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VALUE IN HEALTH CARE

# Total Cost of Care Multi-State Analysis

Colorado's Health Care Costs Higher than Four Other States, with  
Millions in Annual Savings Potential

## Overview

As health care costs continue to rise in Colorado and across the nation, it's essential to better understand what is driving increases in order to change our current unsustainable trajectory. There are a number of reasons why costs may vary both within one state and among several, including the health of the population, how often people are visiting a health care provider or filling prescriptions (utilization), and the price of those services. The Total Cost of Care project, funded by the Robert Wood Johnson Foundation and led by the Network for Regional Healthcare Improvement, is the first of its kind to measure those factors in a standardized way across multiple states.

This project is unique in that the results of other studies are either too broad to be actionable on the ground or too specific to be meaningful in measuring system-wide change. In addition to highlighting variation among participating states – Oregon, Utah, Colorado, Minnesota and Maryland – each state also shared practice-specific data with primary care providers enabling them to implement change that directly supports their patients.

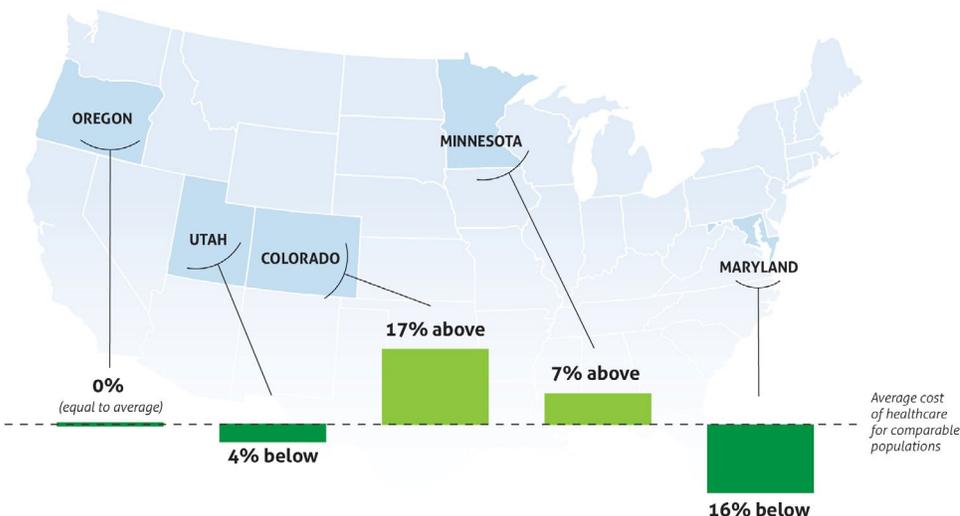
Center for Improving Value in Health Care (CIVHC) participated in the study on behalf of Colorado using 2015 claims data from the Colorado All Payer Claims Database (CO APCD). The analysis included data from 14 commercial payers for patients attributed to 102 adult primary care practices, and 24 pediatric practices, and tracked cost and utilization across the continuum of care (Inpatient, Outpatient, Professional and Pharmacy).

This Colorado-specific report includes findings from the multi-state [Getting to Affordability: Untangling Cost Drivers](#) publication comparing Colorado to the other participating states, and includes additional analysis and insights into regional cost and utilization variation highlighting opportunities within the state.

## How Colorado Compares

Across the participating states, results show that pricing and utilization patterns differ significantly, driving differences in total cost to various degrees. The multi-state study found that Colorado's total costs across all service types were 17% higher when compared to the other four states included in the analysis. Colorado's total costs were driven more by higher utilization of services (11% above average) than the price of those services (6% above average), although both were a factor.

**Figure 1. Multi-State Total Health Care Cost Comparison**  
(Source: Getting to Affordability: Untangling Cost Drivers)



Further analysis into broad health care service categories shows that Colorado's costs were 30% higher than other states for Outpatient services, the highest percentage above the average in any category in any participating state.

Colorado's total costs were also higher than the five state average in the Inpatient (16% above average), and Pharmacy (24% above average) categories. Higher costs in Outpatient and Pharmacy appear to be driven mostly by higher utilization whereas inpatient costs were driven solely by above average prices.

