



COLORADO
Department of Health Care
Policy & Financing

Department of Health Care Policy and Financing
1570 Grant Street
Denver, CO 80203

May 2, 2016

The Honorable Millie Hamner, Chair
Joint Budget Committee
200 East 14th Avenue, Third Floor
Denver, CO 80203

Dear Representative Hamner:

Enclosed please find the Department of Health Care Policy and Financing's statutory report to the Joint Budget Committee on the Medicaid Provider Rate Review Analysis Report.

Section 25.5-4-401.5 (2)(a), C.R.S., requires the Department to "conduct an analysis of the access, service, quality, and utilization of each service subject to a provider rate review ... compare the rates paid with available benchmarks ... and use qualitative tools to assess whether payments are sufficient ... on or before May 1, 2016."

The Department's report contains analyses, rate comparisons, and sufficiency assessments for six sets of services: laboratory and pathology services; private duty nursing services; home health services; non-emergent medical transportation services; emergency medical transportation services; and physician administered drugs.

If you require further information or have additional questions, please contact the Department's Legislative Liaison, Zach Lynkiewicz, at Zach.Lynkiewicz@state.co.us or 720-854-9882.

Sincerely,

Susan E. Birch, MBA, BSN, RN
Executive Director

SEB/lc

Enclosure(s): 2016 Medicaid Provider Rate Review Analysis Report



Cc: Senator Kent Lambert, Vice-chair, Joint Budget Committee
Representative Bob Rankin, Joint Budget Committee
Representative Dave Young, Joint Budget Committee
Senator Kevin Grantham, Joint Budget Committee
Senator Pat Steadman, Joint Budget Committee
John Ziegler, Staff Director, JBC
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Gretchen Hammer, Health Programs Office Director, HCPF
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Chris Underwood, Health Information Office Director, HCPF
Jed Ziegenhagen, Community Living Office Director, HCPF
Tom Massey, Policy, Communications, and Administration Office Director, HCPF
Rachel Reiter, External Relations Division Director, HCPF
Zach Lynkiewicz, Legislative Liaison, HCPF





COLORADO
Department of Health Care
Policy & Financing

Department of Health Care Policy and Financing
1570 Grant Street
Denver, CO 80203

May 2, 2016

Dr. Jeff Perkins, Chair
Medicaid Provider Rate Review Advisory Committee
303 East 17th Avenue
Denver, Colorado 80203

Dear Dr. Perkins:

Enclosed please find the Department of Health Care Policy and Financing's statutory report to the Medicaid Provider Rate Review Advisory Committee on the Medicaid Provider Rate Review Analysis Report.

Section 25.5-4-401.5 (2)(a), C.R.S., requires the Department to conduct an analysis of the access, service, quality, and utilization of each service subject to a provider rate review ... compare the rates paid with available benchmarks ... and use qualitative tools to assess whether payments are sufficient ... on or before May 1, 2016."

The Department's report contains appropriate analyses, rate comparisons, and sufficiency assessments for six sets of services: laboratory and pathology services, private duty nursing services, home health services, non-emergent medical transportation services, emergency medical transportation services, and physician administered drugs.

If you require further information or have additional questions, please contact the Department's Rate Review Stakeholder Relations Specialist, Lila Cummings, at Lila.Cummings@state.co.us or (303) 866-5158.

Sincerely,

Susan E. Birch, MBA, BSN, RN
Executive Director

SEB/lc

Enclosure(s): 2016 Medicaid Provider Rate Review Annual Report



Cc: Tom Rose, Vice-chair, Medicaid Provider Rate Review Advisory Committee
Rebecca Craig, Medicaid Provider Rate Review Advisory Committee
Gigi Darricades, Medicaid Provider Rate Review Advisory Committee
Rob DeHerrera, Medicaid Provider Rate Review Advisory Committee
Bruce Densley, Medicaid Provider Rate Review Advisory Committee
Tim Dienst, Medicaid Provider Rate Review Advisory Committee
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2016 Medicaid Provider Rate Review Analysis Report

May 1, 2016

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. The services under review this year are:

Laboratory and pathology services	Non-emergent medical transportation
Private duty nursing services	Emergency medical transportation
Home health services	Physician-administered drugs

This report contains:

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

This report is intended to be used by the General Assembly, the Medicaid Provider Rate Review Advisory Committee (MPRRAC), stakeholders and the Department to work collaboratively to evaluate rate review findings and generate recommendations.

Services in this report are examined independently, with the exception of non-emergent medical transportation and emergency medical transportation, where some rate comparison overlap exists. Each section of this report outlines: the characteristics of providers and clients who utilized the service; analyses of appropriate service utilization, access and quality metrics; rate comparisons conducted; and service-specific conclusions.

The Department concludes that, as of July 2015, in aggregate:

- payments were likely sufficient to allow for provider retention and client access for laboratory and pathology services and most physician-administered drugs;
- payments were likely sufficient for private duty nursing and home health services, though other, non-fiscal factors may have impacted client access and provider retention;
- payments were likely sufficient to allow for provider retention and client access for emergency medical transportation; however, they may not support appropriate reimbursement for high-value services; and
- the Department was unable to draw reliable conclusions on the sufficiency of rates to allow for provider retention and client access for non-emergent medical transportation services.

While it is important to thoughtfully and critically examine the contents of this report, readers must remember that services reviewed are part of a larger set of services. Services reviewed this year encompass 2,314 medical procedure codes; 13,770 codes are yet to be analyzed in the remaining four years of the five-year rate review schedule.

Members of the public are invited to attend MPRRAC meetings, provide input on provider rates and engage in the rate review process. The five-year rate review schedule, MPRRAC meeting schedules, past MPRRAC meeting materials and more can be found on the MPRRAC page on the Department website at <https://www.colorado.gov/pacific/hcpf/medicaid-provider-rate-review-advisory-committee>.



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 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 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;¹
- 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.

In accordance with the statute, the Department established the Medicaid Provider Rate Review Advisory Committee (MPRRAC), which assists the Department in the review of provider rate reimbursements, under the Colorado Medical Assistance Act. The MPRRAC recommends changes to the five-year schedule, provides input on published reports and conducts public meetings to allow stakeholders the opportunity to participate in the process.

This document serves as the first report in the annual rate review process. It contains available utilization, access and quality data and analyses for each service in the year one review. It also contains rate comparison data and analysis, to help assess whether payments were sufficient for provider retention, client access and appropriate reimbursement as of State Fiscal Year 2014-15 (FY 2014-15). It is the role of the MPRRAC to provide feedback to the Department regarding this report, including recommendations regarding changes to the process of reviewing provider rates. The services under review in this report are:

- Laboratory and pathology services
- Private duty nursing services
- Home health services
- Non-emergent medical transportation services

¹ The Department received approval from the Joint Budget Committee to exclude certain rates from the rate review process. Rates were generally excluded when: rates are based on costs; there is an established process delineated in statute or regulation for rate updates; rates are a part of a managed care plan; or payments are unrelated to a specific service rate. For more information see:

<https://www.colorado.gov/pacific/sites/default/files/Medicaid%20Provider%20Rate%20Review%20Schedule%20FINAL%20October%202015.pdf>.



- Emergency medical transportation services
- Physician-administered drugs

Though MPRRAC is statutorily required to meet quarterly, members decided to meet every other month beginning in September 2015. The five MPRRAC meetings held to date have allowed for general discussion of the rate review process and the services to be reviewed in year one, and for engagement of the public. In addition to the MPRRAC meetings, and in preparation for publication of this report, the Department also hosted four Rate Review Information Sharing Sessions with MPRRAC members and interested stakeholders.² In these sessions, stakeholders were invited to: comment on data as it relates to the Department's categorization of services; the methodologies used for collecting, analyzing and presenting utilization and access data; and potential sources for quality data. These sessions helped the Department better understand provider service provision experiences.³

² Home health and private duty nursing services were discussed at the same Rate Review Information Sharing Session on February 5, 2016, and laboratory services were discussed at a separate session on the same day. Similarly, non-emergent medical transportation and emergency medical transportation were discussed at the same Rate Review Information Sharing Session on April 1, 2016, and physician-administered drugs were discussed at a separate session on the same day.

³ Rate Review Information Sharing Sessions were held prior to completion of, and did not include, the rate comparison data research and analysis contained within this report.



III. Medicaid Overview

Colorado Medicaid Client Characteristics

In FY 2014-15, the Department provided Medicaid coverage to 1,161,206 individuals. The Utilizer Characteristics, Provider Characteristics and Utilization and Access sections below contain data for FY 2013-14 through FY 2014-15, unless otherwise specified.⁴ In this section of the report, for the purpose of analyzing the entire Medicaid population, utilization and access data is based on full time equivalent (FTE) client counts.⁵ A breakdown of the FTE client count shows:

- 46.45% of Medicaid enrollees were children;
- 22.70% were adults newly eligible for Medicaid as a result of the Affordable Care Act (hereinafter expansion adults);
- 15.95% were non-expansion adults;
- 7.49% were clients with disabilities;
- 6.73% were elderly clients; and
- 0.68% of clients had other eligibility categorizations (Figure 1).

Utilization, access and provider figures (such as Figure 1 below) depict data across two fiscal years, unless otherwise specified in the figure description.

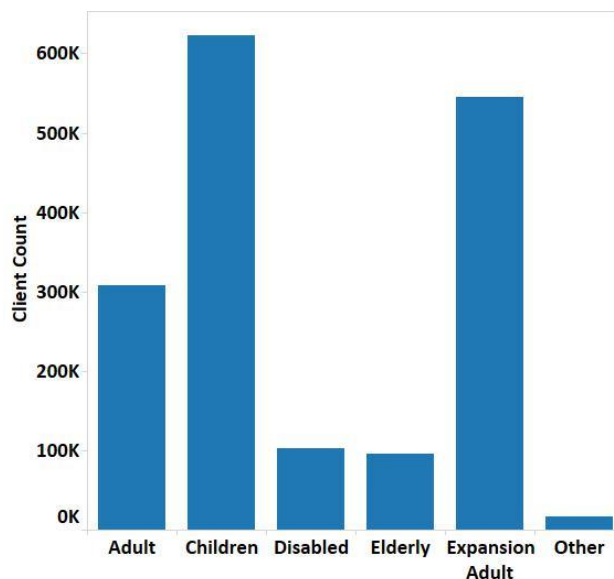


Figure 1 - Total Medicaid population by population type.

⁴ FY 2013-14 runs from July 1, 2013 through June 30, 2014. FY 2014-15 runs from July 1, 2014 through June 30, 2015.

⁵ The FTE calculation was obtained from monthly enrollment files over a 12 month period. For example, if one client was enrolled for nine months and another client was enrolled for three months, together they qualified as one FTE.

The Department utilized a risk grouping methodology called Clinical Risk Groups™ (CRG), developed by 3M, to differentiate between the health needs of populations for the purpose of further data analysis.⁶ The seven CRGs used in the following analysis are:

- Healthy and Non-Users
- Pregnancy/Delivery
- Minor Chronic
- Moderate Chronic
- Dominant Chronic
- Significant Acute
- Malignancies and Catastrophic

In the context of this report, CRGs are used to investigate differences in utilization across regions. For example, where different regional utilization patterns exist, a comparison of CRGs across regions may indicate that the difference is due to the unique population health needs of each region. Where CRGs appear similar across regions, the differences in utilization may indicate an access concern, unique regional characteristics, proximity to specialty care, or other factors. Over the time period analyzed:

- 56.17% of the total Medicaid population was classified as healthy and non-users;
- 32.28% was classified within the three chronic condition categories;
- 7.61% was classified as significant acute;
- 2.47% was classified as pregnancy/delivery; and
- 1.47% was classified within the malignancies and catastrophic CRG (Figure 2).

The population health mix differed for each service in this report, highlighting the differing levels of resources required to care for these clients.

