

# 2017 Medicaid Provider Rate Review Analysis Report

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**Physician Services, Surgery, and Anesthesia**

**May 1, 2017**

**Submitted to: The Joint Budget Committee and the Medicaid Provider Rate Review Advisory Committee**



**COLORADO**

Department of Health Care  
Policy & Financing

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## I. Executive Summary

This report contains the work of the Colorado Department of Health Care Policy & Financing (the Department) to review rates paid to providers under the Colorado Medical Assistance Act. Services under review this year are:

Physician Services	Surgery and Anesthesia
Ophthalmology Services	Digestive System Surgeries
Speech Therapy Services	Musculoskeletal System Surgeries
Cardiology Services	Cardiovascular System Surgeries
Cognitive Capabilities Assessments	Integumentary System Surgeries
Vascular Services	Eye and Auditory System Surgeries
Respiratory Services	Respiratory System Surgeries
Ear, Nose, and Throat Services	Anesthesia Services
Gastroenterology Services	

This report contains a service description, rate comparison analysis, access analysis, and conclusion for each service. This report is intended to be used by the Medicaid Provider Rate Review Advisory Committee (MPRRAC), stakeholders, and the Department to work collaboratively to evaluate rate review findings and generate recommendations.

For physician services under review, results suggest that, as of June 2016, payments ranging from 61.61% to 116.83% of the benchmark, in aggregate:

- were sufficient to allow for client access and provider retention in ophthalmology services, cardiology services, vascular services, and respiratory services; and
- due to potential access issues in specific regions of the state, the Department's assessment of whether rates were sufficient to allow for client access and provider retention was inconclusive for speech therapy, cognitive capabilities assessments, ear, nose, and throat services, and gastroenterology services.

For surgeries under review and anesthesia services, results suggest that, as of June 2016, payments ranging from 56.76% to 131.64% of the benchmark, in aggregate:

- were sufficient for client access and provider retention in digestive surgeries, musculoskeletal surgeries, cardiovascular surgeries, integumentary surgeries, and anesthesia services; and
- due to potential access issues in specific regions of the state, the Department's assessment of whether rates were sufficient to allow for client access and provider retention was inconclusive for eye and auditory surgeries and respiratory surgeries.

While it is important to thoughtfully and critically examine the contents of this report, readers must remember that services reviewed in this year's report are part of a larger set of services. Services reviewed this year encompass only a subset of all services to be reviewed over five years.

Members of the public are invited to attend MPRRAC meetings, provide input on provider rates, and engage in the rate review process. Stakeholder feedback is incorporated in this report when given.

The five-year rate review schedule, MPRRAC meeting schedules, past MPRRAC meeting materials, and more can be found on the Department's [MPRRAC webpage](#).



## II. Introduction

The Colorado Department of Health Care Policy & Financing (the Department) administers the State’s public health insurance programs, including Medicaid and Child Health Plan *Plus* (CHP+), as well as a variety of other programs for Coloradans who qualify. Colorado Medicaid<sup>1</sup> is jointly funded by a federal-state partnership. The Department’s mission is to improve health care access and outcomes for the people it serves while demonstrating sound stewardship of financial resources.

In 2015, the Colorado State Legislature adopted Senate Bill 15-228 “Medicaid Provider Rate Review”, an act concerning a process for the periodic review of provider rates under the Colorado Medical Assistance Act. In accordance with Colorado Revised Statutes (CRS) 25.5-4-401.5, the Department established a rate review process that involves four components:

- assess and, if needed, revise a five-year schedule of rates under review;
- conduct analyses of service, utilization, access, quality, and rate comparisons for services under review and present the findings in a report published the first of every May;
- develop strategies for responding to the analysis results; and
- provide recommendations on all rates reviewed and present in a report published the first of every November.

The rate review process is advised by the Medicaid Provider Rate Review Advisory Committee (MPRRAC), whose members recommend changes to the five-year schedule, provide input on published reports, and conduct public meetings to allow stakeholders the opportunity to participate in the process.

Since September 2016, MPRRAC meetings served as a forum for general discussion of the rate review process, services under review in year two, and stakeholder feedback. In addition to the MPRRAC meetings, the Department hosted three Rate Review Information Sharing Sessions with MPRRAC members and interested stakeholders. In these sessions, stakeholders were invited to comment on data as it relates to methodologies for collecting, analyzing, and presenting rate comparison and access analyses. These sessions helped the Department better understand provider service provision experiences. Summaries from meetings, including presentation materials, petitions from stakeholders, and meeting minutes are found on the Department’s [MPRRAC website](#).

This report contains:

- the Department’s analysis of service, utilization, access, and quality of services;
- a comparison of service rates with available benchmarks; and
- an assessment of whether payments were sufficient to allow for client access and provider retention and to support appropriate reimbursement of high value services.

### Evaluating Rate Sufficiency

Payment sufficiency cannot be determined by examining rate comparisons in isolation. In addition to rate benchmark comparisons, the Department conducts claims-based access analyses and incorporates stakeholder feedback, prior to assessing whether payments are sufficient to allow for client access and provider retention.

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<sup>1</sup> The consumer-facing name for Colorado Medicaid is now Health First Colorado. In this report, the Department refers to the program as Colorado Medicaid.



Even after incorporating additional sources of information in the analysis of payment sufficiency, there are complicating factors:

- Client access and provider retention are influenced by factors beyond rates.<sup>2</sup> Such factors include, but are not limited to:
  - provider outreach and recruitment strategies;
  - the administrative burden of program participation;
  - health literacy and healthcare systems navigation levels;
  - provider scheduling practices; as well as
  - client characteristics and behaviors.
- Rates may not be at their optimal level, even when there is no indication of client access or provider retention issues. For example:
  - rates that are above optimal may lead to increases in unwarranted utilization or utilization of low value services; and
  - rates that are less than optimal may lead to decreases in the provision of high-quality care, or increases in the provision of services in a less cost-effective setting.

In addition to complicating factors, the use of claims data, as was done for the access analyses in this report, presented data limitations. Claims data:

- Does not allow the Department to determine which providers are currently accepting new Medicaid clients.
- Does not contain information regarding the supply of providers not participating in the Medicaid program.
- Does not provide information regarding appointment wait times.
- Does not allow the Department to quantify the care that an individual may have needed, but did not receive, or the possible causes for not receiving care.
- Does not provide information regarding what amount of a rate paid to an agency or other type of service provider is being passed on to an employee via wages.

### III. Format of Report

Information below outlines the four sections included in each service's analysis, the basic structure, and the content of each section. More technical information, including details for how to read and interpret analyses, is further outlined in the Technical Notes section, below (p.10).

#### Service Description

Service definitions and client and provider data are outlined in this section. This section is designed to provide the reader with an understanding of the service under review, and the scale of clients utilizing, and providers delivering, this service.

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<sup>2</sup> The Department adapted some factors from: Long, Sharon. 2013. Physicians May Need More Than Higher Reimbursements to Expand Medicaid Participation: Findings From Washington State., accessed via <http://content.healthaffairs.org/content/32/9/1560.full.pdf+html>.



## Rate Comparison Analysis

The rate comparison analysis is based on State Fiscal Year 2015-16 (FY 2015-16) claims data and contains:

- A rate benchmark comparison, which describes (as a percentage) how Colorado Medicaid payments compare to other payers. Please note:
  - a single rate benchmark comparison was created for each subcategory of service for physician services;
  - three benchmarks were created for each subcategory of service for surgeries; and
  - a single rate benchmark comparison was created for anesthesia services.
- A fiscal impact estimate, which describes the change in General Fund and total funds expenditures, had Colorado Medicaid rates been 100% of the benchmark in FY 2015-16. Fiscal impact estimates are not recommendations to change a Colorado Medicaid rate; instead, these estimates highlight the impact of bringing Colorado Medicaid payments to approximately 100% of the benchmark.

For a detailed rate benchmark comparison methodology and calculations, refer to Appendix A.

## Access Analysis

The access analysis is based on FY 2014-15 and FY 2015-16 claims data and contains an Access to Care Index (ACI) score, for each service under review, for each of the 21 Health Statistics Regions (regions) in Colorado. Regions were developed by the Health Statistics and Evaluation Branch of the Colorado Department of Public Health and Environment (CDPHE).<sup>3</sup> The regions, and the counties that make up each region, are outlined below (Figure 1). The Department created the ACI by analyzing five access-related metrics in the areas of utilization, travel distance, and provider availability, and then comparing regions to each other. Where a region received an ACI score of 50 or less, and where three or more of the five access-related metrics scored in the lowest quartile, the Department conducted further research to identify possible access issues within that region.

For a detailed access analysis methodology description, refer to Appendix C.

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<sup>3</sup> For more information refer to the Colorado Health Data – Health Disparities Profile, see:

<http://www.chd.dphe.state.co.us/HealthDisparitiesProfiles/dispHealthProfiles.aspx>. Figure 1 was created by the Colorado Health Institute, and is used here with their permission.



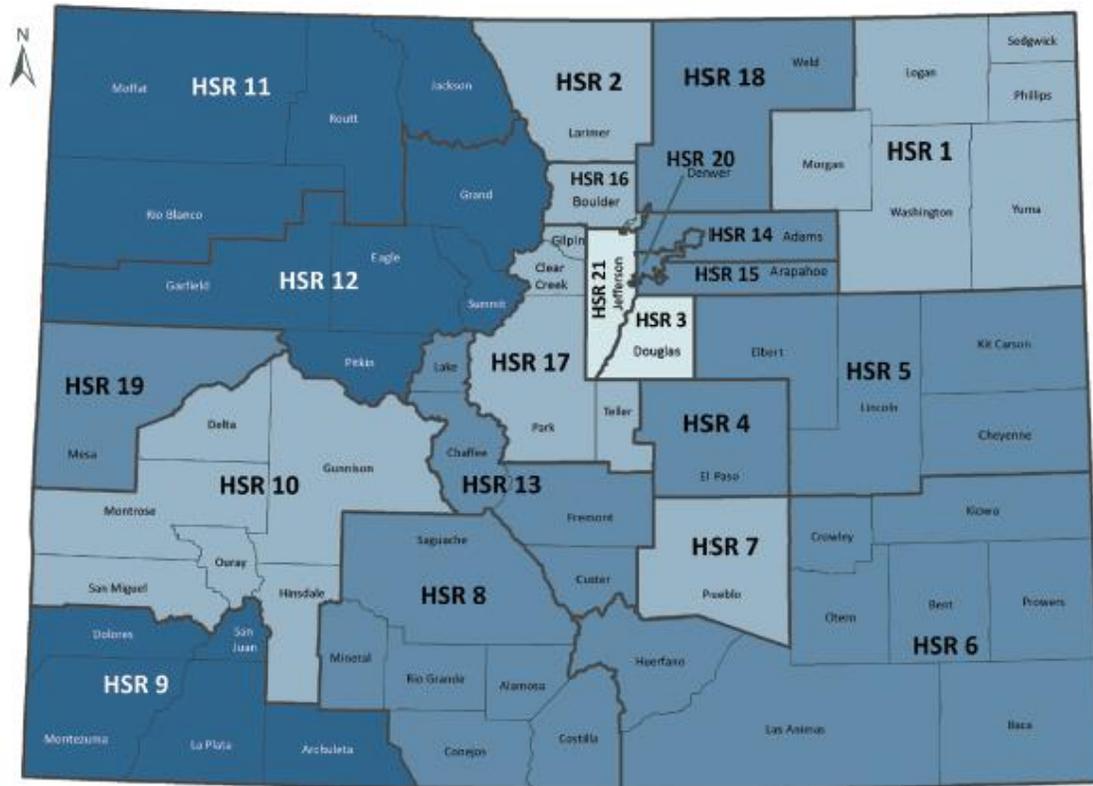


Figure 1 - Health Statistics Region (region) map.

Health Statistic Regions	
Region 1: Logan, Morgan, Phillips, Sedgwick, Washington and Yuma	Region 12: Eagle, Garfield, Grand, Pitkin and Summit
Region 2: Larimer	Region 13: Chaffee, Custer, Fremont and Lake
Region 3: Douglas	Region 14: Adams
Region 4: El Paso	Region 15: Arapahoe
Region 5: Cheyenne, Elbert, Kit Carson and Lincoln	Region 16: Boulder and Broomfield
Region 6: Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero and Prowers	Region 17: Clear Creek, Gilpin, Park and Teller
Region 7: Pueblo	Region 18: Weld
Region 8: Alamosa, Conejos, Costilla, Mineral, Rio Grande and Saguache	Region 19: Mesa
Region 9: Archuleta, Dolores, La Plata, Montezuma and San Juan	Region 20: Denver
Region 10: Delta, Gunnison, Hinsdale, Montrose, Ouray and San Miguel	Region 21: Jefferson
Region 11: Jackson, Moffat, Rio Blanco and Routt	

Table 1 - Colorado counties by Health Statistics Region.



## Conclusion

In accordance with CRS 25.5-4-401.5, the Department examined results from its rate comparison and access analyses to determine whether payments are sufficient to allow for client access and provider retention and to support appropriate reimbursement of high-value services. In this report, conclusions state whether payments were sufficient or whether analyses were inconclusive, and also contain summaries of stakeholder comment received during the rate review process.<sup>4</sup>

## IV. Technical Notes

Technical Notes contain general explanations of the logic used in the rate comparison and access analyses and explain how information is presented in the pages that follow. For more detailed explanations of rate comparison and access analysis methodologies, refer to Appendices A and C.

### Service Description

Generally, when expenditures, total paid amounts, or rates are referenced within this report, data came from a single fiscal year, FY 2015-16. This allowed for analysis to reflect the most current and complete rate and payment information. When utilization, client counts, and provider counts are referenced, data generally came from two fiscal years, FY 2014-15 and FY 2015-16. This allowed for analysis to reflect trends in utilization and provision of services. For each subcategory of service, six basic statistics are provided. Those statistics, and the fiscal years they represent, are:

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<sup>4</sup> With permission from stakeholders, the Department posts stakeholder comment on the MPRRAC website, except when comment contains protected health information. This report references written comments the Department received from November 2016 to March 2017; the Department will post additional written comment on the MPRRAC website as they are received.



Expenditure and Utilization Data	
Total Expenditures	FY 2015-16
Percent of total Medical Services Premiums (MSP) Expenditures <sup>5</sup>	FY 2015-16
Number of Clients Utilizing Services <sup>6</sup>	FY 2015-16
Year Over Year Change in Clients Utilizing Services	FY 2014-15 FY 2015-16
Year Over Year Change in Rendering Providers	FY 2014-15 FY 2015-16
Top Place of Service <sup>7</sup> - percent	FY 2014-15 FY 2015-16

Table 2 - Fiscal years for expenditure and utilization data.

This section contains three graphics: an age and gender population pyramid; a population category bar chart; and a utilizer and provider trend line graph. These visuals reflect FY 2014-15 and FY 2015-16 claims data.

## Rate Comparison Analysis

The Department conducted rate benchmark comparisons for each service under review. Creating a benchmark involves three steps:

1. Calculate the “Colorado Medicaid – Repriced Amount”. This is done by applying current (FY 2016-17) Colorado Medicaid rates to the most recent and complete utilization data, obtained from FY 2015-16 claims data.<sup>8</sup>
2. Calculate the “Comparator Benchmark – Repriced Amount”. This is done by applying comparators’ most recently-available fee schedule rates to the same utilization data used above.<sup>9</sup> This number is sometimes referred to simply as the “benchmark”.
3. Calculate “Rate Benchmark Comparison”. This is done by dividing the “Colorado Medicaid – Repriced Amount”, from step one, by the “Comparator Benchmark – Repriced Amount” from step two. This

<sup>5</sup> Medical Services Premiums is the line item in the Department’s Long Bill that provides funding for physical health and most long-term care services to individuals qualifying for the Medicaid program. The budget source for expenditures data is the Colorado Operations Resource Engine (CORE). Any discrepancy between CORE data and Medicaid Management Information System (MMIS) data results from accounting adjustments and other financial transactions not captured in the MMIS.

<sup>6</sup> This is one of the only instances where utilization data (number of clients utilizing services) is presented for one fiscal year. This is done to paint a simpler picture regarding how many clients utilize this service in one year.

<sup>7</sup> More information regarding how non-facility and facility places of service are [typically defined](#) is available on [Medicare’s website](#).

<sup>8</sup> Rates for the services under review in this report are documented in the Colorado Medicaid Fee Schedule, which may be accessed via the Department’s [Provider Rates & Fee Schedule](#) webpage. They can also be found in Appendix B.

<sup>9</sup> To identify the comparator rates mentioned in step two, the Department first examined if a service had a corresponding Medicare rate. If a service did not have a corresponding Medicare rate, the Department identified other state Medicaid rates for that same service and calculated an average for comparison. Combined, these rates were multiplied by FY 2015-16 utilization to calculate “Comparator Benchmark – Repriced Amount”.



percent represents, in aggregate, how Colorado's estimated expenditures compare to the benchmark. Rate benchmark comparisons above 100% indicate that Colorado Medicaid payments, in aggregate, are higher than the comparator benchmark, while rate benchmark comparisons below 100% indicate that Colorado Medicaid payments, in aggregate, are lower than the comparator benchmark.

As mentioned in the Format of Report section, one rate benchmark comparison is calculated for physician services and anesthesia services, and three rate benchmark comparisons are calculated for surgeries. While the Colorado Medicaid Fee Schedule contains one reimbursement rate for each service, regardless of place of service, Medicare and some other state Medicaid agencies maintain separate fees to account for differences in costs between non-facility and facility places of service. For all services paid under the Medicare Physician Fee Schedule (MPFS), providers are required to report the setting where the service was rendered by selecting the most appropriate place of service code.<sup>10</sup> Where payers have both a non-facility and facility rate, the non-facility rate is often higher than the facility rate. Generally, the facility rate is lower because other payments are made to facilities.<sup>11</sup> It is important to note that those same payers, who may have both non-facility and facility rates for some services, may have one rate for a service if there is only one appropriate place of service, or they may have one rate regardless of place of service.

With this understanding, the Department evaluated the place of service for all surgery claims under review to assess the most appropriate rates for comparison. Analysis revealed that, in FY 2015-16, 82.24% of total paid dollars for surgery services were associated with claims containing a facility place of service, with the remaining 17.76% of total paid dollars for surgery services associated with claims containing a non-facility place of service. To understand potential differences that may result, the Department conducted three rate benchmark comparisons for surgeries, which are all presented in this report:

- Non-facility Combined – Medicare's non-facility rates were used for comparison and other States' non-facility rates were used when a Medicare rate was not available.
- Facility Specific – Medicare's facility rates were used for comparison and only claims where the place of service was a facility were repriced and compared.
- Place of Service (POS) Specific Combined – based on the place of service listed on FY 2015-16 claims, the corresponding Medicare non-facility and facility rate was used for comparison. Other States' non-facility and facility rates were used when a Medicare rate was not available.<sup>12</sup>

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<sup>10</sup> Place of Service Codes (POS) are two-digit codes placed on health care professional claims to indicate the setting in which a service was provided. More information regarding how non-facility and facility places of service are [typically defined](#) is available on [Medicare's website](#). Some facility setting examples are hospitals and ambulatory surgical settings, non-facility setting examples are office and urgent care facilities.

<sup>11</sup> For example, Colorado Medicaid payment to hospitals is separately made by using the All Patients Refined – Diagnosis Related Groups (APR-DRG) for inpatient hospital services, and the Enhanced Ambulatory Patient Group (EAPG) for outpatient hospital services. Expenses for the services of non-facility-salaried physicians are reimbursed separately under the Colorado general physician fee schedule.

<sup>12</sup> All of the other states except Wyoming had non-facility and facility rates similar to Medicare, therefore non-facility rates from Wyoming were used regardless of place of service.



For physician services, with 87.01% of total paid dollars associated with claims containing a non-facility place of service, the rate benchmark comparison was conducted using the non-facility combined rates.<sup>13</sup>

For anesthesia services, Colorado Medicaid rates were compared to the Medicare anesthesia fee schedule, which is the combination of a single conversion factor and each service based units.

To gain a better understanding of the variation in rate ratios, total paid amounts, and utilization, this report contains rate ratio scatterplots.<sup>14</sup> The scatterplots display:

- Vertical axis (y-axis) – the rate ratio between Colorado Medicaid rates and Medicare rates for each service. Colorado Medicaid to Medicare non-facility rate ratios are displayed with circles (physician services, surgeries, and anesthesia). Colorado Medicaid to Medicare facility rate ratios are displayed with triangles (surgeries only).
- Horizontal axis (x-axis) – the total paid amount for each code.
- Circles – each circle represents a specific code and its location represents the total paid amount for that code and that code’s rate ratio. The size of the circle represents paid units, which is a proxy for utilization, for each code.
- The dark horizontal line represents what the Department pays, on average, as a percent of the benchmark. For surgeries, this line combines the non-facility and facility benchmark.
- The dark vertical line represents the average paid amount for a service.

## Access Analysis

The service-specific access analyses in this report are based on FY 2014-15 and FY 2015-16 claims data. ACI scores are used to standardize the metrics for different subcategories of service and reach more meaningful conclusions. The ACI includes data on five access-related metrics, and an overall access score for each region, based on the combination of those metrics. More information about ACI metrics can be found in Appendices C and D.

The five access-related metrics used to calculate ACI scores were:

- The penetration rate – the percent of the full-time equivalent (FTE)<sup>15</sup> clients who utilized the service. Comparing the penetration rate across regions helps identify atypical utilization.
- The member-to-provider ratio – the ratio of FTE clients compared to active rendering providers. This ratio helps to determine if a sufficient number of available providers existed for the service over the time period observed.
- The percent of the population that traveled within 30 miles to receive the service (measured in a straight line from the geographic center of the utilizer’s zip code to the geographic center of the billing provider’s

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<sup>13</sup> The remaining 12.99% was made to a facility place of service. The non-facility fees were used to reprice these claims to facilitate the comparison analysis.

<sup>14</sup> The rate ratios for the scatterplots calculate the ratio between Colorado’s rate and Medicare’s rate(s) by service. Because Medicare reimburses for physician services based on place of service, for surgery there two rate ratios in the scatterplot: one comparing Colorado to the Medicare non-facility physician fee and another comparing to the Medicare facility physician fee.

<sup>15</sup> For example, if one client was enrolled for nine months and another client was enrolled for three months, together they qualify as one FTE. FTE calculations are obtained from monthly enrollment files over a 12-month period.



zip code). This approximation of travel distance can be used to identify differences across regions, where larger portions of the population may have traveled longer distances.<sup>16</sup>

- The average number of active provider months – the average number of months that rendering providers billed Medicaid over the course of 24-months. This metric provides information regarding how frequently providers of a service served Medicaid clients.
- The average panel size – the average number of clients seen per rendering provider.

To calculate ACI scores:

- for every metric, except distance, the Department assigned 20 points to regions in the top quartile, 15 points to regions in the second quartile, 10 points to regions in the third quartile, and 5 points to regions in the bottom quartile; and
- for the distance metric, points were assigned based on the percent of population that traveled within 30 miles; 20 points were assigned to regions where 90% traveled within 30 miles, 15 points to regions between 80-90%, 10 points to regions between 70-80%, and 5 points to regions below 70%.

As a result, the highest possible points a region could receive was 100 points and the lowest possible points a region could receive was 20 points. However, no region was attributed 100 points, nor was any region attributed 20 points.

### Interpreting ACI Scores

Because the ACI is relative (e.g., scores were assigned to regions based on how they compared to other regions), certain regions with lower ACI scores, upon closer inspection, were determined to not have potential access issues. To identify regions for further research, the Department first identified regions with an ACI score of 50 or below. However, after researching regions with 50 or fewer points, it became evident that many had sufficient access. Therefore, the Department refined the threshold for further evaluation to only include regions that scored 50 points or lower and had at least three metrics in the bottom quartile, which more accurately identified regions needing additional evaluation.<sup>17</sup>

For those regions identified using the criteria above, the following analysis was conducted to identify regions with potential access issues:

- Penetration rate – if the metric was within one standard deviation of the statewide mean, this was attributed to normal variation. For the purposes of this report, this metric trending up indicated improvement on the metric and this metric trending down indicated a decline on the metric. A decline in this metric may indicate potential access issues.<sup>18</sup>

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<sup>16</sup> It is important to note that this metric is calculated using the billing provider's, not the rendering provider's, zip code. A provider with one billing location may have offices in multiple locations; these separate locations are not accounted for in this metric. As a result, clients may actually be traveling longer or shorter distances to their provider.

<sup>17</sup> The only metric that was not stratified by quartiles was the distance metric. For this metric, regions where 70% or less of clients traveled within 30 miles to their provider were identified as needing further evaluation.

<sup>18</sup> The Department utilized a risk grouping methodology called Clinical Risk Groups™ (CRG), developed by 3M, in an attempt to differentiate the health needs of populations in different regions. CRGs are mentioned in the access analyses when a region's CRG profile is different than that of the statewide profile, which could explain different utilization patterns. For example, a more acute population may need more services. 3M has more information on the [CRG methodology](#).



- Member-to-provider ratio – if the metric was within one standard deviation of the statewide mean, this was attributed to normal variation. For the purposes of this report, this metric trending down indicated improvement on the metric and this metric trending up indicated a decline on the metric. A decline in this metric may indicate potential access issues.<sup>19</sup>
- Percent of clients that traveled within 30 miles of the provider – if the metric was within one standard deviation of the statewide mean, this was attributed to normal variation. For this purposes of this report, this metric trending up indicated improvement on the metric and this metric trending down indicated a decline on the metric. Additionally, the Department also examines the average distance traveled for clients in a region is also compared to the statewide average.

Provider availability was determined using average active billing months and average panel size. For these two metrics, together referred to as “provider metrics”, the following analysis was conducted:

- Average active billing months<sup>20</sup> – the Department evaluated the number of providers located in a region, as well as the number of providers who provided services to clients who lived in that region. For the purposes of this report, increases in providers indicate an improvement in provider availability.
- Average panel estimate – the Department evaluated the number of active providers located in a region, as well as the number of providers who provided services to clients who lived in that region. For the purposes of this report, increases in providers indicate an improvement in provider availability.

Clients may visit any enrolled provider, so they can see providers located in their region, as well as providers located in other regions. To account for this, provider availability was assessed both in terms of the number of active providers located in the region as well as the number of active providers who provided services to clients living in the region. Increases or decreases for both providers located in a region, and providers serving clients living in a region, are noted in this report.

## V. Physician Services

Eight sub-categories of physician services were examined in year two:

- Ophthalmology
- Speech therapy
- Cardiology
- Cognitive capabilities assessment
- Vascular
- Respiratory
- Ear, nose, and throat

<sup>19</sup> The Graduate Medical Education National Advisory Committee (GMENAC) has released [target member-to-provider ratios for a variety of subspecialties](#). Where applicable to compare to the services in this report, these targets were used to assess Colorado Medicaid’s metrics. In the surgeries section, if GMENAC did not have a target ratio for a service subcategory, the general surgeon target was used.

<sup>20</sup> Active providers are defined as any provider who billed Medicaid at least once between July 2014 and June 2016 for one of the procedure codes under review.



- Gastroenterology<sup>21</sup>

The remaining physician services are scheduled for review next year.<sup>22</sup> Analyses of the eight sub-categories are presented below, ordered from highest to lowest total FY 2015-16 expenditures. Each subcategory is a mandatory benefit, as described under the Physician Services section of the State Plan, and is available to all Colorado Medicaid clients.

## Summary

Rate benchmark comparisons provide a reference point of how Colorado payments compare to other payers. For the eight physician services under review, payments range from 61.61% to 116.83% of the benchmarks (Figure 2). These comparisons represent an average; within each subcategory, there are services for which the Department pays more than the benchmark, and others for which the Department pays less. These results must be interpreted with the findings from the access analyses.

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<sup>21</sup> End-stage renal disease (ESRD) and dialysis services were, by majority vote of the MPRRAC, moved to year four of the rate review process. This way, those services can be analyzed at the same time as Dialysis Centers.

<sup>22</sup> Remaining physician services include: evaluation and management, radiology, vaccines and immunizations, psychiatric treatment, allergy, sleep studies, neurology, motion analysis, genetic counseling, health and behavior assessments, infusions and similar products, physical therapy, treatment of wounds, and miscellaneous services.



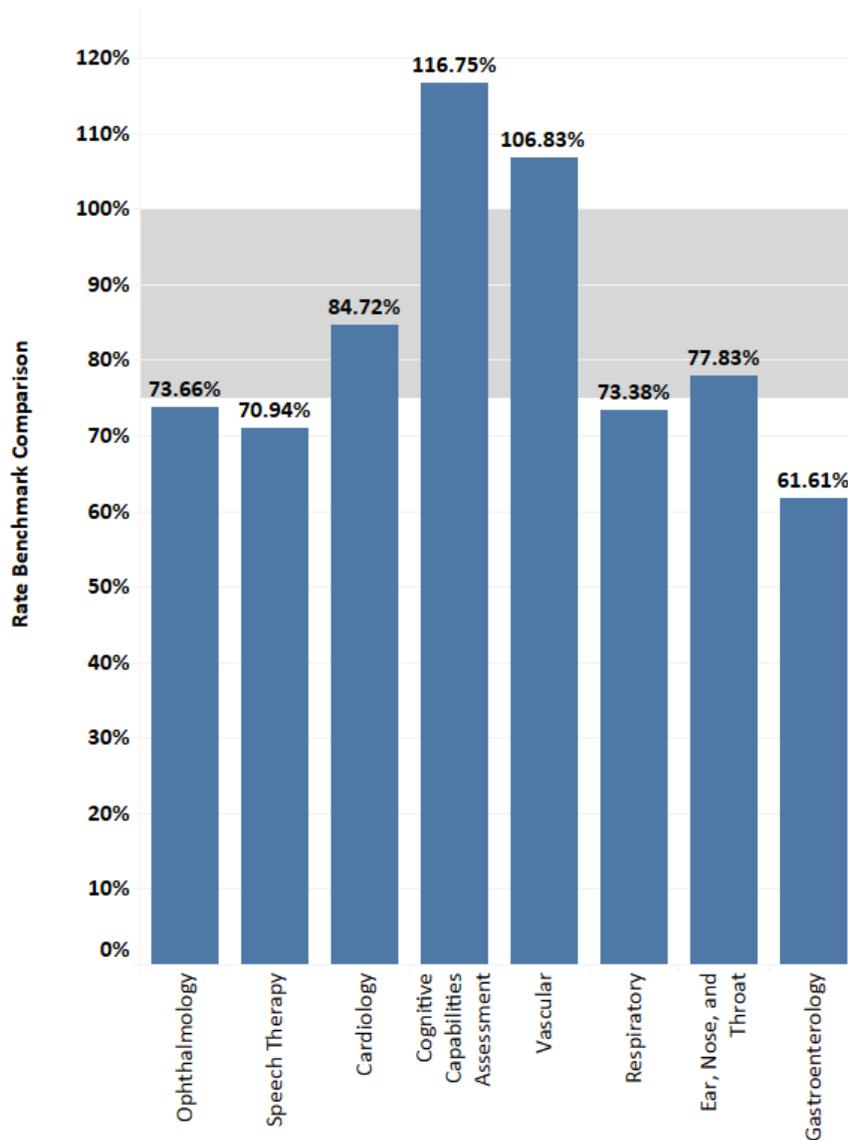


Figure 2 - Physician services rate benchmark comparison.

Payments, in aggregate, were sufficient to allow for client access and provider retention for ophthalmology, cardiology, vascular, and respiratory services. Findings from access analyses indicated potential, region-specific, access issues in the remaining physician services:

- Speech Therapy – potential access issues may exist in region 9 (Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties), indicated by declining penetration rates and no increases in providers.
- Cognitive Capabilities Assessments – potential access issues may exist in region 1 (Logan, Morgan, Phillips, Sedgwick, Washington, and Yuma Counties) and region 6 (Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, and Prowers Counties), indicated by decreasing penetration rates and long travel distances.



- Ear, Nose, and Throat – potential access issues may exist in region 6 (Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, and Prowers Counties), indicated by declining penetration rates, long travel distances, and a lack of providers located in multiple counties in the region.
- Gastroenterology – potential access issues may exist in region 4 (El Paso County), indicated by decreases in providers and high member-to-provider ratios. Potential access issues may also exist in region 10 (Delta, Gunnison, Hinsdale, Ouray, Montrose, and San Miguel Counties), indicated by low, and static, penetration rates, as well as decreasing provider metrics for providers located in this region. Additionally, clients, on average, had to travel 58.27 miles to receive gastroenterology services, which was the highest average distance traveled for all physician services reviewed.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information regarding the number of providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

ACI scores, by region and subcategory, appear on the maps below, for easy comparison across all services and regions.

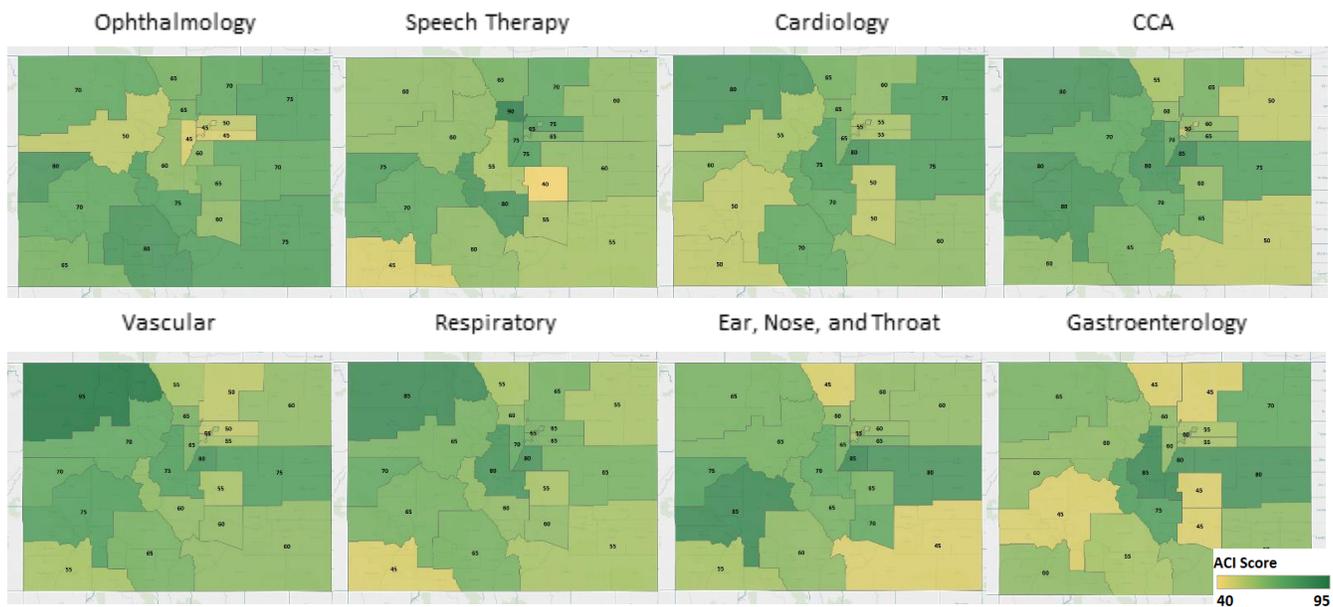


Figure 3 - Physician services Access to Care Index (ACI) scores by region.

# Ophthalmology

## Service Description

Ophthalmology services involve eye exams, as well as screening and the diagnosis of problems associated with the optical system. The ophthalmology service Current Procedural Terminology (CPT) codes under review are 92002-92499 and the Healthcare Common Procedure Coding System (HCPCS) codes under review are S0620 and S0621. Certain ophthalmology services received targeted rate increases in FY 2014-15 and FY 2015-16; these increases are accounted for in this report.

Ophthalmology Services	
Total Expenditures on Services	\$23,185,353
Percent of total MSP Expenditures	0.34%
Number of Clients Utilizing Services	181,414
Year Over Year Change in Clients Utilizing Services	14.93%
Year Over Year Change in Rendering Providers	2.78%
Top Place of Service - percent	Office – 94.49%

Table 3 - Ophthalmology expenditure and utilization data.

The largest age and gender grouping of utilizers of ophthalmology services was females between 11-20 years old (Figure 4) and the population category who utilized services the most was children (Figure 5). Utilizer and provider count trend lines are also below (Figure 6).