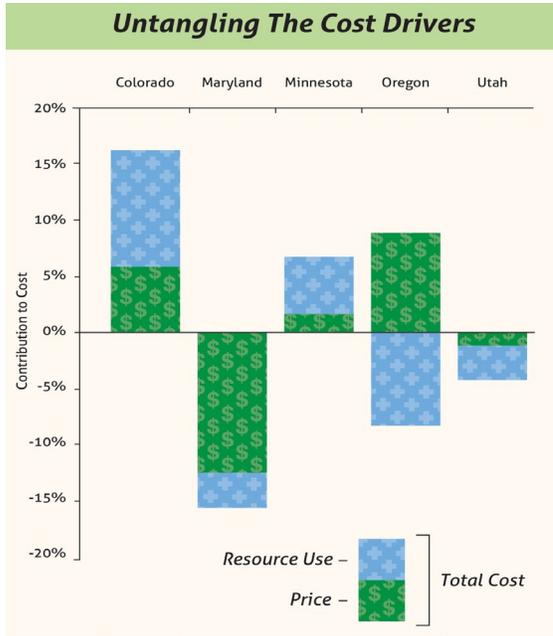
Professional services was the only category where Colorado fared better than other states, although costs were still higher than two of the other four participating states.

### Relative Cost of Healthcare

Opportunities for reducing the cost of healthcare are revealed by comparing 2015 risk-adjusted spending across participating states for private payers. Bringing the higher than average cost states highlighted above down to the average of the participating

states could potentially save over \$1 billion. Imagine if all the participating states could match the lowest cost state, several billion dollars would be available for other parts of the economy.

**Figure 2: State Comparison of Drivers of Total Cost** (Source: Getting to Affordability: Untangling Cost Drivers)



The size of the bars represents the impact of price and resource use on the total cost. As seen in the graphic, price and resource use played different roles in the variation of total cost by state.

**Table 1: State Comparison by Service Category** (Source: Getting to Affordability: Untangling Cost Drivers)

**Total Cost of Care by Service Category**  
Commercial Population 2015  
Combined Attributed and Unattributed

Measure	Colorado	Maryland	Minnesota	Oregon	Utah
<b>Total Cost</b>					
Overall	17%	-16%	7%	0%	-4%
Inpatient	16%	-18%	7%	0%	-1%
Outpatient	30%	-30%	0%	-7%	17%
Professional	5%	-18%	21%	12%	-17%
Pharmacy	24%	7%	-11%	-12%	-8%
<b>Resource Use</b>					
Overall	11%	-3%	5%	-8%	-3%
Inpatient	0%	-7%	8%	-14%	16%
Outpatient	25%	-19%	5%	-16%	13%
Professional	3%	2%	10%	-3%	-13%
Pharmacy	23%	6%	-9%	-10%	-9%
<b>Price</b>					
Overall	6%	-13%	1%	9%	-1%
Inpatient	16%	-12%	-1%	16%	-14%
Outpatient	4%	-13%	-5%	11%	4%
Professional	2%	-20%	10%	15%	-5%
Pharmacy	0%	1%	-2%	-2%	2%