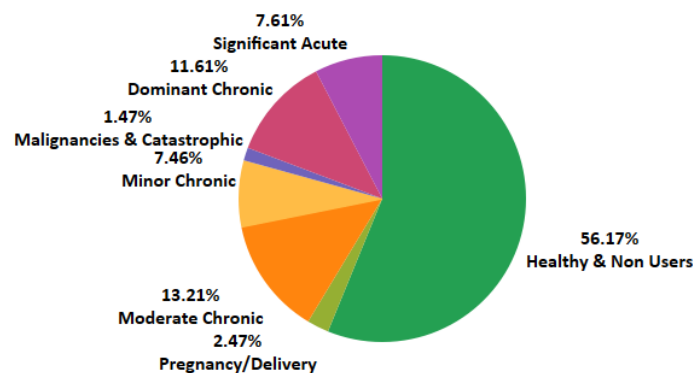


Figure 2 - Total Medicaid population by CRG.

⁶ CRGs are based on administrative claims data from the Medicaid Management Information System (MMIS) for the previous 12 months (i.e., CRGs are not based on data over two fiscal years). For more information on the 3M CRG methodology see: http://solutions.3m.com/wps/portal/3M/en_US/Health-Information-Systems/HIS/Products-and-Services/Products-List-A-Z/Clinical-Risk-Grouping-Software/.

A snapshot of the total Medicaid population in is shown below via an age-gender population pyramid (Figure 3). Age is displayed in 10-year bands along the y-axis and the number of clients by gender is displayed along the x-axis.

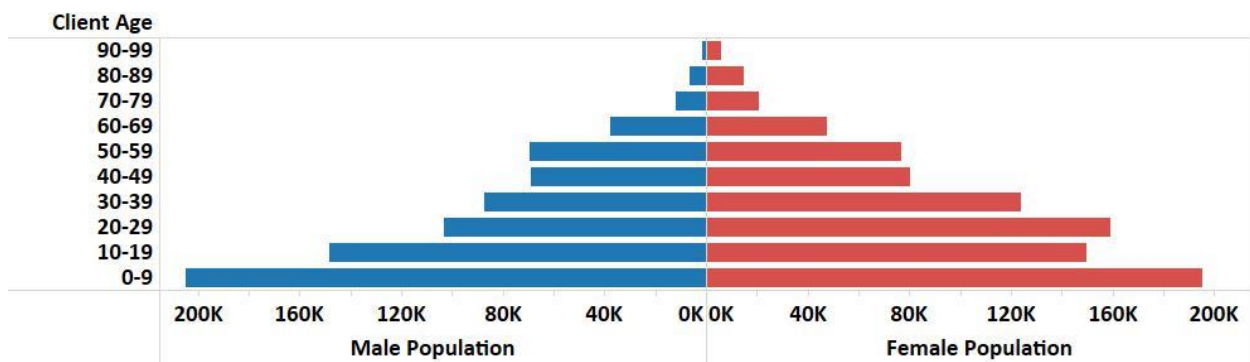


Figure 3 - Total Medicaid population age-gender population pyramid.

The density map below depicts the distribution of the total Medicaid population across the state (Figure 4). Counties with a greater number of Medicaid clients are shown in darker blue, while counties with relatively fewer clients are shown in lighter blue.

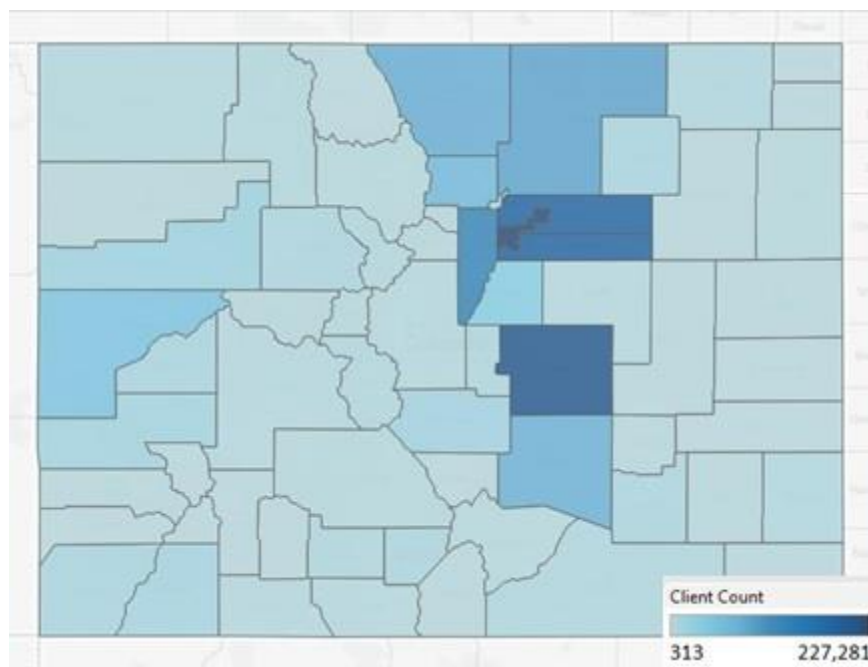


Figure 4 - Total Medicaid population density map.

Colorado Health Access Survey

In addition to conducting its own analyses for each of the six services under review in year one, the Department worked with the Colorado Health Institute (CHI), an organization with expertise in access to care analysis. CHI conducts the Colorado Health Access Survey (CHAS) every two years to gain a

comprehensive view of insurance coverage, access to care and health care utilization in Colorado.⁷ The Department worked with CHI to interpret 2013 and 2015 survey results, gaining additional insight beyond what is available in claims data.⁸

Usual Source of Care

According to the CHAS, which surveyed over 10,000 households in Colorado, the percent of respondents with Medicaid coverage who reported having a usual source of care (including doctors' offices, hospital emergency rooms, community health centers, etc.) declined by two percentage points from 2013 to 2015. However, this difference is not statistically significant and the total number of Medicaid clients that reported having a usual source of care increased. The 2015 response rate indicated that Medicaid respondents were less likely to have had a usual source of care than other insured Coloradans.

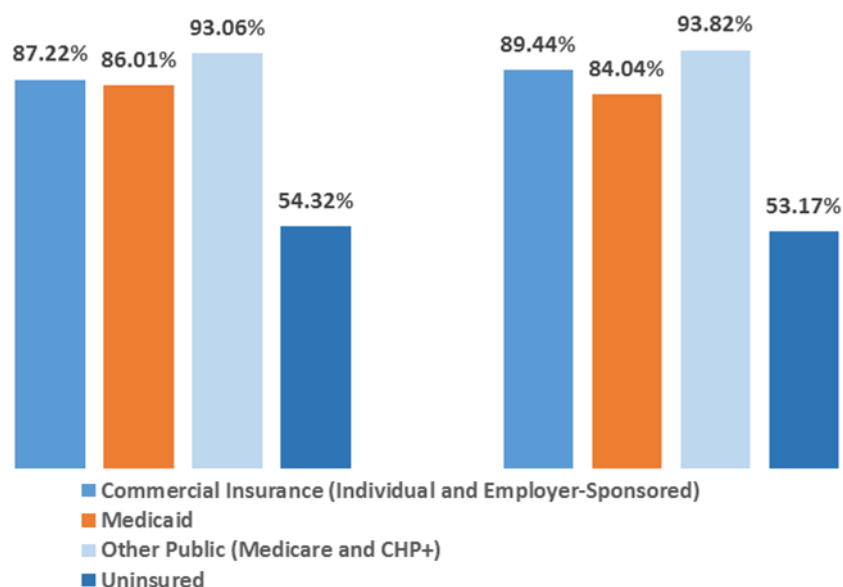


Figure 5 - CHAS: Usual Source of Care responses.

Preventive Care Visit

Results from the CHAS indicate that the percentage of Medicaid respondents who reported having had a preventive care visit grew from 2013 to 2015. However, this difference is not statistically significant and, in absolute terms, the number of Medicaid respondents who reported having had a preventive visit increased. Even though the 2015 response rate indicated that Medicaid respondents were less likely to have had a preventive care visit than other insured Coloradans, more than half received preventive care.

⁷ For more information about the CHAS and to view CHAS results, see: <http://coloradohealthinstitute.org/key-issues/detail/health-coverage-and-the-uninsured/colorado-health-access-survey-1>.

⁸ Figures 5, 6 and 7, were created by CHI and are used in this report with their permission.

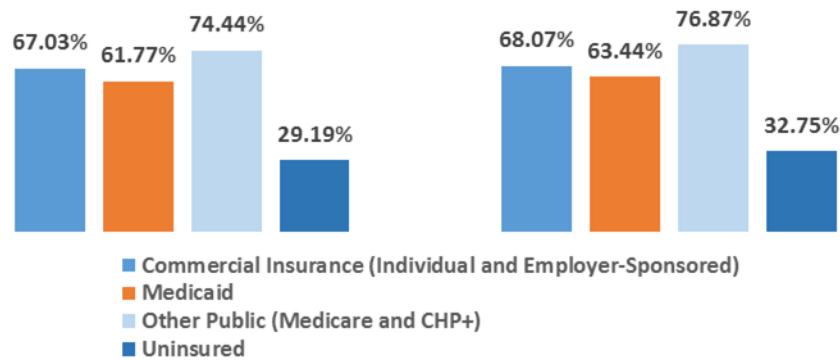


Figure 6 - CHAS: Preventive Care Visit responses.

Specialist Visit

Results from the CHAS indicate that the percentage of Medicaid respondents who reported having visited a specialist grew by seven percentage points from 2013 to 2015; this difference is statistically significant. In 2015, compared to other insured Coloradans, Medicaid clients were not more or less likely to have reported seeing a specialist.

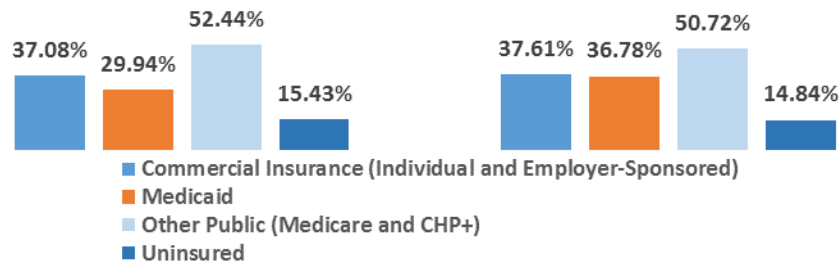


Figure 7 - CHAS: Specialist Visit responses.

Though these results do not directly translate to the services analyzed in this report, information regarding increases in the number of Medicaid clients who have received a preventive care visit or seen a specialist can shed light on client access to laboratory services and physician-administered drugs. The CHAS survey also provides a general view of Medicaid client access to health care and how that access compares to data on the uninsured and other insured Coloradans.

IV. Format of Analyses

Analyses of each of the six services examined in year one are presented within this report individually. Information for each service is presented in the following format:

Service Description

The service description includes a service definition, whether or not the service is a mandatory or an optional benefit, whether or not the service is a State Plan benefit, the types of providers associated with the service and other requirements or processes unique to each service.⁹

Utilizer Characteristics

Utilizer characteristics includes the geographical distribution of clients who utilized the service, the CRG population health mix, age-gender population pyramid and observations regarding how clients who utilized a service differed from the general Medicaid population. Unless otherwise noted, all information and figures reflect FY 2013-14 and FY 2014-15 data from paid Medicaid claims, pulled from the Department's claims payment system, or Medicaid Management Information System (MMIS).¹⁰

Provider Characteristics

Provider characteristics includes a population density and billing provider location map, unique considerations for certain providers in analyzing utilization and access and information about the growth in the number of active providers over time. In this report, active providers are identified via claims data and represent a billing provider that submitted at least one paid claim to the MMIS within FY 2013-14 or FY 2014-15.