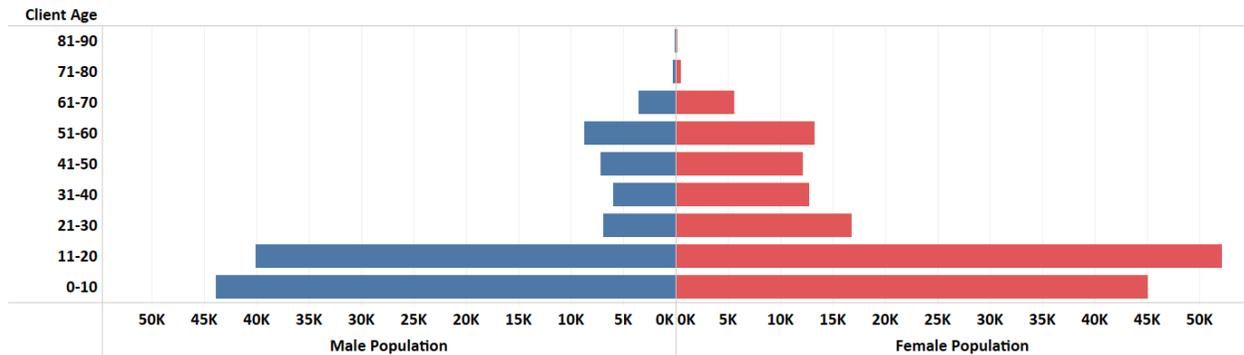


Figure 4 - Ophthalmology clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



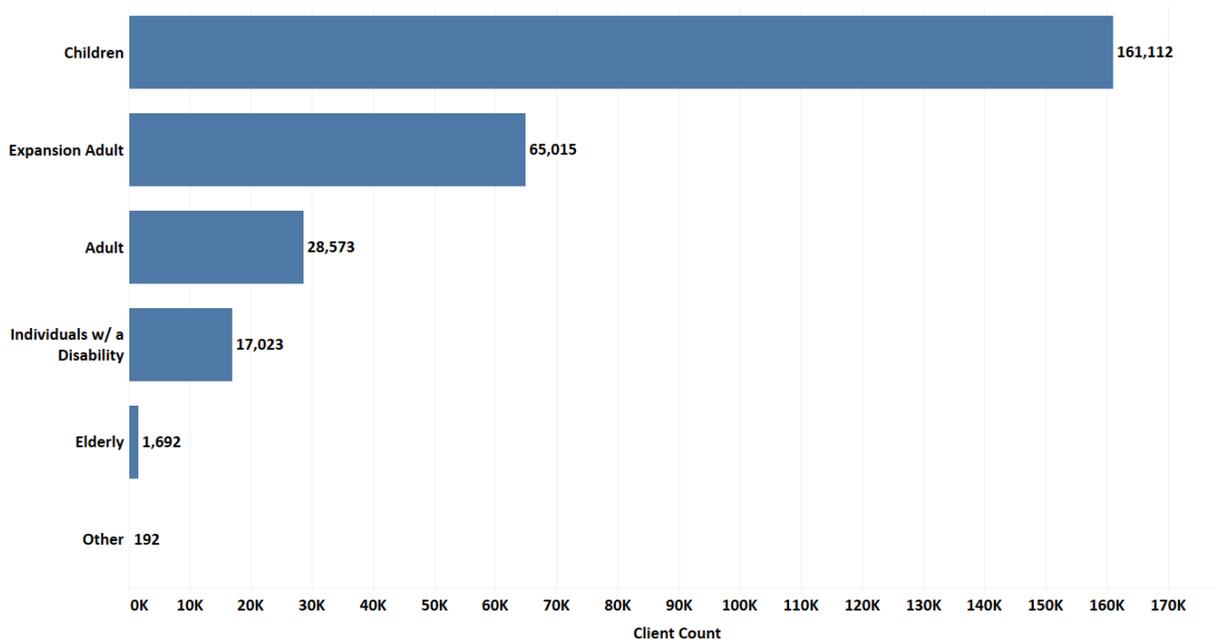


Figure 5 - Ophthalmology services clients by population category (FY 2014-15 and FY 2015-16).

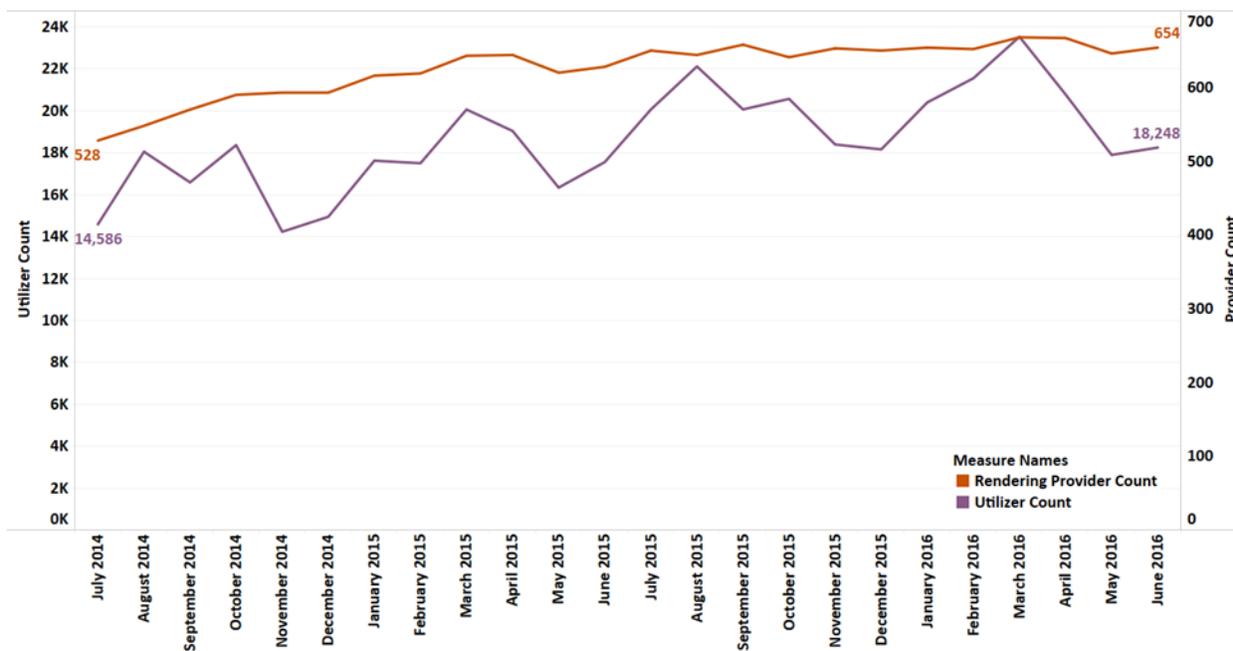


Figure 6 - Ophthalmology services utilizer and provider count trends (FY 2014-15 and FY 2015-16).



## Rate Comparison Analysis

On average, Colorado Medicaid payments for ophthalmology services are 73.66% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 4):

Ophthalmology Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$24,047,209	\$32,647,894	<b>73.66%</b>

Table 4 - Ophthalmology rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the comparable benchmark for ophthalmology services, expenditures would have increased by approximately \$3,215,482 in General Fund and \$8,600,685 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 7).<sup>23</sup> While the aggregate benchmark comparison for ophthalmology services is 73.66%, individual ophthalmology service rate ratios range from 12.77% to 125.27%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>23</sup> The comparison benchmark was created by comparing 89.28% of repriced dollars to Medicare’s non-facility rate and 10.72% of repriced dollars to an average of other state Medicaid rates. Over FY 2015-16, 96.73% of payments were made to a non-facility place of service.



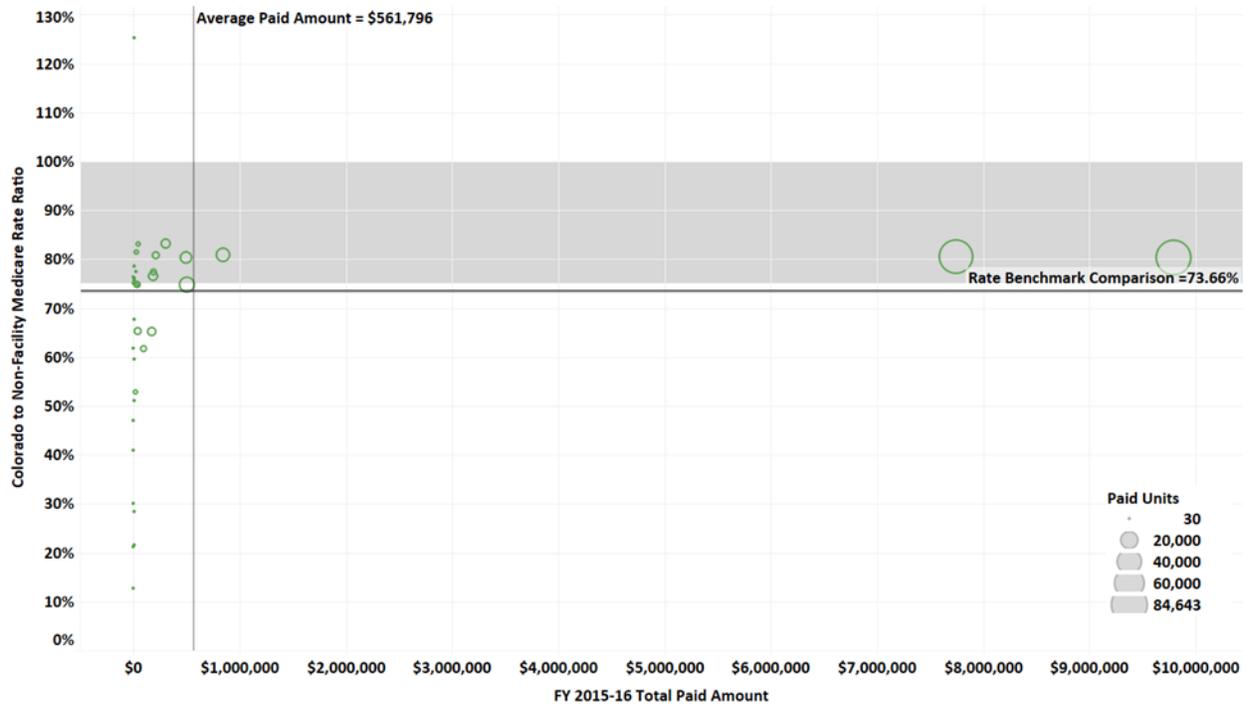


Figure 7 - Ophthalmology services rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For ophthalmology services, ACI scores range from 45 to 80 (Figure 8). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 14, 15, 20, and 21. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.



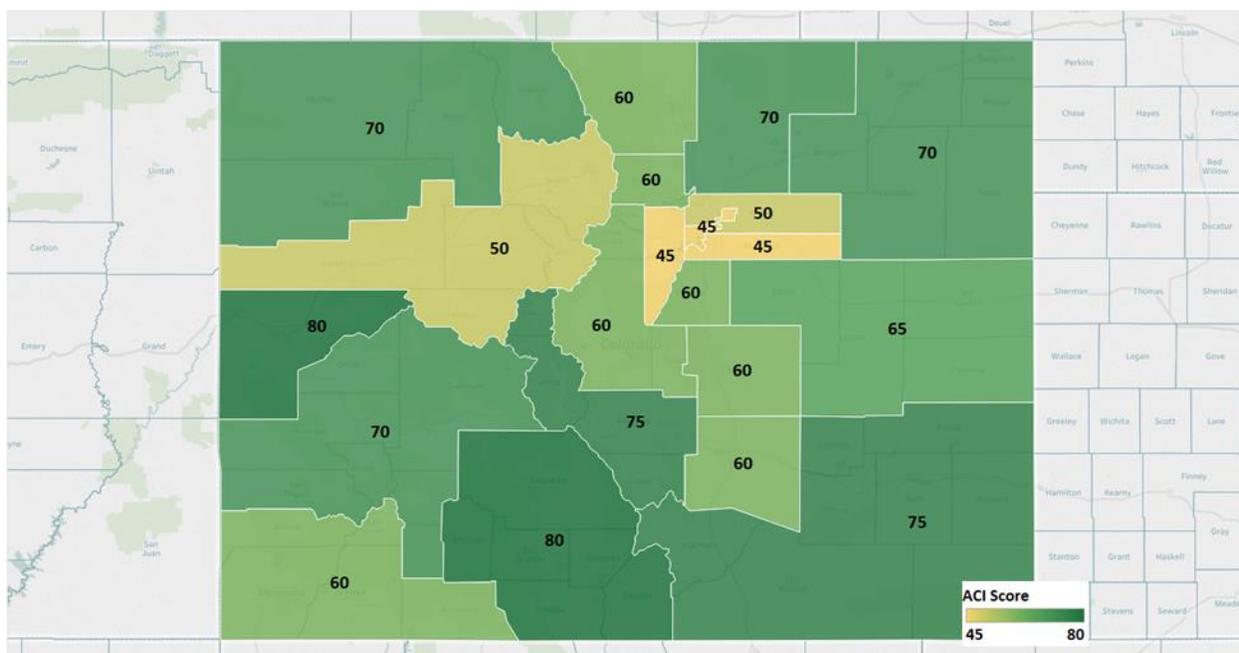


Figure 8 - Ophthalmology services Access to Care Index (ACI) scores by region.

In region 14 (Adams County), the Department calculated an ACI score of 50. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. Though the member-to-provider ratio of 227.89 FTE to one provider was above one standard deviation from the mean (136.99 FTE to one provider), the member-to-provider ratio trended down, indicating improvement on the metric. From FY 2014-15 to FY 2015-16, there was a 3.26% increase in providers located in region 14, from 92 to 95 providers, and an 8.03% increase in providers serving clients living in region 14, from 473 to 511 providers. The Department is unable to identify potential access issues in this region. Improvement in the member-to-provider ratio, as well as the increase in providers, are not trends the Department would expect to see were an access issue present.

In region 15 (Arapahoe County), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. Though the member-to-provider ratio of 219.64 FTE to one provider was above one standard deviation from the mean (136.99 FTE to one provider), the member-to-provider ratio trended down, indicating improvement on the metric. From FY 2014-15 to FY 2015-16, there was a 4.82% decrease in providers located in region 15, from 83 to 79 providers, and a 13.65% increase in providers serving clients living in region 15, from 447 to 508. The Department is unable to identify potential access issues this region. The improvement on the member-to-provider ratio, as well as in the increase in providers, are not trends the Department would expect to see were an access issue present.

In region 20 (Denver County), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. Though the member-to-provider ratio of 233.13 FTE to one provider was above one standard deviation from the mean (136.99 FTE to one provider), the member-to-provider ratio trended down, indicating



improvement on the metric. From FY 2014-15 to FY 2015-16, there was a 1.00% decrease in providers located in region 20, from 199 to 197 providers, and a 5.05% increase in providers serving clients living in region 20, from 475 to 499. The Department is unable to identify potential access issues this region. The improvement on the member-to-provider ratio, as well as the increase in providers serving clients living in the region, are not trends the Department would expect to see were an access issue present.

In region 21 (Jefferson County), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate and provider metrics. The penetration rate of 18.63% was within one standard deviation of the mean (22.80%), and trended up, indicating improvement on the metric. From FY 2014-15 to FY 2015-16, there was a 1.71% increase in providers located in region 21, from 117 to 119, and a 12.30% increase in providers serving clients living in region 21, from 447 to 502. The Department is unable to identify potential access issues this region. The improvement on the penetration rate, as well as the increase in providers, are not trends the Department would expect to see were an access issue present.

## Conclusion

Access analysis results suggest that ophthalmology service payments at 73.66% of the benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 17 of 21 regions did not require further evaluation;
- Of the four remaining regions:
  - The Department was unable to identify access issues in regions 14 due to improved member-to-provider ratios and increases in providers;
  - The Department was unable to identify access issues in regions 15 and 20 due to improved member-to-provider ratios and increases in providers serving clients living in the region; and
  - The Department was unable to identify access issues in region 21 due to improved penetration rates and increases in providers.

## **Speech Therapy**

### Service Description

Speech therapy involves services that address and remedy speech language deficits. The speech therapy CPT codes under review are 92507-97532 and HCPCS V5336. Certain speech therapy services received targeted rate increases in FY 2014-15; these increases are accounted for in this report.



Speech Therapy Services	
Total Expenditures on Services	\$21,376,810
Percent of total MSP Expenditures	0.31%
Number of Clients Utilizing Services	25,382
Year Over Year Change in Clients Utilizing Services	0.85%
Year Over Year Change in Rendering Providers	0.61%
Top Place of Service - percent	School- 42.28% Outpatient Hospital- 22.55%

Table 5 - Speech therapy services expenditure and utilization data.

The largest age and gender grouping of utilizers of speech therapy services was males between 0-10 years old (Figure 9) and the population category who utilized services the most was children (Figure 10). Utilizer and provider count trend lines are also below (Figure 11).

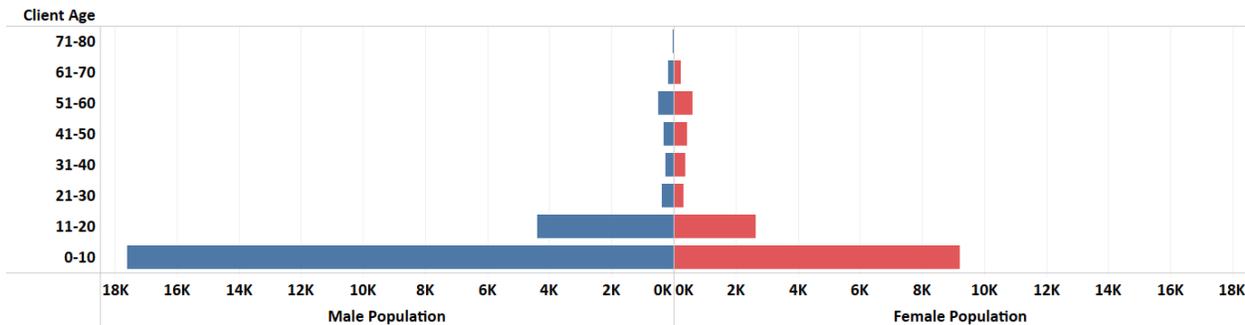


Figure 9 - Speech therapy clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



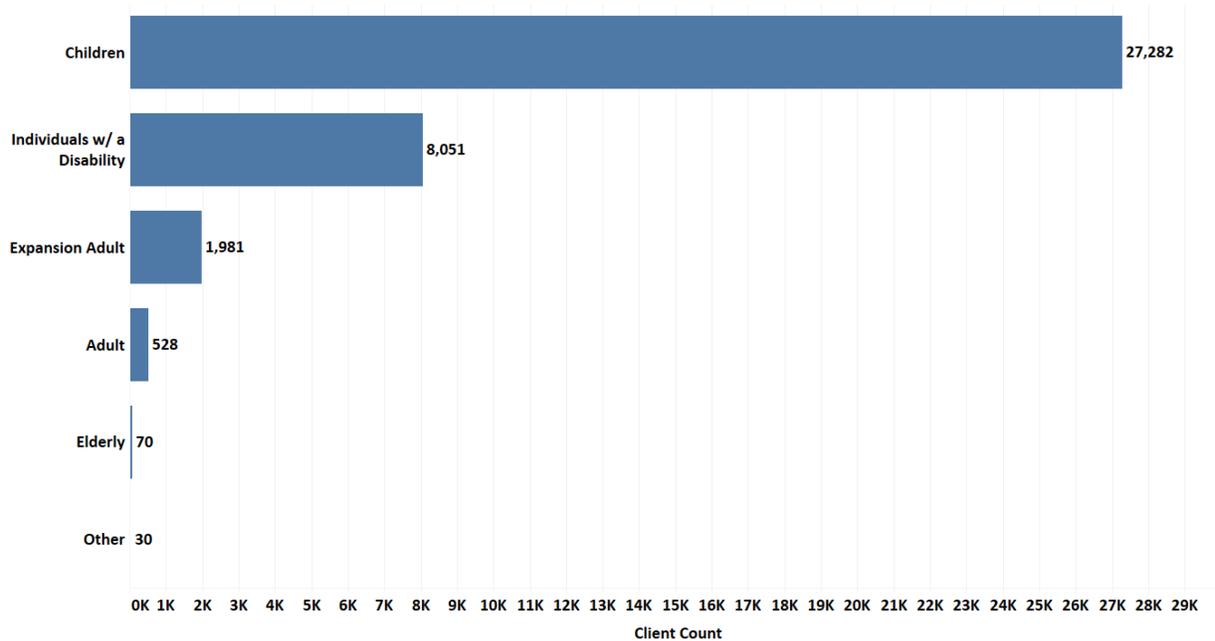


Figure 10 - Speech therapy clients by population category (FY 2014-15 and FY 2015-16).

When examining utilization, and conducting an access analysis, there is a unique consideration for speech therapy services compared to other physician services. The most common place of service for speech therapy services is the school setting. However, reviewing school setting rates is outside the scope of the rate review process because current school payments are calculated via a cost-based reimbursement methodology. However, because there was significant utilization in the school setting, it was important to include this data in the access portion of the analysis for a more complete picture. This utilization is apparent in the trend line, below (Figure 11), where utilization decreases in the summer months.



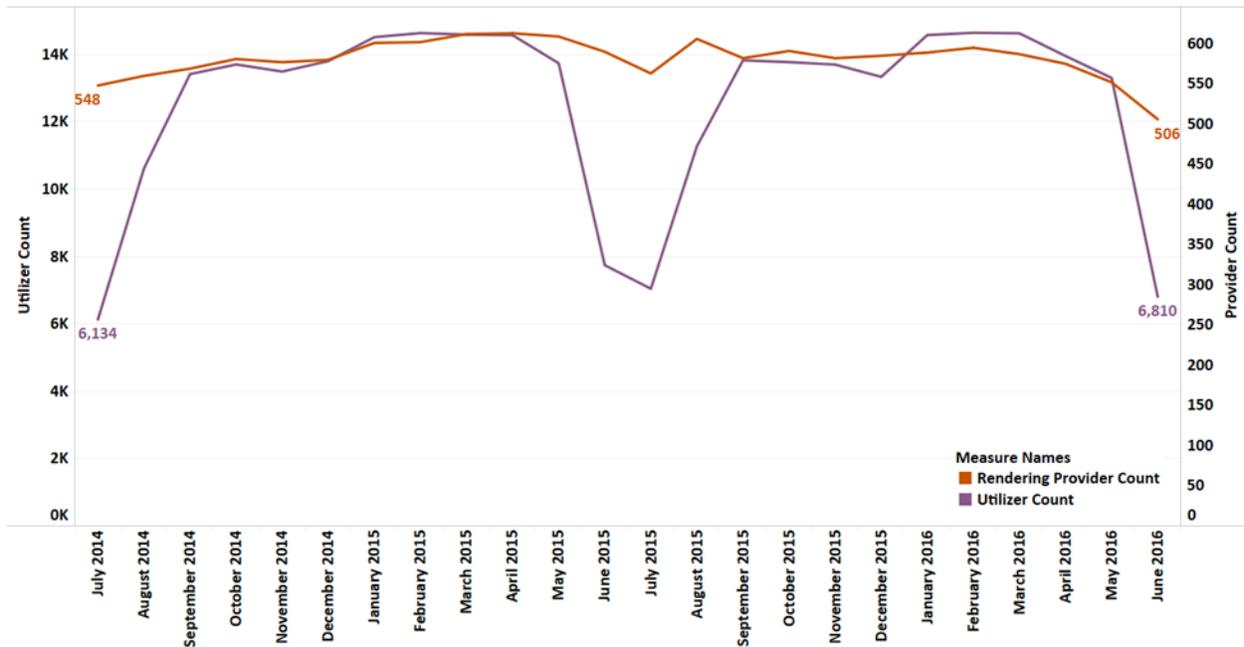


Figure 11 - Speech Therapy utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for speech therapy services are 70.94% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 6):

Speech Therapy Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$21,780,736	\$30,704,503	<b>70.94%</b>

Table 6 - Speech therapy rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the benchmark for speech therapy services, expenditures would have increased by approximately \$4,123,945 in General Fund and \$8,923,767 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 12).<sup>24</sup> While the aggregate benchmark comparison for speech therapy services is 70.94%, individual speech therapy service rate ratios range from 16.68% to 85.24%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>24</sup> The comparison benchmark was created by comparing 98.82% of repriced dollars to Medicare’s non-facility rate and 1.18% of repriced dollars to an average of other state Medicaid rates. Over FY 2015-16, 99.99% of the payments were made to a non-facility place of service.



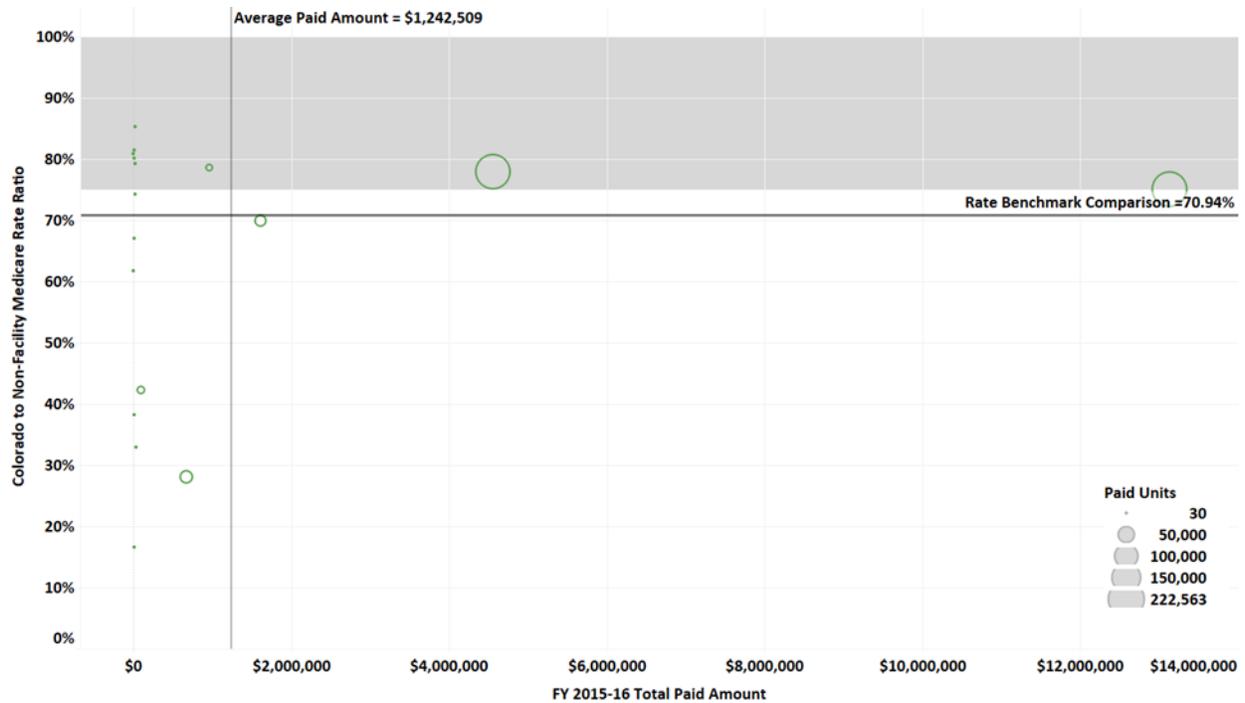


Figure 12 - Speech Therapy rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For speech therapy services, ACI scores range from 40 to 90 (Figure 13). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 4 and 9. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.

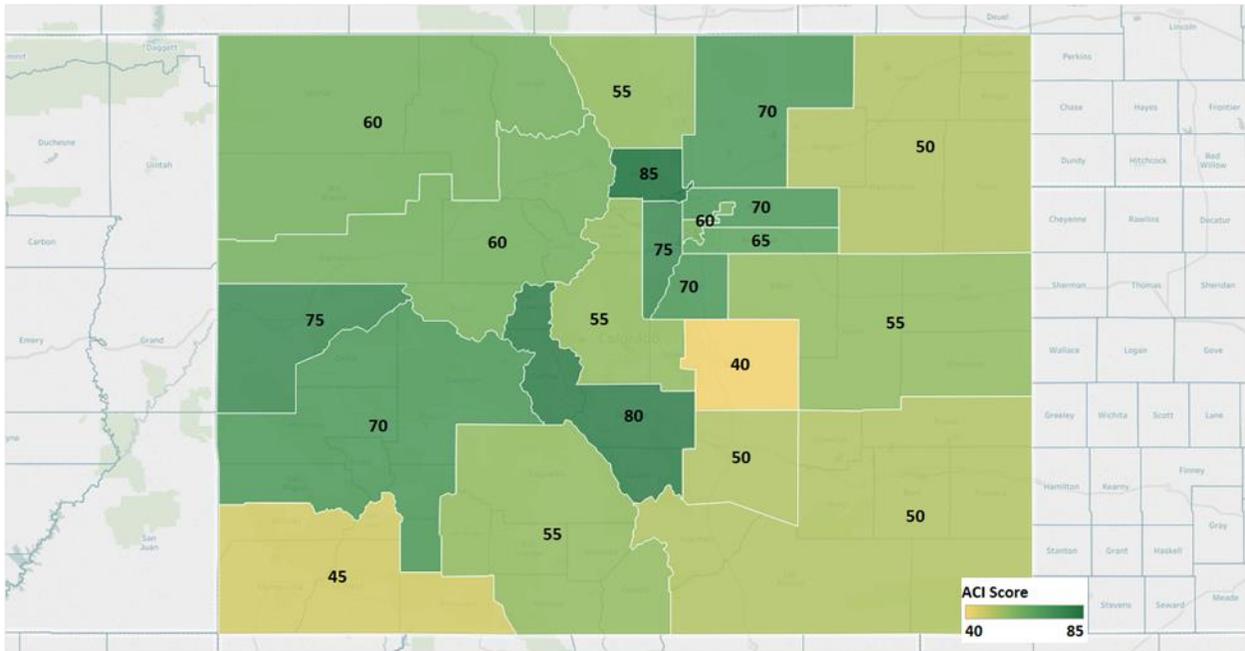


Figure 13 - Speech Therapy Access to Care Index (ACI) scores by region.

In region 4 (El Paso County), the Department calculated an ACI score of 40. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. The member-to-provider ratio was 668.15 FTE to one provider, was within one standard deviation from the mean (466.33 FTE to one provider), and trended down, indicating improvement on the metric. From FY 2014-15 to FY 2015-16, there was a 12.50% increase in providers located in region 4, from 136 to 153, and there was an 8.94% increase in providers serving clients living in region 4, from 179 to 195. The Department is unable to identify potential access issues in this region. The improvement on the member-to-provider ratio, as well as the increase in providers, are not trends the Department would expect to see were an access issue present.

In region 9 (Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, member-to-provider ratio, and active provider months metrics. The penetration rate of 1.03% was below one standard deviation from the mean (2.81%), and trended down, indicating a decline on the metric. The member-to-provider ratio of 1,163.82 FTE to one provider was above one standard deviation from the mean (466.33 FTE to one provider), and remained constant, indicating no change on the metric. From FY 2014-15 to FY 2015-16, there was no change in providers located in the region (11 providers), nor was there a change in providers serving clients living in region 9 (16 providers). The decreasing penetration rate, as well as static numbers of providers serving clients living in the region, may indicate a potential access issue.

While conducting the access analysis, the Department noticed decreases in the utilization of a specific speech therapy code, cognitive skills development (CPT 97532). From January 2016 through the end of June 2016 there was a 33.63% decrease in the number of rendering providers that billed for this service. This decrease was most likely due to the National Correct Coding Initiative (NCCI) instructions that cognitive skills development (CPT



97532) should not be billed with speech/hearing therapy (CPT 92507).<sup>25</sup> In the last month of FY 2015-16, June 2016, there was a 10.05% decrease in the number of rendering providers billing for speech/hearing therapy (CPT 92507), though a similar 5.42% decrease in June 2015, may indicate decreases are seasonal. The Department will continue to monitor changes in providers and utilization of speech/hearing therapy (CPT 92507) to determine if changes are due to seasonality or a potential access issue.

## Conclusion

Access analysis results were inconclusive in determining whether speech therapy service payments at 70.94% of the benchmark were sufficient to allow for access to care and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 19 of 21 regions did not require further evaluation;
- Of the remaining regions:
  - The Department was unable to identify potential access issues in region 4 due to improved member-to-provider ratios and provider metrics; and
  - Potential access issues were identified in region 9 due to declining penetration rates and no increase in providers.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information regarding the number of speech therapy providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

The Department received feedback from stakeholders that client access and provider retention issues might exist.<sup>26</sup> Feedback included:

- Rates are too low for providers to offer appropriate wages to qualified employees. Stakeholders said low rates, and the corresponding low wages, can result in high turnover rates and the loss of qualified staff.
- Rates are too low for providers to cover overhead and administrative costs. Stakeholders said that, as a result, they may operate at a loss or offer fewer services to Colorado Medicaid clients.
- Some clients may require different levels of care and different settings for care in order obtain appropriate care (e.g., school setting versus office setting).

To understand the breadth of stakeholder-identified access issues, the Department needs statewide information, to rule out the possibility that observed issues are isolated to clients seeing a single provider or to clients in a specific region

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<sup>25</sup> For more information, see the Department's [FAQ – Outpatient Speech-Language Pathology and the NCCI Billing Edits](#).

<sup>26</sup> The Department received feedback from three stakeholders during the November 18, 2016 MPRAC Meeting and written comment, including Executive Summary and Survey Data documents, from the Colorado Speech-Language Hearing Association.



## Cardiology

### Service Description

Cardiology services involve diagnostic testing of and treatment of the heart. The cardiology service CPT codes under review are 92920-93799.

Cardiology Services	
Total Expenditures on Services	\$6,496,705
Percent of total MSP Expenditures	0.10%
Number of Clients Utilizing Services	104,188
Year Over Year Change in Clients Utilizing Services	10.16%
Year Over Year Change in Rendering Providers	4.95%
Top Place of Service - percent	Outpatient Hospital -41.74%

Table 7 - Cardiology expenditure and utilization data.

The largest age and gender grouping of utilizers of cardiology services was females between 21-30 years old (Figure 14) and the population category who utilized services the most was expansion adults (Figure 15). Utilizer and provider count trend lines are also below (Figure 16).

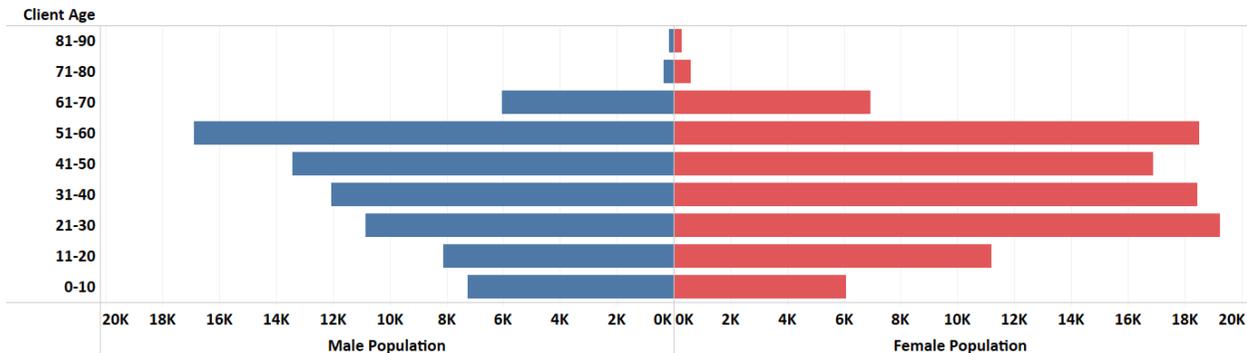


Figure 14 - Cardiology services clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



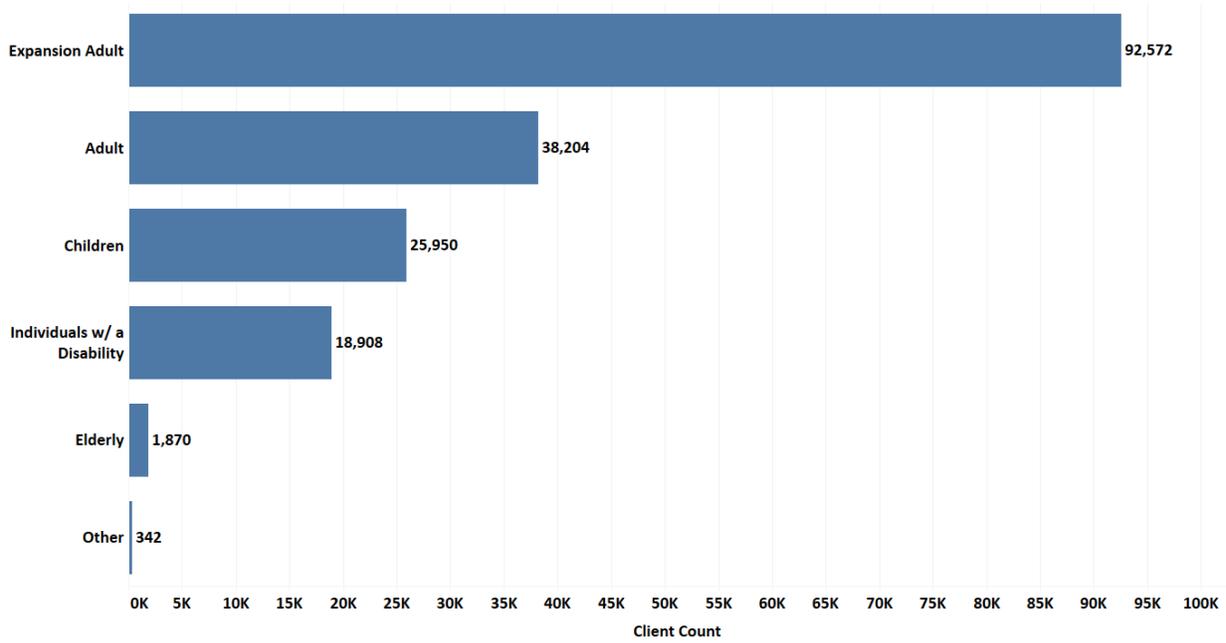


Figure 15 - Cardiology services clients by population category (FY 2014-15 and FY 2015-16).