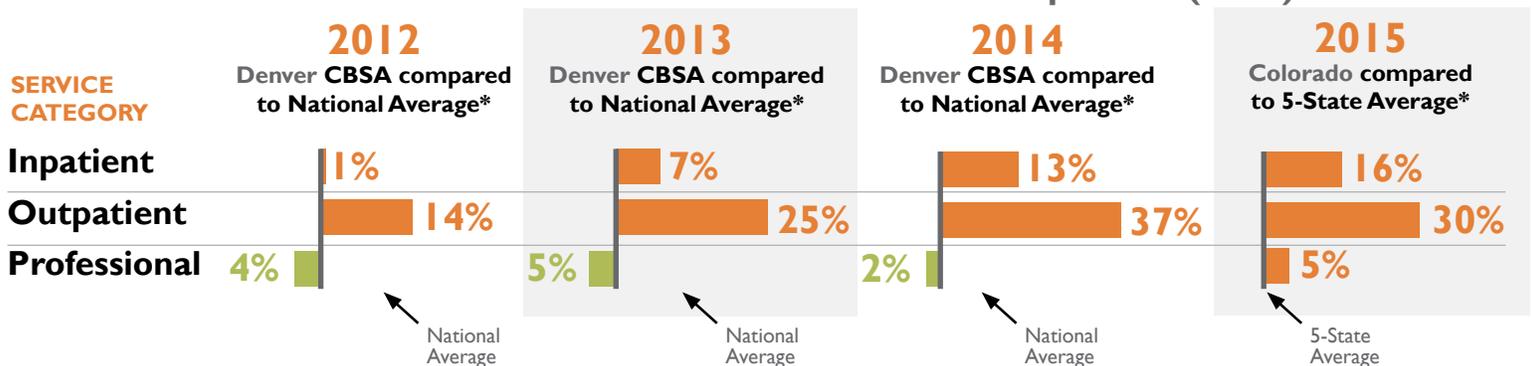
Note: This is the midpoint of the ranges created from the sensitivity analysis and represents the percent above or below the risk adjusted average across all regions. For more details, view [Getting to Affordability: Untangling Cost Drivers](#), pg. 19.

## How This Study Compares

### How These Results Compare to Similar Analyses

In 2017, the Health Care Cost Institute (HCCI) published Healthy Marketplace Index (HMI) information reflecting analysis of employer-sponsored claims data from Aetna, Humana, Kaiser and United in all 50 states. The HMI includes measures of prices, utilization and market concentration in Core Based Statistical Areas (CBSAs) – generally representing large metropolitan areas across the United States. Results for the Denver-Aurora-Lakewood CBSA from 2012-2014 show price index values trending upward across all three service categories, with 2014 numbers very comparable to CO APCD data derived using the National Quality Forum-endorsed Health Partners methodology in the Total Cost of Care project.

**Table 2. HCCI Price Index for Denver-Aurora-Lakewood CBSA (2012-2014) vs. CO APCD Total Cost of Care Five-State Price Comparison (2015)**



\*Source: [Health Care Cost Institute Healthy Marketplace Index](#), Denver-Aurora-Lakewood Core Based Statistical Area (CBSA)

\*\*Source: Colorado All Payer Claims Database statewide data, [Getting to Affordability: Untangling Cost Drivers](#)

The CO APCD data is more recent, includes more of the Colorado population, and covers the entire state when compared to the HMI analysis. Regardless, the results of both studies indicate consistent opportunities for improvement in Colorado.

When evaluating total costs across the commercially insured patients at the 102 Colorado adult primary care practices included in the Colorado analysis, data indicates that if practices with above average costs reduced per member per month (PMPM) spending to the average across all practices (\$437 PMPM), **Colorado could save up to \$48 million in health care spending per year.** This potential savings could be even greater if it was spread across all patients and practices in Colorado, and would be even more significant if practices in Colorado matched more closely with the average total cost across all five states.

Regional Variation in CO

To achieve cost savings in Colorado, it is important to understand where the biggest opportunities are for change. Looking at variation in spending across Colorado Division of Insurance (DOI) geographic rate setting regions helps isolate areas of potential focus. Within Colorado, total costs across all services varied substantially by region and ranged from \$390-\$591 PMPM across practices analyzed.

Six regions in Colorado had higher PMPM costs than the statewide average. The East and Greeley regions had the two highest risk-adjusted PMPM costs in the state, driven by both higher utilization and higher prices. Grand Junction and the West regions had the third and fourth highest total costs respectively, primarily driven by higher prices, as utilization in those areas was either lower than or nearly equal to the statewide average.