Utilization and Access

Utilization and access includes observations regarding changes in utilization between FY 2013-14 and FY 2014-15 and an explanation of metrics used to investigate possible access concerns. For areas where initial analysis pointed to a potential access concern, a more in-depth analysis is provided in the Access Research subsection. Measurements were made at either the county level or by Health Statistics Region (region) (Figure 8).¹¹ Regions were developed by the Health Statistics and Evaluation Branch of the Colorado Department of Public Health and Environment (CDPHE).¹² Appendix 1 contains additional information regarding the calculation and analysis methodology.

⁹ For more information about mandatory and optional State Plan benefits, see:

<https://www.medicaid.gov/medicaid-chip-program-information/by-topics/benefits/medicaid-benefits.html> or <https://www.macpac.gov/subtopic/mandatory-and-optional-benefits/>.

¹⁰ For more information about Medicaid Management Information Systems, see:

<https://www.medicaid.gov/medicaid-chip-program-information/by-topics/data-and-systems/mmis.html>.

¹¹ See Appendix 1 for a Health Statistics Region map key. Figure 8 is used with permission from the Colorado Health Institute.

¹² For more information refer to the Colorado Health Data – Health Disparities Profile, see:

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

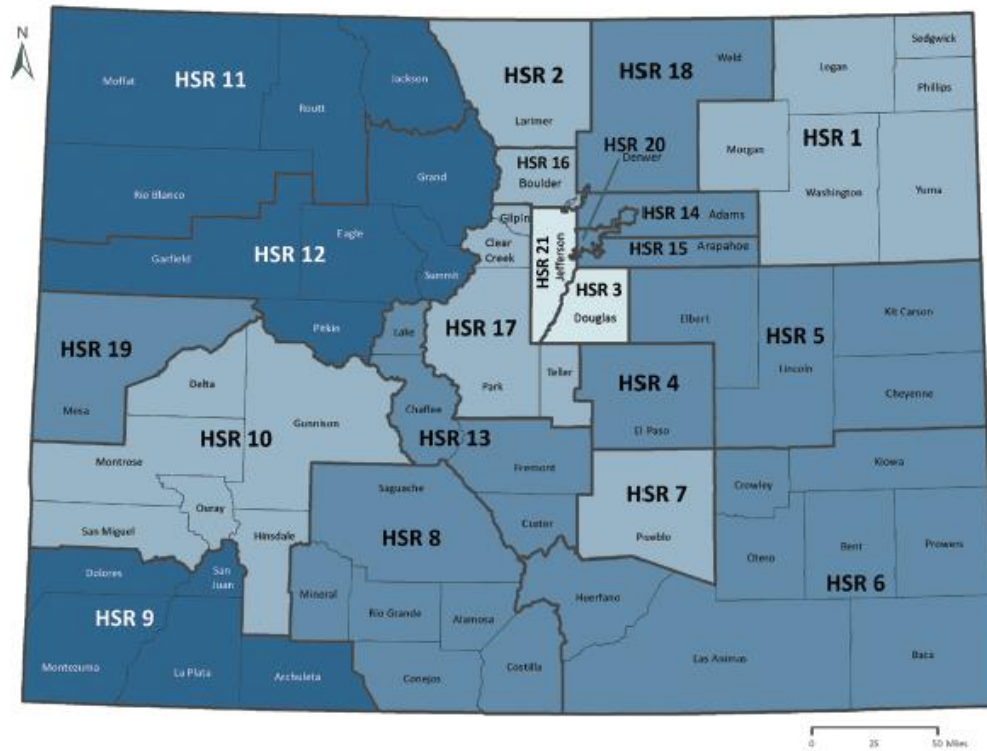


Figure 8 - Colorado Health Statistic regions.

Quality

Quality includes information regarding ways in which process, client satisfaction and health outcome quality indicators are monitored by the Department or other agencies.

Rate Comparison

The rate comparison analysis is separated into three subsections: Claims Data, Comparable Rates and Estimated Expenditure – Benchmark Analysis. The Claims Data subsection describes the date span of the claims data extracted, the data validation process and data exclusions. The Comparable Rates subsection describes the sources of rates used for rate comparison purposes (referred to as benchmark rates). Finally, the Estimated Expenditure – Benchmark Analysis subsection summarizes the estimated fiscal impact had Colorado Medicaid rates been set at the benchmark level(s) in the previous fiscal year, or FY 2014-15. The rate comparison results contained herein are not projected into the current or future fiscal year and are limited to an estimated fiscal impact on historical expenditures.¹³

¹³ CRS 25.5-4-401.5 states that the “Department shall compare the rates paid with available benchmarks, including Medicare rates and usual and customary rates paid by private parties...” Comparisons of Medicaid provider rates to the provider costs of delivering services is beyond the scope of this report.

The All Payer Claims Database (APCD) was used to retrieve usual and customary rates paid by private pay parties in the Department’s response to a legislative request for information in November 2015.¹⁴ While this data generally informed our research, due to time constraints and data sharing agreements, it was not possible to utilize APCD data to compare against usual and customary rates in this report. As a result, throughout this report rates are compared to Medicare rates, to rates from other state Medicaid programs, or a combination of the two.

Conclusion

CRS 25.5-4-401.5 states that the “Department shall conduct an analysis of the access, service, quality, and utilization of each service subject to a provider rate review.... And use qualitative tools to assess whether payments are sufficient to allow for provider retention and client access and to support appropriate reimbursement for high-value services.” The Department applied this statutory requirement to each service subject to review in year one. Where data was sufficient to allow for the evaluation above, it is provided in the conclusion; where not possible, an explanation is given.

¹⁴ Legislative Request for Information #1, Colorado Medicaid Provider Payment Rate Comparison Report, November 1, 2015. To view the report, see: <https://www.colorado.gov/pacific/sites/default/files/Health%20Care%20Policy%20and%20Financing%20FY%202015-16%20RFI%201.pdf>.



V. Laboratory and Pathology Services

Service Description

Laboratory and pathology services (laboratory services) involve the collection and analysis of bodily fluids or specimens for screening and treatment of diseases and disorders. Laboratory services are a mandatory State Plan benefit offered to all Colorado Medicaid clients. Providers that render laboratory services must be certified through the Clinical Laboratory Improvement Amendments (CLIA) program. CLIA-approved laboratories are generally located in independent laboratories, hospitals and physician practices.

Utilizer Characteristics

In FY 2014-15, 517,326 Medicaid clients utilized laboratory services at a total expenditure of \$100,709,696.¹⁵ The average annual paid amount per client utilizing laboratory services was \$195. Laboratory services accounted for approximately 1.73% of total Medical Services Premiums expenditures in FY 2014-15.¹⁶ In order to better gain insight into utilization and access trends, analyses detailed in the Utilizer Characteristics, Provider Characteristics and Utilization and Access subsections of this report contain data for FY 2013-14 through FY 2014-15. All figures depict data across two fiscal years, unless otherwise noted.

Characteristics of the clients who utilized laboratory services are notable in the following ways:

- the largest share of clients who utilized laboratory services was the expansion adult category (Figure 9);
- while the healthy and non-user segment comprised the largest single share of clients who utilized laboratory services, more than half of the clients who utilized laboratory services were in CRG categories that are not healthy, ranging from one chronic condition to severe life-threatening illnesses (Figure 10); and
- the largest age and gender grouping was women between the 20-29 years old (Figure 11).¹⁷

¹⁵ This number may differ from officially reported expenditures because categories of service are defined differently in the annual budget and in the rate review schedule. Budget source for expenditure data is the Colorado Operations Resource Engine (CORE). Any discrepancy between CORE data and MMIS data results from accounting adjustments and other financial transactions not captured in the MMIS.

¹⁶ 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.

¹⁷ For more information about these calculations, see Appendix 2.

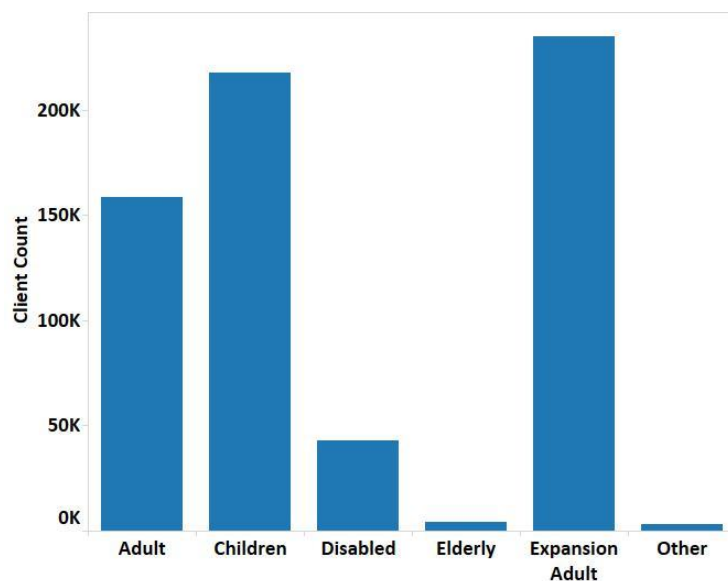


Figure 9 - Clients who utilized laboratory services by population type.

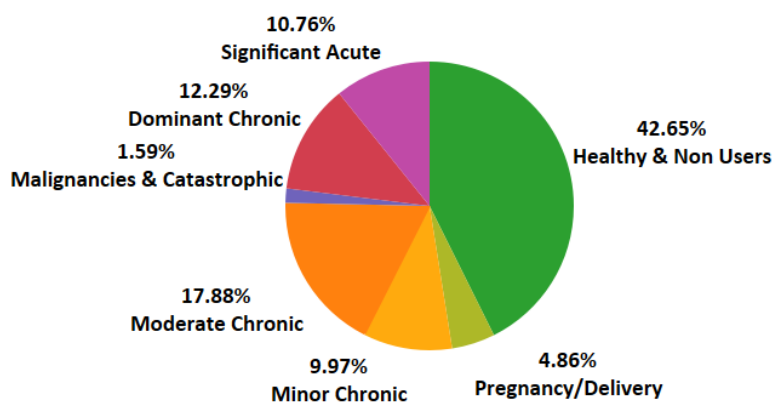


Figure 10 - Clients who utilized laboratory services by CRG.

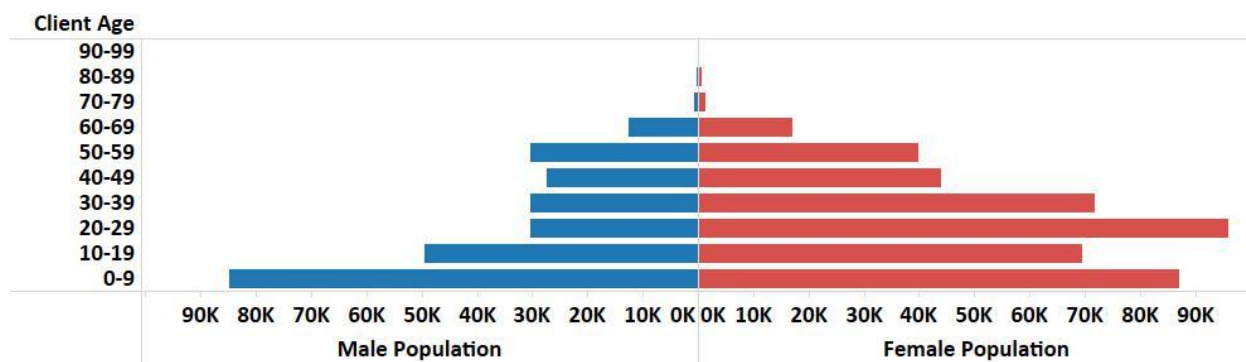


Figure 11 - Clients who utilized laboratory services age-gender population pyramid.