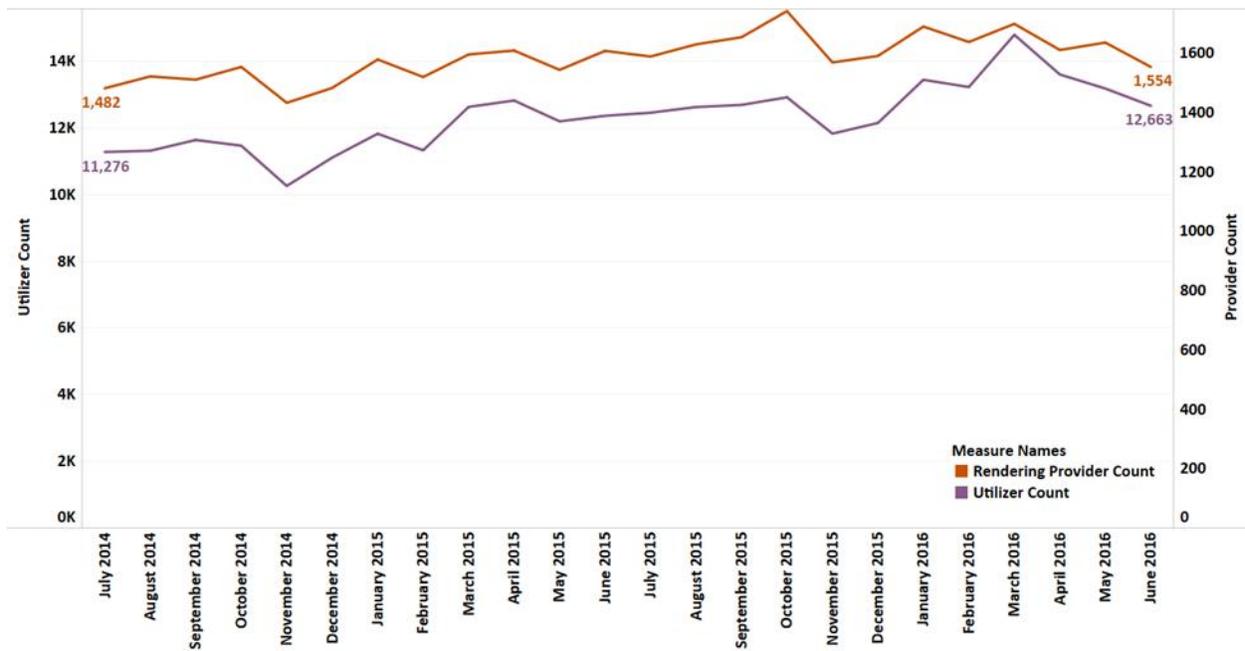


Figure 16 - Cardiology services utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for cardiology services are 84.72% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 8):



Cardiology Services Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$6,589,457	\$7,778,186	84.72%

Table 8 - Cardiology services rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the benchmark for cardiology services, expenditures would have increased by approximately \$235,465 in General Fund and \$1,188,729 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code -level variation in rate ratios, utilization, and total paid amounts (Figure 17).<sup>27</sup> While the aggregate benchmark comparison for cardiology services is 84.72%, individual cardiology service rate ratios range from 26.37% to 200.64%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

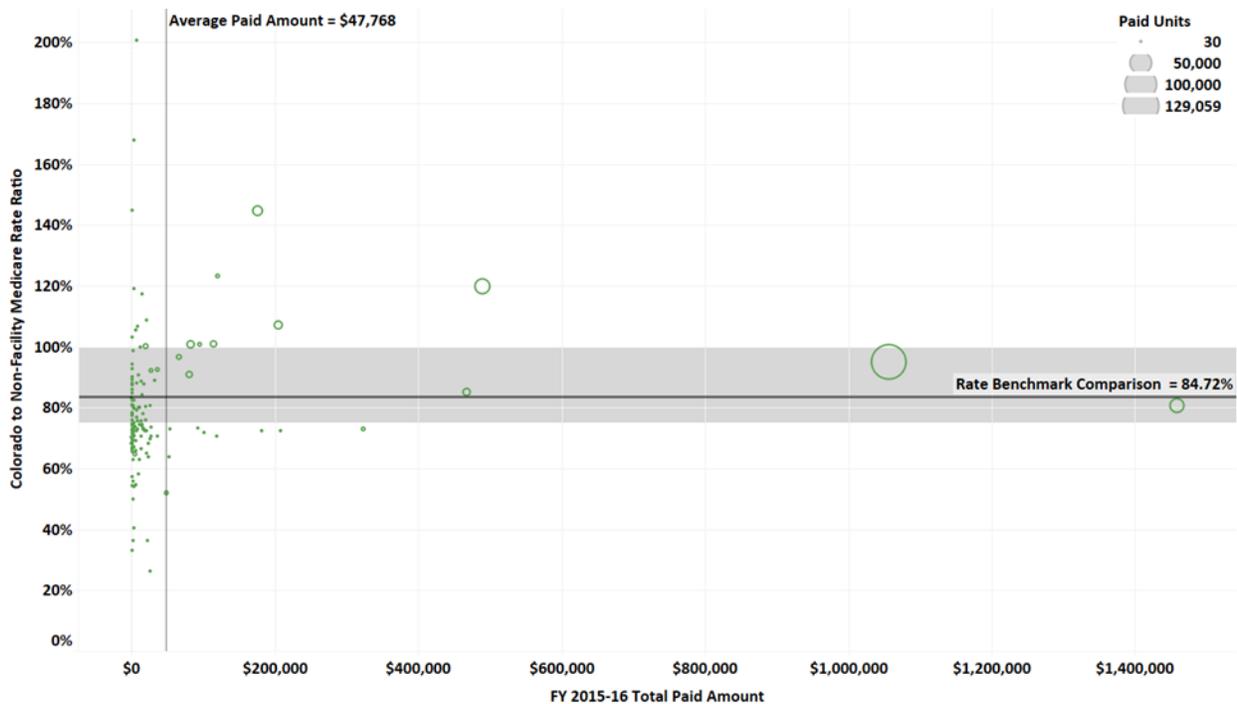


Figure 17 - Cardiology services rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

<sup>27</sup> The comparison benchmark was created by comparing 93.78% of repriced dollars to Medicare’s non-facility rate and 6.22% of repriced dollars to an average of other state Medicaid rates. Over FY 2015-16, 70.91% of payments were made to a facility place of service.



## Access Analysis

For cardiology services, ACI scores range from 50 to 80 (Figure 18). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 for regions 4, 7, 9, and 10, but none had three or more metrics in the lowest quartile. No regions met the requirements for further research, no research was conducted; however, the regions that scored at or below 50 and the metrics that were in the lowest quartile are outlined below. Complete ACI score information for each region is located in Appendix D.

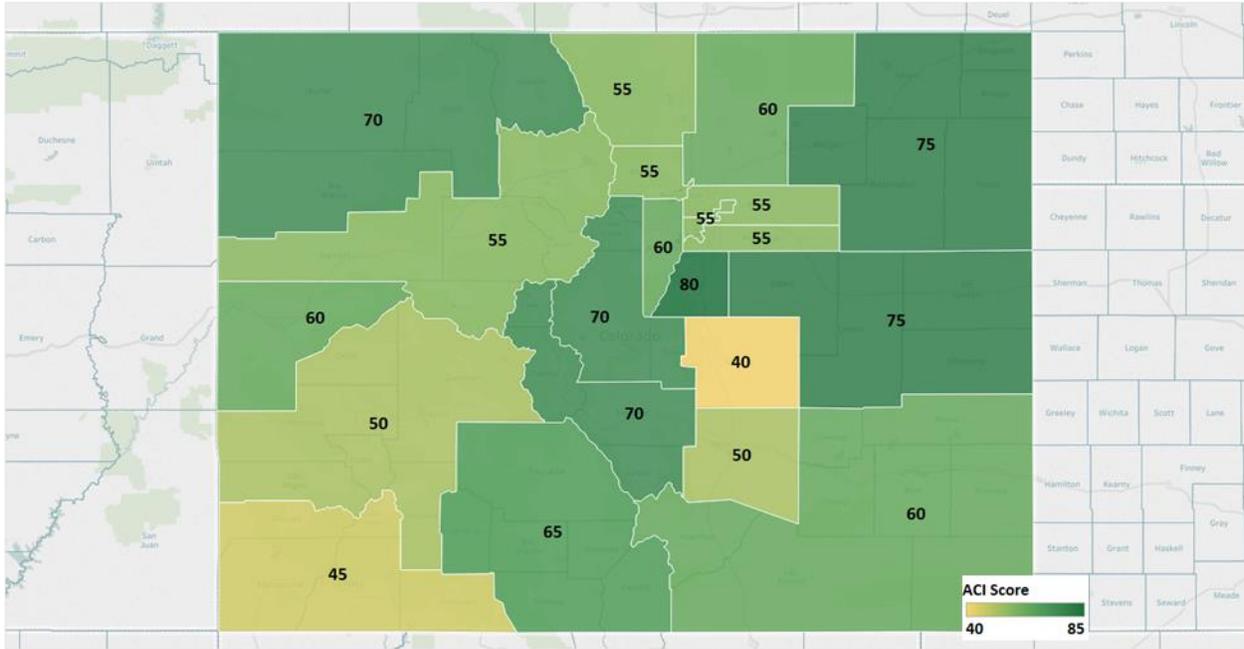


Figure 18 - Cardiology services Access to Care Index (ACI) scores by region.

In region 4 (El Paso County), the member-to-provider ratio and panel size metrics were in the lowest quartile. In region 7 (Pueblo County), the distance metric was in the lowest quartile. In region 9 (Archuleta, Dolores, Montezuma, La Plata, San Juan Counties), the penetration rate and active provider months metrics were in the lowest quartile. In region 10 (Delta, Gunnison, Hinsdale, Ouray, Montrose, and San Miguel Counties), the penetration rate and distance metrics were in the lowest quartile. Because no regions meet the threshold for further research, as outlined in the access Technical Notes (pp.13-15), no access issues were identified for cardiology services.

## Conclusion

Access analysis results suggest that cardiology service payments at 84.72% of the benchmark were sufficient to allow for client access and provider retention.

## Cognitive Capabilities Assessment

### Service Description

Cognitive capabilities assessment services involve types of depression screens, developmental testing, and screening. The cognitive capabilities assessment HCPCS codes under review are 96101-96127 and HCPCS G8431 and G8510.

Cognitive Capabilities Assessment	
Total Expenditures on Services	\$3,470,158
Percent of total MSP Expenditures	0.05%
Number of Clients Utilizing Services	89,447
Year Over Year Change in Clients Utilizing Services	30.84%
Year Over Year Change in Rendering Providers	13.07%
Top Place of Service - percent	Office-87.79%

Table 9 - Cognitive capabilities assessment expenditure and utilization data.

The largest age and gender grouping of utilizers of cognitive capabilities assessments was males between 0-10 years old (Figure 19) and the population category who utilized services the most was children (Figure 20).<sup>28</sup> Utilizer and provider count trend lines are also below (Figure 21).

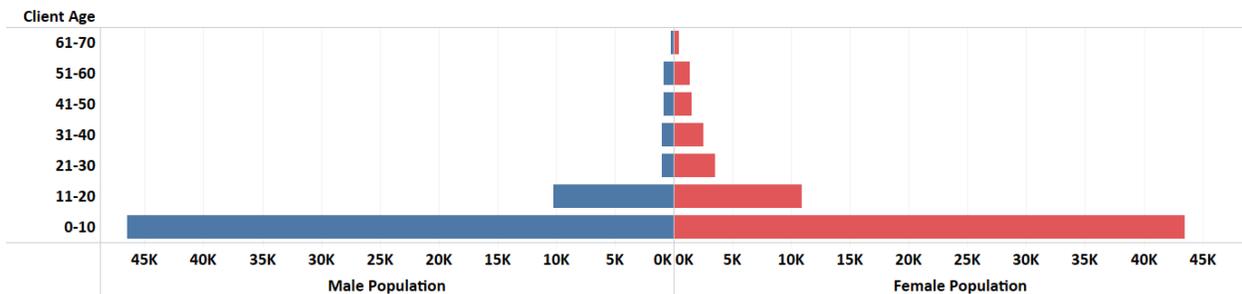


Figure 19 - Cognitive capabilities assessments clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).

<sup>28</sup> In 2014, Colorado Medicaid began reimbursing providers for annual depression screening for adults (CPT 99420). Previously, Colorado had only reimbursed for adolescent depression screening. To facilitate screening in more settings, providers seeing an infant for a well-baby visit can bill for a post-partum depression screen using the Medicaid ID of the infant. As a result, adult parents receiving depression screenings may appear in claims data as children receiving depression screenings. For more information, see [March 2014 Provider Bulletin](#) and [August 2014 Provider Bulletin](#).



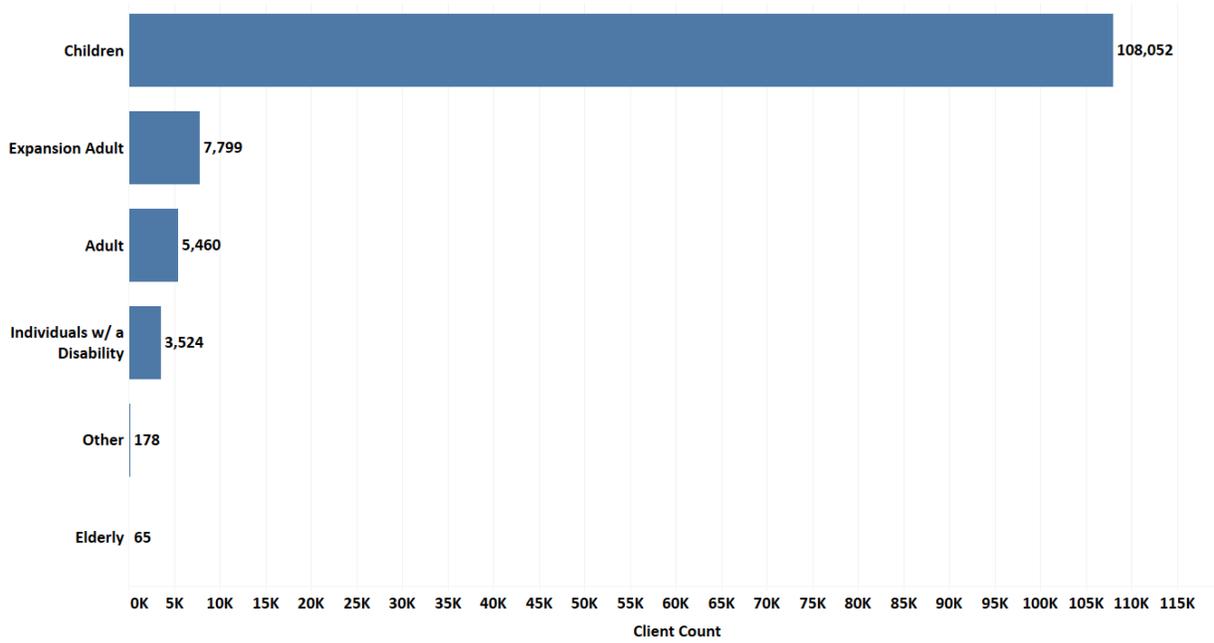


Figure 20 - Cognitive capabilities assessments clients by population category (FY 2014-15 and FY 2015-16).

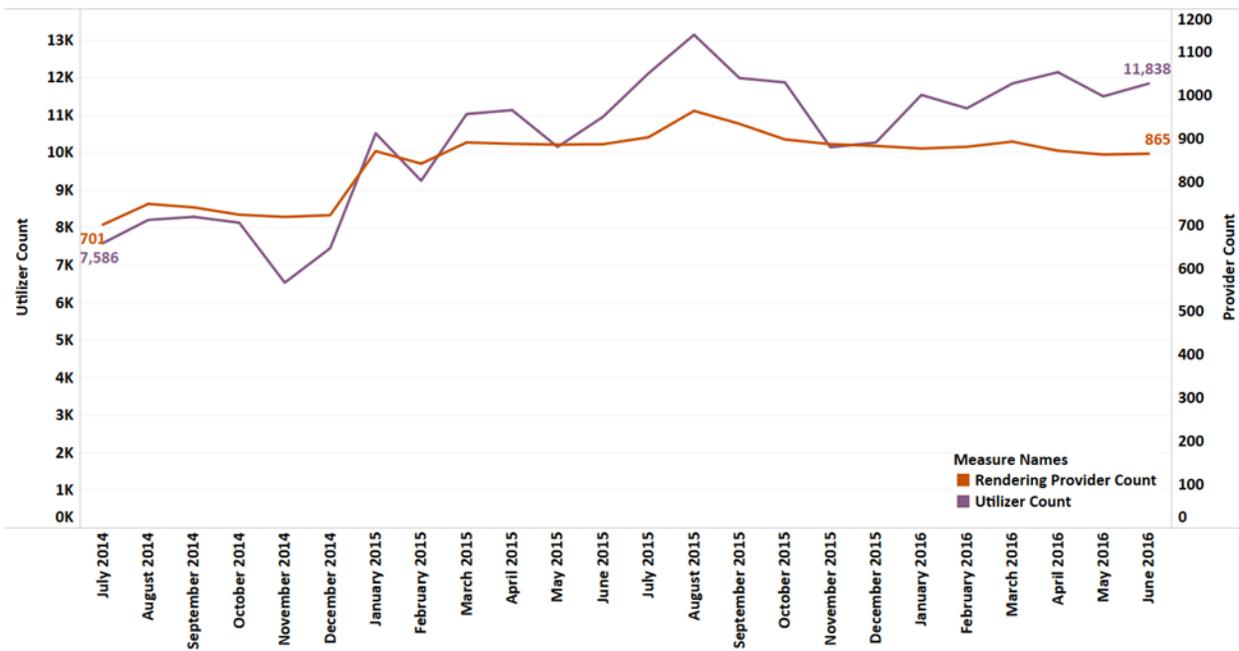


Figure 21 - Cognitive capabilities assessments utilizer and provider count trends (FY 2014-15 and FY 2015-16).



## Rate Comparison Analysis

On average, Colorado Medicaid payments for cognitive capability assessments are 116.75% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 10):

Cognitive Capabilities Assessment Services Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$3,174,868	\$2,719,301	<b>116.75%</b>

Table 10 - Cognitive capabilities assessment rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the benchmark for cognitive capability assessment services, expenditures would have decreased by approximately \$235,116 in General Fund and \$455,567 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 22).<sup>29</sup> While the aggregate benchmark comparison for cognitive capabilities assessment services is 116.75%, individual cognitive capabilities assessment service rate ratios range from 40.93% to 86.17%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>29</sup> The comparison benchmark was created by comparing 39.76% of repriced dollars to Medicare’s non-facility rate and 51.12% of repriced dollars to an average of other state Medicaid rates. Over FY 2015-16, 92.66% of payments were made to a non-facility place of service.



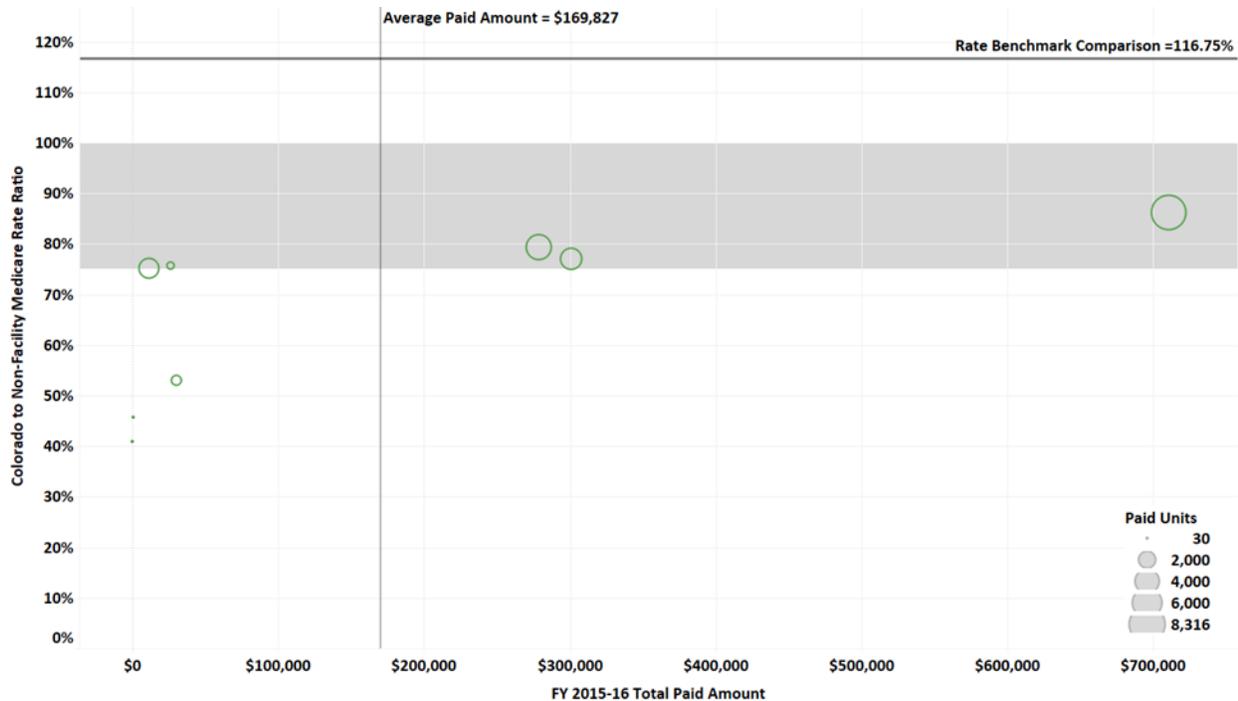


Figure 22 - Cognitive capabilities assessments rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

Although the scatterplot shows only services compared to the non-facility Medicare rate, three services did not have a comparable Medicare rate and only one of them had a comparable rate to other states. With approximately 52% of the total paid dollars for cognitive capability assessment, 96110-Developmental screen w/score was the single code with a comparable rate from another state. The rate ratio to the other states’ average for this code is 177.43%. The dark line titled “Non-Facility Benchmark Percent” includes the combined comparison of Medicare and other states.<sup>30</sup>

### Access Analysis

For cognitive capabilities assessments, ACI scores range from 50 to 85 (Figure 23). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 1, 6, and 20. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is found in Appendix D.

<sup>30</sup> The other states used to compare 96110 were: Oklahoma, Nebraska, Arizona, Wyoming, and Oregon.



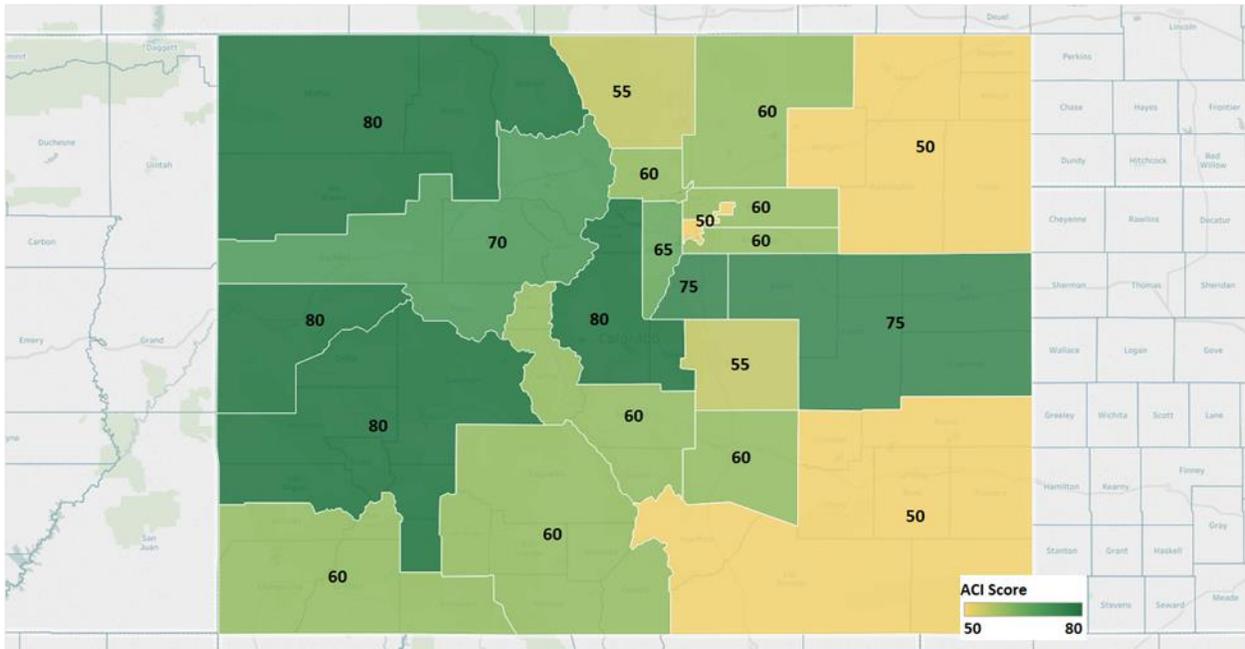


Figure 23 - Cognitive capabilities assessments Access to Care Index (ACI) scores by region.

In region 1 (Logan, Morgan, Phillips, Sedgwick, Washington, and Yuma Counties), the Department calculated an ACI of 50. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, distance, and active provider months metrics. The penetration rate of 5.07% was below one standard deviation from the mean (10.08%), and trended down, indicating a decline on the metric. The percent of clients traveling within 30 miles to their provider (54.87%) was below one standard deviation of the statewide mean (82.07%), and the average distance traveled was 43.31 miles, compared to the statewide average of 22.68 miles. From FY 2014-15 to FY 2015-16, there was a 26.67% increase in providers located in region 1, from 15 to 19 providers, and a 20.62% increase in the number of providers serving clients living in region 1, from 97 to 117 providers. Though the number of providers serving clients living in the region increased, the decreasing penetration rate and distances traveled to receive services indicate that there may be potential access issues in this region.

In region 6 (Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, and Prowers Counties), the Department calculated an ACI score of 50. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio, penetration rate, and distance metrics. The penetration rate of 1.42% was below one standard deviation of the statewide mean (10.08%), and trended down, indicating a decline on the metric. The member-to-provider ratio (198.79 FTE to one provider) was within one standard deviation of the statewide mean (148.74 FTE to one provider). The percent of clients traveling within 30 miles of the provider (25.07%) trended down and was below one standard deviation from the mean (82.07%). The average distance traveled to see a cognitive capabilities assessment provider was 84.55 miles, compared to the statewide mean of 22.68 miles. Though the member-to-provider ratio was within one standard deviation from the statewide mean, the low penetration rate and long distances traveled indicate there may be a potential access issue in this region.



In region 20 (Denver County), the Department calculated an ACI score of 50. Components of the score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. The member-to-provider ratio (171.75 FTE to one provider) was within one standard deviation of the statewide mean (148.74 FTE to one provider). From FY 2014-15 to FY 2015-16, there was a 2.47% decrease in the number of providers located in region 20, from 444 to 433 providers, but 433 providers was still the highest number of providers located in one region, and a 16.58% increase in the number of providers serving clients living in region 20, from 585 to 682 providers. The Department was unable to identify potential access issues. Normal variation in the member-to-provider ratio, as well as the high provider counts and increases in providers serving clients living in the region, are not trends the Department would expect to see were an access issue present.

## Conclusion

Access analysis results were inconclusive in determining whether cognitive capability assessment payments at 116.75% of the benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 18 out of 21 regions did not require further evaluation;
- Of the three remaining regions:
  - Potential access issues were identified in region 1 due to decreasing penetration rates and long travel distances;
  - Potential access issues were identified in region 6 due to decreasing penetration rates and long travel distances; and
  - The Department was unable to identify potential access issues in region 20 due to improved member-to-provider ratios and increases in providers.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information regarding the number of cognitive capabilities assessments providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

## **Vascular**

### Service Description

Vascular services involve testing and treating the function of arteries and veins. The vascular service CPT codes under review are 93880-93998, 36415, and 36416.



Vascular Services	
Total Expenditures on Services	\$2,874,765
Percent of total MSP Expenditures	0.04%
Number of Clients Utilizing Services	135,353
Year Over Year Change in Clients Utilizing Services	22.42%
Year Over Year Change in Rendering Providers	7.03%
Top Place of Service - percent	Office-62.98%

Table 11 - Vascular services expenditure and utilization data.

The largest age and gender grouping of utilizers of vascular services was females between 21-30 years old (Figure 24) and the population category who utilized services the most was expansion adults (Figure 25). Utilizer and provider count trend lines are also below (Figure 26).

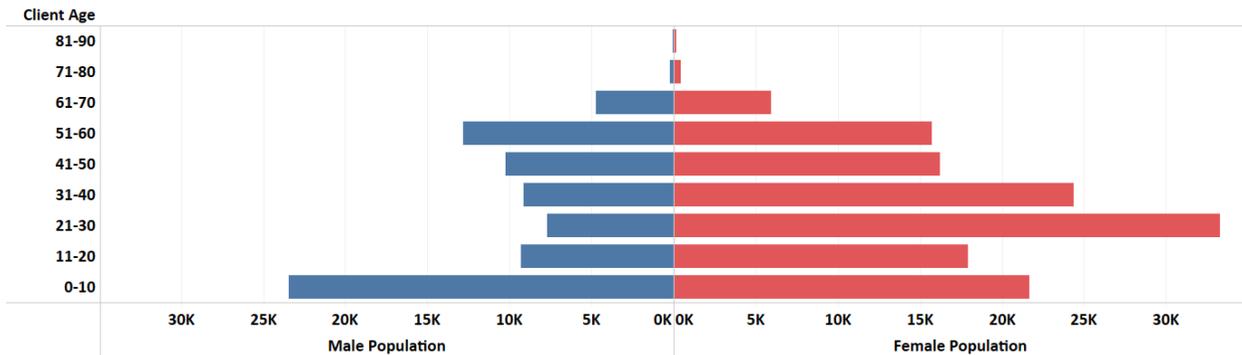


Figure 24 - Vascular services clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



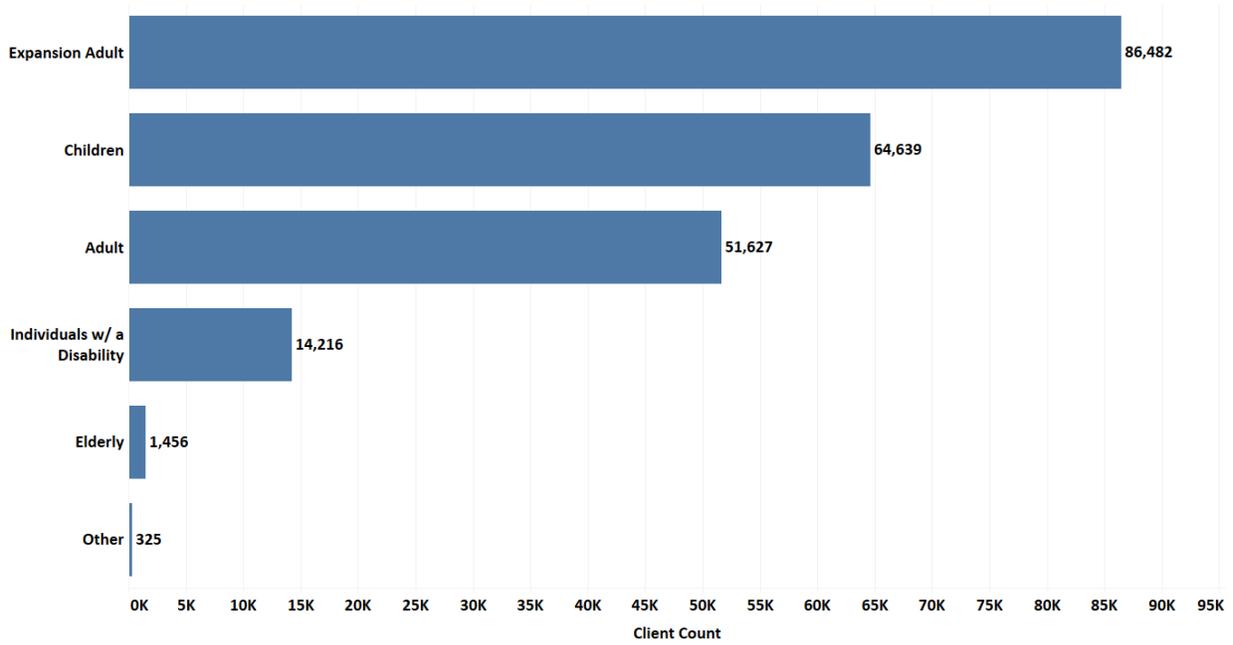


Figure 25 - Vascular services clients by population category (FY 2014-15 and FY 2015-16).

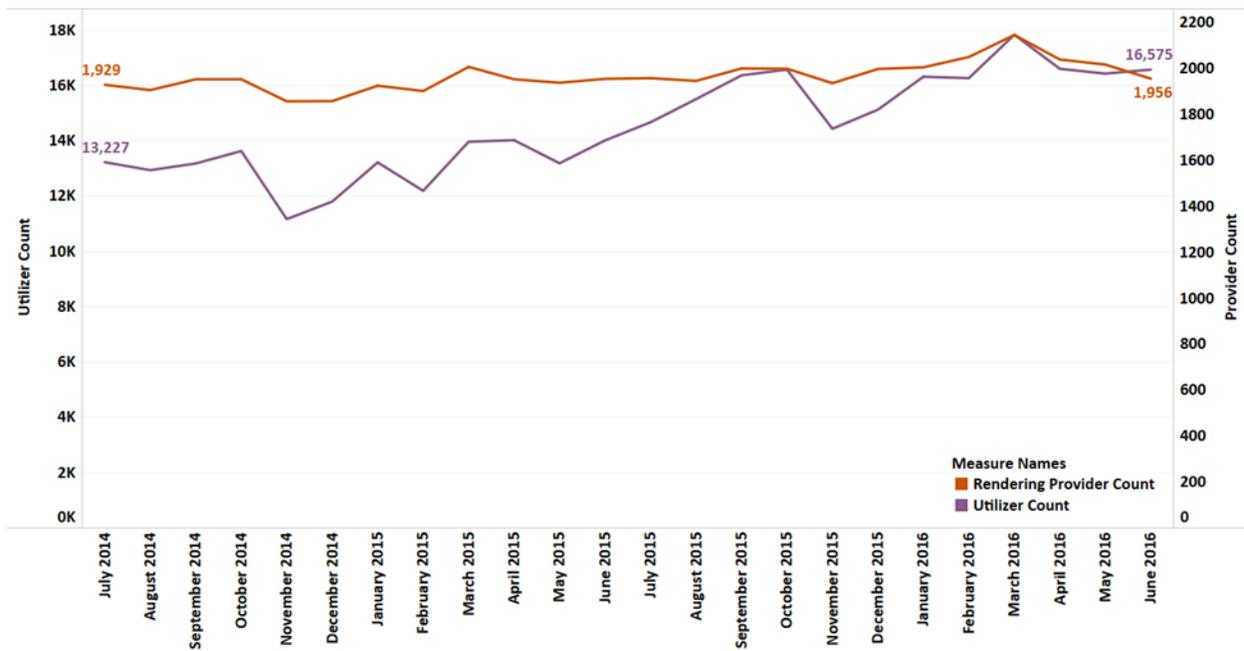


Figure 26 - Vascular services utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for vascular services are 106.83% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 12):



Vascular Services Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$3,007,447	\$2,815,289	106.83%

Table 12 - Vascular services rate benchmark comparison.