Figure 3: Colorado Total (Inpatient, Outpatient, Professional, Pharmacy) Median Risk-Adjusted Per Member Per Month (PMPM) Cost by CO Division of Insurance Region



\*Statewide medians only reflect results for the 102 adult primary care practices included in the 2015 Colorado All Payer Claims Database study

Table 3. Total (Inpatient, Outpatient, Professional, Pharmacy) Median Risk-Adjusted Per Member Per Month (PMPM) Cost by CO Division of Insurance Region

Region	COST PMPM	UTILIZATION Compared to the CO Statewide Median*	PRICE Compared to the CO Statewide Median*
East	\$591	8%	21%
Greeley	\$559	6%	17%
West	\$547	2%	33%
Grand Junction	\$539	2%	23%
Pueblo	\$455	9%	7%
Boulder	\$439	5%	8%
Fort Collins	\$424	8%	4%
Denver	\$403	1%	7%
Colorado Springs	\$390	8%	6%
<b>Statewide Median:</b>	<b>\$437</b>		

\*Statewide medians only reflect results for the 102 adult primary care practices included in the 2015 Colorado All Payer Claims Database study

As noted in the multi-state comparison section above, Colorado had significantly higher total costs for outpatient services (defined as procedures provided in a facility setting, generally a hospital, outpatient facility or ambulatory surgery center), 30% above the benchmark of other participating states.

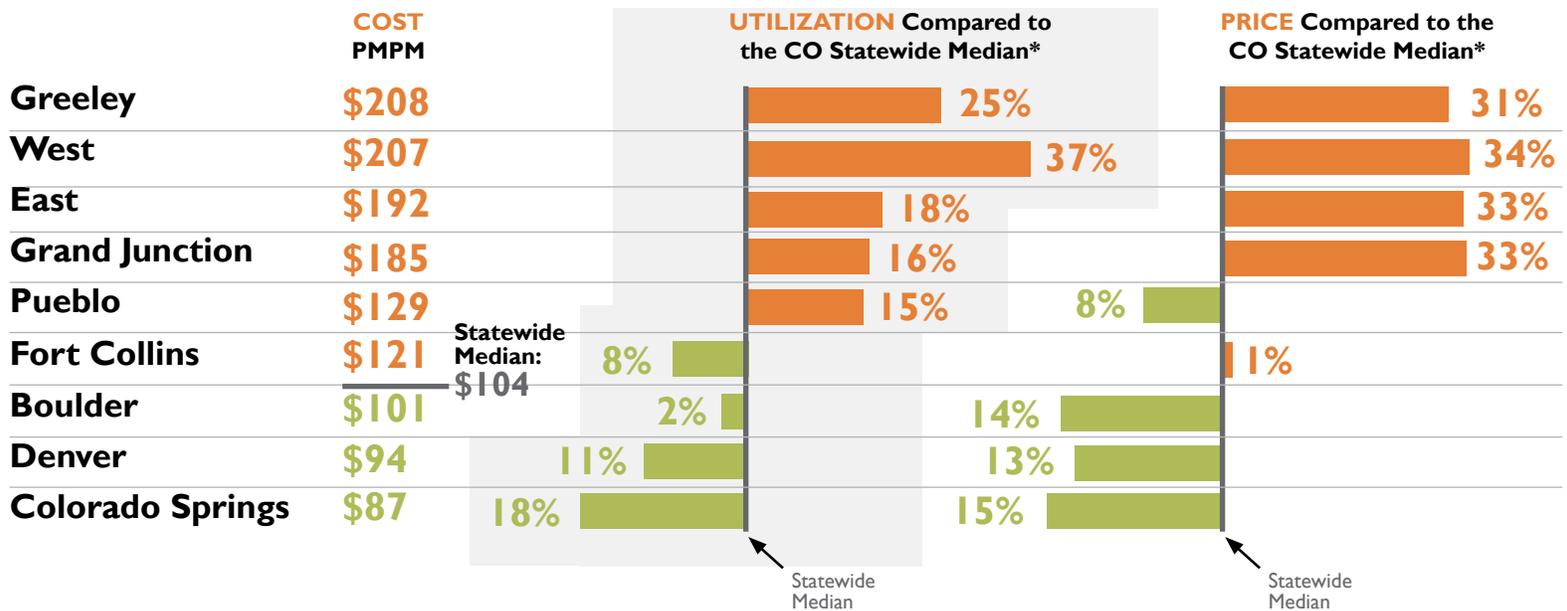
Outpatient costs across DOI regions in Colorado range between \$87-\$208 PMPM. All regions except for Boulder, Denver, and Colorado Springs were above the statewide median (\$104 PMPM). Greeley, West, East and Grand Junction regions were top four for highest outpatient costs, driven by both higher than average utilization and higher than average prices in those areas.