Provider Characteristics

From FY 2013-14 through FY 2014-15, the number of laboratory providers reimbursed by Colorado Medicaid increased by 13.08%, from 1,696 to 1,918 (Figure 12).¹⁸

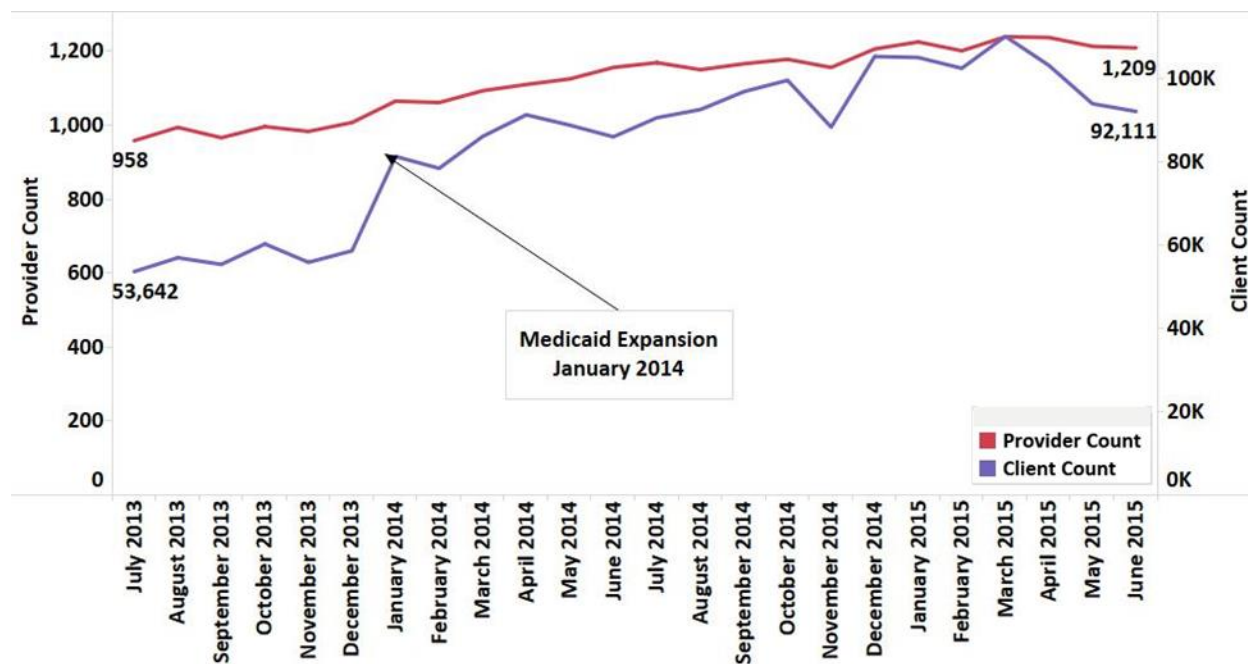


Figure 12 - Growth in clients who utilized laboratory services and provider count.

The triangles on the following map of Colorado illustrate the billing zip code of each laboratory. The number of Medicaid clients that used laboratory services by county of residence is shown in shades of blue (Figure 13).¹⁹

¹⁸ These provider count numbers were aggregated at the month of service level and do not represent the total number of providers seen during the time period: 2,158.

¹⁹ In all counties, at least some Medicaid clients received laboratory services from out-of-state providers, which is represented by a triangle in the right margin.

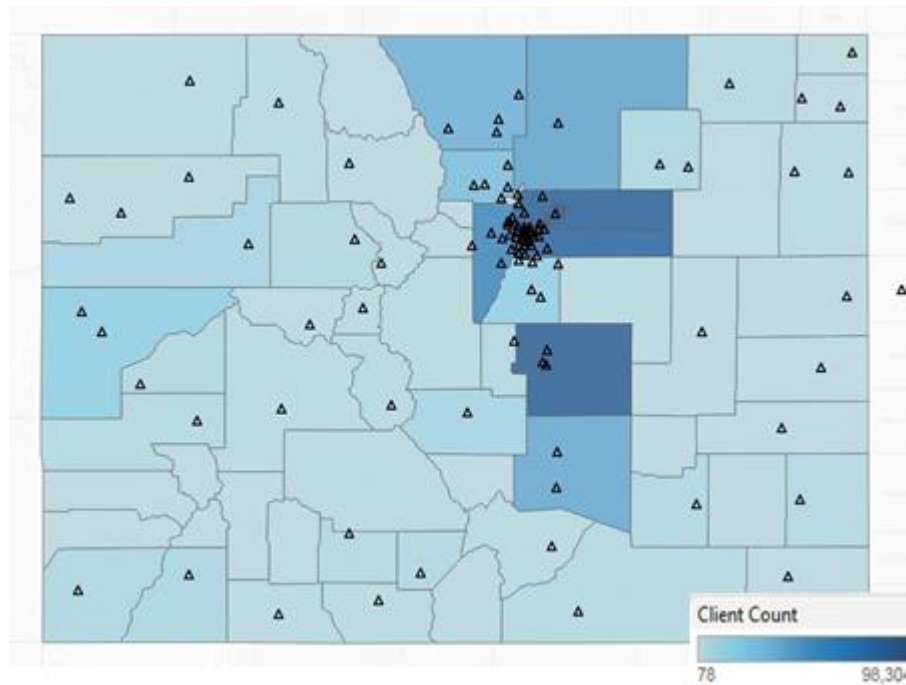


Figure 13 - Laboratory service utilizer density map and provider billing location.

When examining utilization and access data, there are unique considerations specific to laboratory service providers. Characteristics of laboratory service providers differ from other providers in the following ways:

- Laboratory service providers perform tests and bill for that service; they do not order, collect, or interpret the results of the tests.
- In claims data, providers are assigned an identification code based on their billing location. Therefore, while a provider with one billing location may have three locations that draw laboratory specimens, this provider will appear in one location, the billing location, in claims data.
- Providers are not required to report the number of employees or details about facility capabilities to the Department. Claims data do not represent a provider's capacity, or whether an individual laboratory performed at, over, or under capacity.

In FY 2014-15, independent laboratories accounted for 52.82% of the total laboratory services expenditures, hospital laboratories accounted for 38.84% and physician practices accounted for 8.34%

(Figure 14).^{20,21} Of the independent laboratories, large national laboratories accounted for 22.17% of total laboratory services expenditures.²²

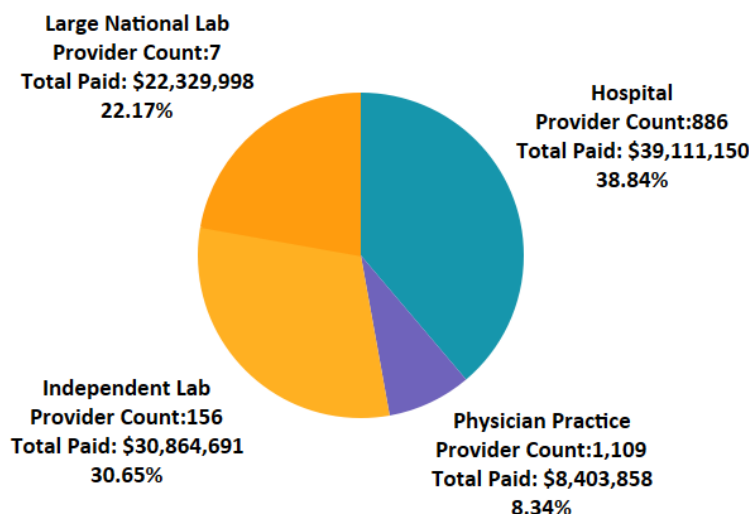


Figure 14 - Laboratory service provider type by expenditure, FY 2014-15.

Utilization and Access

In January 2014, there was a large increase in laboratory service utilization (Figure 12). This increase is attributable, in part, to expansion population utilization, which accounted for 39.39% of the total. Utilization of laboratory services also increased for non-expansion clients throughout the observation period (Figure 15).²³

²⁰ Laboratory service utilization at Federally Qualified Health Centers (FQHC) and Rural Health Centers (RHC), also known as Community Health Centers, accounts for 13,415 (0.25%) of distinct lab tests in the utilization and access data. Due to data limitations on these claims, however, this is not a complete observation of the lab utilization at FQHCs. Furthermore, FQHCs and RHCs are excluded from rate review analysis, as these rates are set based on federal statute; they are only mentioned here to show increased access and utilization of laboratory services for and by Medicaid clients via safety net providers.

²¹ Physician practice laboratory services are typically physician practices with either a Certificate of Waiver or a Certificate of Provider-Performed Microscopy Procedures. Refer to the Quality section for more information. Common examples of laboratory services that can be performed in this setting include: strep A assay; urine pregnancy tests; and pathologist tissue examinations.

²² During a Rate Review Information Sharing Session, MPRRAC members asked the Department to highlight independent laboratories that could be considered “large, national laboratories”. To do this, the Department researched the largest national laboratories and then identified them using the billing identification codes associated with those laboratories.

²³ HB 09-1293 created the Hospital Provider Fee and enabled an early Medicaid expansion up to 10% of the FPL for adults without dependent children, prior to the ACA expansion in January 2014. Clients considered “expansion” prior to January 2014 encompass this group of clients. For more information see: <http://biacolorado.org/biac/wp-content/uploads/2012/04/AwDC-3-12.pdf>.

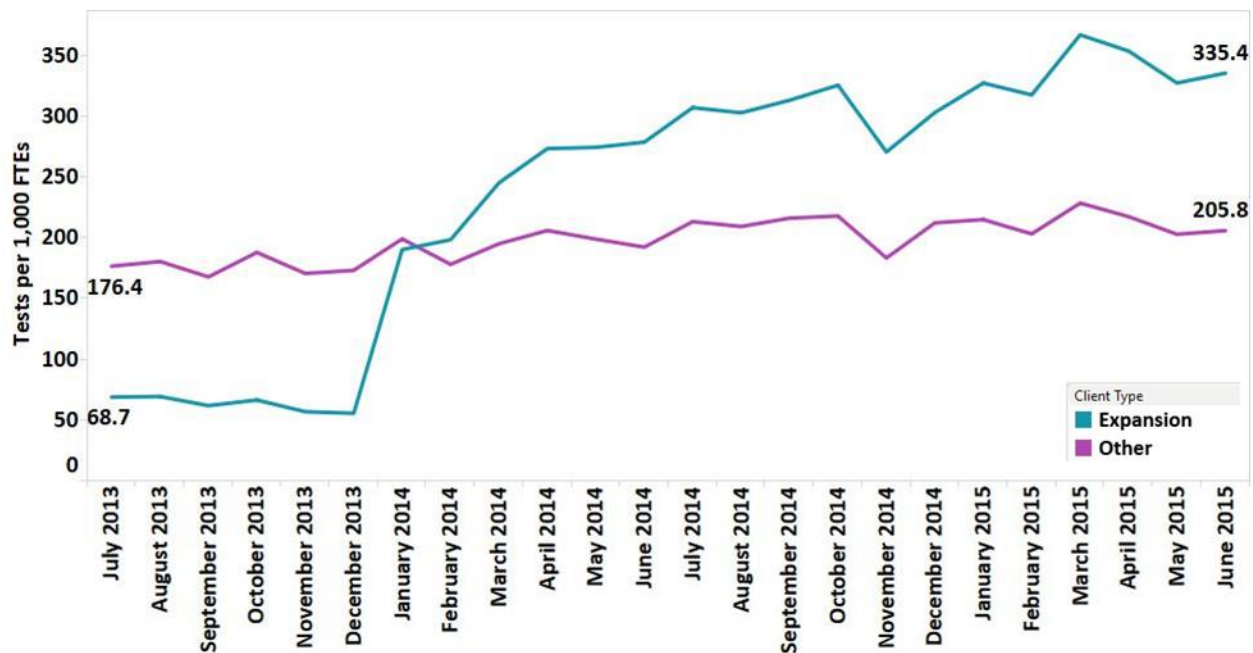


Figure 15 - Laboratory service tests per 1000 FTEs by expansion status.