If Colorado Medicaid had reimbursed at 100% of the benchmark for vascular services, expenditures would have decreased by approximately \$60,913 in General Fund and \$192,158 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 27).<sup>31</sup> While the aggregate benchmark comparison for vascular services is 106.83%, individual vascular service rate ratios range from 61.50% to 215.16%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

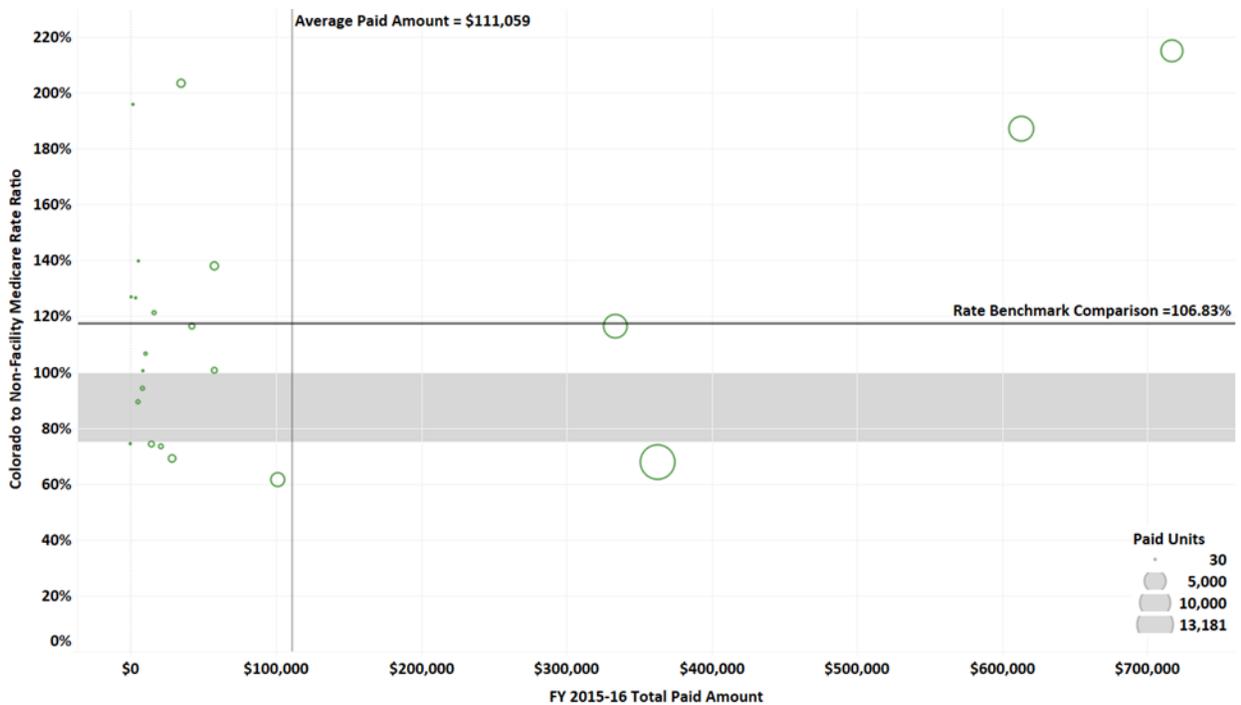


Figure 27 - Vascular services rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For vascular services, ACI scores range from 50 to 95 (Figure 28). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for region 14. The Department examined low-scoring metrics to better

<sup>31</sup> The comparison benchmark was created by comparing 99.98% of repriced dollars to Medicare’s non-facility rate. The Department was unable to find other comparable state Medicaid rates for the remaining repriced dollars. Over FY 2015-16, 65.81% of payments were made to a facility place of service.



understand if possible access issues exist within this region. Research is summarized below. Complete ACI score information for each region is located in Appendix D.

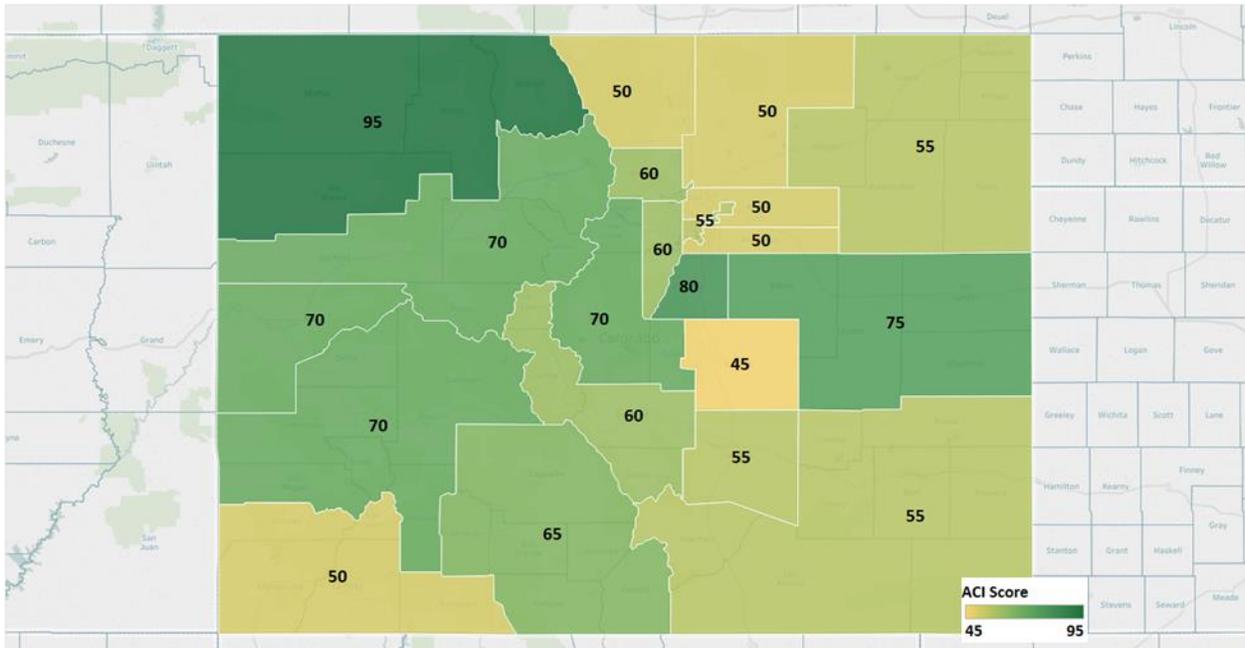


Figure 28 - Vascular services Access to Care Index (ACI) scores by region.

In region 14 (Adams County), the Department calculated an ACI of 50. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. The member-to-provider ratio of 80.04 FTE to one provider was within one standard deviation from the statewide mean (56.08 FTE per provider), and trended down, indicating improvement on the metric. From FY 2014-15 to FY 2015-16, there was a 4.49% increase in providers located in region 14, from 245 to 256 providers, and a 3.00% increase in the number of providers serving clients living in region 14, from 1,233 to 1,344 providers. The Department was unable to identify potential access issues in this region. The improvement on the member-to-provider ratio, as well as the increase in providers, are not trends the Department would expect to see were an access issue present.

**Conclusion**

Access analysis results suggest that vascular service payments at 106.83% of the benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 20 of the 21 regions did not require further evaluation; and
- the Department was unable to identify potential access issues in the remaining region, region 14, due to improved member-to-provider ratios and increases in providers.

**Respiratory**

Service Description

Respiratory services involve diagnostic evaluation and procedures of the nose, trachea, bronchi, lungs, and pleura (a set of membranes that covers the lungs). The respiratory service CPT codes under review are 94002-94799.



Respiratory Services	
Total Expenditures on Services	\$1,481,574
Percent of total MSP Expenditures	0.02%
Number of Clients Utilizing Services	84,187
Year Over Year Change in Clients Utilizing Services	-5.41% <sup>32</sup>
Year Over Year Change in Rendering Providers	0.52%
Top Place of Service - percent	Office-58.47%

Table 13 - Respiratory services expenditure and utilization data.

The largest age and gender grouping of utilizers of respiratory services was males between 0-10 years old (Figure 29) and the population category who utilized services the most was children (Figure 30). Utilizer and provider count trend lines are also below (Figure 31).

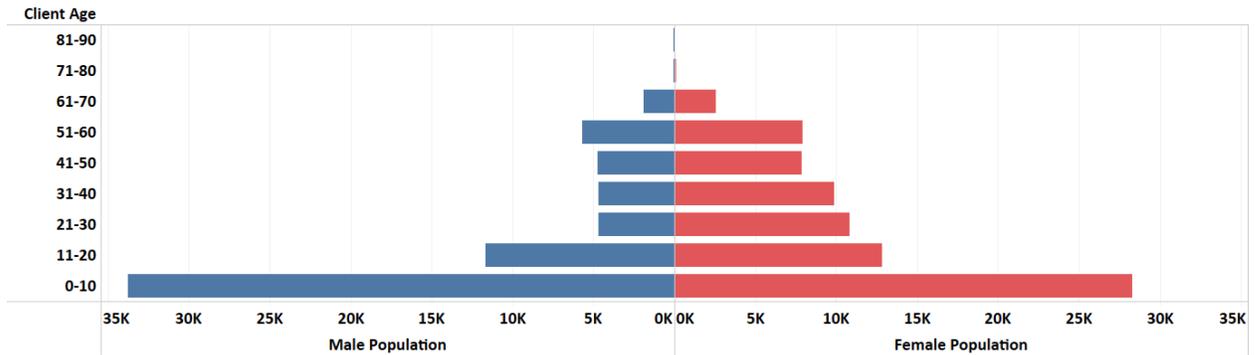


Figure 29 - Respiratory services clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).

<sup>32</sup> There was an outbreak of [Enterovirus D68 in the fall of 2014](#), which may have caused higher than normal utilization that year and could have led to a decrease from FY 2014-15 to F 2015-16.



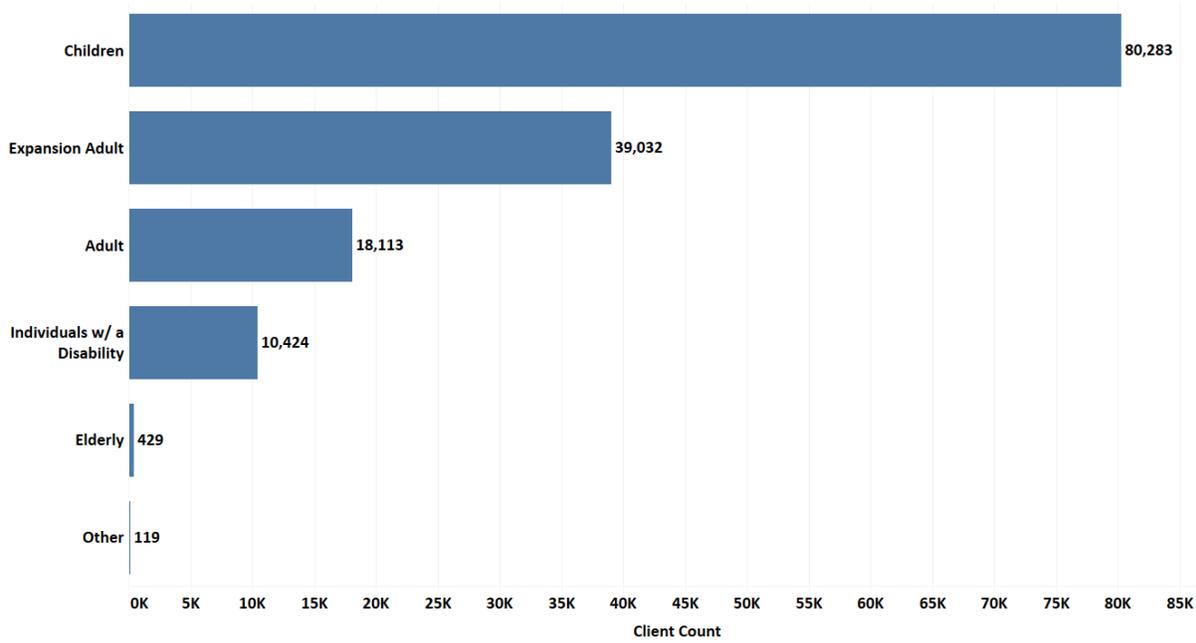


Figure 30 - Respiratory services clients by population category (FY 2014-15 and FY 2015-16).

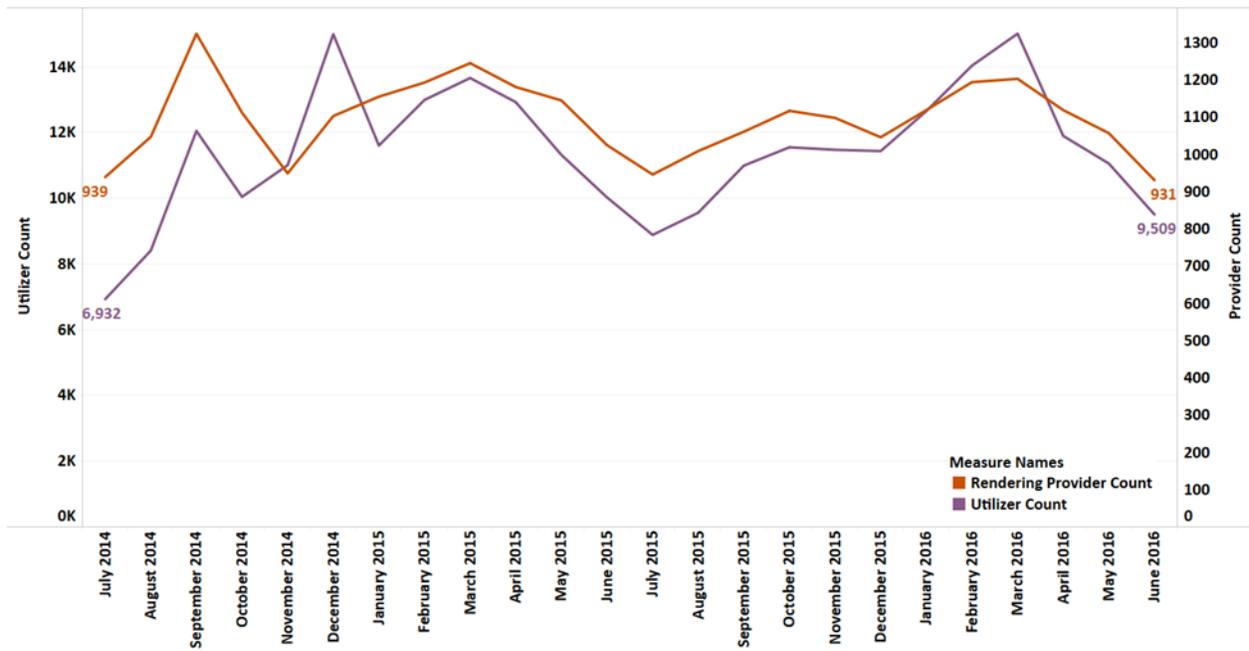


Figure 31 - Respiratory services utilizer and provider count trends (FY 2014-15 and FY 2015-16).



## Rate Comparison Analysis

On average, Colorado Medicaid payments for respiratory services are 73.38% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 14):

Respiratory Services Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$1,537,593	\$2,095,396	73.38%

Table 14 - Respiratory services rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the benchmark for respiratory services, expenditures would have increased by approximately \$179,372 in General Fund and \$557,804 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 32).<sup>33</sup> While the aggregate benchmark comparison for respiratory services is 73.38%, individual respiratory service rate ratios range from 40.82% to 692.16%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

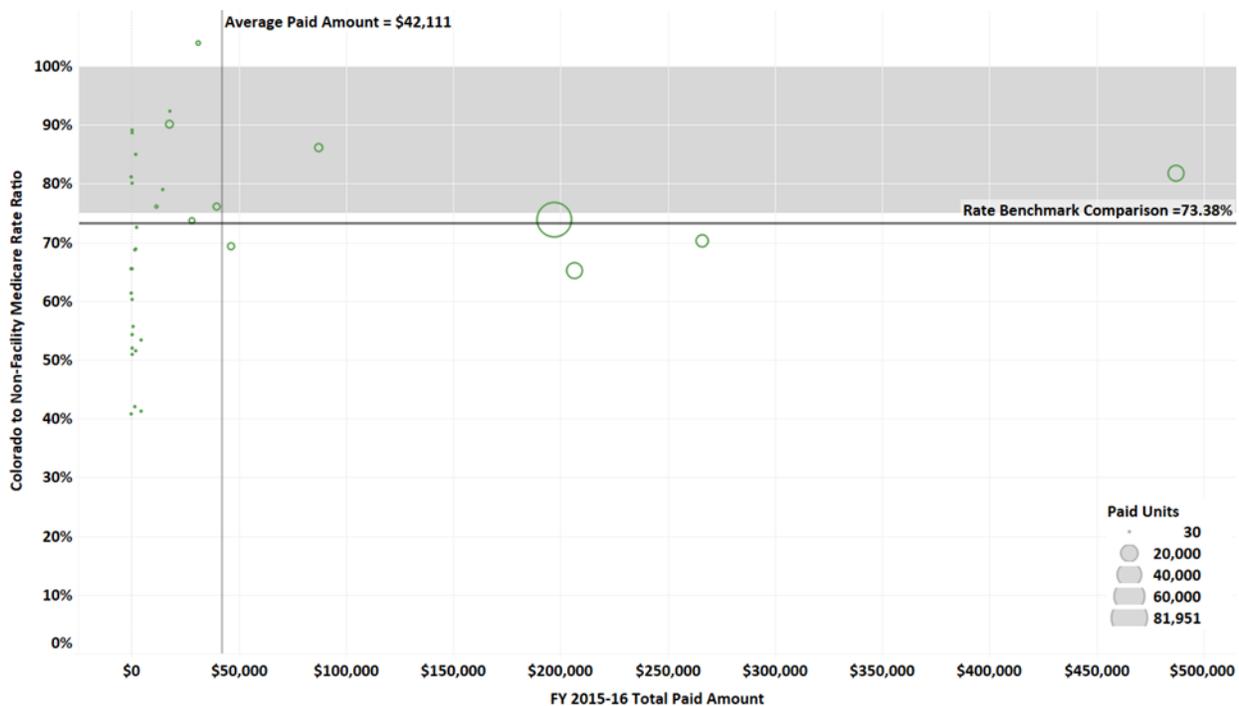


Figure 32 - Respiratory services rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

<sup>33</sup> The comparison benchmark was created by comparing 99.54% of repriced dollars to Medicare’s non-facility rate and 0.46% of repriced dollars to an average of other state Medicaid rates. Over FY 2015-16, 90.65% of payments were made to a non-facility setting.





as well as the impact the D68 enterovirus likely had on member-to-provider ratios and provider numbers. The Department will continue to monitor trends in respiratory services to identify potential access issues .

**Conclusion**

Access analysis results suggest that respiratory service payments at 73.38% of the benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 20 out of 21 regions did not require further evaluation; and
- The Department was unable to identify potential access issues in the remaining region, region 9, due to improved penetration rates and increases in providers.

**Ear, Nose, and Throat**

**Service Description**

Ear, nose, and throat services involve treatment of the ear, nose, and throat, and generally involve hearing tests and hearing device fitting. The ear, nose, and throat service CPT codes under review are 92502-92700. Certain ear, nose and throat services received targeted increases in FY 2014-15 these increases were accounted for in this analysis when using the July 1, 2016 fee schedule.

Ear, Nose, and Throat Services	
Total Expenditures on Services	\$952,035
Percent of total MSP Expenditures	0.01%
Number of Clients Utilizing Services	38,752
Year Over Year Change in Clients Utilizing Services	2.52%
Year Over Year Change in Rendering Providers	4.25%
Top Place of Service - percent	Office-78.36%

*Table 15 - Ear, nose, and throat expenditure and utilization data.*

The largest age and gender grouping of utilizers of ear, nose, and throat services was males between 0-10 years old (Figure 34) and the population category who utilized services the most was children (Figure 35). Utilizer and provider count trend lines are also below (Figure 36).



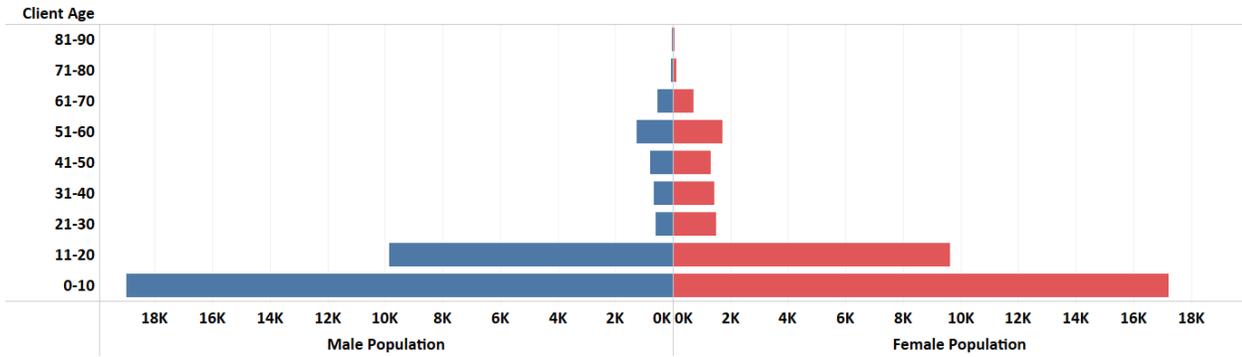


Figure 34 - Ear, nose, and throat services clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).

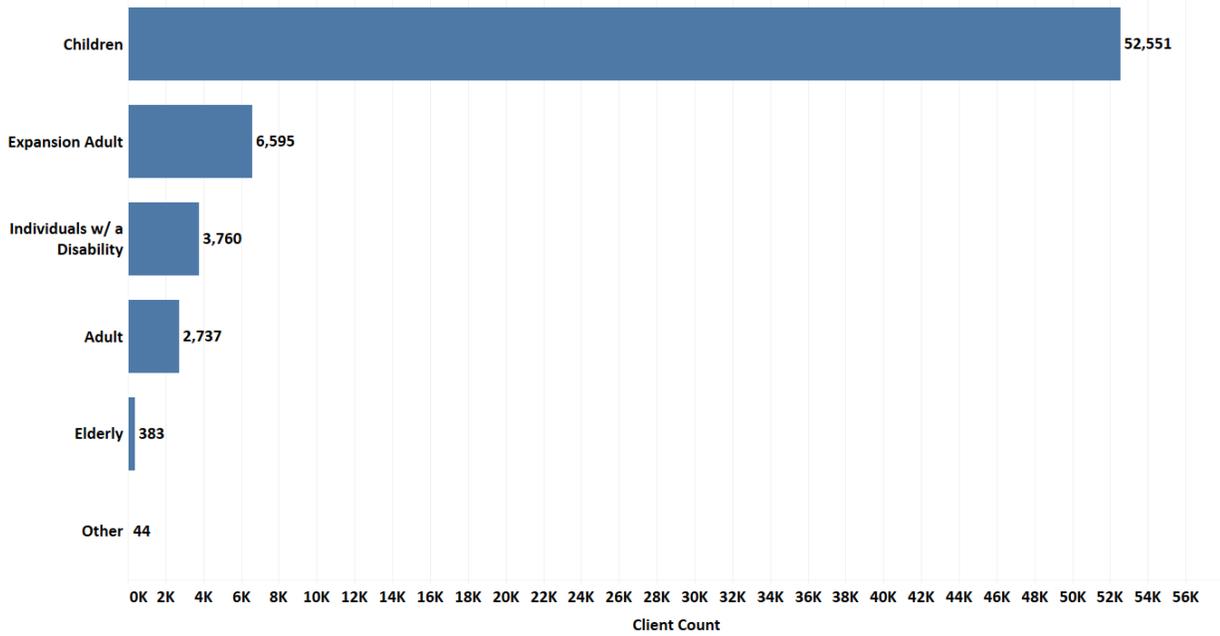


Figure 35 - Ear, nose, and throat services clients by population category (FY 2014-15 and FY 2015-16).



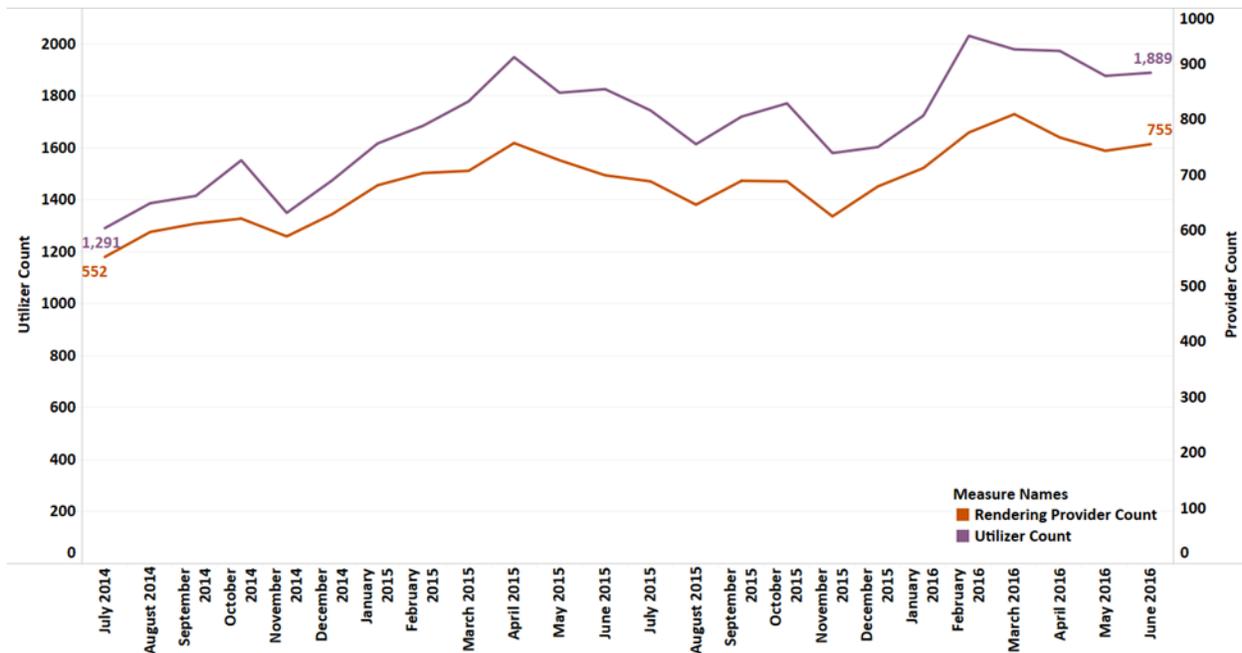


Figure 36 - Ear, nose, and throat services utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for ear, nose, and throat services are 77.83% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 16):

Ear, Nose, and Throat Services Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$966,905	\$1,242,392	77.83%

Table 16 - Ear, nose, and throat services rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the benchmark for ear, nose, and throat services, expenditures would have increased by approximately \$92,474 in General Fund and \$275,486 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 37).<sup>35</sup> While the aggregate benchmark comparison for ear, nose, and throat services is 77.83%, individual ear, nose, and throat service rate ratios range from 7.25% to 190.18%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>35</sup> The comparison benchmark was created by comparing 80.02% of repriced dollars to Medicare’s non-facility rate and 19.48% of repriced dollars to an average of other state Medicaid rates. Over FY 2015-16, 94.22% of payments were made to a non-facility place of service.



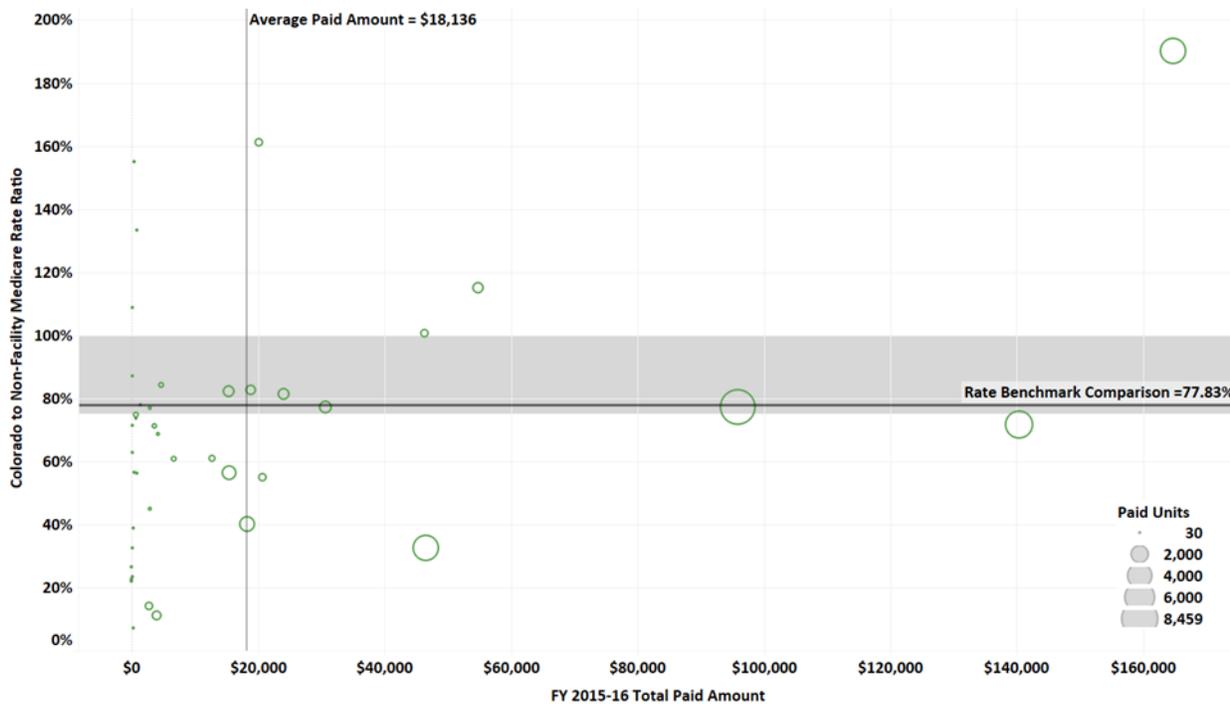


Figure 37 - Ear, nose, and throat rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

Although the scatterplot shows only services compared to the non-facility Medicare rate, some services were compared to other states. For instance, the top paid service for the ear, nose and throat 92551-Pure tone hearing test air is not shown in the scatterplot because it is not covered by Medicare and it was compared to the average of other states. The rate ratio to the other states average is 97.97%. The “Non-Facility Benchmark Percent” includes the combined comparison of Medicare and other states.

### Access Analysis

For ear, nose, and throat services, ACI scores ranged from 45 to 85 (Figure 38). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for region 6. The Department examined low-scoring metrics to better understand if possible access issues exist within this region. Research is summarized below. Complete ACI score information for each region is located in Appendix D.



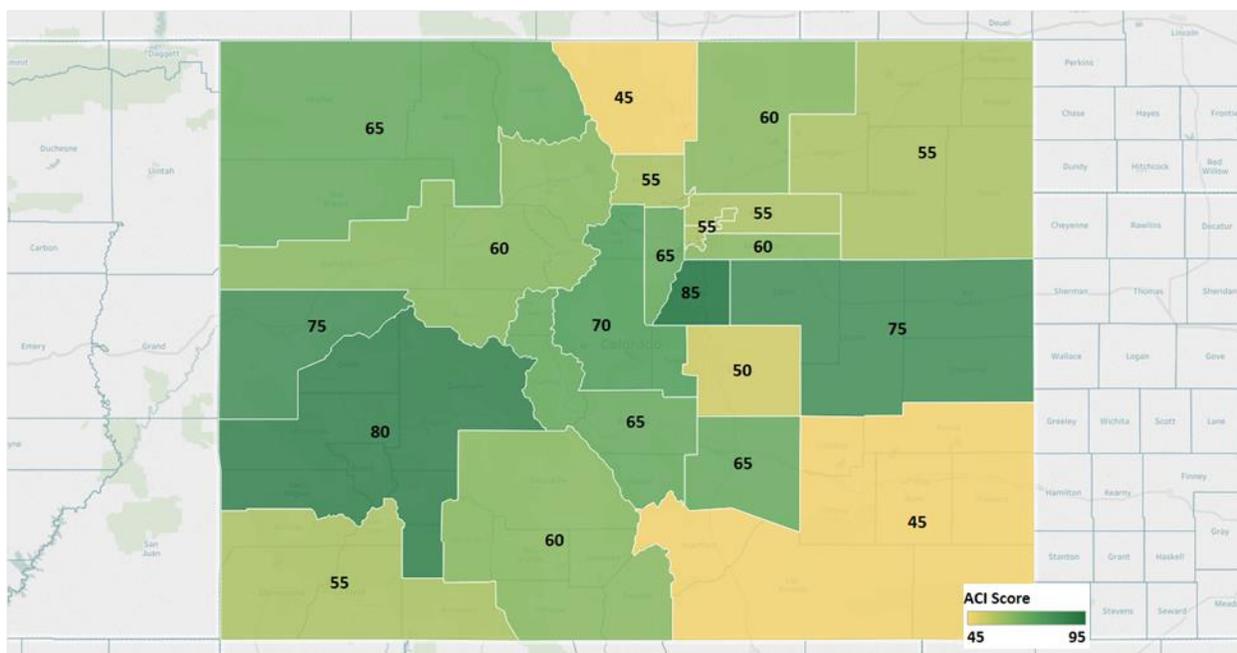


Figure 38 - Ear, nose, and throat services Access to Care Index (ACI) scores by region.

In region 6 (Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, and Prowers Counties), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, distance, and active provider months metrics. The penetration rate of 2.09% was within one standard deviation of the mean (4.87%). The percent of the population that traveled within 30 miles to receive services (32.65%) was below one standard deviation of the statewide mean (75.00%). Clients in this region traveled an average of 65.51 miles to receive these services, compared to the statewide average of 27.53 miles. From FY 2014-15 to FY 2015-16, there was an increase of one provider located in region 6, from two to three providers, and a 4.65% increase in providers serving clients living in region 6, from 43 to 45 providers. However, only three of the eight counties in this region had an ear, nose, and throat provider located in the county. The distances traveled, as well as the low numbers of providers and the lack of provider in some counties, may indicate a potential access issue.

### Conclusion

Access analysis results were inconclusive in determining whether ear, nose, and throat payments at 77.83% of the benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp. 13-15):

- 20 of the 21 regions did not require further evaluation; and
- Potential access issues were identified in the remaining region, region 6, due to a declining penetration rate, long travel distances, and a lack of providers located in multiple counties in the region.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information



regarding the number of ear, nose, and throat providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

## Gastroenterology

### Service Description

Gastroenterology services involve diagnosing and treating conditions and diseases of the digestive system. The gastroenterology service CPT codes under review are 92920-93799.

Gastroenterology Services	
Total Expenditures on Services	\$124,775
Percent of total MSP Expenditures	0.00%
Number of Clients Utilizing Services	142
Year Over Year Change in Clients Utilizing Services	24.17%
Year Over Year Change in Rendering Providers	10.94%
Top Place of Service - percent	Outpatient Hospital- 68.13%

Table 17 - Gastroenterology services expenditure and utilization data.

The largest age and gender grouping of utilizers of gastroenterology services was females between 51-60 years old (Figure 39) and the population category who utilized services the most was expansion adults (Figure 40). Utilizer and provider count trend lines are also below (Figure 41).