**Figure 4: Colorado Outpatient Median Risk-Adjusted Per Member Per Month (PMPM) Cost by Colorado Division of Insurance Region**



\*Statewide medians only reflect results for the 102 adult primary care practices included in the 2015 Colorado All Payer Claims Database study

**Table 4. Outpatient Median Risk-Adjusted Per Member Per Month (PMPM) Cost by Colorado Division of Insurance Region**

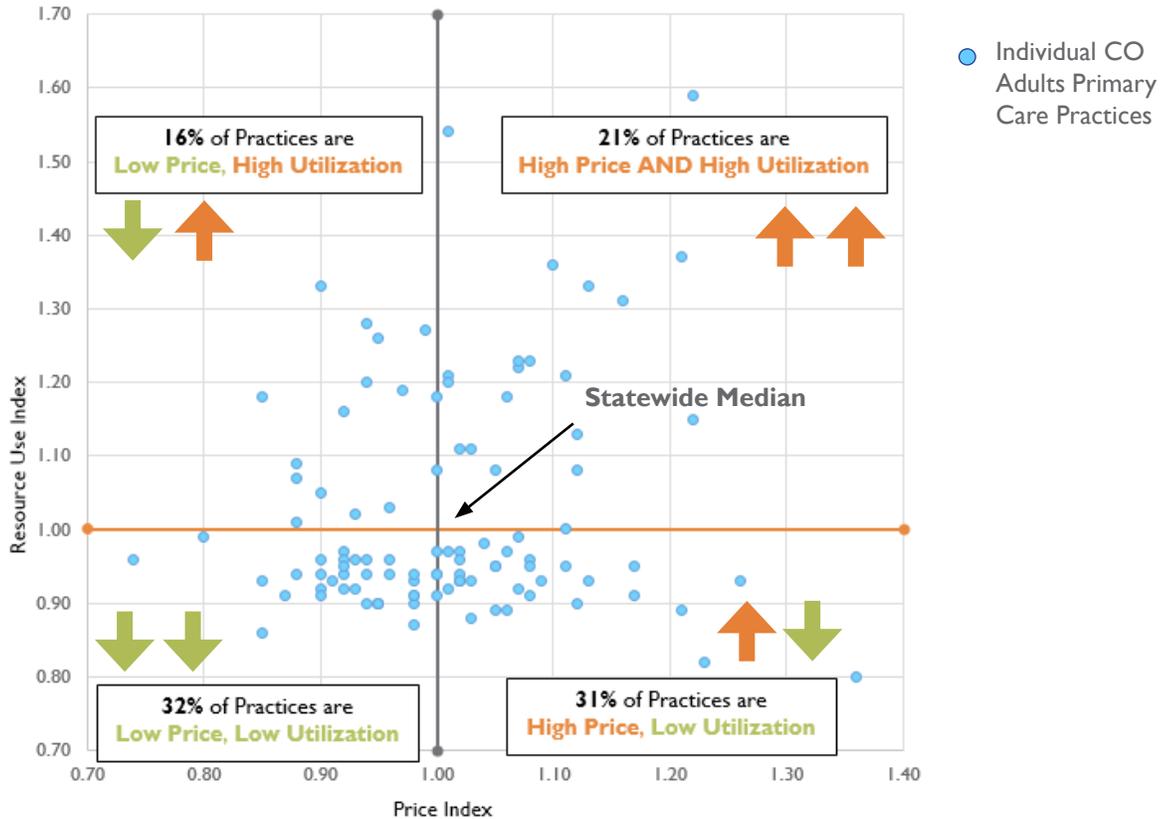


\*Statewide medians only reflect results for the 102 adult primary care practices included in the 2015 Colorado All Payer Claims Database study

**Provider Group Variation**

In addition to participating in the multi-state benchmark analysis, as part of this project, CIVHC also provided detailed practice-level reports to the 102 adult primary care physician practices and 24 pediatric practices (not represented in the figures and tables shown in this report) included in the Colorado analysis. Figure 5 shows how risk-adjusted prices and utilization for patients attributed to each of the 102 adult primary care practices in the study compared to the statewide average. In Colorado, 32% of practices are in the ideal low price, low utilization category in providing care for their patients, leaving opportunities for improvement at 68% of the practices evaluated.