The member to provider ratio is a nationally recognized measure of provider supply for access to care analyses; it is recommended by organizations such as the Medicaid and CHIP Payment and Access Commission (MACPAC).²⁴ For FY 2014-15, the statewide member to provider ratio for laboratory services was 430:1, meaning that for every laboratory service provider there were 430 Medicaid FTEs.^{25,26} The Department agrees with the assessment of MPRRAC members that member to provider ratio can be an incomplete measure of access to laboratory services. For example, an independent facility with large capacity could provide laboratory services for thousands of clients and show a poor member to provider ratio (e.g., 1000:1). Additionally, laboratory specimens are often shipped to laboratory service providers, which may be located out-of-state, further disrupting the ability to compare member to provider ratios by region. The Department therefore excluded a regional analysis of the member to provider ratio for laboratory services.

The Department is unaware of nationally accepted utilization and access standards across all categories of laboratory services. Therefore, the Department examined statewide, average (mean) utilization as the

²⁴ The MACPAC is a non-partisan legislative branch agency that provides policy and data analysis and makes recommendations to Congress, the Secretary of the U.S. Department of Health and Human Services and states. See: MACPAC, Examining Access to Care in Medicaid and CHIP (March 2011). <https://www.macpac.gov/subtopic/access-to-care/>.

²⁵ For context, the Health Resources and Services Administration (HRSA) defines a primary care Health Professional Shortage Area (HPSA) as having a member to provider ratio of at least 3,500:1. See, <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primarycarehpsacriteria.html>.

²⁶ In this report, provider Medicaid caseload estimates are measured in full time equivalents (FTEs).

standard for comparison. The Department examined the following two indicators to help identify potential access concerns:

- the penetration rate (mean), or the percentage of the population that utilized laboratory services (Figure 16); and
- the number of laboratory services utilized per 1,000 FTEs (Figure 17).

The Department chose to examine laboratory service utilization by region (Figure 8).²⁷ The metrics examined by the Department are not commentary on optimal utilization levels; they were used to determine if variations around the state could be attributable to access to care concerns in particular regions. If utilization in a given region was determined to be more than one standard deviation below the state-wide average, the Department selected this as an area in need of further research.

Figure 16 depicts the statewide average penetration rate, or the percent of the Medicaid population that utilized laboratory services (dark line; 41.92%), a one standard deviation threshold (gray shaded area) and the average utilization of laboratory services by region (blue columns). For this metric, lower utilization may indicate a potential access concern; any region below the standard deviation threshold warranted further research.²⁸ Penetration rates for regions 10 and 19 met this criteria with 31.37% and 33.06% of the Medicaid population utilizing laboratory services, respectively.

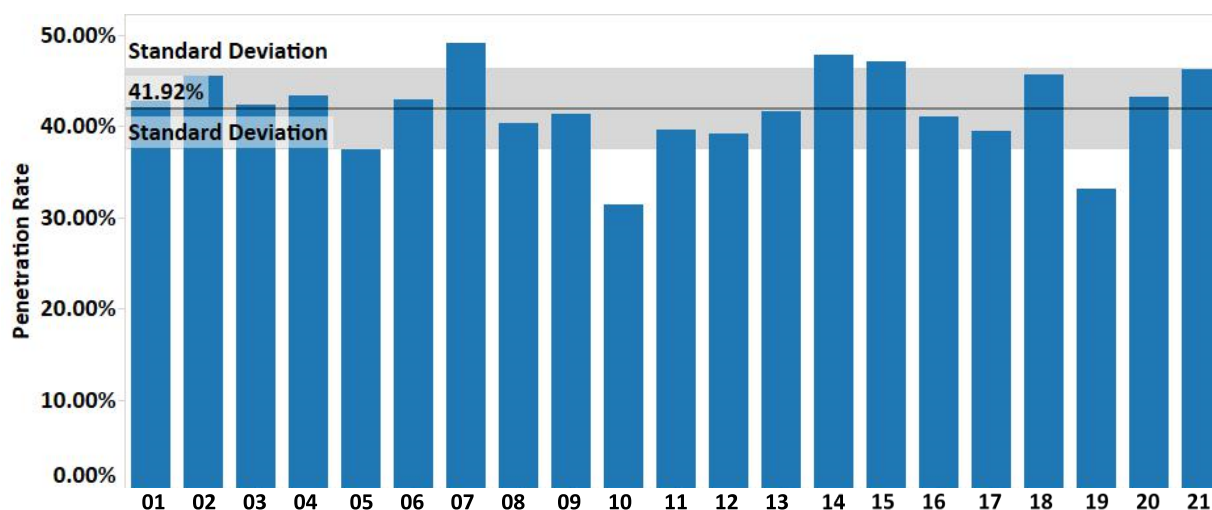


Figure 16 - Laboratory service penetration rate by region.

Figure 17 depicts the statewide average utilization as the number of tests per 1,000 FTEs (dark line; 9,291 tests per 1,000 FTEs), a one standard deviation threshold (gray shaded area) and the number of laboratory services utilized per 1,000 FTEs by region (blue columns). For this metric, lower utilization may indicate a potential access concern; any region below the standard deviation threshold warranted further research. Utilization rates for regions 10 and 19 again met this criteria, rates for region 12 also met this criteria.

²⁷ See Appendix 1 for a Health Statistics Region map key.

²⁸ While regions above the standard deviation threshold may indicate overutilization of services (e.g., regions 7, 14 and 15), additional research is not detailed in this report as high utilization does not indicate an access issue.

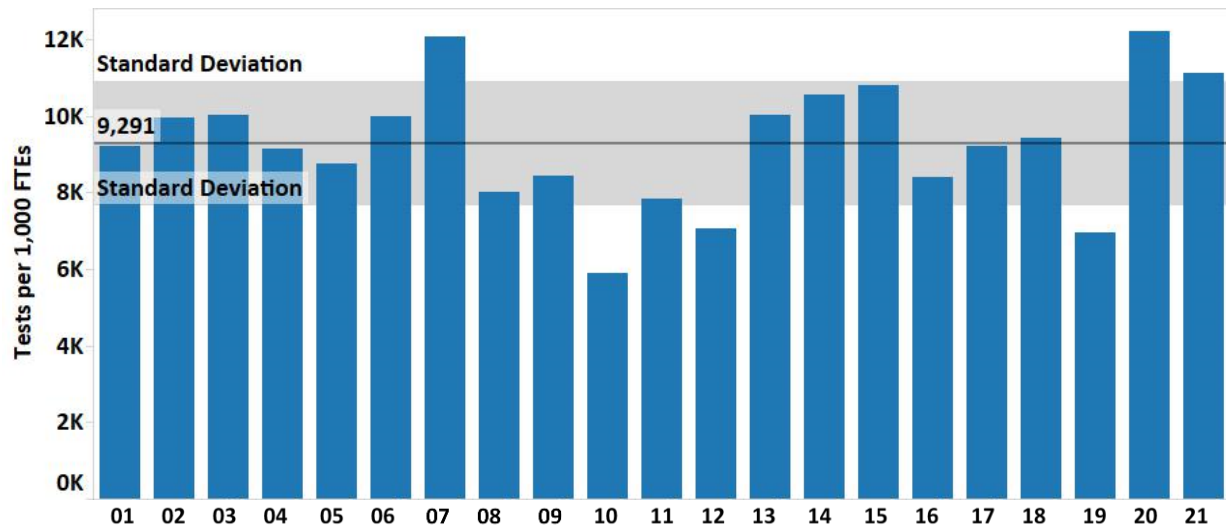


Figure 17 - Laboratory service tests per 1000 FTEs by region.

Access Research

HSRs 10, 12 and 19 each contain at least one county that is also a member of the Accountable Care Collaborative Rocky Mountain Health Plan Prime (ACC RMHP Prime) managed care organization (MCO), which began enrolling clients in Garfield, Gunnison, Mesa, Montrose, Pitkin and Rio Blanco Counties in September 2014.²⁹ Because children are not enrolled in the MCO ACC RMHP Prime, the non-enrolled population in regions covered by ACC RMHP Prime is disproportionately younger and healthier than other regions. Younger and healthier populations tend to utilize laboratory services at lower rates; this fact may have contributed to the lower utilization rates in these regions. However, because not all counties in regions 10, 12 and 19 participate in ACC RMHP Prime, further research was completed to ensure data aggregation at the region level did not mask potential access issues.

Laboratory service utilization in Cheyenne, Hinsdale, Jackson and Ouray Counties fell below the standard deviation threshold for both percent of clients utilizing laboratory services and the number of tests per 1000 FTEs. The top ten laboratory services utilized in these counties did not substantially differ from the top statewide services. The population mix and CRG composition of clients who utilized laboratory services in these counties also did not differ substantially from that of utilizers statewide. Additionally, the billing locations of laboratory service providers were similar to statewide locations. Thus, the potential causes of the relatively lower utilization rates in these counties remains unclear. Service utilization in the

²⁹ MCOs are excluded from the rate review process because they are reimbursed based on an annually-calculated per-member per-month, or capitated, rate. Capitated rates are reviewed regularly by the Department and its contracted actuaries, subject to federal actuarial soundness requirements and updated for each contract renewal period. For more information about services and programs excluded from the rate review process, see: <https://www.colorado.gov/pacific/sites/default/files/Medicaid%20Provider%20Rate%20Review%20Schedule%20FINAL%20October%202015.pdf>.

non-ACC RMHP Prime counties (San Miguel, Grand, Eagle and Summit) within regions 10, 12 and 19 was within or above the standard deviation threshold.

Of note is the relationship between laboratory services and physician services, namely, that laboratory services are likely ordered when a client is receiving physician services (e.g., primary or specialty). Where client access to physicians is problematic within a region, there may also be a corresponding issue with access to laboratory services. Physician services will be examined in years two and three of the rate review process and are outside the scope of this report. Work in future years should provide a more comprehensive review of physician services and the relationship between laboratory services, providers ordering laboratory services and physician services. It is noted for additional review in years two and three.

Quality

CLIA program regulations, established by the Centers for Medicare and Medicaid Services (CMS), set standards for quality control and quality assurance in laboratory testing across the country. CMS has delegated compliance oversight duties to CDPHE. The CDPHE CLIA Program: reviews all applications to determine when a CLIA certificate needs to be issued; determines whether or not laboratory director qualification requirements for the appropriate certificate type are met; conducts biennial and complaint inspections; and serves as a resource for other state agencies. CLIA certification is site specific, not entity specific. Medicaid claims are entity specific; a laboratory service provider may be enrolled in Medicaid as a single entity and may be associated with multiple laboratory sites, each with their own CLIA certification.³⁰

CLIA certificates are valid for two years. There are four CLIA-certification levels:

- Certificate of Waiver – Facilities are authorized to perform any test that has been given the CLIA-waived designation by the Federal Drug Administration. These types of laboratory tests are typically the most basic and demonstrate lower risk to patients if not performed properly. CLIA-waived indicates the laboratory is waived from all of the requirements other certificate levels carry, namely: onsite biennial inspection; personnel qualification requirements; and proficiency testing. Laboratories with a certificate of waiver must maintain certification and adhere to test and device manufacturers' instructions.
- Certificate of Provider-Performed Microscopy Procedures – Facilities are authorized to perform any test that has been given the CLIA-waived designation by the FDA in addition to a limited menu of microscopic examinations, which may be performed by a mid-level provider or higher. This certificate type is intended for smaller physician office practices. Separate qualification requirements exist for the laboratory director and the testing personnel performing the microscopic examinations and personnel must be licensed to practice medicine in the state in which the laboratory is located. In FY 2014-15, laboratories with a Certificate of Waiver or a

³⁰ Certificates of waiver are entity specific (as opposed to site specific) in the cases of a contiguous campus environment (e.g., University of Colorado Hospital) or a non-profit or governmental agency that performs no more than 15 CLIA-waived tests.



Certificate of Provider-Performed Microscopy Procedures accounted for approximately 2,900 out of 3,405 CLIA certified entities.