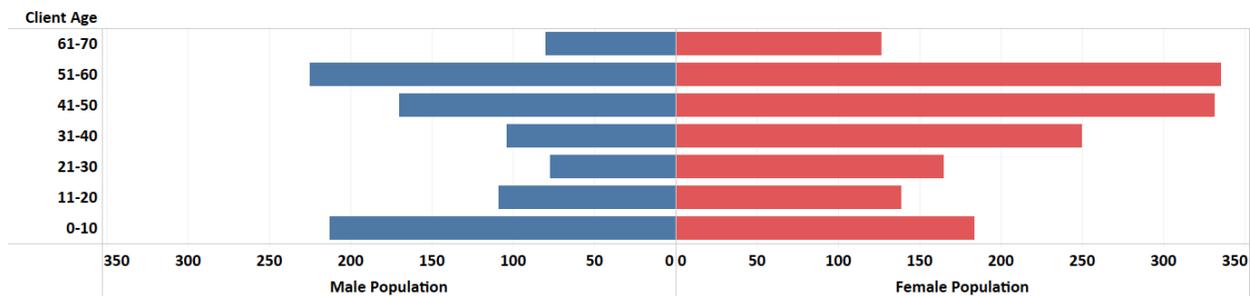


Figure 39 - Gastroenterology services clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



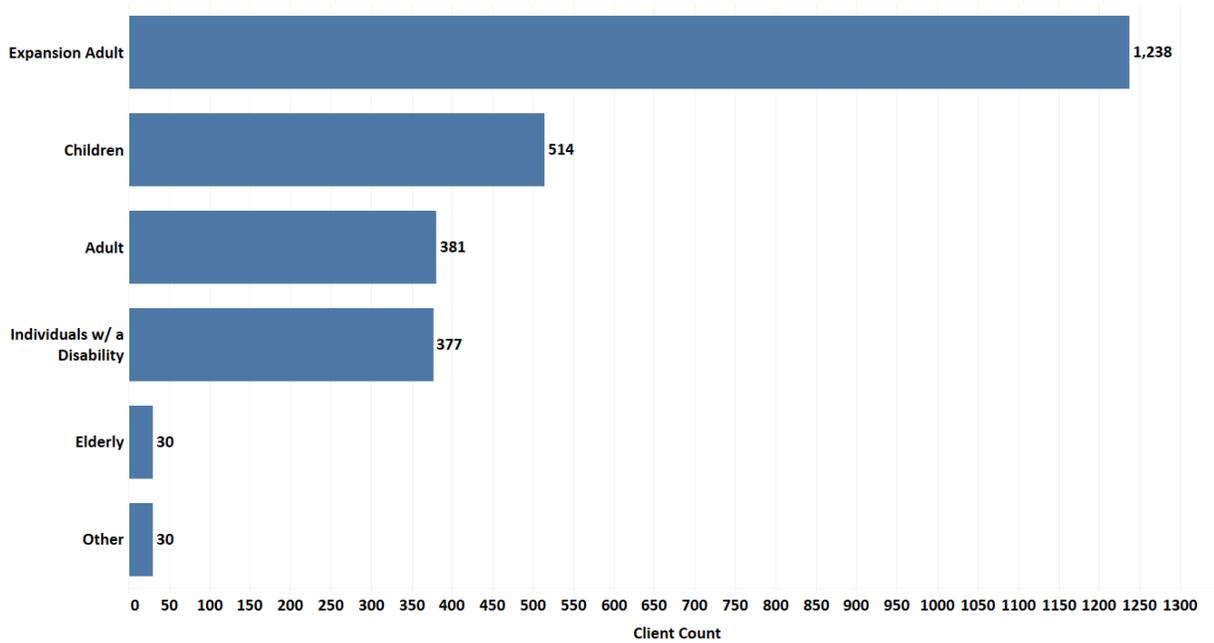


Figure 40 - Gastroenterology services clients by population category (FY 2014-15 and FY 2015-16).

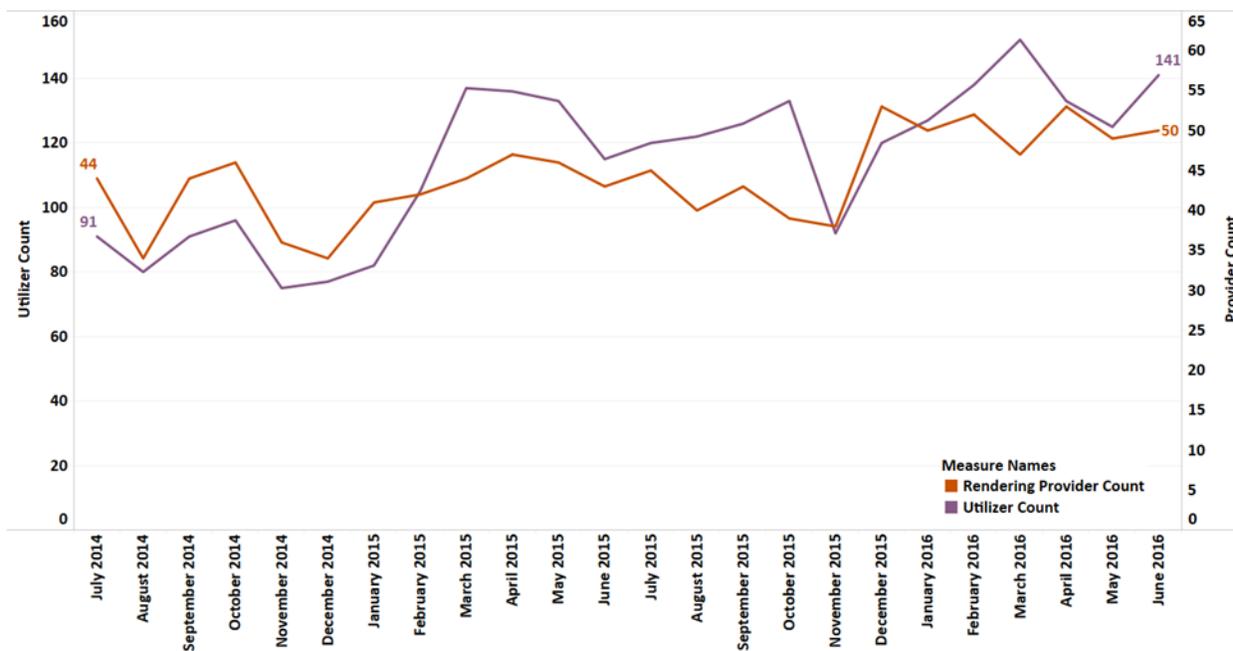


Figure 41 - Gastroenterology services utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for gastroenterology services are 61.61% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 18):



Gastroenterology Services Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$126,272	\$204,955	61.61%

Table 18 - Gastroenterology services rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the benchmark for gastroenterology services, expenditures would have increased by approximately \$19,132 in General Fund and \$78,683 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

For codes compared to Medicare’s non-facility rate, the scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 42).<sup>36</sup> While the aggregate benchmark comparison for gastroenterology services is 61.61%, individual gastroenterology service rate ratios range from 31.47% to 88.66%. The rate ratio range from 75% to 100% is shaded in gray for easy reference. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

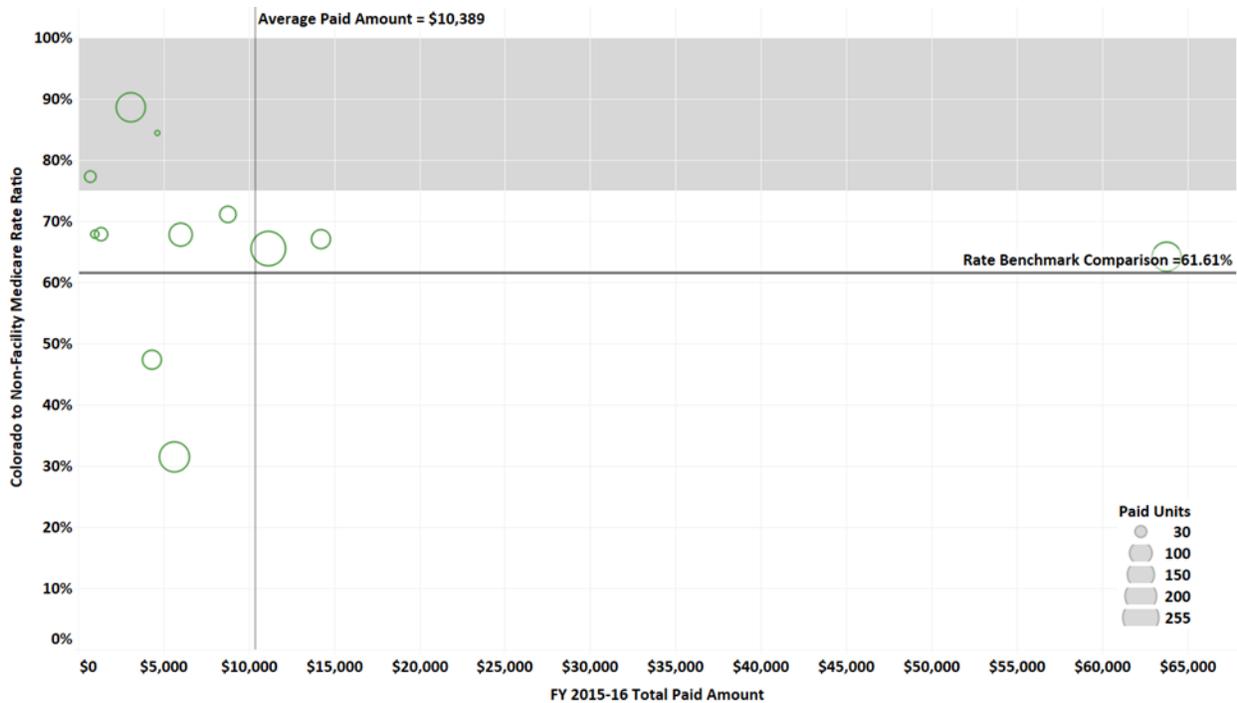


Figure 42 - Gastroenterology services rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For gastroenterology services, ACI scores ranged from 45 to 85 (Figure 43). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 4 and 10. The Department examined low-scoring metrics

<sup>36</sup> The comparison benchmark was created by comparing 100.00% of repriced dollars to Medicare’s non-facility rates. Over FY 2015-16, 74.70% of payments were made to a non-facility place of service.



to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.

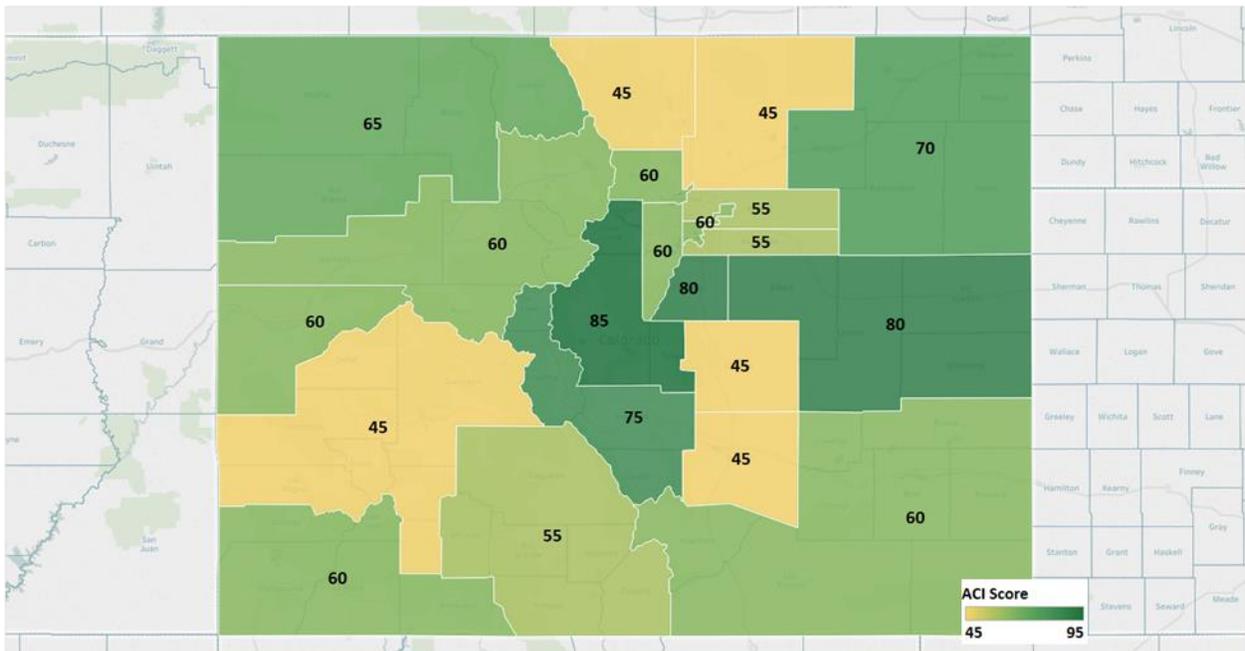


Figure 43 - Gastroenterology services Access to Care Index (ACI) scores by region.

In region 4 (El Paso County), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio, distance, and panel estimate metrics. The member-to-provider ratio of 3,705.20 FTE to one provider was above one standard deviation from the mean (1,722.79 FTE to one provider), and trended up, indicating a decline on the metric. However, it was below the GMENAC target of 37,037 members to one provider for gastroenterology. The percent of clients traveling within 30 miles to their provider (51.82%) was within one standard deviation of the statewide mean (46.84%) and the average distance traveled was 35.02 miles, compared to the statewide average of 58.27 miles. From FY 2014-15 to FY 2015-16, there was a 14.28% decrease in providers located in region 4, from 14 to 12, and a 23.68% decrease in the number of providers serving clients in the region, from 38 to 29. While the member-to-provider ratio improved and was below the GMENAC target, and the travel distance was shorter than the statewide average, the decrease in providers availability may indicate a potential access issue.

In region 10 (Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel Counties), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, distance, and active provider months metrics. The penetration rate of 0.08% was below one standard deviation from the mean (0.20%), and remained constant, which does not indicate improvement on the metric. The percent of the population traveling within 30 miles (13.33%) was within one standard deviation of the statewide mean (46.84%). The average distance traveled was 60.93 miles, compared to the statewide average of 58.27 miles. From FY 2014-15 to FY 2015-16, there was a decrease of providers located in region 10, from two to zero providers, and there was a decrease of one provider serving clients in region 10,



from eight to seven providers. The low penetration rate, long travel distances, and low number of providers may indicate a potential access issue.

It is worth noting the distance metric for gastroenterology services throughout the state:

- Providers were only located in 17 of 64 counties.
- The average distance traveled was 58.27 miles, which was the longest distance traveled among physician services reviewed.
- In regions 6, 8, and 12, 0.00% of the population traveled within 30 miles to receive services: clients traveled an average of 107.5 miles, 154 miles, and 84.7 miles, respectively, to receive services.

The Department would need more information to understand if long travel distances may indicate a statewide access issue, and if this is an issue specific to Medicaid.

## Conclusion

Access analysis results are inconclusive in determining whether payments at 61.61% of the benchmark were sufficient to allow for client access and provider retention. Following the Criteria outlined in Technical Notes (pp.13-15):

- 19 of 21 regions did not require further evaluation;
- Potential access issues were identified in both remaining regions:
  - In region 4, due to high member-to-provider ratios and decreases in providers; and
  - In region 10, due to low, and static, penetration rates and decreases in providers.

Additionally, the average distance traveled (58.27 miles) to receive gastroenterology services was the longest travel distance of all physician services. This may be driven by the fact that gastroenterology providers were only located in 17 of 64 counties.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information regarding the number of gastroenterology providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

## **VI. Surgery and Anesthesia**

Seven sub-categories of surgery and anesthesia services are examined in year two:

- Digestive systems
- Musculoskeletal systems
- Cardiovascular systems
- Integumentary systems
- Eye and auditory systems
- Respiratory systems
- Anesthesia



The remaining surgeries are scheduled for review next year.<sup>37</sup> Analyses of the seven sub-categories are presented below, ordered from highest to lowest total FY 2015-16 expenditures. Each subcategory is a mandatory benefit, as described under the Physician Services section of the State Plan, and is available to all Colorado Medicaid clients.

As a reminder, services reviewed in this section are related to professional services only. These services could be provided in facility or non-facility settings and codes are used to identify where they were rendered.<sup>38</sup>

As mentioned in the Technical Notes of this report, three rate benchmark comparisons are created for surgeries. Colorado payment rates were compared to the non-facility combined rates, the facility combined rates, as well as rates based on the claim's place of service. When a comparable Medicare rate was not available, an average of other states' rates was used. The overall result shows that, in FY 2015-16, Colorado reimbursed at approximately 54.80% of the *non-facility* combined, 106.27% of the *facility* combined, and 71.70% of the *place of service specific* combined.

For detail regarding the facility and non-facility payments during FY 2015-16, refer to Appendix B.

## Summary

Rate benchmark comparisons provide a reference point of how Colorado payments compare to other payers. For the eight physician services under review, payments range from 56.76% to 131.64% of the place of service specific combined benchmarks (Figure 44). These comparisons represent an average; within each subcategory, there are services for which the Department pays more than the benchmark, and others for which the Department pays less. These results must be interpreted with the findings from the access analyses.

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<sup>37</sup> Remaining surgeries include: urinary systems, male/female genital systems and maternity, endocrine system, and nervous systems.

<sup>38</sup> Place of Service Codes (POS) are two-digit codes placed on health care professional claims to indicate the setting in which a service was provided. More information regarding how non-facility and facility places of service are [typically defined](#) is available on [Medicare's website](#). Some facility setting examples are hospitals and ambulatory surgical settings, non-facility setting examples are office and urgent care facility.



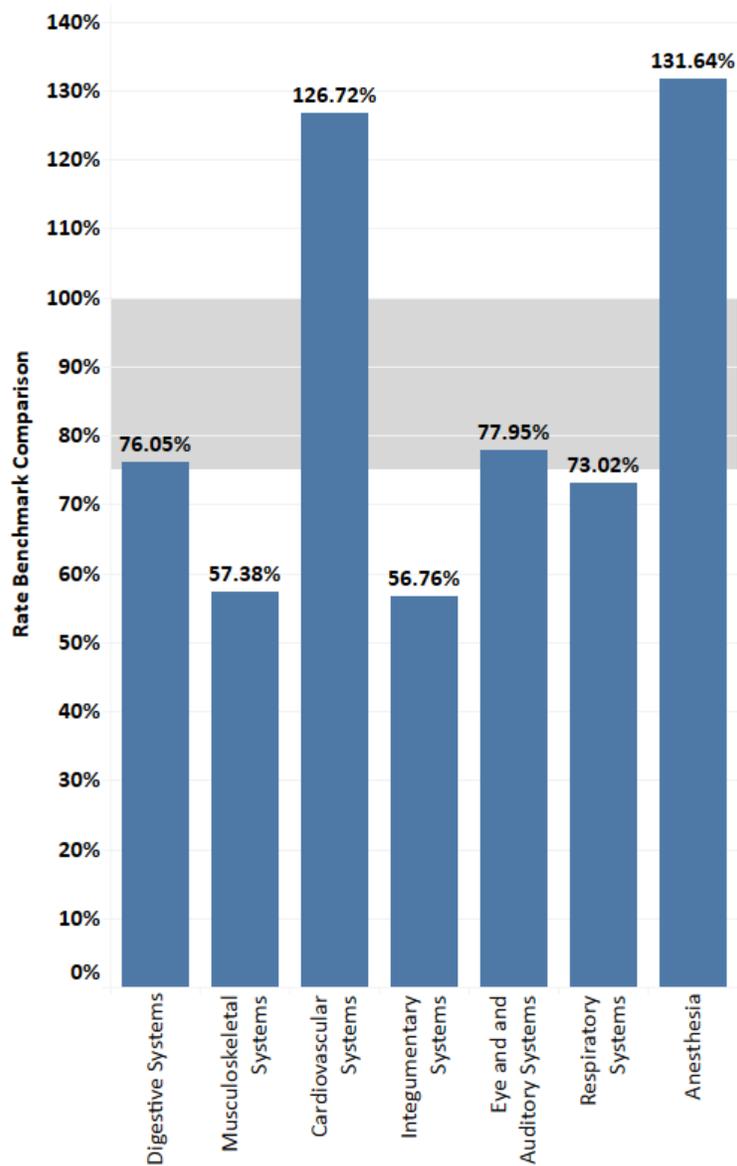


Figure 44 - Surgery and Anesthesia rate benchmark comparison.

Payments, in aggregate, were sufficient to allow for client access and provider retention for digestive surgeries, musculoskeletal surgeries, cardiovascular surgeries, integumentary surgeries, and anesthesia services. Findings from access analyses indicated potential, region-specific, access issues in the remaining surgeries:

- Eye and auditory systems – potential access issues may exist in region 9 (Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties), indicated by a decline on the member-to-provider ratio metric and long travel distances.



- Respiratory Systems – potential access issues may exist in region 9 (Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties) and region 11 (Jackson, Moffat, Rio Blanco, and Routt Counties), indicated by long travel distances.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information regarding the number of providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

ACI scores, by region and subcategory, appear on the maps below, for easy comparison across all services and regions.

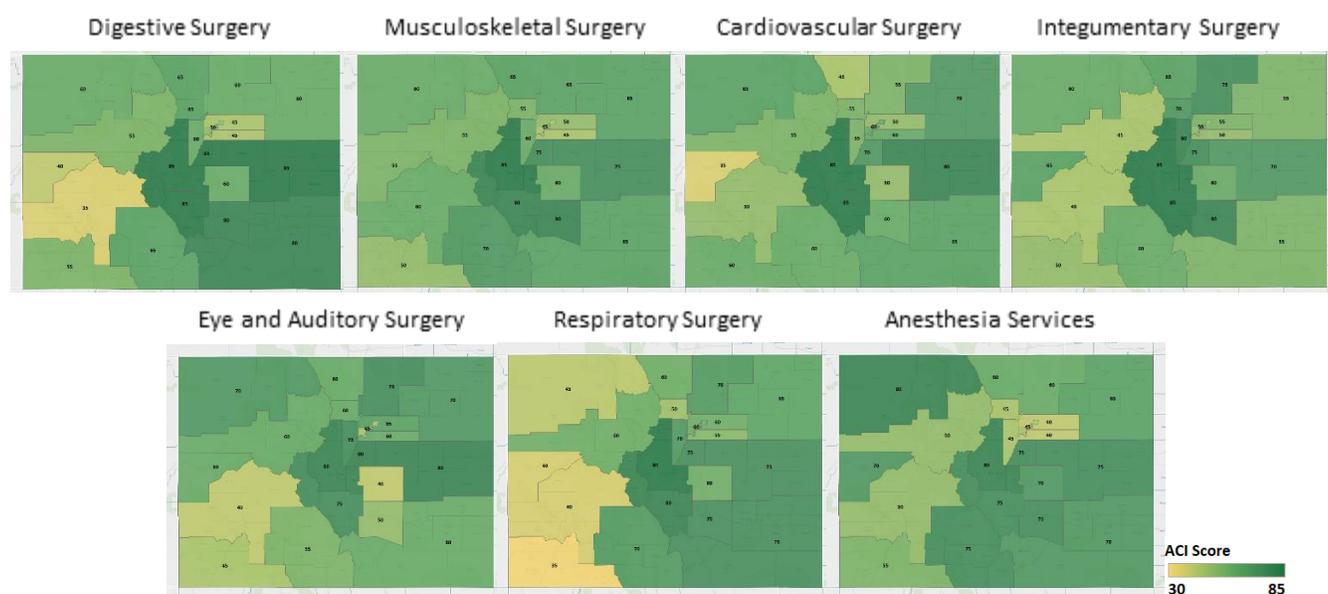


Figure 45 - Surgery and Anesthesia Access to Care Index (ACI) scores by region.

## Digestive Systems

### Service Description

Digestive system services (hereinafter digestive surgeries or digestive surgery services) involve surgical and diagnostic procedures extending from where the food enters the body to where it leaves. The digestive surgery CPT codes under review are 40490-49999. Certain digestive systems services received targeted rate increases in FY 2014-15; these increases are accounted for in this report.

Digestive Surgery	
Total Expenditures on Services	\$16,110,440
Percent of total MSP Expenditures	0.24%
Number of Clients Utilizing Services	42,403
Year Over Year Change in Clients Utilizing Services	5.58%
Year Over Year Change in Rendering Providers	0.00%
Top Place of Service - percent	Outpatient Hospital- 47.54%

Table 19 - Digestive surgery expenditure and utilization data.

The largest age and gender grouping of utilizers of digestive surgeries was females between 51-60 years old (Figure 46) and the population category who utilized services the most was expansion adults (Figure 47). Utilizer and provider count trend lines are also below (Figure 48).

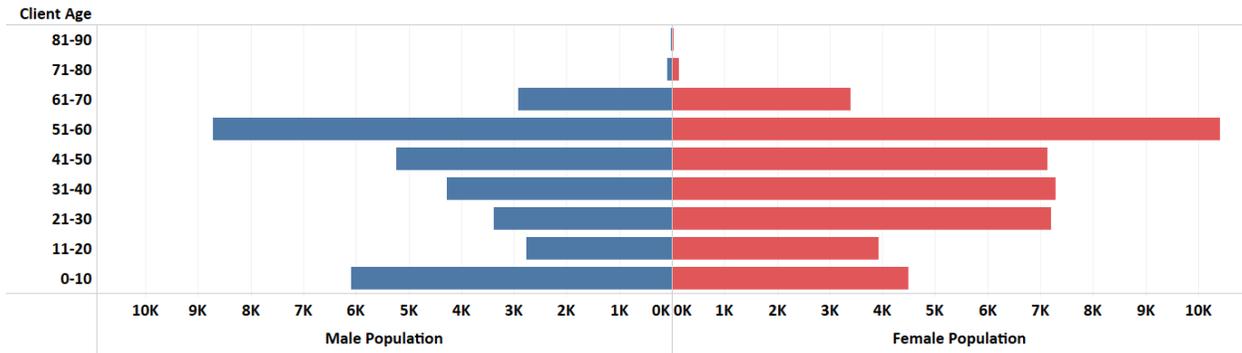


Figure 46 - Digestive surgeries clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



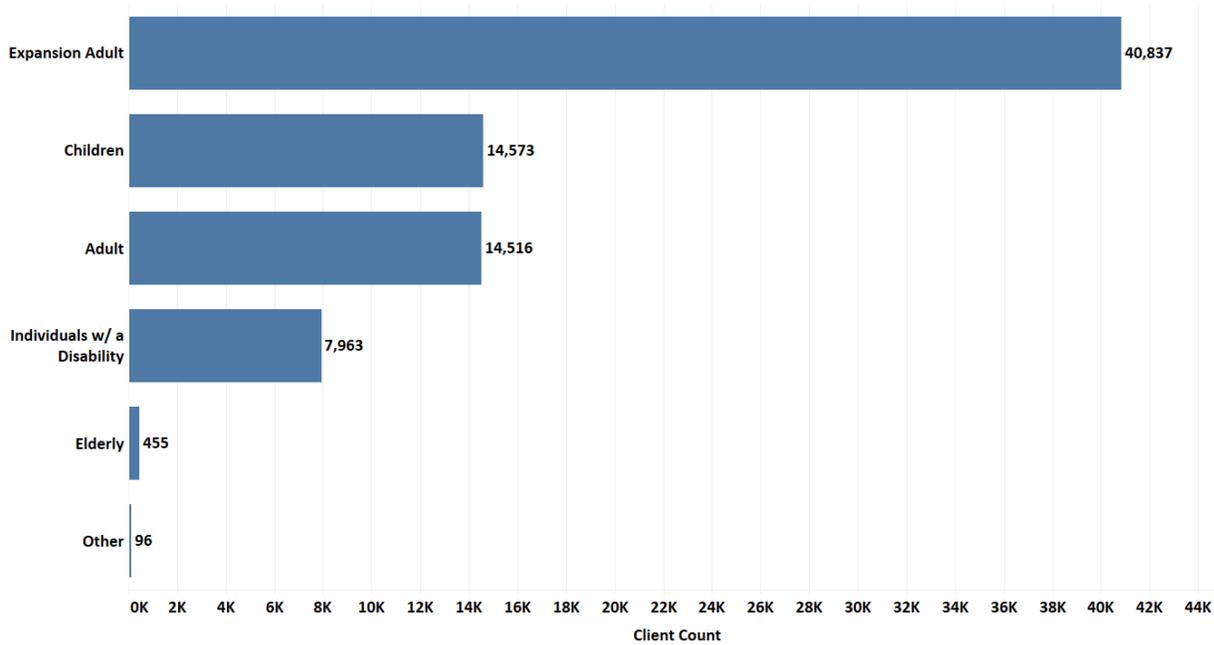


Figure 47 - Digestive surgeries clients by population category (FY 2014-15 and FY 2015-16).

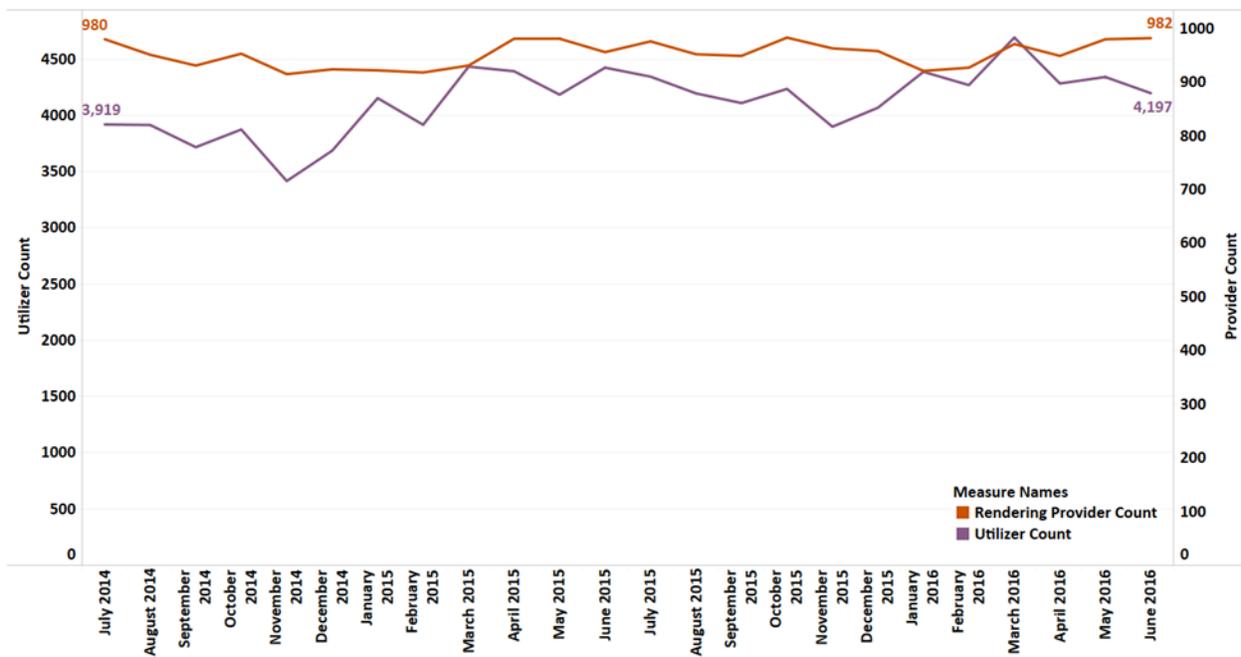


Figure 48 - Digestive surgeries utilizer and provider count trends (FY 2014-15 and FY 2015-16).



## Rate Comparison Analysis

On average, Colorado Medicaid payments for digestive surgery services are 52.07% of the non-facility combined benchmark, 113.10% of the facility combined benchmark, and 76.04% of the place of service-specific combined benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 20).

Digestive Surgeries Rate Benchmark Comparisons			
	Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparisons
Non-Facility Combined	\$17,108,628	\$32,857,572	<b>52.07%</b>
Facility Combined	\$8,021,217	\$7,091,939	<b>113.10%</b>
Place of Service-Specific Combined	\$17,108,628	\$22,498,138	<b>76.04%</b>

Table 20 - Digestive surgeries rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the place of service-specific benchmark for digestive surgeries, expenditures would have increased by approximately \$1,238,353 in General Fund and \$5,389,510 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

To highlight variation that exists when comparing to Medicare’s non-facility and facility rates, the scatterplot below shows, for digestive surgery codes with comparable Medicare non-facility and facility rates, the different rate ratios (non-facility – circles; facility – triangles), as well as utilization and total paid amounts (Figure 49).<sup>39</sup> Though rate ratios for digestive surgeries range from 6.16% to 1,067.60%, only rate ratios that range from 6.16% to 300.00% are shown for visualization purposes. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>39</sup> Over FY 2015-16, 95.56% of payments were made to a facility place of service.



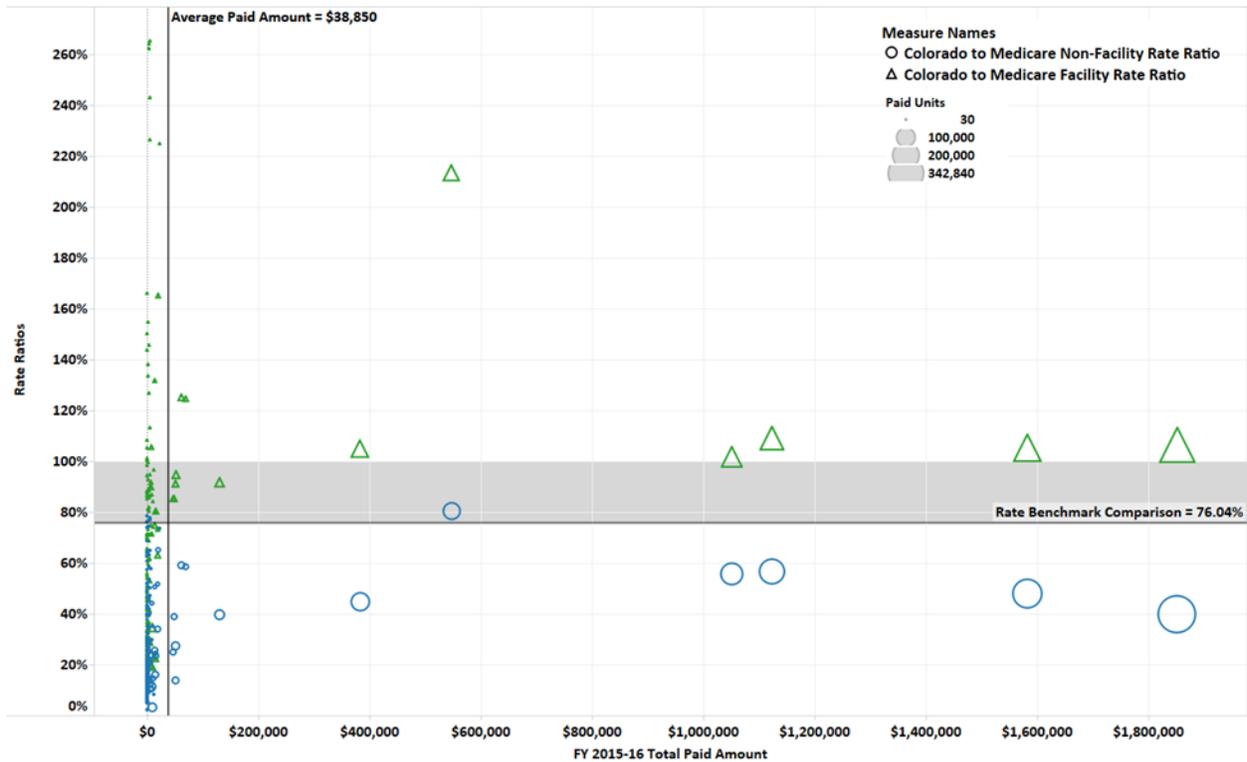


Figure 49 - Digestive surgeries rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For digestive surgeries, ACI scores ranged from 35 to 85 (Figure 50). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 10, 14, 15, and 19. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.

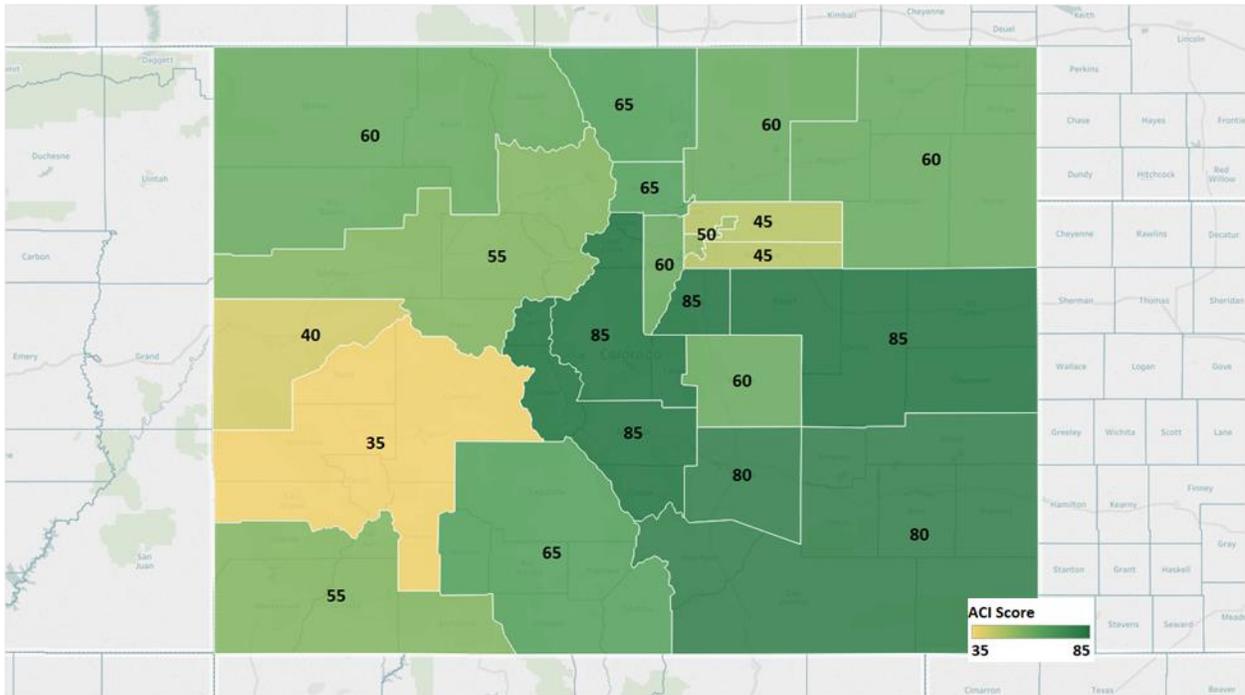


Figure 50 - Digestive surgeries Access to Care Index (ACI) scores by region.