**Figure 5: Colorado Provider Practice Utilization and Price Comparison**



\*CO All Payer Claims data represents 102 adult primary care practices included in the Total Cost of Care Project

Practice Level Detail

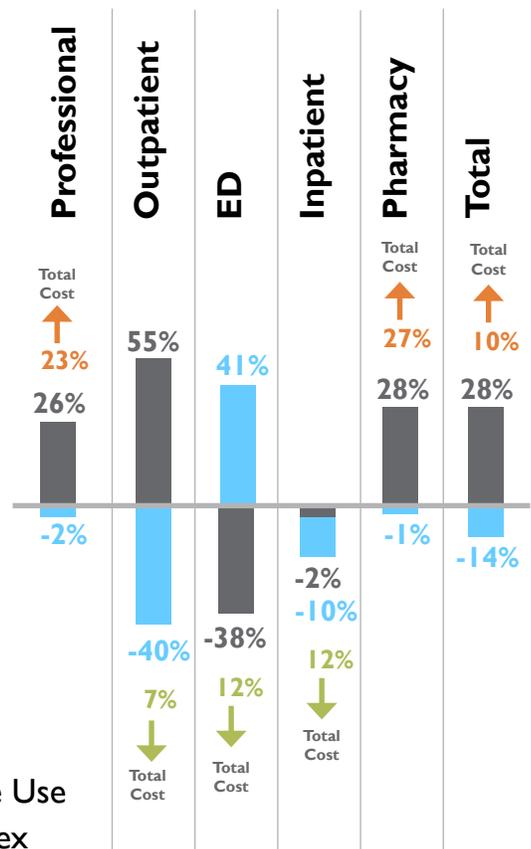
**Figure 6. Example Summary Data Provided to CO Primary Care Practices**

In order for this information to be actionable to providers, it has to indicate both high-level and specific areas of opportunity to reduce total costs. For example, in Figure 6, data provided to one practice shows that their total Professional costs were 23% higher than average, driven by 26% higher utilization. Total costs for Outpatient services at this practice were 7% lower than average, despite 55% higher utilization because prices for those services were 40% below average. The practice can also see that their patients are less healthy with a 35% higher “risk score” compared to the state average.

SERVICE CATEGORY	AVERAGE PMPM	PRACTICE PMPM
Professional	\$160	\$197
Outpatient	\$131	\$121
ED	\$18	\$15
Inpatient	\$72	\$63
Pharmacy	\$113	\$144
<b>Total</b>	<b>\$475</b>	<b>\$524</b>

Average Risk Score 1.00  
 Practice Risk Score 1.35 (↑ 35%)

