coloradans – has become smaller for this variable across the 21 health statistics regions (HSRs) after the implementation of the Affordable Care Act (ACA), some of these estimates have large margins of error.

MedicalQuest

What It Is: A database of practicing providers across Colorado.

Time Points: MedicalQuest data from 2013 were used for the Colorado Access to Care Index.

MedicalQuest Metrics Used:

Potential Access

- Primary care physicians.
- Nurse practitioners.
- Physician assistants.
- Dentists.
- Psychiatrists.

Notes and Limitations:

MedicalQuest provides an estimate of practicing providers. The Colorado Health Institute calculated rate of providers per 1,000 residents using MedicalQuest data on the number of providers in each county and county population estimates from the Colorado Demography Office.

Due to changes in MedicalQuest data collection methodology, 2015 data were not available at the time of the 2015 index update. Because we did not anticipate major changes in the workforce between 2013 and 2015, we felt it was reasonable to hold these data points constant at 2013 values for the 2015 update.

Colorado Pregnancy Risk Assessment Monitoring System (PRAMS)

What It Is: Annual survey funded by the Centers for Disease Control and Prevention (CDC) and administered by the Colorado Department of Public Health and Environment (CDPHE). 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. The survey data are weighted to be representative of Colorado's population of women who recently gave birth.

Time Points: Annual survey. The Colorado Access to Care Index used 2009, 2010 and 2011 data for the first index because these were the most recent PRAMS data available as of March 2015. The updated Colorado Access to Care Index uses data from 2011, 2012 and 2013.

PRAMS Metric Used:

Realized Access

- Received prenatal care in first trimester of pregnancy was used in the updated version of the Colorado Access to Care Index, released in October 2015.

Notes and Limitations:

Due to the small sample size of the PRAMS, we averaged three years of data to calculate stable estimates.

The question asking mothers about whether they received prenatal care as soon as they wanted — used in the first version of the index — was dropped from the PRAMS survey. The updated version of the Colorado Access to Care Index included data on women who received prenatal care in the first trimester of pregnancy. Data from 2009-2011 show that at the state level the percentage of women receiving prenatal care as soon as they wanted was very similar to the percentage of women receiving prenatal care in the first trimester.

Colorado Behavioral Risk Factor Surveillance System (BRFSS)

What It Is: The BRFSS is an annual survey of Coloradans ages 18 years and older funded by the CDC and administered by CDPHE. The survey includes questions on lifestyle and behaviors related to leading causes of death and disease. Topics include smoking, overweight/obesity, physical activity and use of preventive health services. The data are weighted to be representative of Colorado's adult population.

Time Points: The BRFSS is conducted annually, though cancer screening questions are only asked in even-numbered years. Therefore, we included the most recent BRFSS data available from 2012 in the first calculation of the index, released in March 2015, and 2014 BRFSS data in the updated index, released in October 2015.

BRFSS Metrics Used:

Realized Access

- Pap test in the past three years for women age 18 years and older.

- Mammogram in the past two years for women age 50 and older.
- Colonoscopy or sigmoidoscopy at any time for people age 50 and older.

Notes and Limitations:

- The 2012 BRFSS data are displayed in the Colorado Access to Care Index tables under 2013. The 2014 BRFSS data are displayed under 2015.
- Because of changes in survey methodology, data collected in 2012 or after cannot be compared to previous years.

Hospital Admissions Data

What It Is: The Colorado Hospital Association (CHA) compiles admissions data received from all Colorado acute care hospitals.

The Colorado Health Institute included two metrics of potentially preventable hospitalizations — uncontrolled diabetes and asthma — in the Colorado Access to Care Index. These metrics quantify hospitalizations that might have been prevented if the patient had access to adequate primary care services in the community.

Working with the Colorado Health Institute, CHA calculated the rate of preventable hospitalizations — also called Prevention Quality Indicators — using software developed by the Agency for Healthcare Research and Quality (AHRQ). Additional information on AHRQ's software is available at http://www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx.

Time Points: CHA collects admissions data monthly. The Colorado Access to Care Index uses 2013 data, the most recent full year available. More recent data were not available when the Colorado Access to Care Index scores were updated in October 2015, so these values were held constant using 2013 data.

Metrics Used:

Realized Access

Hospital Admissions Data:

- Uncontrolled diabetes, adults age 18 and older.
- Asthma, young adults age 18 to 39.