In region 10 (Delta, Hinsdale, Gunnison, Montrose, Ouray, and San Miguel Counties), the Department calculated an ACI score of 35. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, distance, and active provider months metrics. Though the penetration rate of 5.27% was below one standard deviation from the statewide mean (6.84%), it trended up, indicating improvement on the metric. Furthermore, the only counties that had decreasing penetration rates, Montrose and Gunnison Counties, are members of a managed care organization, the Accountable Care Collaborative Rocky Mountain Health Plan Prime (ACCRMHP Prime). ACCRMHP Prime began enrolling adult clients in September 2014. Because children are not enrolled in ACCRMHP Prime, the non-enrolled population in regions covered by ACCRMHP Prime is disproportionately younger and healthier than other regions. As a result, the penetration rate decrease is more likely due to adults enrolling in the program than a potential access issue. Thus, a decline on the metric on the penetration rate metric may not, alone, indicate a potential access issue. Additionally, clients who utilize digestive surgery services in region 10 are, on average, healthier than clients statewide who utilize digestive surgery services.<sup>40</sup> The percent of clients traveling within 30 miles to their provider (43.95%) was below one standard deviation of the statewide mean (69.86%). On average, clients in this region traveled 49.11 miles, compared to the statewide average of 35.37 miles. From FY 2014-15 to FY 2015-16, there was an 8.82% decrease in providers located in region 10, from 34 to 31 providers, and there was a 1.68% decrease in providers serving clients living in region 10, from 119 to 117 providers. It could be, since adults were enrolled into ACCRMHP Prime, providers may be only serving clients enrolled in ACCRMHP Prime. Digestive surgery services are primarily used by adults (Figure

<sup>40</sup> The CRG scores of clients who utilized digestive surgery services indicate a healthier population (17.07% of clients who utilized digestive surgery services were healthy non-users, compared to 10.44% of clients statewide who utilized digestive surgery services).



46), therefore decreases in providers may be due to adult clients' enrollment into ACC RMHP Prime. The Department was unable to identify access issues in this region, due to the likely impact ACC RMHP Prime had on penetration rates and the number of providers.

In region 14 (Arapahoe County) and region 15 (Adams County), the Department calculated ACI scores of 45. Components of these scores that require further review, because they were in the lowest quartile, included the member-to-provider ratios and provider metrics. Regions 14 and 15 had member-to-provider ratios of 128.7 FTE per active provider and 126.0 FTE per active provider, respectively, that were within one standard deviation of the statewide mean (92.4 FTE per active provider). Additionally, it was below the GMENAC target of 10,309 members to one provider for general surgery. From FY 2014-15 to FY 2015-16, there was a 14.11% increase in providers located in region 14, from 163 to 186 providers, and a 1.83% increase in providers serving clients living in region 14, from 761 to 775 providers. During the same period, there was a 1.69% increase in the number of providers located in region 15, from 414 to 421 providers, and a 3.89% increase in providers serving clients in living in region 15, from 746 to 775 providers. The Department was unable to identify access issues in these regions. The member-to-provider ratio metrics, as well as the increase in providers, are not trends the Department would expect to see were an access issue present.

In region 19 (Mesa County), the Department calculated an ACI score of 40. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, member-to-provider ratio, and active provider months metrics. The penetration rate (5.34%) was more than one standard deviation from the statewide mean (6.84%), and trended down. However, region 19 is a member of ACC RMHP Prime, and further investigation shows the penetration rate trended down in the fall of 2014, when clients began enrolling in ACC RMHP Prime. Thus, a decline on the metric on the penetration rate metric may not, alone, indicate potential access issues. The member-to-provider ratio of 124.9 FTE per active provider was within one standard deviation of the mean (92.4 FTE per active provider), and trended down, indicating improvement on the metric. Additionally, it was below the GMENAC target of 10,309 members to one provider for general surgery. From FY 2014-15 to FY 2015-16, there was an 8.82% decrease in providers located in region 19, from 68 to 62 providers, and an 11.20% decrease in providers serving clients living in region 19, from 125 to 111 providers. Digestive surgery services are primarily used by adults (Figure 46), therefore decreases in providers may be due to adult clients' enrollment into ACC RMHP Prime. The Department was unable to identify potential access issues in region 19, due to improved member-to-provider ratios and the likely impact ACC RMHP Prime had on penetration rates and the number of providers.

## Conclusion

Access analysis results suggest that digestive surgery payments at 76.04% of the combined benchmark were sufficient to allow for client access and provider retention. Following criteria outlined in Technical Notes (pp. 13-15):

- 17 of 21 regions did not require further evaluation;
- Of the remaining regions:
  - The Department was unable to identify potential access issues in region 10, due to the likely impact ACC RMHP Prime had on penetration rates and provider numbers;
  - The Department was unable to identify access issues in regions 14 and 15, due to improved member-to-provider ratios and increases in providers; and



- The Department was unable to identify potential access issues in region 19, due to improved member-to-provider ratios and the likely impact ACC RMHP Prime had on penetration rates and provider numbers.

## Musculoskeletal Systems

### Service Description

Musculoskeletal system services (hereinafter musculoskeletal surgeries or musculoskeletal surgery services) involve procedures done to the locomotor system, such as spine fusions, arthroscopy, and arthroplasty. The musculoskeletal surgery CPT codes under review are 20005-29999.

Musculoskeletal Surgery	
Total Expenditures on Services	\$15,857,491
Percent of total MSP Expenditures	0.23%
Number of Clients Utilizing Services	48,795
Year Over Year Change in Clients Utilizing Services	7.85%
Year Over Year Change in Rendering Providers	4.42%
Top Place of Service - percent	Office - 39.77%

Table 21 - Musculoskeletal surgery expenditure and utilization data.

The largest age and gender grouping of utilizers of musculoskeletal surgeries was females between 51-60 years old (Figure 51) and the population category who utilized services the most was expansion adults (Figure 52). Utilizer and provider count trend lines are also below (Figure 53).

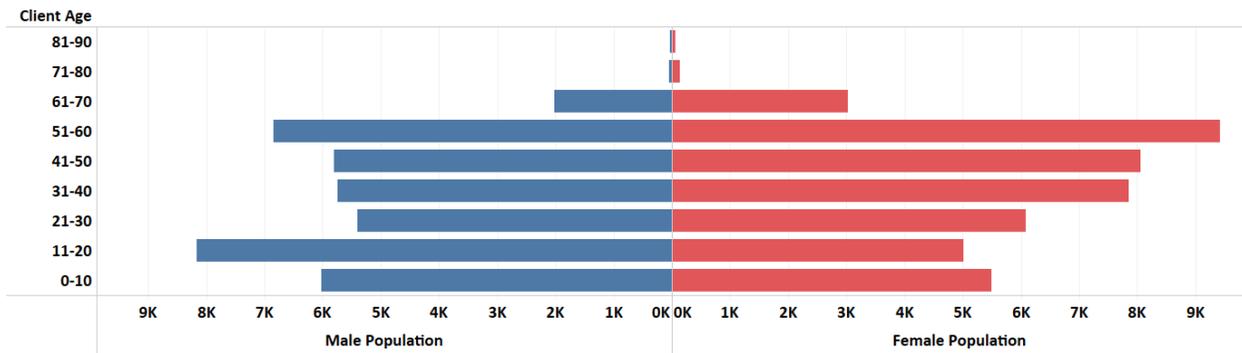


Figure 51 - Musculoskeletal surgeries clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



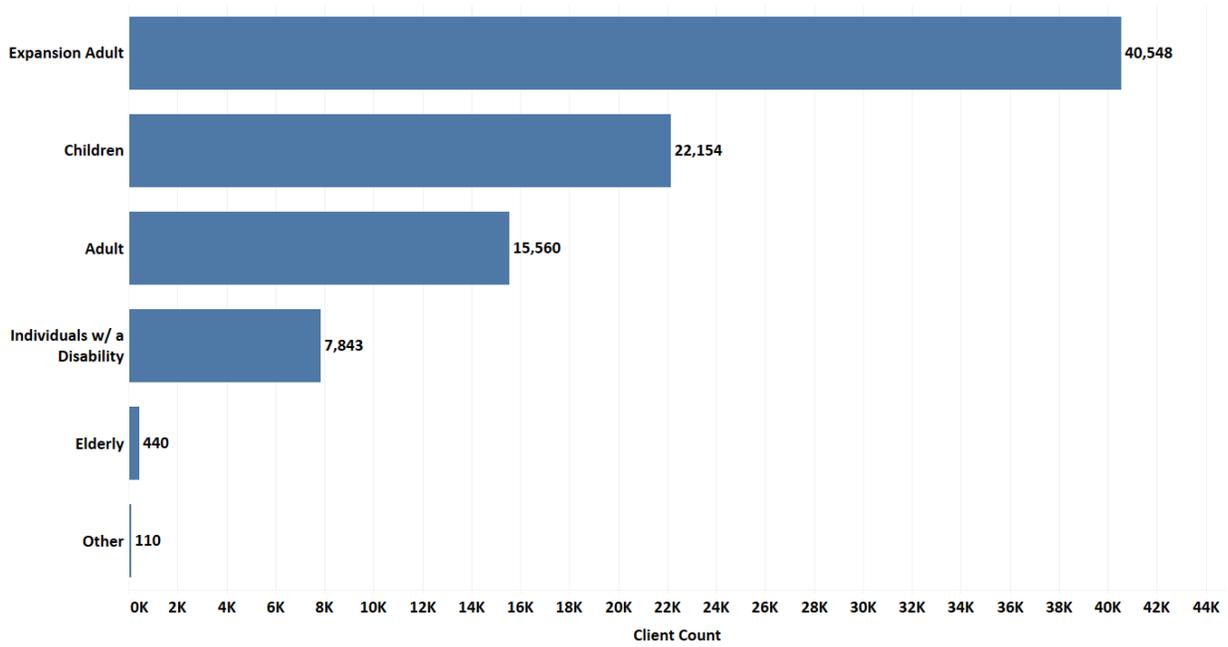


Figure 52 - Musculoskeletal surgeries clients by population category (FY 2014-15 and FY 2015-16).

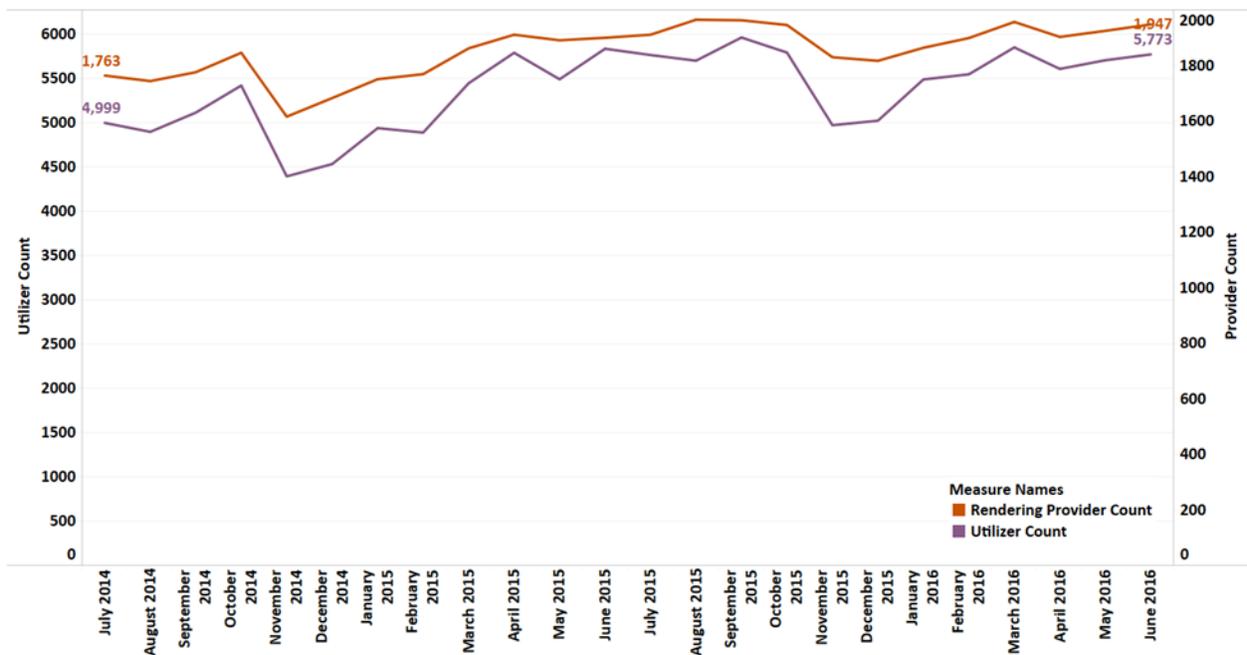


Figure 53 - Musculoskeletal surgeries utilizer and provider count trends (FY 2014-15 and FY 2015-16).



## Rate Comparison Analysis

On average, Colorado Medicaid payments for musculoskeletal surgery services are 53.61% of the non-facility combined benchmark, 48.80% of the facility combined benchmark, and 57.38% of the place of service-specific combined benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 22).

Musculoskeletal Surgeries Rate Benchmark Comparisons			
	Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparisons
Non-Facility Combined	\$18,452,954	\$34,422,084	<b>53.61%</b>
Facility Combined	\$2,532,365	\$5,190,977	<b>48.80%</b>
Place of Service-Specific Combined	\$18,452,954	\$32,157,983	<b>57.38%</b>

Table 22 - Musculoskeletal surgeries rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the comparable place of service-specific benchmark for musculoskeletal surgeries, expenditures would have increased by approximately \$3,139,543 in General Fund and \$13,705,029 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

To highlight variation that exists when comparing to Medicare’s non-facility and facility rates, the scatterplot below shows, for musculoskeletal systems codes with comparable Medicare non-facility and facility rates, the different rate ratios (non-facility – circles; facility – triangles), as well as utilization and total paid amounts (Figure 54).<sup>41</sup> Though rate ratios for musculoskeletal systems range from 4.49% to 1,423.11%, only rate ratios that range from 4.49% to 300.00% are shown for visualization purposes. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>41</sup> Over FY 2015-16, 86.75% of payments were made to a facility place of service.



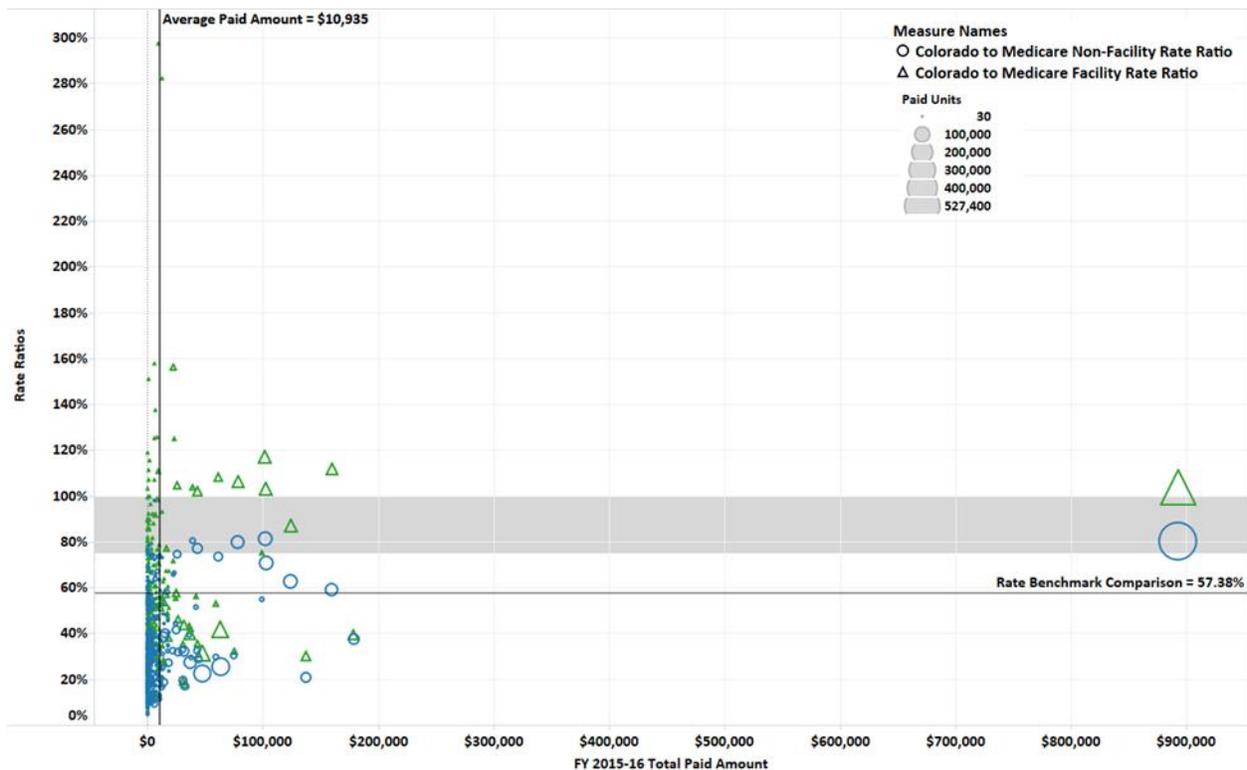


Figure 54 - Musculoskeletal surgeries rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For musculoskeletal surgeries, ACI scores ranged from 45 to 85 (Figure 55). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 15 and 20. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.



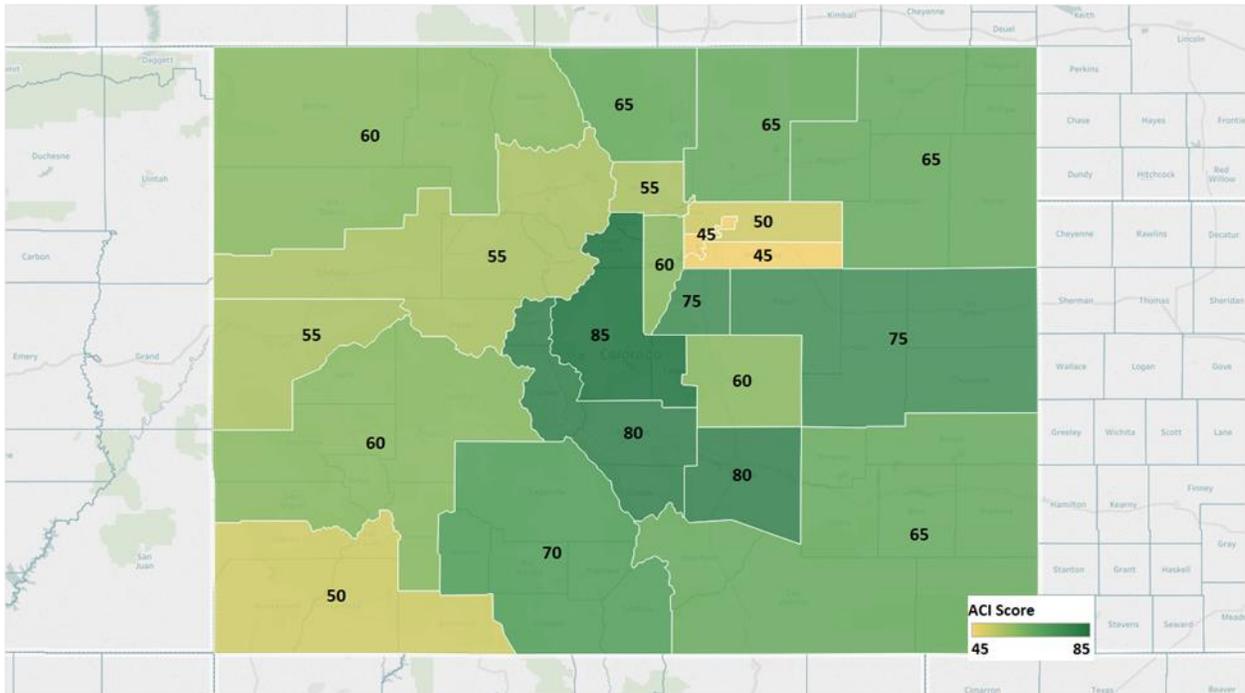


Figure 55 - Musculoskeletal surgeries Access to Care Index (ACI) scores by region.

In regions 15 (Arapahoe County) and 20 (Denver County), the Department calculated ACI scores of 45. Components of this score that require further review, because they were in the lowest quartile, include the penetration rate and provider metrics. Though the penetration rates for both region 15 and region 20, 6.51% and 6.86%, respectively, were below one standard deviation from the statewide mean (7.91%), both trended upward, indicating improvement on the metric. From FY 2014-15 to FY 2015-16, there was a 23.99% increase in the number of providers located in region 15, from 371 to 460 providers, and a 6.07% increase in providers serving clients living in region 15, from 1,516 to 1,608 providers. During the same period, there was a 7.35% increase in providers located in region 20, from 1,128 to 1,211, and a 2.93% increase in provider serving clients living in region 20, from 1,365 to 1,405 providers. The Department was unable to identify access issues in these regions. The improvement on the penetration rate metric, as well as the increase in providers, are not trends the Department would expect to see were an access issue present.

### Conclusion

Access analysis results suggest that musculoskeletal surgery payments at 57.38% of the combined benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 19 of 21 regions did not require further evaluation; and
- The Department was unable to identify access issues in the remaining regions, regions 15 and 20, due to improved penetration rates and increases in providers.



## Cardiovascular Systems

### Service Description

Cardiovascular system services (hereinafter cardiovascular surgeries or cardiovascular surgery services) involve procedures related to the heart, veins, and arteries.<sup>42</sup> The cardiovascular surgery CPT codes under review are 33010 – 39599.

Cardiovascular Surgery	
Total Expenditures on Services	\$8,877,698
Percent of total MSP Expenditures	0.13%
Number of Clients Utilizing Services	10,077
Year Over Year Change in Clients Utilizing Services	-1.30%
Year Over Year Change in Rendering Providers	2.36%
Top Place of Service - percent	Inpatient Hospital - 45.92%

Table 23 - Cardiovascular surgery expenditure and utilization data.

The largest age and gender grouping of utilizers of cardiovascular surgeries was females between 51-60 years old (Figure 56) and the population category who utilized services the most was expansion adults (Figure 57). Utilizer and provider count trend lines are also below (Figure 58).

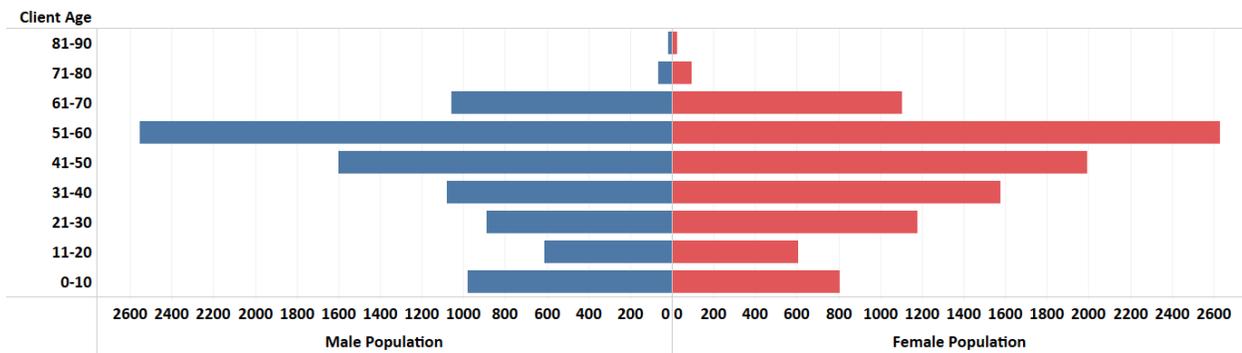


Figure 56 - Cardiovascular surgeries clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).

<sup>42</sup> Routine venipuncture CPT codes 36415 and 36416 were incorporated into the vascular services analysis.



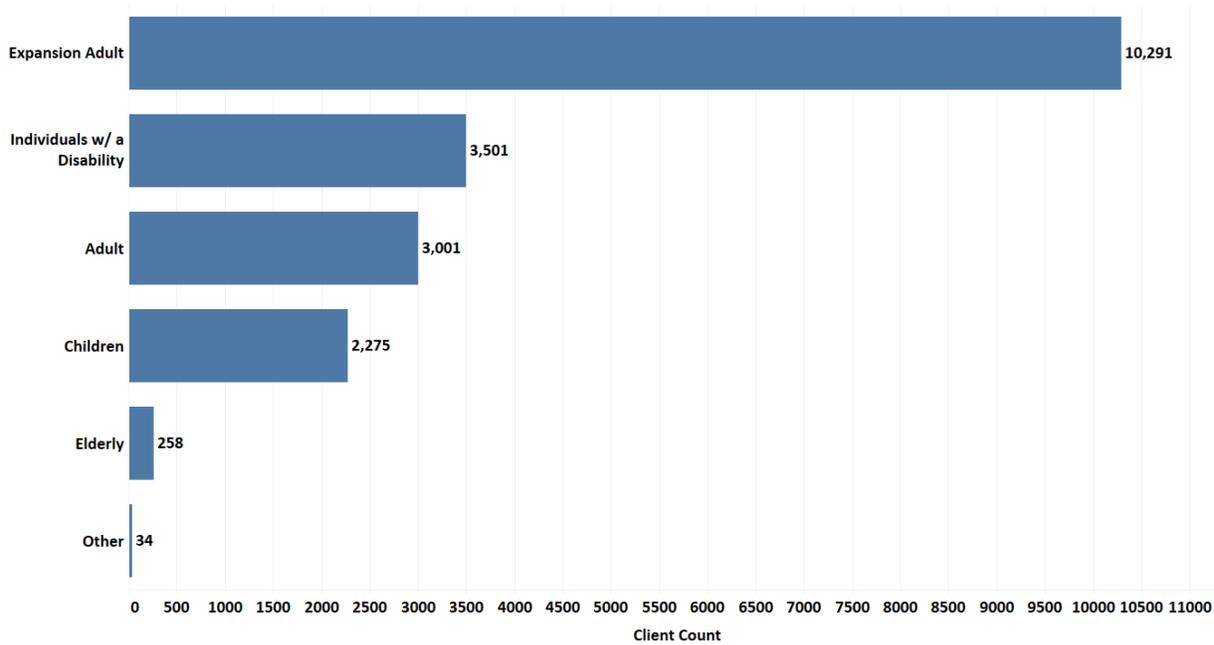


Figure 57 - Cardiovascular surgeries clients by population category (FY 2014-15 and FY 2015-16).

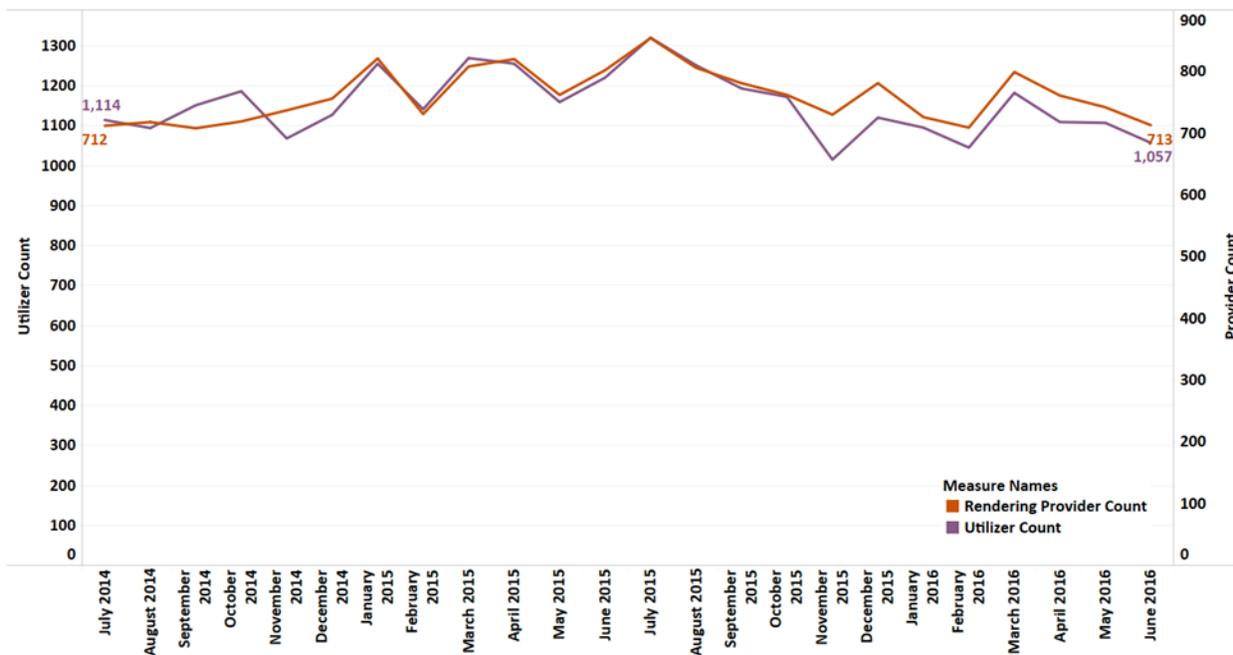


Figure 58 - Cardiovascular surgeries utilizer and provider count trends (FY 2014-15 and FY 2015-16).



## Rate Comparison Analysis

On average, Colorado Medicaid payments for cardiovascular surgery services are 60.53% of the non-facility combined benchmark, 281.68% of the facility combined benchmark, and 126.71% of the place of service-specific combined benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 24).

Cardiovascular Surgeries Rate Benchmark Comparisons			
	Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparisons
Non-Facility Combined	\$12,332,699	\$20,374,780	<b>60.53%</b>
Facility Combined	\$7,140,077	\$2,534,798	<b>281.68%</b>
Place of Service-Specific Combined	\$12,332,699	\$9,732,838	<b>126.71%</b>

Table 24 - Cardiovascular surgeries rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the comparable place of service-specific benchmark for cardiovascular surgeries, expenditures would have decreased by approximately \$538,055 in General Fund and \$2,599,861 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

To highlight variation that exists when comparing to Medicare’s non-facility and facility rates, the scatterplot below shows, for cardiovascular systems codes with comparable Medicare non-facility and facility rates, the different rate ratios (non-facility – circles; facility – triangles), as well as utilization and total paid amounts (Figure 59).<sup>43</sup> Though rate ratios for cardiovascular systems range from 4.45% to 1,412.91%, only rate ratios that range from 4.45% to 300.00% are shown for visualization purposes. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>43</sup> Over FY 2015-16, 74.77% of payments were made to a facility place of service.



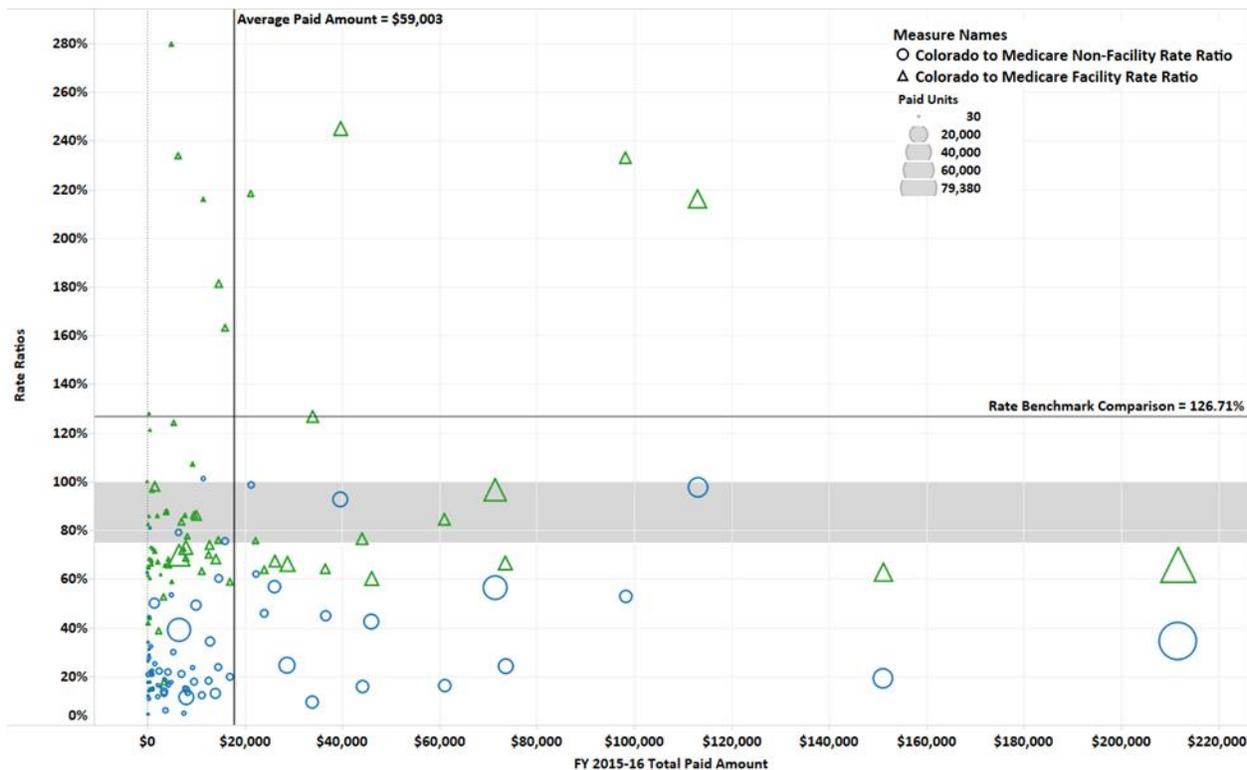


Figure 59 - Cardiovascular surgeries rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

### Access Analysis

For cardiovascular surgeries, ACI scores ranged from 35 to 85 (Figure 60). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for region 19. The Department examined low-scoring metrics to better understand if possible access issues exist within this region. Research is summarized below. Complete ACI score information for each region is located in Appendix D.



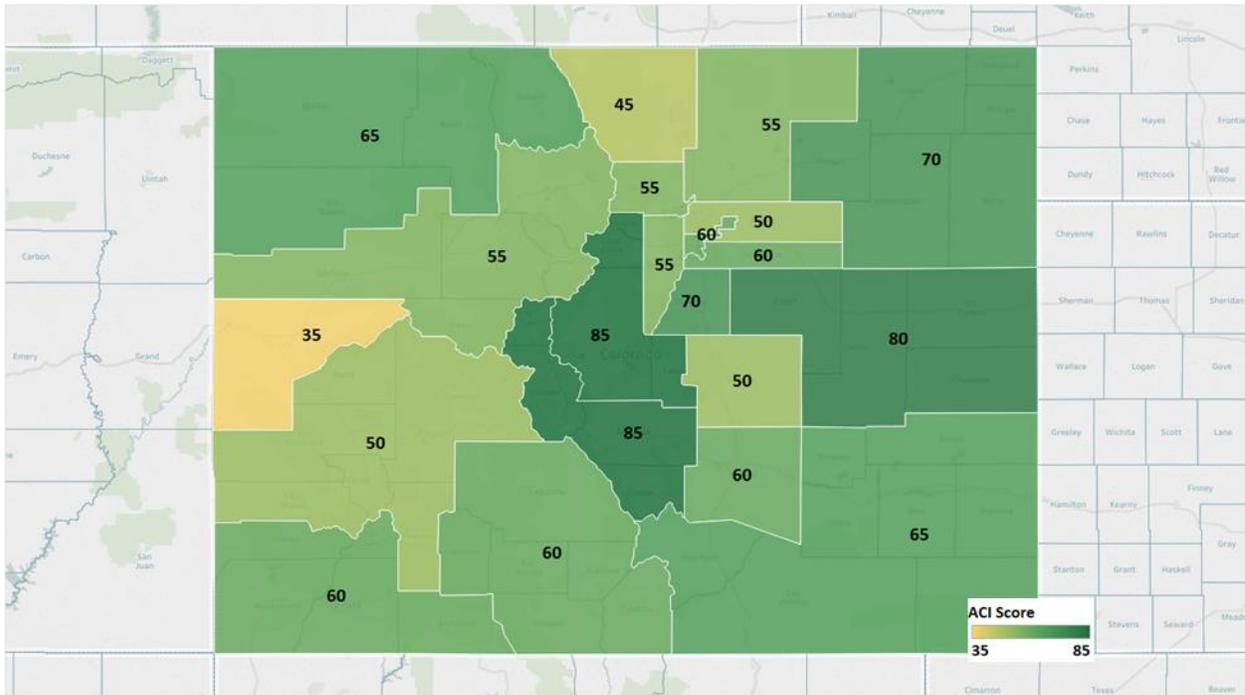


Figure 60 - Cardiovascular surgeries Access to Care Index (ACI) scores by region.