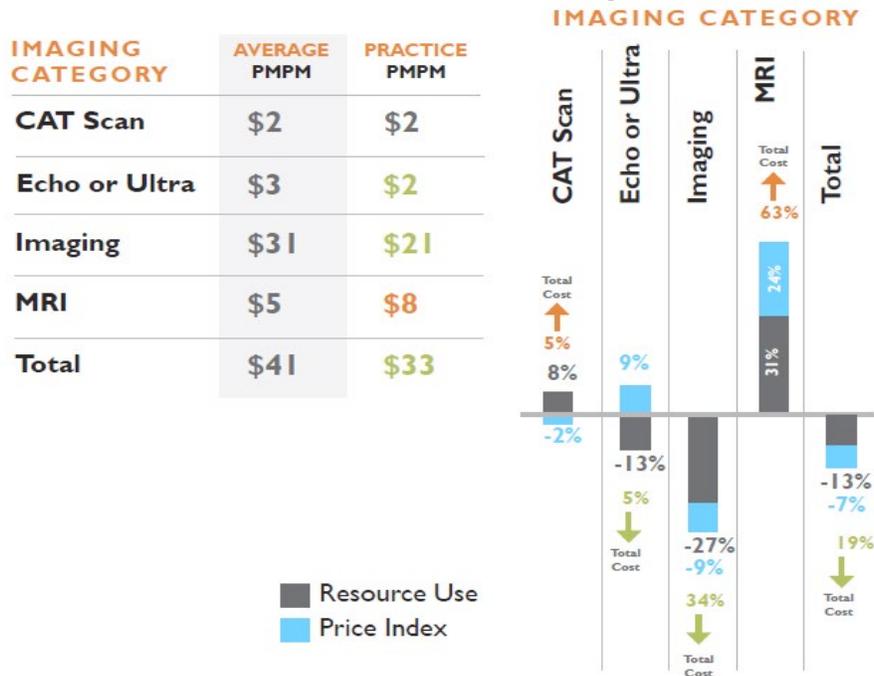
SERVICE CATEGORY



■ Resource Use  
 ■ Price Index

**Figure 7. Example Radiology Service-level Detail, Colorado Practice Report**

Further detail in Figure 7 shows patients receiving MRIs at this practice experience 63% higher total costs than average, driven by higher utilization and price. Equipped with this data, this practice could consider evaluating where patients are going for MRI services to ensure that they are referring patients to the highest value (low price and high quality) providers possible.



While the reasons for higher than average results in the inpatient, outpatient, professional and pharmacy service categories cannot always be directly addressed by primary care providers, this data can help them understand specific opportunities to reduce total costs to be successful under value-based payment models. Additionally, this information can help them make better informed decisions regarding patient referrals and in designing targeted patient education programs.

## Looking Forward

Most Coloradans and policy makers are well aware that the cost of health care is a problem for the state with wide variation in health care premiums in different regions and year after year premium increases. However, until now, it hasn't been clear whether high utilization, high prices or both are driving up costs, and there hasn't been a standard way to evaluate how Colorado costs for services compare to other parts of the country. The results of the multi-state analysis can help Colorado identify where costs are out of sync with other states and isolate the drivers. These comparisons also offer insights into how our marketplace differs from other lower-cost lower-utilization areas, offering potential alternatives to our model.

The more granular Colorado regional variation information and provider reports can also be used to identify cost savings opportunities by various stakeholders including:

- **Primary Care Providers** participating in pay-for-value programs where they are responsible for care beyond their walls. This data, for the first time, enables them to see utilization and spending patterns outside their offices compared to their peers, giving them insights regarding the most high-value referral options.
- **Policymakers** looking to better understand drivers of Colorado's relatively high total cost of care, the causes of variation across different regions of the state, and what might be done to better control costs.
- **Employers and Health Plans** looking for ways to align benefit designs to help patients make high value health care decisions and select high value health providers.
- **Consumers** looking for information on where to receive high value care.

In the coming years, CIVHC will add nationally endorsed quality measures to the practice-level reports, enabling a variety of stakeholders to evaluate performance on both total cost and quality of care. CIVHC also plans to work with providers to make some of the information contained in the practice-level analysis available on the CO APCD public website. An important first step towards practice-level quality reporting are the publicly available [quality measures interactive reports](#) on CIVHC's website. Also currently available are interactive [cost of care reports](#) and [utilization reports](#) that show trends in costs and utilization across Colorado across the Medicaid, Medicare Advantage and Commercially insured population.

## Methodology

The Colorado-specific analysis was performed by Center for Improving Value in Health Care based on the [HealthPartners Total Cost of Care measures](#). Detailed and in-depth information regarding the measures is available in the [TCOC Toolkit](#). Details regarding development of the results summarized in this report can be found in the Technical Appendix to the [Getting to Affordability: Untangling Cost Drivers](#) report.

Colorado data was generated using 2015 claims data from 14 commercial payers included in the Colorado All Payer Claims Database. In order to compare Colorado with other participating states, the analysis was limited to evaluating patients attributed to 102 adult primary care practices, and 24 pediatric practices. For more information about the Total Cost of Care project, visit [www.civhc.org](http://www.civhc.org), or contact us at [info@civhc.org](mailto:info@civhc.org).