- Certificate of Compliance – Facilities are authorized to perform both waived and non-waived (moderate or high complexity) testing. Separate qualification requirements exist for the laboratory director and testing personnel, which depend on the level of testing complexity. CDPHE reviews all applications and CDPHE personnel perform direct oversight duties to ensure laboratories are held to appropriate federal CLIA standards. In FY 2014-15, laboratories with a Certificate of Compliance accounted for 277 of the 3,405 CLIA certified entities.
- Certificate of Accreditation – Facilities are authorized to perform both waived and non-waived (moderate or high complexity) testing. Separate requirements exist for laboratory directors and testing personnel. Instead of CDPHE performing the oversight duties, one of seven federally-approved accrediting bodies provides oversight, which equals or exceeds the federal CLIA standards applied to Certificates of Compliance. In FY 2014-15, laboratories with a Certificate of Accreditation accounted for 228 of the 3,405 CLIA certified entities.

The Department's MMIS contractor, Xerox, downloads information from a federal CLIA database, which is maintained by CDPHE, to ensure that laboratory service providers are only reimbursed if they have the certification level associated with the laboratory service for which they are billing.

Rate Comparison

The Department contracted with Optumas, an actuarial consulting firm, to provide analytic support in comparing Medicaid provider rates to those established by Medicare, other states' Medicaid programs and additional sources, where applicable. For information on how raw claims data for FY 2014-15 was compiled and validated, see Appendix 2.

Comparable Rates

Because laboratory services include many services that are also covered by Medicare, it was necessary to reference program information and fee schedules from CMS to make valid rate comparisons. Publicly available files and manuals related to the Medicare Clinical Laboratory (CLAB) Fee Schedule, the Medicare Physician Fee Schedule and the Medicare Average Sales Price (ASP) Drug Pricing File were collected for use in identifying the applicable Medicare rates for services provided in Colorado.^{31, 32} Both CLAB and ASP rates were matched with claims on a procedure code basis, while physician rates were assigned according

³¹ The Clinical Laboratory Fee Schedule rate setting methodology is under review by the Centers for Medicare and Medicaid Services (CMS). The proposed methodology would calculate rates based on the weighted median of private payer rates. A new fee schedule will be posted on January 1, 2017 using this methodology:

<https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ClinicalLabFeeSched/PAMA-Regulations.html>.

³² Schedules used were effective July 1, 2015.



to the combination of the procedure code and applicable corresponding modifier present on each claim.³³
³⁴ Overall, this process was successfully applied to 82.3% of the data.

Additionally, the Department researched and provided Optumas with supplemental rates to derive suitable comparisons for those services not covered by the aforementioned Medicare fee schedules. Information was drawn from various sources including the state Medicaid programs of Texas, West Virginia, Alabama, Kentucky, Washington and Mississippi.³⁵ These rates were linked to Colorado Medicaid claims on a procedure code basis only. In cases in which multiple rates were available for a single code, the simple average of all corresponding rates was used. Codes that were matched using this methodology accounted for an additional 12.9% of the base data.

One particular set of services was handled in a unique manner that requires additional explanation. Procedure code 80101 (drug screen, qualitative; single drug class method, each drug class) alone accounted for approximately \$2.5 million of Colorado's expenditures during FY 2014-15. In order to include these paid dollars and their associated utilization in the overall comparison, it was necessary to re-price at Colorado's July 1, 2015 rates. However, this code was ultimately replaced by the 80300-80304³⁶ series of procedure codes, which are reimbursed at different rates and are not used with equal frequency. Therefore, the utilization for procedure code 80101 was segmented to reflect the distribution that existed among codes 80300-80304 and then re-priced at the corresponding rates. This redistribution process resulted in a 5.5% increase over the paid dollars, or roughly \$2.7 million re-priced.

As a final note, the Department hosted a Rate Review Information Sharing Session in February 2016 with stakeholders and discussed a 2014 report issued by the Office of the Inspector General (OIG) regarding potential Medicare savings that could be realized by updating the rate methodology for laboratory services.³⁷ The OIG report analyzed payment data from 50 state Medicaid programs and three Federal Employees Health Benefits (FEHB) programs, using rates effective calendar year 2011, for a subset of 20 high volume and high expenditure lab tests. The analysis showed that Colorado Medicaid paid higher than at least one private payer for all 20 codes reviewed. However, because the OIG report focused on the laboratory services most frequently utilized by Medicare enrollees, it is not directly comparable to

³³ The Current Procedural Terminology (CPT) coding system includes two-digit modifier codes which are used to report that a service or procedure has been altered. Some modifiers are used for informational purposes while others affect pricing. Proper use of modifiers results in appropriate payment while improper use results in claim delays or denials. Laboratory rates for codes based on the Medicare Physician Fee Schedule included in this analysis are often separated into three portions: the technical component; the medical component; and a global rate which includes both the technical and medical portions. See:
<http://www.wpsmedicare.com/j8macpartb/resources/modifiers/ranking-modifiers-payment-vs-informational.shtml>.

³⁴ Procedure codes P9045 and P9046 were repriced using the ASP Drug Pricing File.

³⁵ The selection process was based solely on the most easily accessible and most recent publicly available information.

³⁶ Codes deleted December 31, 2014 and cross-walked to 80300-80304 codes.

³⁷ Comparing Lab Test Payment Rates: Medicare Could Achieve Substantial Savings, OEI-07-11-00010 (2013):
<http://oig.hhs.gov/oei/reports/oei-07-11-00010.pdf>.



Colorado Medicaid reimbursement for laboratory services. This report led to a proposed rule which will collect private payer rates and volume data from labs across the country for use as a basis to reset Medicare rates effective January 2017.³⁸

Estimated Expenditures – Benchmark Analysis

The final segment of analysis involved using the defined utilization to re-price claims according to Colorado's July 1, 2015 laboratory services rates and those found in Medicare or the Department's supplemental other states' rates crosswalk.^{39,40} For Colorado's rates, the budget action accounting for a 0.5% rate increase effective July 1, 2015 was applied. Next, utilization was multiplied by the corresponding rates from Colorado, Medicare and other states' comparable rates, followed by subtraction of third-party liability and co-payments, to calculate the estimated total expenditures that would theoretically be reimbursed by each source.

Regarding these estimates of total expenditures, two caveats must be mentioned that lend additional perspective to their interpretation:

- Combining utilization with the fee schedule is an imperfect method of computing final reimbursement in Colorado due to the "lower of" payment (LOP) policy. LOP compares calculated payment with provider billed charges and final reimbursement is based on the lower of the two.⁴¹
- Expenditures were only compared for the subset of laboratory services that are common to Colorado and another source. In other words, if a specific service didn't have a comparable rate, then the associated utilization and costs were not counted within the comparison results. For example:

Service	CO Rate	CO Utilization	CO Expenditures	Medicare Rate	Estimated Medicare Expenditures
A	\$2.00	10	\$20	N/A	N/A
B	\$3.00	10	\$30	\$4	\$40

Table 1 - Laboratory services excluded rate example.

Only the row for service B in Table 1 would be used for comparison. However, the discounted portion of utilization and costs was relatively small and does not detract from the overall validity of the analysis.

³⁸ Medicare Clinical Diagnostic Laboratory Tests Payment System Proposed Rule:

<https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-09-25-2.html>

³⁹ The Department sets codes to be manually priced when: a code is new and does not have a calculated price; there is a pending determination regarding whether the code is a covered benefit; or the service needs a human evaluation to analyze the array of services provided and make the payment determination.

⁴⁰ The other states' rates crosswalk (i.e. crosswalk) table maps rates from other states to Colorado's rates by service code, detailed description and units. Rates were added to this crosswalk when a comparable Medicare rate could not be found.

⁴¹ For FY 2014-15, the lower-of amount represented approximately 2.5% of the calculated payment.

A summary of the estimated total expenditures resulting from using the comparable sources is presented below (Table 2). For further details, refer to Appendix 3.

Estimated Costs of Increasing Rates for Laboratory Services to 100% of the Benchmark	
Colorado as a percentage of Medicare/Other Sources'	87.96%
Colorado 07/01/2015 Medicaid Repriced Amount	\$94,408,968
Medicare ⁴² /Other Sources' Repriced Amount	\$107,328,717
Estimated Total Fund Impact	\$12,919,749
Estimated General Fund Impact	\$3,539,779

Table 2 – Laboratory services final rate comparison results.

This table can be interpreted to mean that Colorado pays an estimated 12% less than the combination of Medicare and other sources cited in the Department's crosswalk.⁴³

Had Colorado reimbursed at 100% of this combined benchmark's rates in FY 2014-15, it is estimated that Colorado would have spent an additional \$12,919,749 total funds and \$3,539,779 General Fund. This could be interpreted as the minimum impact for two reasons:⁴⁴

- as mentioned previously regarding the delimiting data step, claims that were denied, zero paid, or lacking valid eligibility status were removed along with their corresponding utilization; and
- a small portion of Colorado's expenditures was excluded because there were some services for which a comparable rate could not be found.

⁴² Procedure code G0431 (drug screen, qualitative; multiple drug classes y high complexity test method (e.g., immunoassay, enzyme assay), per patient encounter) accounts for approximately \$3.1 million of the increase over the CO July 1, 2015 Medicaid repriced amount.

⁴³ There are many services for which the Department pays less than 87.96% of the Medicare rate and many services for which the Department pays more than 87.96%. For rates for which a Medicare rate is available, the range varies between as low as 5% to as high as 1,233%.

⁴⁴ The total funds amount includes federal funds, General Fund and various cash fund sources. Federal funds are calculated based on the state's Federal Medical Assistance Percentage (FMAP) for various eligible populations. The General Fund and various cash funds are the funding sources that reflect the state's responsibility. The General Fund calculation is the Department's estimate.

Conclusion

Results suggest that laboratory service payments at 87.96% of the benchmark were sufficient to allow for provider retention and client access to laboratory services:

- the number of billing providers increased substantially from FY 2013-14 through FY 2014-15; and
- the number of clients receiving laboratory services increased substantially from FY 2013-14 through FY 2014-15.

The increase in clients receiving laboratory services could be attributed to the influx of newly eligible clients to Medicaid as a result of the Affordable Care Act. However, not only did utilization increase for expansion clients, it increased above non-expansion utilization levels. Moreover, utilization for non-expansion clients did not stall or decrease, but rather, increased.

Provider supply appears to have been sufficient to accommodate overall increases in utilization by both expansion and non-expansion clients, which would not be likely had reimbursement been insufficient. Additionally, the amount and variety of laboratory services utilized did not vary significantly across regions, suggesting a similar level of access across the state. When the Department presented utilization and access data at Rate Review Information Sharing Sessions and MPRRAC meetings, stakeholders who spoke stated their belief that laboratory service rates were sufficient.⁴⁵ As outlined in this report, the Department has identified areas meriting further research in upcoming reviews of physician services.

⁴⁵ During the February Rate Review Information Sharing Session, The Department received a proposal for a single laboratory service provider rate to be reviewed and adjusted. This proposal will be provided to the MPRRAC for further review in May, along with other petitions and proposals for provider rate changes.



VI. Private Duty Nursing Services

Service Description

Private duty nursing (PDN) services are services that involve the provision of one-to-one nursing care by a Registered Nurse (RN) or Licensed Practical Nurse (LPN). PDN services are an optional State Plan benefit that Colorado offers to Medicaid clients who are dependent on medical technology, such as a ventilator, and need a higher level of care than is available via home health services.⁴⁶ Providers that render PDN services must be employed by a class A licensed home health agency.

PDN services require prior authorization and are assessed using a PDN acuity tool and a client's plan of care. PDN services are limited to 16 hours or less per day. However, through federal Early and Periodic Screening, Diagnostic and Treatment (EPSDT) regulations, children age 20 and younger are evaluated on a case by case basis to determine the medically necessary amount of PDN care needed per day above the 16 hour limit.

PDN services are utilized by clients with high acuity needs. Stakeholders asked the Department for more information regarding the top diagnoses for clients who utilized PDN services to better understand utilizer characteristics. The top three diagnosis codes associated with clients that utilize PDN services were infantile cerebral palsy, other diseases of the lung and other respiratory conditions or paralytic syndromes.