Notes and Limitations:

- CHA provided these data at the county level. The Colorado Health Institute calculated estimates for each health statistics region (HSR) that include more than one county. We accomplished this by summing the number of cases in those counties then dividing by U.S. Census Bureau population estimates provided by AHRQ. The data are presented as rates per 100,000 population.
- These rates do not account for regional variation in health status. CHA's risk-adjusted data could not be aggregated at the regional (HSR) level. Alternately, the Colorado Health Institute used the observed (unadjusted) data on hospital admissions.

Colorado Access to Care Index Methods

Selection of Metrics

The following criteria were used to select the metrics included in the Colorado Access to Care Index:

- **Validity:** Metrics of factors known to increase potential access to care, barriers to care identified by consumers, and services used that suggest adequate access or insufficient access to primary care.
- **Geography:** Data that are available at the sub-state level. This allows the index to show differences between communities.
- **Subgroups:** Metrics that demonstrate access to care for Coloradans with all kinds of insurance, in regions across the state, belonging to different racial and ethnic groups and at different income levels. Some metrics are only available for, or only applicable to, particular age groups.
- **Available over time:** Metrics that allow the index to be updated and show changes over time. Most data sources included are expected to be available in the future, although not all are available retrospectively.

Calculating Index Scores

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

The Colorado Health Institute first compiled the data for each of the metrics within the Potential Access, Barriers to Care and Realized Access sections. We used the most recent data available to calculate the index score. The Colorado Access to Care Index score released in March 2015 mostly used 2013 data, with a few exception described above. The 2013 data provide a baseline measure of access to care in Colorado before major ACA

policy changes — such as expanded Medicaid eligibility — when into effect in 2014. The update index provides a picture of "post-ACA" access to care in Colorado. This mostly used data from 2015, with a few exceptions described above.

Establishing Benchmarks

The first step in calculating the index was to establish an aspirational benchmark. In other words, we established a goal of either zero or 100 percent for most of the metrics. For example, we proposed an aspirational goal of 100 percent of Coloradans covered by health insurance. Alternately, we would aspire to the goal that no one in Colorado — zero percent — would experience a barrier such as not getting needed mental health care or not being able to afford a specialist.

For the metrics that are expressed as rates — such as for workforce and preventable hospitalizations — we based the goals on established benchmarks in the research literature and CHI's past analyses. We used the best-performing region as the aspirational goal when we were unable to identify a benchmark.

Calculating the Scores

Next, we converted each of the data metrics to a score on a scale of zero to one, where zero represents no access to care and one represents universal access. For example, 84.2 percent became .842.

This step required a few of the metrics — such as those in the Barriers to Care section — be mathematically "flipped" so that zero indicates a poor score and a score of one is "good." For example, 11.2 percent of Coloradans couldn't afford a prescription in 2013. We converted the percentage to a score (.112) and then subtracted it from one (1- .112 = .888).

We then averaged the scores across all the metrics within each of the three components — Potential Access, Barriers to Care and Realized Access. The average was then multiplied by 10. This step resulted in an overall score for Potential Access, an overall score for Barriers to Care and an overall score for Realized Access.

Finally, we averaged the three component scores to calculate the overall score.

Notes and Limitations:

- The Colorado Access to Care Index assumes that all metrics are equally important. We did not weight some metrics higher than others.

Sources of Information

- **Colorado Health Access Survey**
  http://www.coloradohealthinstitute.org/key-issues/detail/health-coverage-and-the-uninsured/colorado-health-access-survey-1
- **MedicalQuest**
  http://www.medicalquest.com/
- **Colorado Pregnancy Risk Assessment Monitoring System**
  https://www.colorado.gov/pacific/cdphe/pregnancysurvey
- **Colorado Behavioral Risk Factor Surveillance System**
  http://www.chd.dphe.state.co.us/topics.aspx-?q=Adult_Health_Data
- **Hospital Admissions Data**
  http://www.cha.com

- Under Barriers to Care, the CHAS metric "Didn't seek care because uninsured" was not included in the calculation of the index because its denominator — or population on which it is based — is limited to only uninsured Coloradans. This denominator has changed significantly over time with health coverage expansions under the ACA.
- We did not include some years of data for some metrics due to unavailability or a change in definitions that would compromise the comparability of the data across years.
- The workforce and hospitalization data were not included in the calculation of index scores for income and racial/ethnic groups. This was because workforce and hospitalization data were unavailable for these subgroups. Subsequently, the index scores by income and race/ethnicity are not comparable with state or regional scores.
- The sample size was not sufficient to include PRAMS data in scoring the "Over 400 percent FPL" income group.

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