In region 19 (Mesa County), the Department calculated an ACI score of 35. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, member-to-provider ratio, and active provider months metrics. The penetration rate (0.95%) was below one standard deviation of the statewide mean (1.66%) and trended down. However, region 19 is a member of ACC RMHP Prime, and further research showed the biggest decrease in the penetration rate for this region was in fall of 2014, when ACC RMHP Prime began enrolling adult clients. Because children are not enrolled in ACC RMHP Prime, the non-enrolled population in regions covered by ACC RMHP Prime is disproportionately younger and healthier than other regions. As a result, the penetration rate decrease is more likely due to adults enrolling in the program than a potential access issue. Additionally, clients who utilize cardiovascular surgery services in region 19 are, on average, healthier than clients statewide who utilize cardiovascular surgery services.<sup>44</sup> The member-to-provider ratio of 153.3 FTE to one provider is above one standard deviation from the statewide mean (98.9 FTE to one provider), and trended up. However, this metric was below the GMENAC target for general surgeons (10,309 members to one provider). From FY 2014-15 to FY 2015-16, there was a 10.96 decrease in providers located in region 19, from 73 to 65 providers, and a 22.77% decrease in providers serving clients living in region 19, from 101 to 78 providers. The Department was unable to identify potential access issues in this region, due to the likely impact ACC RMHP Prime had on penetration rates and the number of providers.

<sup>44</sup> The CRG scores of clients who utilized cardiovascular services indicate a healthier population (7.08% of clients who utilized cardiovascular surgery services were healthy non-users, compared to 4.55% of statewide clients who utilized cardiovascular services).



## Conclusion

Access analysis results suggest that cardiovascular surgery payments at 126.71% of the benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp. 13-15):

- 20 of 21 regions did not require further evaluation; and
- The Department was unable to identify access issues in the remaining region, region 19, due to the likely impact ACC RMHP Prime had on penetration rates, member-to-provider ratios, and provider numbers.

## Integumentary Systems

### Service Description

Integumentary system services (hereinafter integumentary surgeries or integumentary surgery services) involve procedures of the skin and breast. The integumentary surgery CPT codes under review are 10020-19499.

Integumentary Surgery	
Total Expenditures on Services	\$7,591,935
Percent of total MSP Expenditures	0.11%
Number of Clients Utilizing Services	65,502
Year Over Year Change in Clients Utilizing Services	7.39%
Year Over Year Change in Rendering Providers	3.35%
Top Place of Service - percent	Office -42.18%

Table 25 - Integumentary surgery expenditure and utilization data.

The largest age and gender grouping of utilizers of integumentary surgeries was females between 21-30 years old (Figure 61) and the population category who utilized services the most was expansion adults (Figure 62). Utilizer and provider count trend lines are also below (Figure 63).

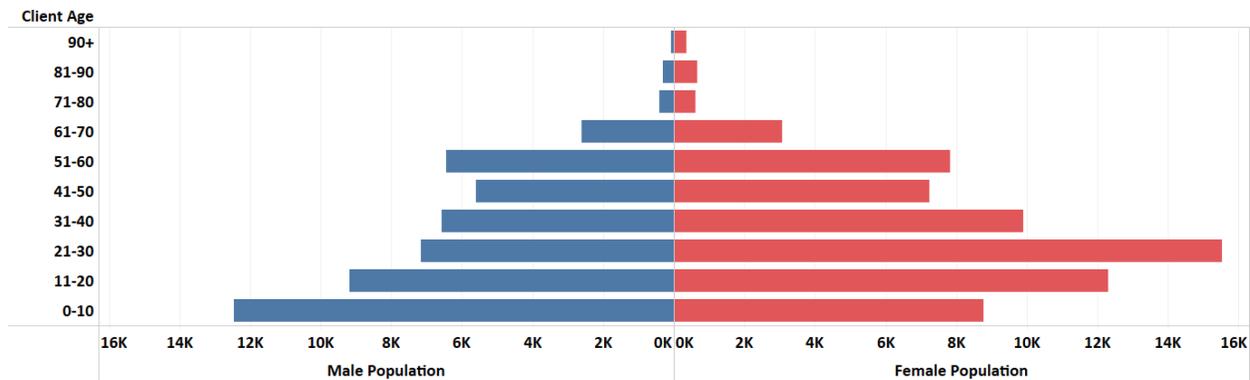


Figure 61 - Integumentary surgeries clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



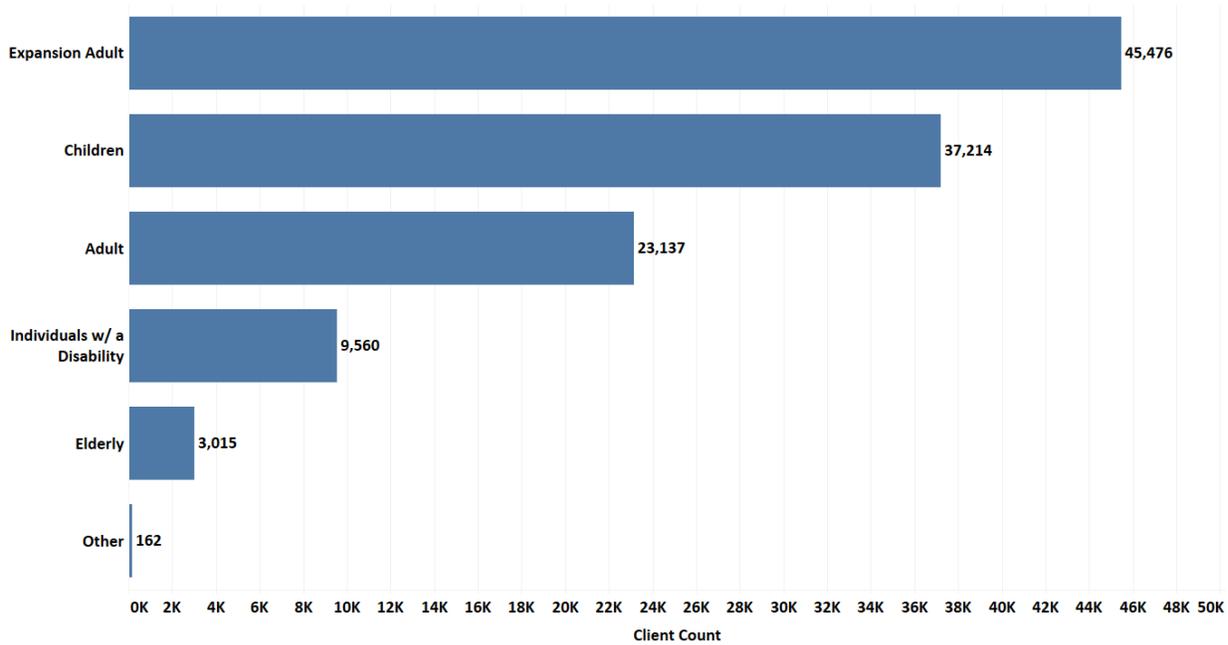


Figure 62 - Integumentary surgeries clients by population category (FY 2014-15 and FY 2015-16).

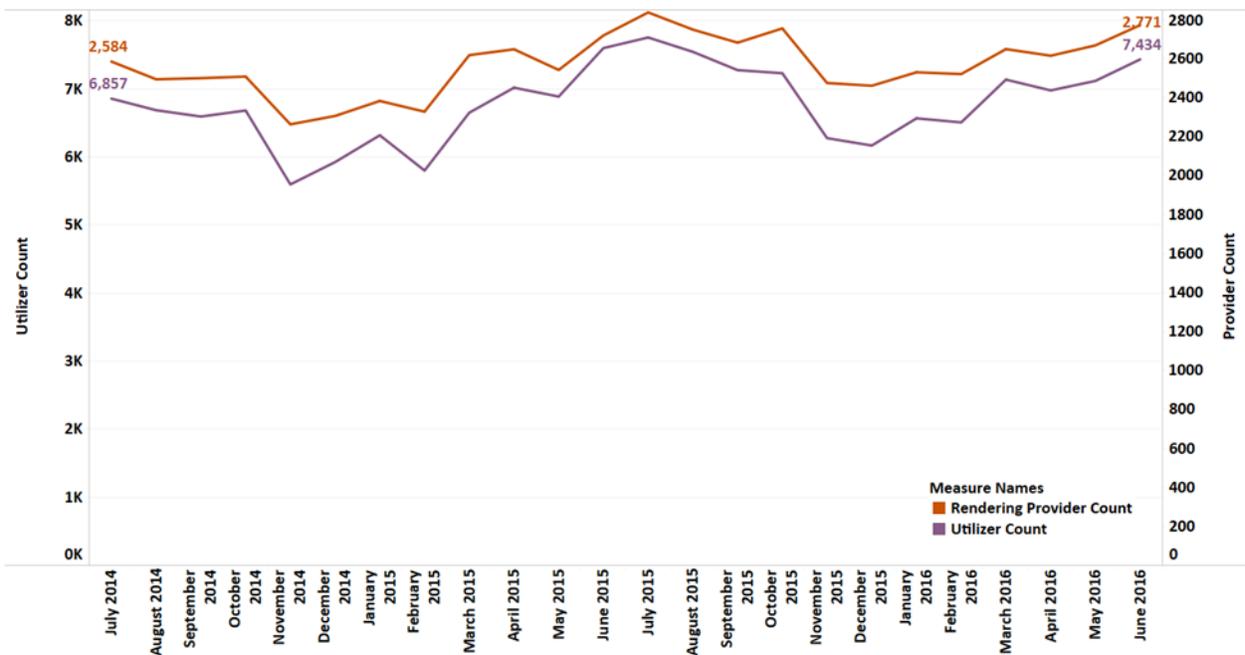


Figure 63 - Integumentary surgeries utilizer and provider count trends (FY 2014-15 and FY 2015-16).



## Rate Comparison Analysis

On average, Colorado Medicaid payments for integumentary surgery services are 45.89% of the non-facility combined benchmark, 69.73% of the facility combined benchmark, and 56.76% of the place of service-specific combined benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 26).

Integumentary Surgeries Rate Benchmark Comparisons			
	Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparisons
Non-Facility Combined	\$8,600,665	\$18,741,493	<b>45.89%</b>
Facility Combined	\$4,291,302	\$6,154,215	<b>69.73%</b>
Place of Service-Specific Combined	\$8,600,665	\$15,151,436	<b>56.76%</b>

Table 26 - Integumentary surgeries rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the comparable place of service-specific benchmark for integumentary surgeries, expenditures would have increased by approximately \$1,099,122 in General Fund and \$6,550,771 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

To highlight variation that exists when comparing to Medicare’s non-facility and facility rates, the scatterplot below shows, for integumentary systems codes with comparable Medicare non-facility and facility rates, the different rate ratios (non-facility – circles; facility – triangles), as well as utilization and total paid amounts (Figure 64).<sup>45</sup> Though rate ratios for integumentary surgeries range from 4.06% to 1,597.52%, only rate ratios that range from 4.06% to 300.00% are shown for visualization purposes. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>45</sup> Over FY 2015-16, 58.03% of payments were made to a facility place of service.



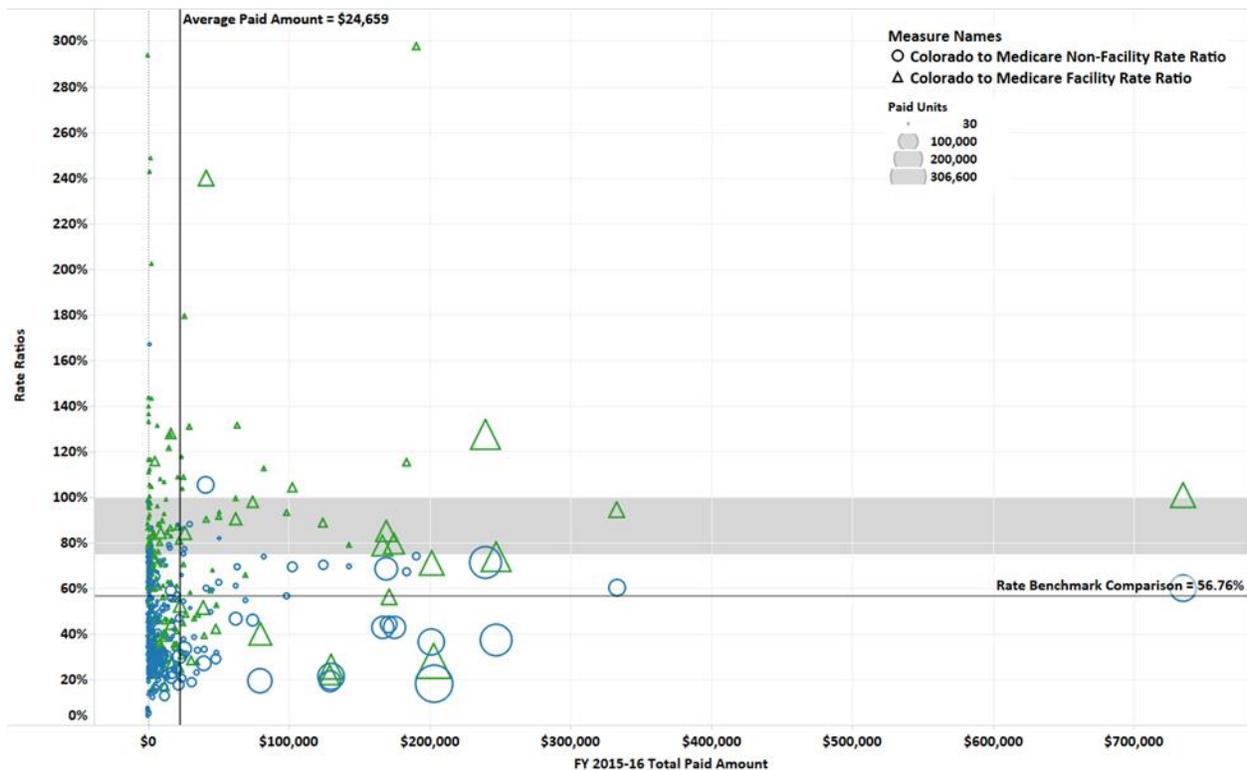


Figure 64 - Integumentary surgeries rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For integumentary surgeries, ACI scores ranged from 45 to 85 (Figure 65). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 for regions 9, 10, 12, 15, and 20, but none had three or more metrics in the lowest quartile. No regions met the requirements for further research, no research was conducted; however, the regions that scored at or below 50 and the metrics that were in the lowest quartile are outlined below. Complete ACI score information for each region is located in Appendix D.

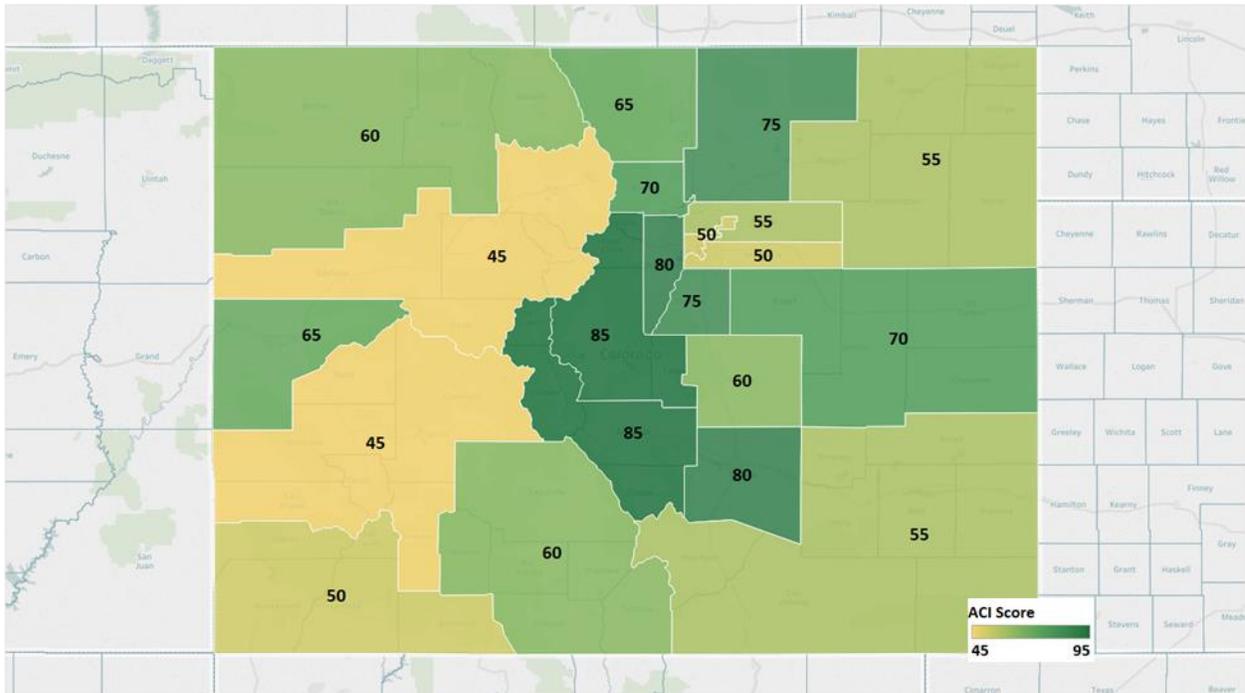


Figure 65 - Integumentary surgeries Access to Care Index (ACI) scores by region.

In region 9 (Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties) the member-to-provider ratio and active provider months were in the lowest quartile. In region 10 (Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel Counties) the provider metrics were in the lowest quartile. In region 12 (Eagle, Garfield, Grand, Pitkin, and Summit Counties), the penetration rates and distance metrics were in the lowest quartile. In region 15 (Arapahoe County) and region 20 (Denver County) provider metrics were in the lowest quartile. Because no regions meet the threshold for further research, as outlined in the Technical Notes of this report (pp.13-15), no access issues were identified for integumentary surgeries.

### Conclusion

Access analysis results suggest that integumentary surgery service payments at 56.76% of the benchmark were sufficient to allow for client access to care and provider retention.

However, the Department received feedback from a stakeholder that client access and provider retention issues might exist.<sup>46</sup> Feedback included comment that rates are too low for providers to cover overhead and administrative costs. Stakeholders said that, as a result, they may operate at a loss and are considering offering fewer services to Colorado Medicaid clients.

<sup>46</sup> The Department received written comment from Asarch Dermatology & Aesthetics regarding Colorado Medicaid payments for a set of integumentary codes, typically offered at a dermatologist's office. The Department conducted an additional rate benchmark comparison for those specific codes and calculated that Colorado Medicaid payments are 38.30% of the benchmark.



To understand the breadth of stakeholder-identified access issues, the Department needs statewide information, to rule out the possibility that observed issues are isolated to clients seeing a single provider or to clients in a specific region

## Eye and Auditory Systems

### Service Description

Eye and auditory systems (hereinafter eye and auditory surgeries or eye and auditory surgery services) involve surgeries pertaining to the eye, including the ocular muscles and eyelids, and ears. The eye and auditory surgery CPT codes under review are 65091-69990.

Eye and Auditory Surgery	
Total Expenditures on Services	\$5,188,978
Percent of total MSP Expenditures	0.08%
Number of Clients Utilizing Services	16,575
Year Over Year Change in Clients Utilizing Services	9.84%
Year Over Year Change in Rendering Providers	4.84%
Top Place of Service - percent	Office -45.08%

Table 27 - Eye and auditory surgery expenditure and utilization data.

The largest age and gender grouping of utilizers of eye and auditory surgeries was males between 0-10 years old (Figure 66) and the population category who utilized services the most was children (Figure 67). Utilizer and provider count trend lines are also below (Figure 68).

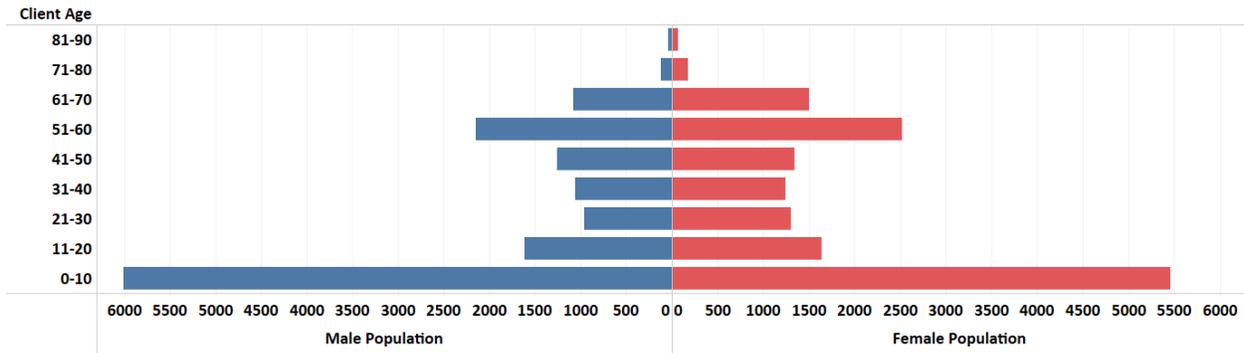


Figure 66 - Eye and auditory surgeries clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



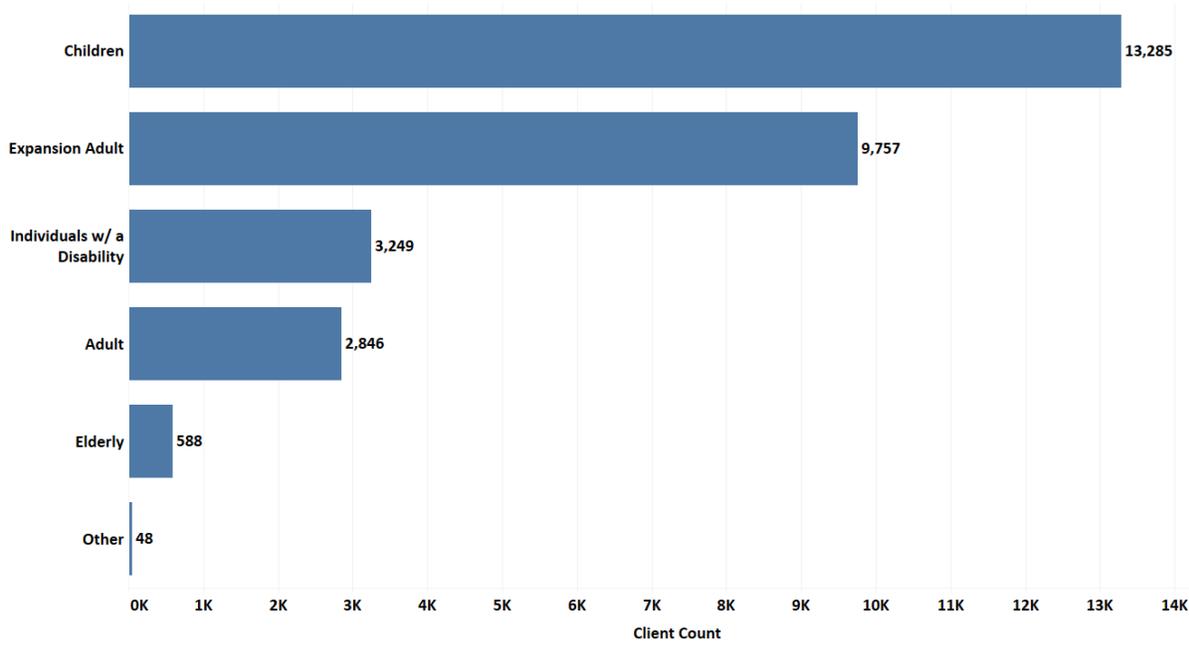


Figure 67 - Eye and auditory surgeries clients by population category (FY 2014-15 and FY 2015-16).

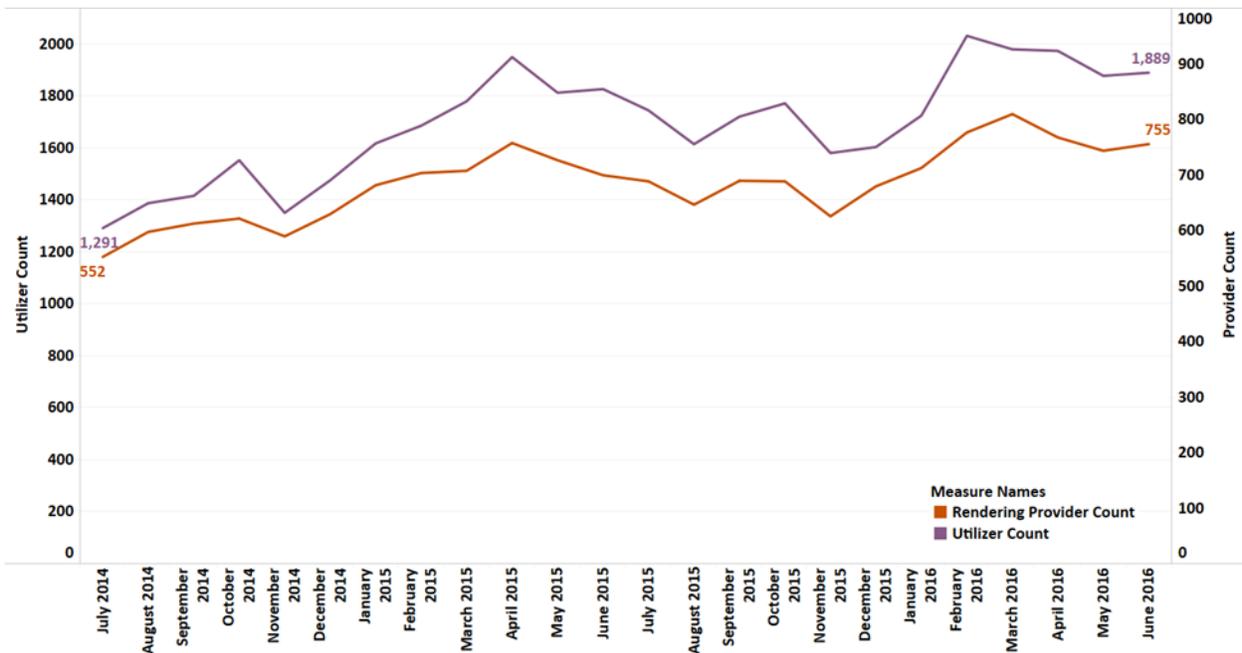


Figure 68 - Eye and auditory surgeries utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for eye and auditory surgery services are 75.35% of the non-facility combined benchmark, 81.46% of the facility combined benchmark, and 77.93% of the place of service-specific



combined benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 28).

Eye and Auditory Surgeries Rate Benchmark Comparisons			
	Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparisons
Non-Facility Combined	\$5,748,805	\$7,629,586	<b>75.35%</b>
Facility Combined	\$645,561	\$792,486	<b>81.46%</b>
Place of Service-Specific Combined	\$5,748,805	\$7,376,888	<b>77.93%</b>

Table 28 - Eye and auditory surgeries rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the comparable place of service-specific benchmark for eye and auditory surgeries, expenditures would have increased by approximately \$447,045 in General Fund and \$1,628,083 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

To highlight variation that exists when comparing to Medicare’s non-facility and facility rates, the scatterplot below shows, for eye and auditory systems codes with comparable Medicare non-facility and facility rates, the different rate ratios (non-facility – circles; facility – triangles), as well as utilization and total paid amounts (Figure 69).<sup>47</sup> Though rate ratios for eye and auditory systems range from 4.48% to 1,623.04%, only rate ratios that range from 4.48% to 300.00% are shown for visualization purposes. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>47</sup> Over FY 2015-16, 72.76% of payments were made to a facility place of service.



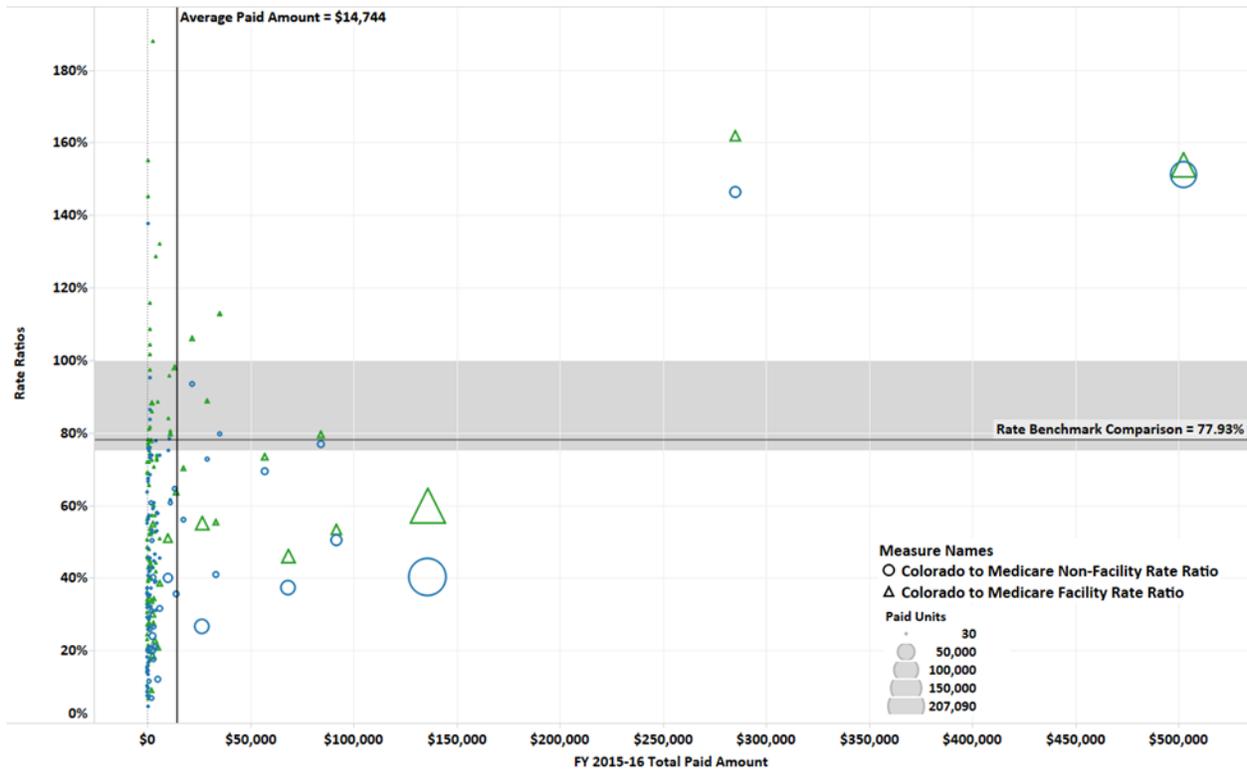


Figure 69 - Eye and auditory surgeries rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For eye and auditory surgeries, ACI scores ranged from 40 to 80 (Figure 70). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 9, 10, and 20. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.



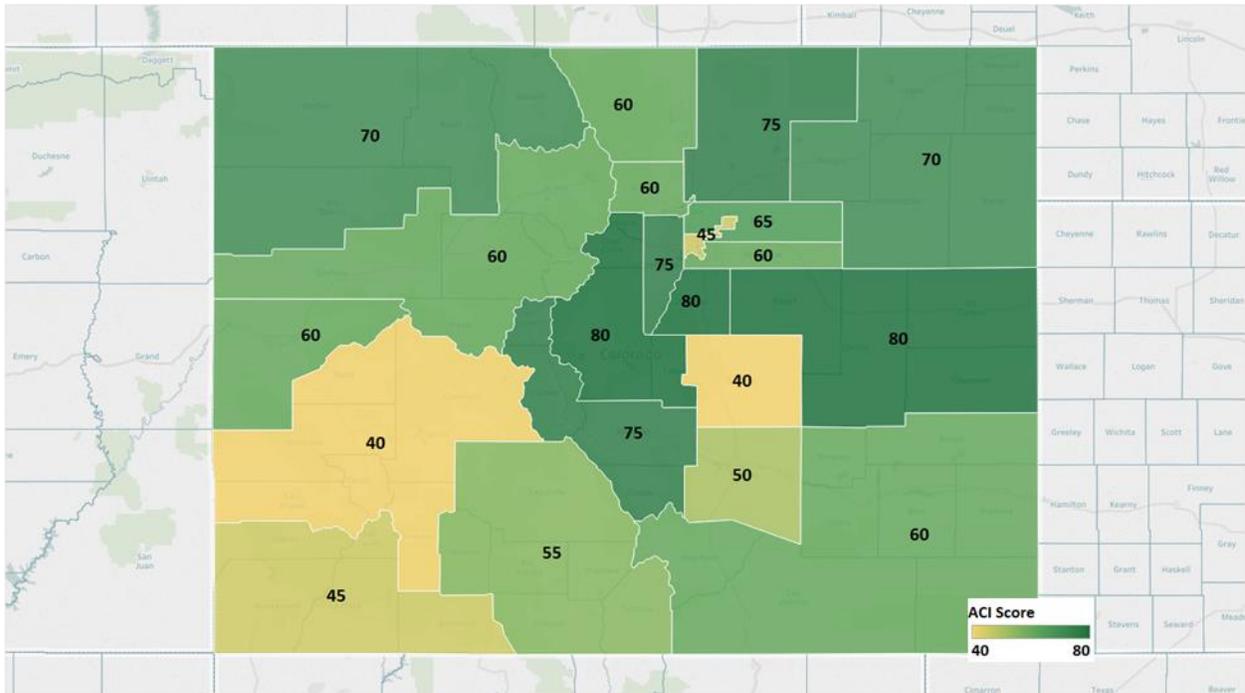


Figure 70 - Eye and Auditory surgeries Access to Care Index (ACI) scores by region.

In region 9 (Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, member-to-provider ratio, and distance metrics. The penetration rate of 1.97% was below one standard deviation of the statewide mean (2.54%), but trended up, indicating improvement on the metric. The member-to-provider ratio of 213.5 FTE per active provider was above one standard deviation of the statewide mean (145.5 FTE per active provider), and trended up. Though the member-to-provider ratio was below the GMENAC general surgeon member-to-provider ratio (10,309 member-to-provider ratio), it is atypical for rural regions to have higher member-to-provider ratios. The percent of clients traveling within 30 miles to their provider (60.78%) was within one standard deviation of the statewide mean (66.82%) and clients traveled, on average, 57.19 miles to their provider. The high and increasing member-to-provider ratio, as well as the long travel distances, may indicate a potential access issue.

In region 10 (Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel Counties), the Department calculated an ACI score of 40. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, distance, and active provider months metrics. The penetration rate of 2.21% was below one standard deviation of the statewide mean (2.54%), but trended upward, indicating improvement on the metric. The percent of clients traveling within 30 miles to their provider (56.98%) was within one standard deviation of the statewide mean (66.82%) and the average distance traveled was 44.19 miles, compared to the statewide average of 38.49 miles. From FY 2014-15 to FY 2015-16, there was a 7.41% increase providers located in region 10, from 54 to 58 providers, and a 13.64% increase in providers serving clients living in region 10, from 88 to 100 providers. The Department was unable to identify access issues in this region. The improvement in the



penetration rate, the distance metric within normal variation, as well as increases in providers, are not trends the Department would expect to see were an access issue present.

In region 20 (Denver County), the Department calculated an ACI of 45. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. The member-to-provider ratio of 167.2 FTE per active provider was within one standard deviation of the statewide mean (145.5 FTE per active provider), and trended down, indicating improvement on the metric. Additionally, the member-to-provider ratio was below the GMENAC target for general surgeons of 10,309 members to one provider. From FY 2014-15 to FY 2015-16, there was a 1.09% increase in providers located in region 20, from 460 to 465 providers, and a 1.80% increase in providers serving clients living in region 20, from 557 to 567 providers. The Department was unable to identify potential access issues in this region. The improvement on the member-to-provider ratio, as well as the increase in providers, are not trends the Department would expect to see were an access issue present.