Utilizer Characteristics

In FY 2014-15, 614 Medicaid clients utilized PDN services at a total expenditure of approximately \$63,835,660.⁴⁷ The average annual paid amount per client utilizing PDN services was \$102,338. PDN services accounted for 1.10% of the total Medical Services Premiums expenditures in FY 2014-15. In order to better gain insight into utilization and access trends, analyses detailed in the Utilizer Characteristics, Provider Characteristics and Utilization and Access subsections of this report contain data for FY 2013-14 through FY 2014-15. All figures depict data across two fiscal years, unless otherwise noted.

Characteristics of the clients who utilized PDN services are notable in the following ways:

- the largest share of clients who utilized PDN services was the clients with a disability category (Figure 18);
- the largest acuity segment was the malignancies and catastrophic CRG, which is the most acute of the seven groupings (Figure 19); and
- the largest age grouping was children between 0-9 years old (Figure 20).

⁴⁶ As of 2012, only 23 state Medicaid agencies offer some form of PDN services. See <http://kff.org/medicaid/state-indicator/private-duty-nursing-services/>.

⁴⁷ This number may differ from officially reported expenditures because the budget source of expenditure is the Colorado Operations Resource Engine (CORE). Any discrepancy between CORE data and MMIS data results from accounting adjustments and other financial transactions not captured in the MMIS.



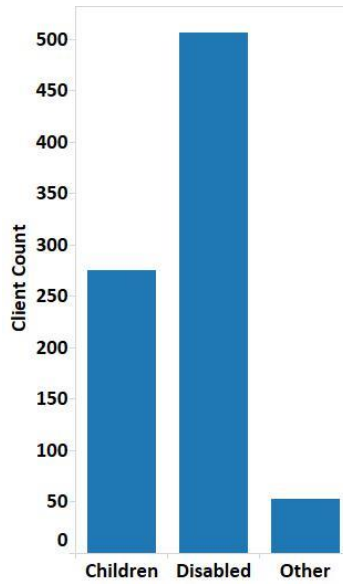


Figure 18 - Clients who utilized PDN services by population type.

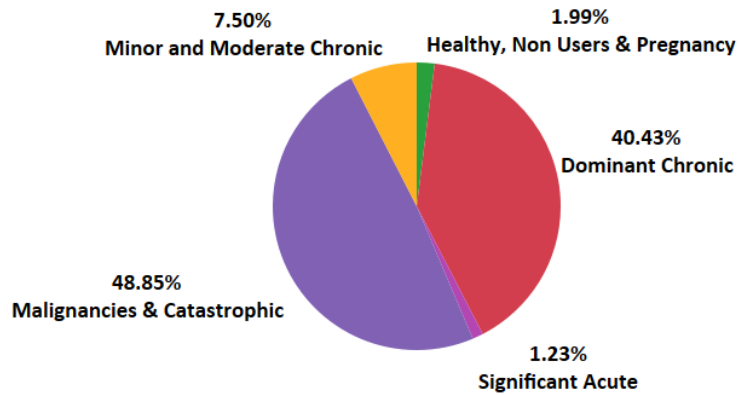


Figure 19 - Clients who utilized PDN services by CRG.

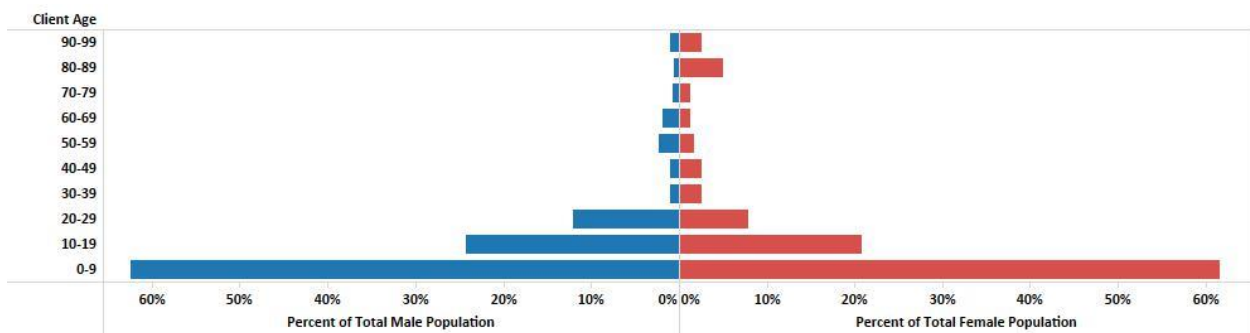


Figure 20 - Clients who utilized PDN services age-gender population pyramid.

Provider Characteristics

Home health agencies can bill for both PDN services and home health services. In this section, providers will be referred to as PDN home health agencies. From FY 2013-14 through FY 2014-15, the number of PDN home health agencies reimbursed by Colorado Medicaid increased from 28 to 29 (Figure 21).⁴⁸

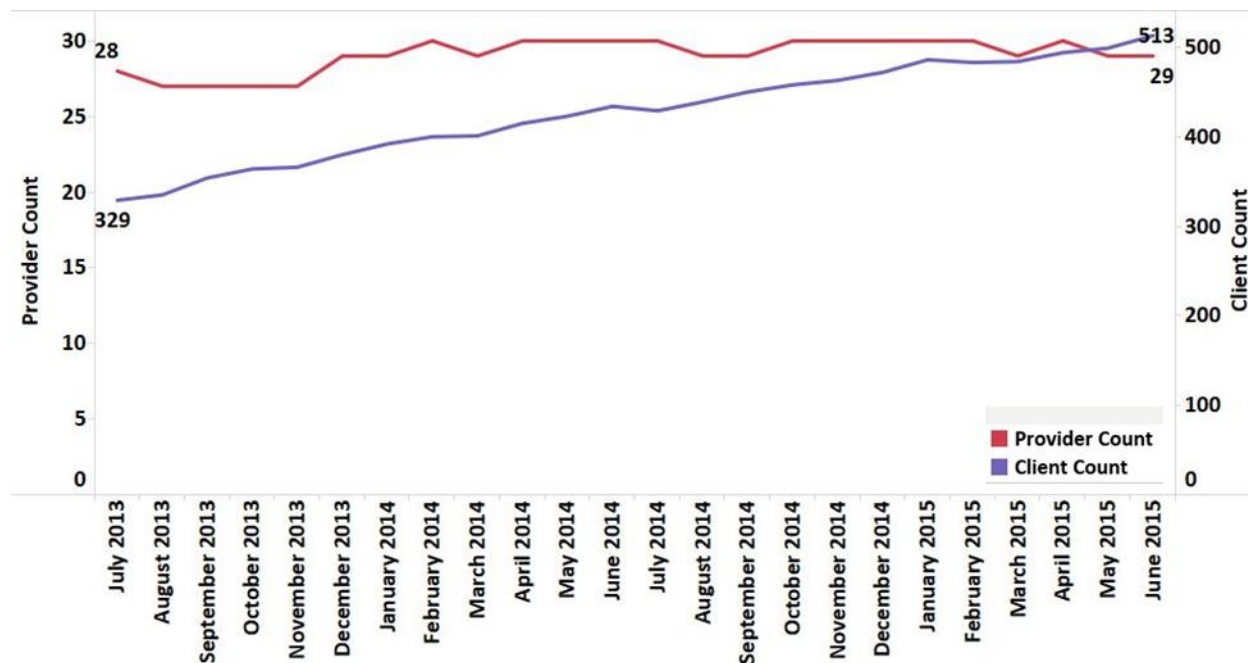


Figure 21 - Growth in clients who utilized PDN services and provider count.

The triangles on the following maps of Colorado illustrate the billing zip code of each PDN home health agency and the number of Medicaid clients that used PDN services by county of residence is shown in shades of blue (Figure 22). The map on the left represents FY 2013-14 and the map on the right represents FY 2014-15. Counties with fewer than 30 clients residing in them are depicted as having 30 clients to limit protected health information (PHI).

⁴⁸ The provider count numbers represented in Figure 21 are aggregated at the month of service level and do not represent the total number of providers who provided services during the time period which was equal to 34.

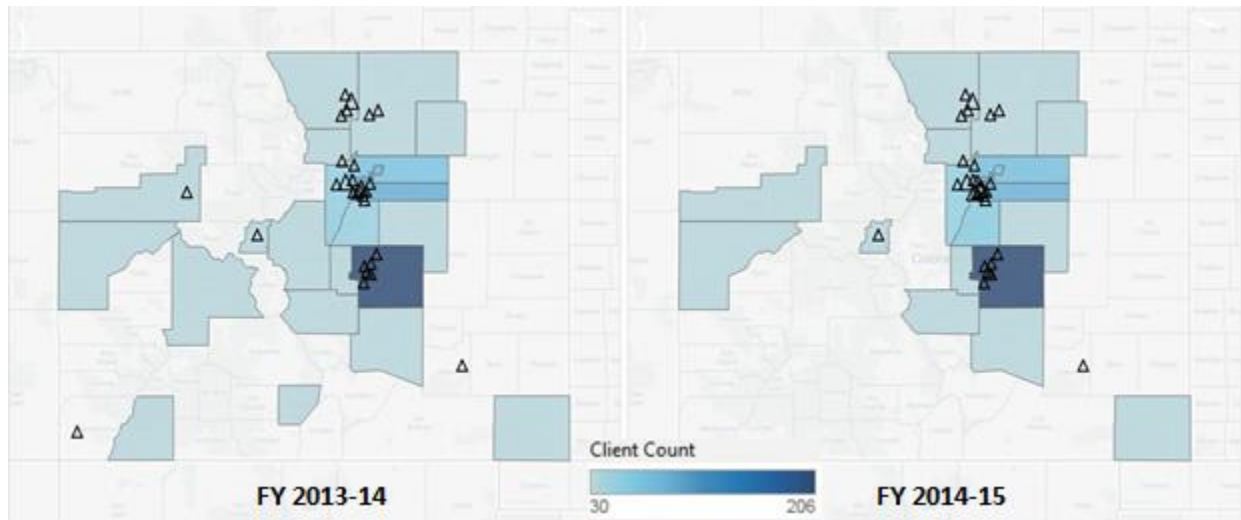


Figure 22 - PDN service utilizer density map and provider billing location.

When examining utilization and access data, there are unique considerations specific to PDN home health agencies. Characteristics of PDN home health agencies differ from other providers in the following ways:

- PDN home health agencies provide highly specialized services to roughly 600 Medicaid clients. This number is small enough that annual changes in the situations of a few clients can lead to divergent analyses year over year. For example, in FY 2013-14, there were 23 counties in which clients received PDN services, whereas in FY 2014-15, there were only 19 such counties, but more clients. Because of these nuances, and their potential impact on analysis, many of the PDN service analyses below are shown twice, first for FY 2013-14 and again for FY 2014-15.
- In claims data, PDN home health agencies are assigned an identification code based on their billing location. Therefore, while a PDN home health agency may employ multiple providers, the PDN home health agency counts as a single provider associated with one billing location.⁴⁹
- PDN home health agencies do not provide services at their billing location, they provide services in the client's home. The billing location is not necessarily indicative of where the service was provided or how far PDN home health agency employees had to travel to provide a service.

Utilization and Access

From FY2013-14 through FY 2014-15, the number of clients receiving these services increased by 22.31%.⁵⁰ Despite the increase in the number of clients receiving these services, the clients lived in fewer counties (Figure 22).

⁴⁹ During Rate Review Information Sharing Sessions, stakeholders suggested proxies the Department might use to estimate the number of providers employed by a home health agency. The Department evaluated these suggestions but could not create adequate proxies.

⁵⁰ Calculated as the increase in the total number of clients seen in each fiscal year, not the monthly number shown in Figure 21.

The Department determined that the member to provider ratio is an incomplete measure of access to PDN services, after evaluation of PDN home health agency characteristics. In an attempt to identify an access metric with claims data, the Department chose, instead, to examine the percent of authorized PDN services that were actually utilized.