## Conclusion

Access analysis results were inconclusive in determining whether eye and auditory surgery payments at 77.93% of the combined benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 18 of the 21 regions did not require further research to identify access issues;
- Of the remaining regions:
  - Potential access issues were identified in region 9 due to declining member-to-provider ratios and longer distance metric;
  - The Department was unable to identify potential access issues in region 10 due to an increasing penetration rate, a distance metric within normal variation, and increases in providers; and
  - The Department was unable to identify potential access issues in region 20 due to improved member-to-provider ratios and increases in providers.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information regarding the number of eye and auditory providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

## **Respiratory Systems**

### Service Description

Respiratory system services (hereinafter respiratory surgeries or respiratory surgery services) involve procedures related to the diagnostic evaluation and invasive surgeries of the nose, trachea, bronchi, lungs, and pleura. The respiratory surgery CPT codes under review are 30000-32999.



Respiratory Surgery	
Total Expenditures on Services	\$3,220,132
Percent of total MSP Expenditures	0.05%
Number of Clients Utilizing Services	12,824
Year Over Year Change in Clients Utilizing Services	11.17%
Year Over Year Change in Rendering Providers	6.12%
Top Place of Service - percent	Office -31.98%

Table 29 - Respiratory surgery expenditure and utilization data.

The largest age and gender grouping of utilizers of respiratory surgeries was males between 0-10 years old (Figure 71) and the population category who utilized services the most was expansion adults (Figure 72). Utilizer and provider count trend lines are also below (Figure 73).

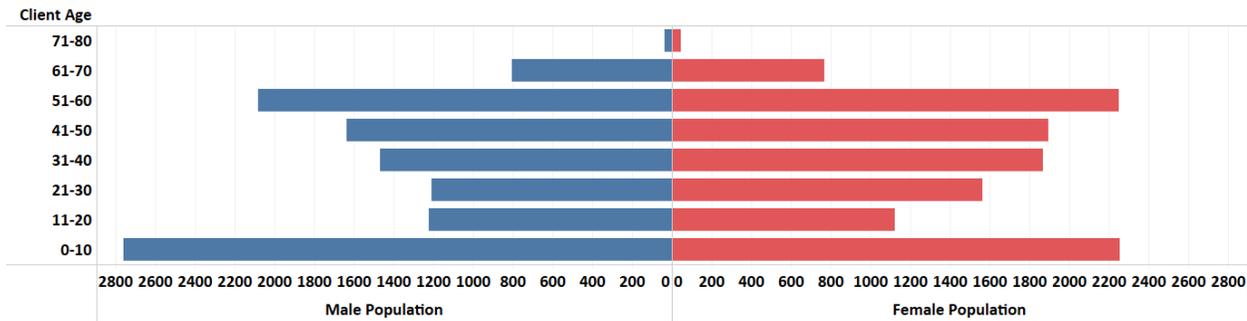


Figure 71 - Respiratory surgeries clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



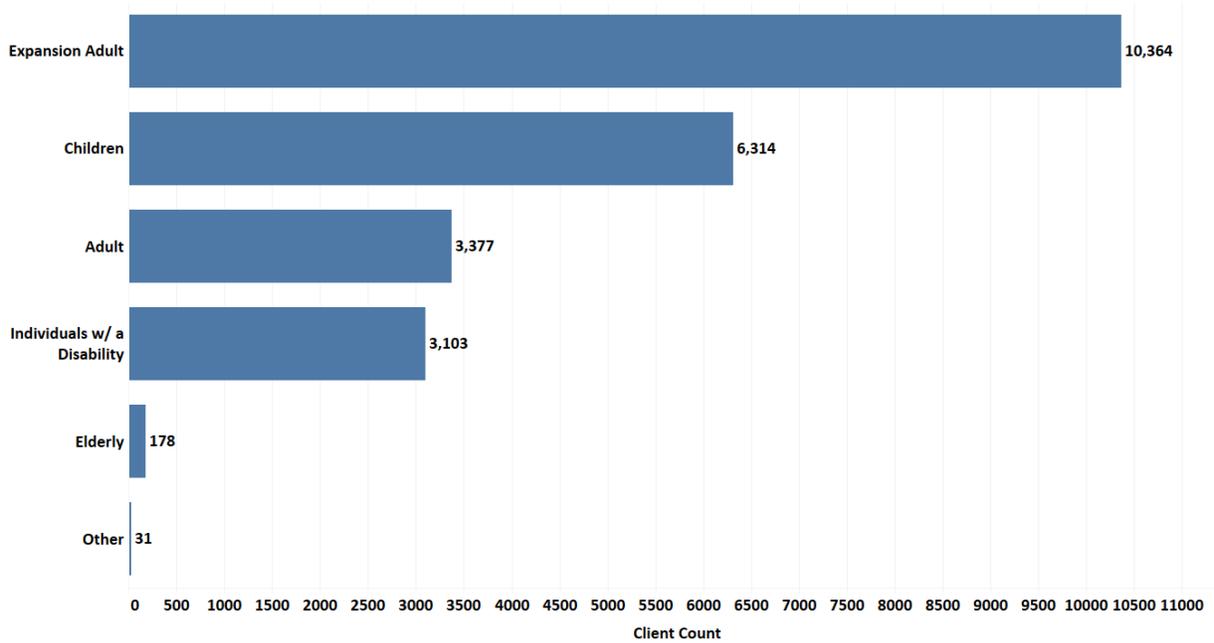


Figure 72 - Respiratory surgeries clients by population category (FY 2014-15 and FY 2015-16).

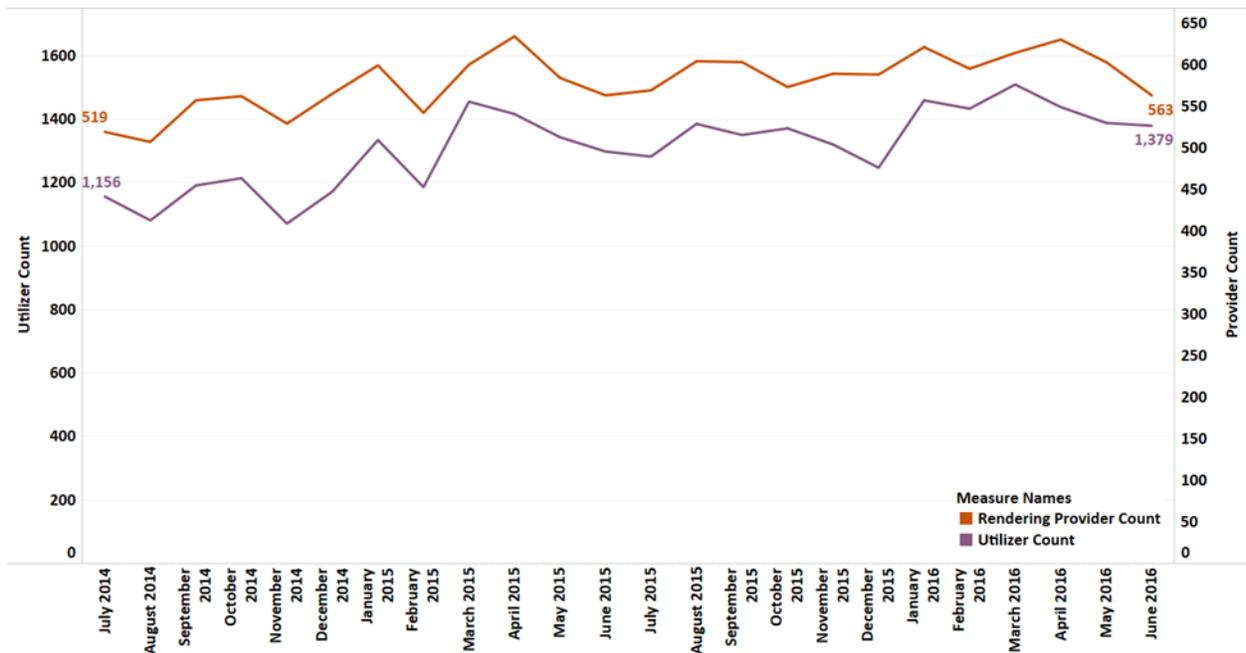


Figure 73 - Respiratory surgeries utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for respiratory surgery services are 57.96% of the non-facility combined benchmark, 152.39% of the facility combined benchmark, and 73.02% of the place of service-specific combined



benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 30):

Respiratory Surgeries Rate Benchmark Comparisons			
	Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparisons
Non-Facility Combined	\$4,036,692	\$6,964,434	<b>57.96%</b>
Facility Combined	\$1,639,716	\$1,076,021	<b>152.39%</b>
Place of Service-Specific Combined	\$4,036,692	\$5,528,255	<b>73.02%</b>

Table 30 - Respiratory surgeries rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the comparable place of service-specific benchmark for respiratory surgeries, expenditures would have increased by approximately \$346,825 in General Fund and \$1,491,564 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

To highlight variation that exists when comparing to Medicare’s non-facility and facility rates, the scatterplot below shows, for respiratory systems codes with comparable Medicare non-facility and facility rates, the different rate ratios (non-facility – circles; facility – triangles), as well as utilization and total paid amounts (Figure 74).<sup>48</sup> Though rate ratios for respiratory systems range from 5.83% to 1,739.73%, only rate ratios that range from 5.83% to 300.00% are shown for visualization purposes. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

<sup>48</sup> Over FY 2015-16, 82.22% of payments were made to a facility place of service.



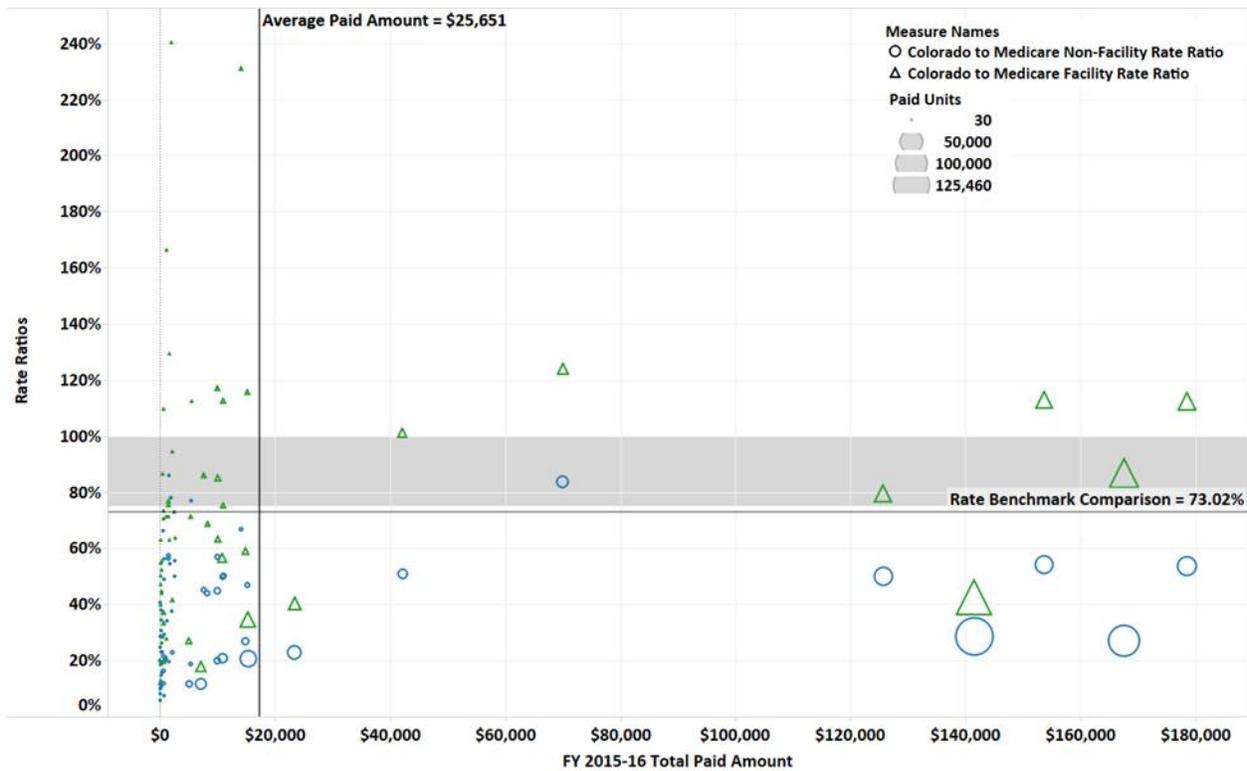


Figure 74 - Respiratory surgeries rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

## Access Analysis

For respiratory surgeries, ACI scores ranged from 35 to 85 (Figure 75). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 9, 11, and 19. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.

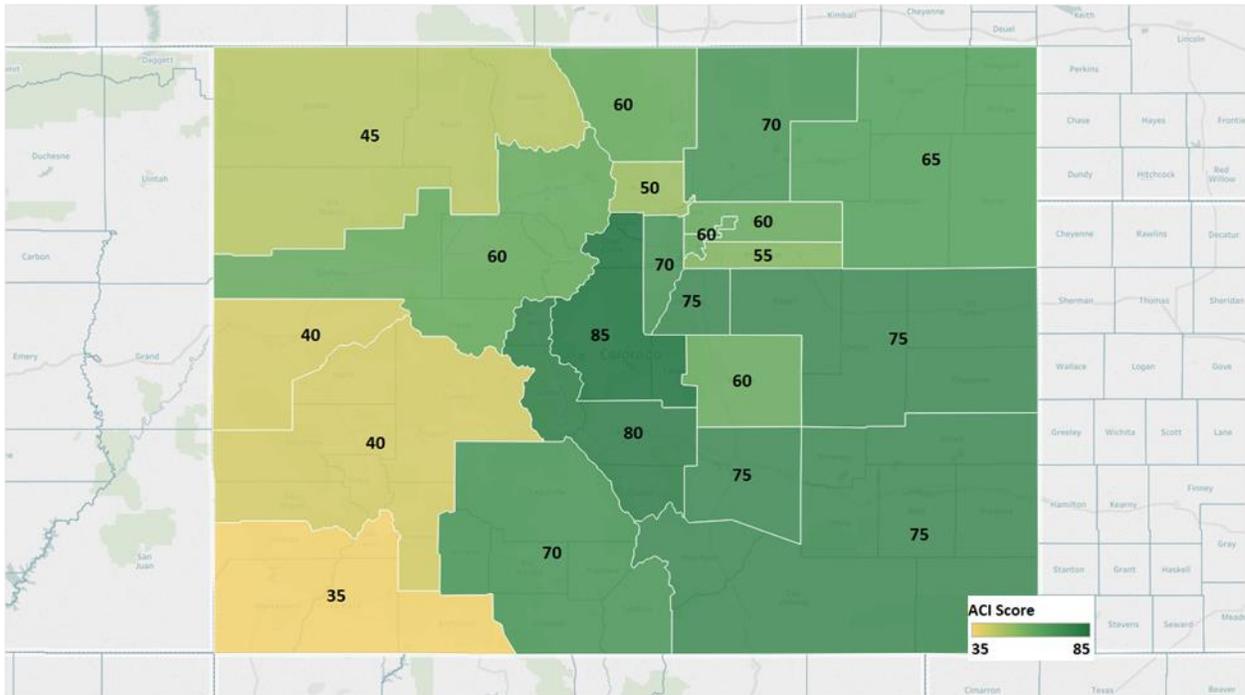


Figure 75 - Respiratory surgeries Access to Care Index (ACI) scores by region.

In Region 9 (Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties), the Department calculated an ACI score of 35. Components of this score that require further review, because they were in the lowest quartile, included the distance and provider metrics. The percent of clients traveling within 30 miles to their provider (59.62%) was within one standard deviation of the statewide mean (64.24%) and the average distance traveled was 63.29 miles, compared to the statewide average of 44.49 miles. From FY 2014-15 to FY 2015-16, there was an increase of two providers located in region 9, from 47 to 49 providers, and a 23.26% increase in providers serving clients living in region 9, from 86 to 106 providers. While the provider numbers increased, the distance traveled to reach them may indicate potential access issue.

In region 11 (Jackson, Moffat, Rio Blanco, and Routt Counties), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, distance, and active provider months metrics. The penetration rate (1.53%) was below one standard deviation from the statewide mean (1.92%) and trended down, indicating a decline on the metric. However, the declining penetration rate was driven by Rio Blanco County, a member of ACC RMHP Prime. As a result, the penetration rate alone may not indicate potential access issues. The percent of clients traveling within 30 miles to their provider (35.38%) was below one standard deviation of the statewide mean (64.24%) and trended down, indicating a decline on the metric. Clients traveled, on average, 98.81 miles for respiratory services, which is the highest distance traveled for these services in the state. From FY 2014-15 to FY 2015-16, there was a 31.25% increase in providers located in region 11, from 16 to 21 providers, however, one of the four counties had no providers. There was a 48.94% increase in providers serving clients living in region 11, from 47 to 70 providers. While Rio Blanco’s decreasing utilization may skew this region’s results, the distance traveled to providers may indicate potential access issues.



In region 19 (Mesa County), the Department calculated an ACI score of 40. Components of this score that require further review, because they were in the lowest quartile, included the penetration rate, member-to-provider ratio, and active provider months metrics. The penetration rate (1.38%) was below one standard deviation from the statewide mean (1.92%), but trended upwards, indicating improvement on the metric. The member-to-provider ratio (169.73 FTE per active provider) was within one standard deviation of the statewide mean (140.52 FTE per active provider). Additionally, it was below the GMENAC target for general surgeons of 10,309 members of the population to one provider. From FY 2014-15 to FY 2015-16, the number of providers located in this region was constant, at 72 providers, and there was a 6.17% increase in providers serving clients living in region 19, from 81 to 86 providers. The Department was unable to identify an access to care issue in this region. These metrics are improving, or are within normal variation, which are not trends the Department would expect to see were an access issue present.

## Conclusion

Access analysis results were inconclusive in determining whether respiratory surgery payments at 73.96% of the combined benchmark were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 18 of 21 regions did not require further evaluation;
- Of the remaining regions:
  - Potential access issues were identified in regions 9 and 11 due to long travel distance metrics; and
  - The Department was unable to identify access issues in region 19 due to improved penetration rates, improved member-to-provider ratios, and increases in providers.

Among surgeries, respiratory surgeries have the most pronounced differences, by geography, in ACI scores, as seen by the yellow and lighter green colors on the map (Figure 75); this may indicate a potential access issues in western areas of the Colorado. The Department will continue to monitor respiratory surgeries to identify potential access issues.

Additional information is needed to determine if access issues exist, if they are unique to Medicaid, and if issues are attributable to rates. For example, provider and client surveys can help the Department understand if access issues exist and identify non-fiscal factors that clients and providers feel contribute to access issues; information regarding the number of respiratory providers who do not accept Medicaid would help the Department examine if potential access issues are unique to Medicaid; and information regarding cost variations associated with providing similar services in different geographies would help the Department research if potential access issues are attributable to rates.

## **Anesthesia**

### Service Description

Anesthesia services are generally grouped in three ways: general, local, and conscious sedation for the purposes of surgery or other painful procedures. Anesthesia service CPT codes under review are 00100-01999, which includes anesthesia codes related to all surgeries, not just the surgeries being reviewed in this report. Anesthesia services received targeted rate increases in FY 2015-16; these increases are accounted for in this report.

### Anesthesia Services



Total Expenditures on Services	\$37,280,107
Percent of total MSP Expenditures	0.55%
Number of Clients Utilizing Services	89,195
Year Over Year Change in Clients Utilizing Services	2.17%
Year Over Year Change in Rendering Providers	-5.66%
Top Place of Service - percent	Outpatient Hospital - 44.08%

Table 31 - Anesthesia services expenditure and utilization data.

The largest age and gender grouping of utilizers of anesthesia services was females between 21-30 years old (Figure 76) and the population category who utilized services the most was expansion adults (Figure 77). Utilizer and provider count trend lines are also below (Figure 78).

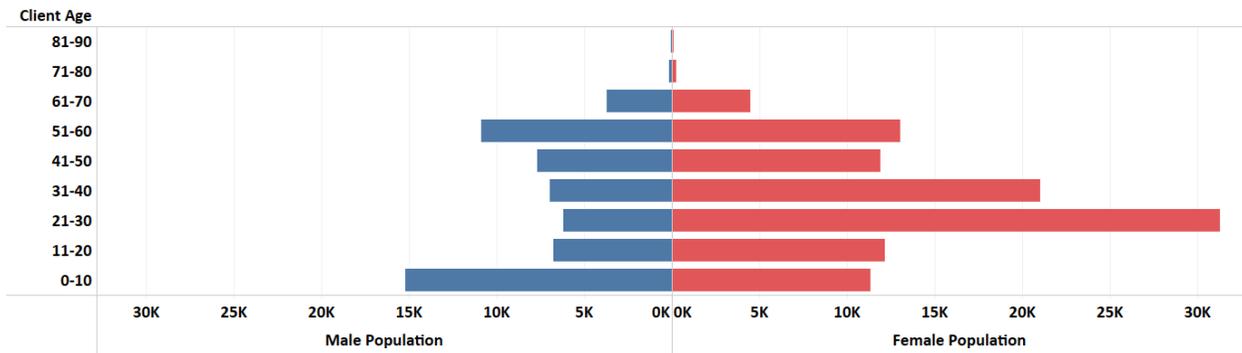


Figure 76 - Anesthesia services clients by age-gender population pyramid (FY 2014-15 and FY 2015-16).



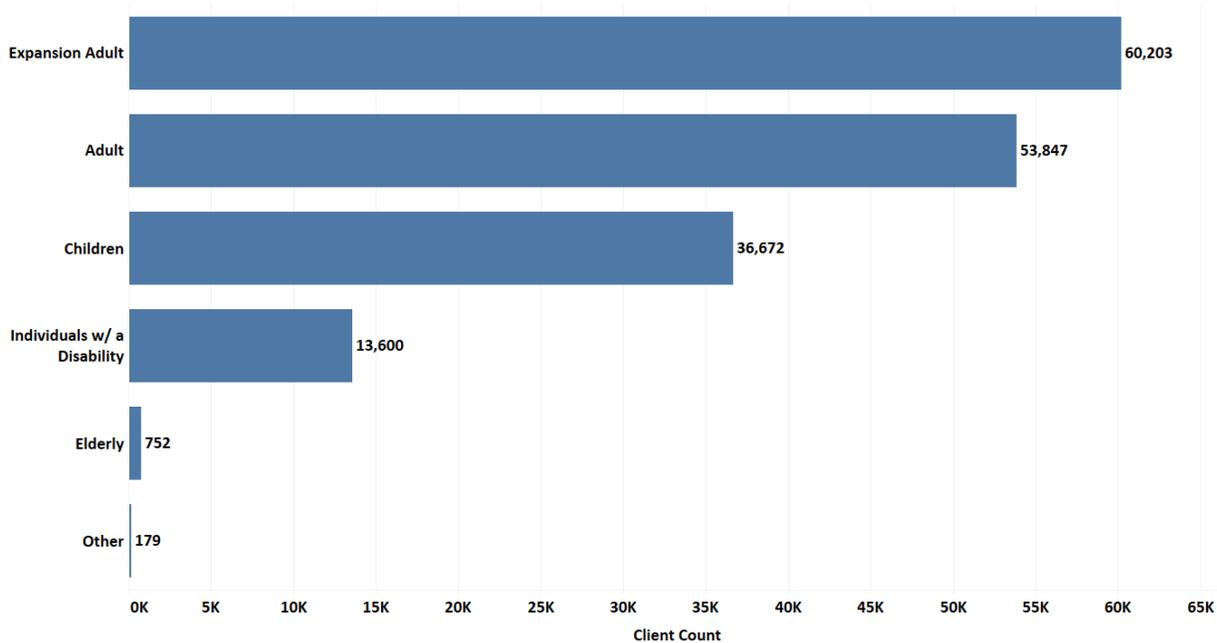


Figure 77 - Anesthesia services clients by population category (FY 2014-15 and FY 2015-16).

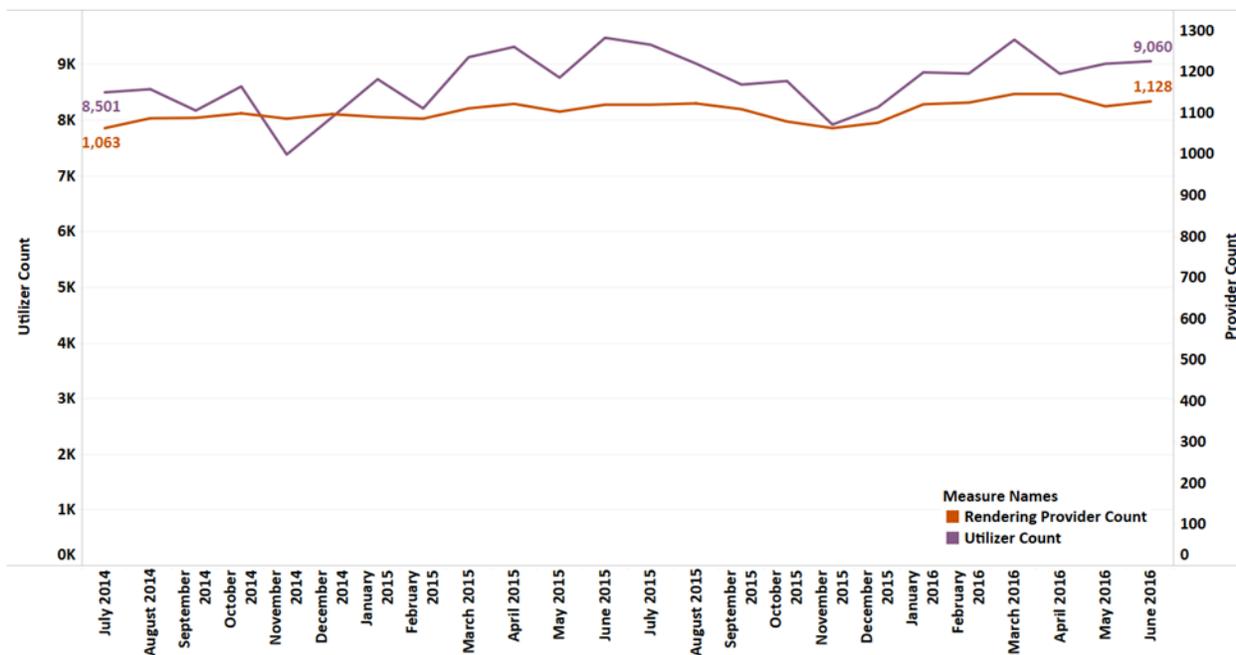


Figure 78 - Anesthesia services utilizer and provider count trends (FY 2014-15 and FY 2015-16).

### Rate Comparison Analysis

On average, Colorado Medicaid payments for anesthesia services are 131.64% of the benchmark. A summary of the estimated total expenditures resulting from using comparable sources is presented below (Table 32).



Anesthesia Services Rate Benchmark Comparison		
Colorado Medicaid – Repriced Amount	Comparator Benchmark – Repriced Amount	Rate Benchmark Comparison
\$37,941,753	\$28,822,755	131.64%

Table 32 - Anesthesia services rate benchmark comparison (FY 2015-16).

If Colorado Medicaid had reimbursed at 100% of the comparable benchmark for anesthesia services, expenditures would have decreased by approximately \$2,494,886 in General Fund and \$9,118,998 in total funds in FY 2015-16. For detailed information on the payment comparison benchmark, refer to Appendix A.

The scatterplot below contains a detailed view of code-level variation in rate ratios, utilization, and total paid amounts (Figure 79). Though rate ratios for anesthesia services range from 116.23% to 1,162.30%, only rate ratios that range from 116.23% to 300.00% are shown for visualization purposes. A detailed table with a list of services, paid amounts, and rates is located in Appendix B.

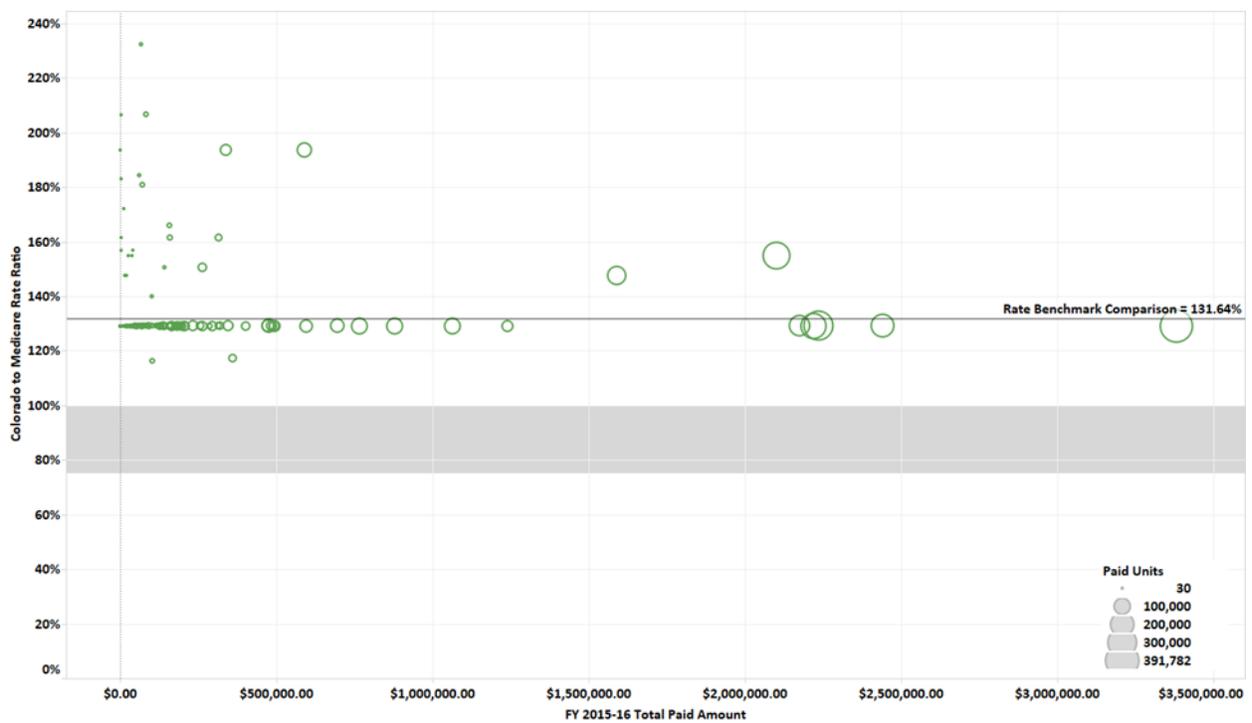


Figure 79 - Anesthesia services rate ratio variation by code. For instructions on how to read this figure, see Technical Notes (p.13).

### Access Analysis

For anesthesia services, ACI scores ranged from 40 to 80 (Figure 80). Per the methodology outlined within the Technical Notes section of this report (pp.13-15), the Department calculated ACI scores at or below 50 with at least three metrics in the lowest quartile for regions 14, 15, and 20. The Department examined low-scoring metrics to better understand if possible access issues exist within these regions. Research is summarized below. Complete ACI score information for each region is located in Appendix D.





In region 20 (Denver County), the Department calculated an ACI score of 45. Components of this score that require further review, because they were in the lowest quartile, included the member-to-provider ratio and provider metrics. The member-to-provider ratio of 131.08 FTE per active provider was above one standard deviation from the mean (71.39 FTE per active provider), but trended down, indicating improvement on the metric. Additionally, the member-to-provider ratio was under the GMENAC target of 10,898 members to one active provider for anesthesiologists. From FY 2014-15 to FY 2015-16, there was a 29.97% increase in providers located in region 20, from 317 to 412 providers, and a 6.27% increase in providers serving clients living in region 20, from 845 to 898 providers. The Department was unable to identify potential access issues in this region. The improvement in the member-to-provider ratio, as well as increases in providers, are not trends the Department would expect to see were an access issue present.

## Conclusion

Access analysis results suggest that anesthesia payments at 131.64% of the Medicare anesthesia fee schedule were sufficient to allow for client access and provider retention. Following the criteria outlined in Technical Notes (pp.13-15):

- 18 of 21 regions did not require further research to identify access issues;
- Of the remaining regions:
  - The Department was unable to identify access issues in regions 14 and 20 due to improved member-to-provider ratios and increases in providers; and
  - The Department was unable to identify access issues in region 15 due to improved penetration rates, improved member-to-provider ratios, and increases in providers.

The Department received feedback from stakeholders that client access and provider retention issues might exist.<sup>49</sup> Feedback included:

- Traditional tests of access do not apply for hospital-based physicians, such as anesthesiologists, who cannot refuse to provide treatment to patients as stipulated in their service contract with the hospital and by the Stark law.
- The Department should compare anesthesia payments to Colorado Workers' Compensation.

During a preliminary presentation of results in the Rate Review Information Sharing Session on December 20, 2016, stakeholders representing anesthesiology, along with a committee member, stated that Medicare was inappropriate for use in rate benchmark comparisons. Stakeholders expressed the view that, when compared to commercial rates, Medicare's rates for anesthesia services are relatively lower than the rates paid for other physician services. Notably, based on the analysis contained in this report, the current Colorado Medicaid rates

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<sup>49</sup> The Department received feedback from stakeholders and committee members during the January 20, 2017 MPRRAC Meeting, including a document, "Addressing the Colorado Medicaid Reimbursement Disparity for Anesthesia Services", and an accompanying document from the U.S. Government Accountability Office, "Medicare and Private Payment Differences for Anesthesia Services".



for anesthesiology are the highest relative to the benchmark when compared to other physician and surgery services.<sup>50</sup>

Stakeholders also suggested that the Department should use the Colorado Workers' Compensation conversion factor for comparison instead because the current Workers' Compensation conversion factor is closer to the level of reimbursement of commercial insurers, and was already in use by another Colorado State Agency (the Department of Labor and Employment).<sup>51</sup> After further research and consideration, the Department determined that Workers' Compensation rates do not represent an appropriate benchmark for the Medicaid program.

As previously stated in Technical Notes (pp.11-12) the rate benchmark comparison is calculated by, first, comparing rates to Medicare rates, and second, when no Medicare rates are available, comparing to other states' Medicaid rates. For anesthesia, all services had a corresponding Medicare rate for comparison.<sup>52</sup> As such, no other states' Medicaid rates were used for the anesthesia rate benchmark comparison. The Department did, however, conduct further research to gain a high-level understanding of how Colorado Medicaid's conversion factor generally aligns with other states' Medicaid conversion factors. The Department identified 28 other states with similar payment methodologies for anesthesia services and only three of those states had higher conversion factors than Colorado.<sup>53</sup>

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<sup>50</sup> In general, payment for anesthesia services is calculated as:  $\text{Payment} = (\text{Base Units} + \text{Time Units}) * \text{Conversion Factor}$ , while most other payments are calculated as:  $\text{Payment} = (\text{Rate}) * (\text{Unit})$ .

<sup>51</sup> Stakeholders provided additional information in their proposal, "Addressing the Colorado Medicaid Reimbursement Disparity for Anesthesia Services".

<sup>52</sup> Medicare maintains a separate anesthesia fee schedule with a publicly-available annual update. Section 1848(b)(2)(B) of the Social Security Act specifies that fee schedule amounts for anesthesia services should be based on a uniform relative value guide, with appropriate adjustment of an anesthesia conversion factor, in a manner to ensure that fee schedule amounts for anesthesia services are consistent with those for other services of comparable value. For more information, see [Section 1848\(b\)\(2\)\(B\) of the Social Security Act](#).

<sup>53</sup> Conversion factors were obtained via publicly-available fee schedules.



## VII. Appendices

### **Appendix A – Payment Comparison Methodology**

Appendix A includes details of the benchmark creation and payment comparison methodology.

[Physician Services, Surgery, and Anesthesia – Appendix A – Rate Comparison Methodology](#)

### **Appendix B – Rates Data Book**

Appendix B includes a detailed list of services, Colorado Medicaid rates, benchmark rates, and payment percentages based on place of services. It also, contains two scatterplots per each surgery service comparing Colorado rates to Medicare physician facility rates, and comparing Colorado rates to Medicare physician non-facility rates respectively.

[Physician Services, Surgery, and Anesthesia – Appendix B – Rates Data Book](#)

### **Appendix C – Access Analysis Methodology**

Appendix C outlines the methodology used to analyze access and create the access to care index.

[Physician Services, Surgery, and Anesthesia – Appendix C – Access Methodology](#)

### **Appendix D – Access Data Book**

Appendix D shows supporting graphics related to the access analysis for the 2017 Medicaid Provider Rate Review Analysis Report (2017 Analysis Report). It includes provider location maps, provider trends, and each metric by region, trended, and by population for each service.

[Physician Services, Surgery, and Anesthesia – Appendix D – Access Data Book](#)