Because the Department was unable to identify a nationally accepted standard for percent of authorized PDN services utilized, the Department examined statewide, average (mean) utilization as the standard for comparison purposes. The Department examined:

- the percent of authorized PDN service hours utilized in FY 2013-14 (Figure 23, Figure 25); and
- the percent of authorized PDN service hours utilized in FY 2014-15 (Figure 24, Figure 26).

The metrics examined by the Department are not commentary on optimal utilization levels; they were used to determine if variations around the state could be attributable to access to care concerns in particular regions. If utilization in a given region was more than one standard deviation below the statewide average, it was flagged for research as a potential access concern.

Figures 23 and 24 depict the statewide average percent of authorized PDN service hours utilized (dark line), 55.73% in FY 2013-14 and 67.95% in FY 2014-15, a one standard deviation threshold (gray shaded area) and the average percent of authorized services utilized by clients in each county (blue columns). The percent of authorized services utilized are presented by county instead of by region. Regions represent several counties, some of which did not contain clients who require PDN services; examining the data by county represents the data more accurately. For this metric, lower rates of percent of authorized services utilized warranted further research; Elbert, Fremont, Gunnison and Park Counties met this criteria.

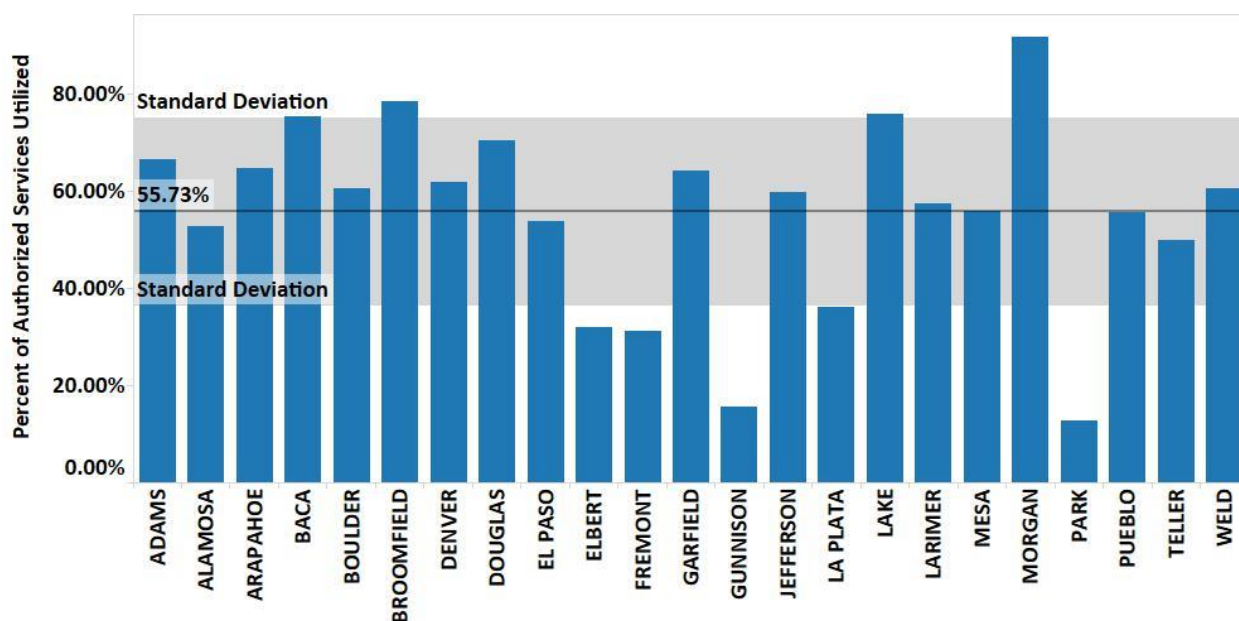


Figure 23 - Percent of authorized PDN services utilized by county, FY 2013-14.

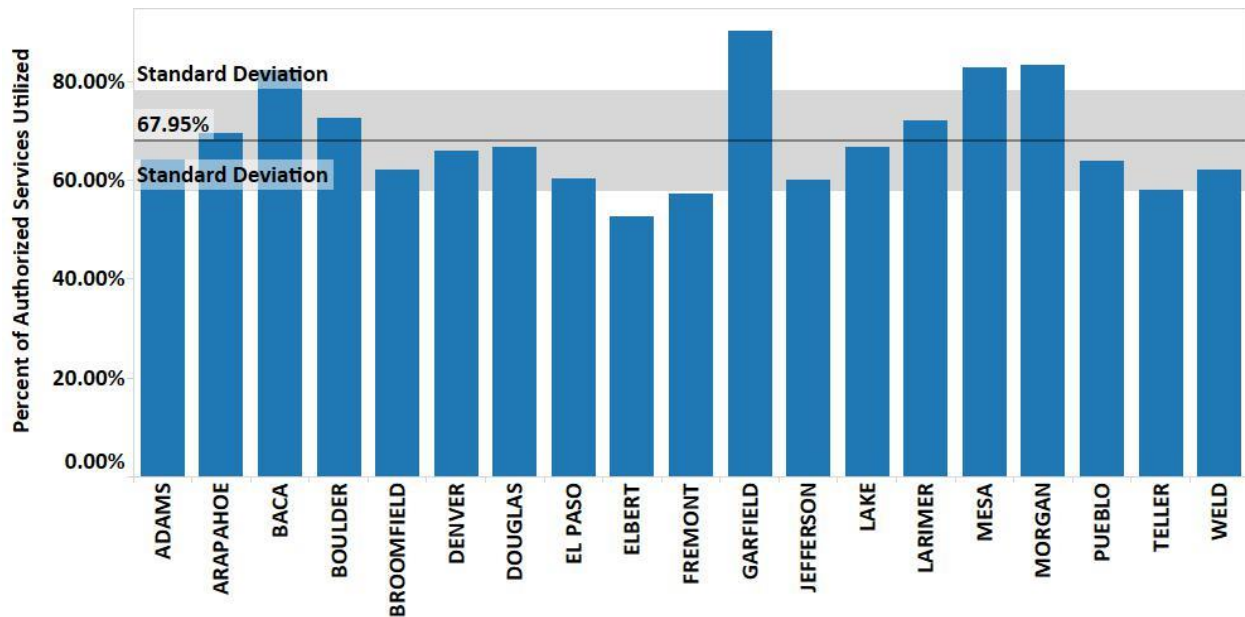


Figure 24 - Percent of authorized PDN services utilized by county, FY 2014-15.

Table 3 allows for further examination of the percent of authorized services utilized by code. Overall, year over year, every service grew in the percent of authorized services utilized.

Service Description	FY 2013-14	FY 2014-15	Percent Increase
Blended Group Rate	59.08%	71.72%	21.32%
LPN Group Visit	63.62%	76.92%	20.91%
LPN Skilled Nurse	57.78%	62.49%	8.13%
RN Group Visit	76.97%	82.36%	7.01%
RN Skilled Nurse	60.49%	62.57%	3.47%
Total	60.17%	64.11%	6.55%

Table 3 - Percent of authorized PDN services utilized by service by year.

Access Research

In FY 2013-14, Gunnison and Park Counties were furthest below the standard deviation threshold, in part because home health agencies in these counties only submitted prior authorization requests (PAR) for RN-level skilled nursing, and in both counties less than 15.48% of authorized RN-level skilled nursing services were utilized (Figure 25). However, PDN services were approved for a short duration and PDN clients did not reside in these counties in FY 2014-15 (Figure 26). Therefore, the data is not indicative of a systemic, statewide concern.

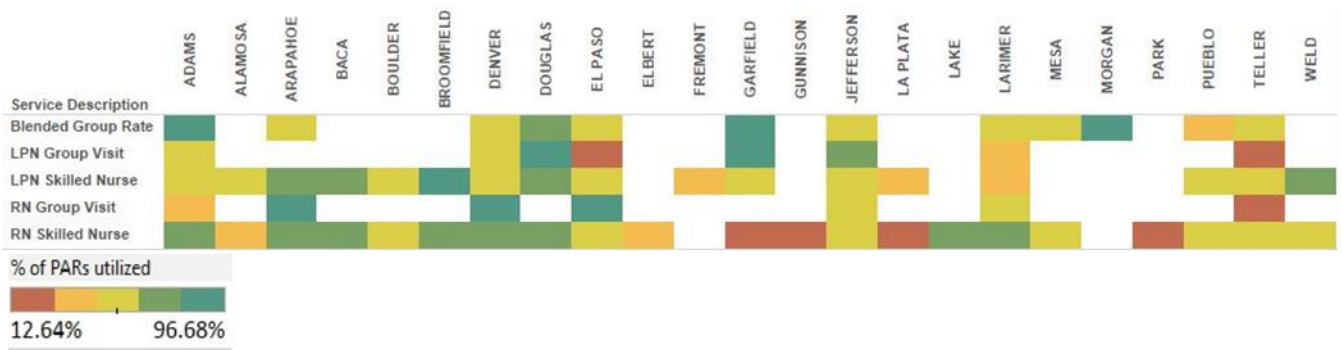


Figure 25 - Percent of authorized PDN services utilized by service by county, FY 2013-14.



Figure 26 - Percent of authorized PDN services utilized by service by county, FY 2014-15.

Figures 25 and 26 also indicate that clients in Elbert and Fremont Counties only utilized two types of PDN services in both years, and the percent of authorized services that were utilized increased in both counties from FY 2013-14 through FY 2014-15.

The Department presented the above data as preliminary data to MPRRAC and stakeholders in February 2016. However, after further examination and feedback, the Department determined that the percent of authorized services utilized metric is not a complete measure of access to PDN services. PARs are a snapshot of a client's current needs and take into account a spectrum of services. PARs are an upper estimate of needed services and home health agencies have the ability to revise PARs if the needs and services of the client change. The percent of authorized services utilized could change for multiple reasons, such as a change in a client's work or school schedule or a change in health status that results in more or fewer services required. Additional data outside of claims data would be needed from providers and clients to perform a complete analysis. Further, the number of clients utilizing PDN services in Elbert, Fremont, Gunnison and Park Counties was too small to derive reliable conclusions regarding service utilization and access.

Quality

CDPHE issues home care licenses, per statute, to home health agencies.⁵¹ At the end of FY 2014-15, 191 home health agencies were class A licensed by CDPHE.⁵²

The Department and CDPHE have an interagency agreement to ensure robust information sharing. Shared information includes:

- a monthly survey summary report, which includes survey types and survey findings;
- a monthly complaint list and complaint summary of home health agencies; and
- an annual report of all home health agencies with deficiencies cited.

The Department works with CDPHE to address deficiencies and complaints on an ad hoc basis. The Department's Office of Community Living recently began development of a database of home health agency surveys, complaints and deficiencies and plans to utilize this database over the next 12 months to better monitor overall trends.

The Department is aware of the OASIS survey, administered by Medicare to home health agencies, but does not have access to this data.

Rate Comparison

The Department contracted with Optumas, an actuarial consulting firm, to provide analytic support in comparing Medicaid provider rates to those established by Medicare, other states' Medicaid programs and additional sources, where applicable.

Comparable Rates

As mentioned above in the Service Description section, PDN is an optional State Plan benefit.⁵³ States that choose to cover PDN services have considerable flexibility in deciding how best to design and manage the benefit.⁵⁴ For example, states may limit the service to clients who are ventilator dependent and can determine a limit on the number of allowable service hours. In order to collect comparable information, it was necessary to reference the state-specific program manuals and fee schedules through various state Medicaid agency websites. Publicly available files were collected from Idaho, Illinois, Louisiana, North

⁵¹ For more information about home health agency licensing and CDPHE's Quality Management Program resources, see: <https://www.colorado.gov/pacific/cdphe/home-care-agencies>.

⁵² The number of licensed home health agencies and the number home health agencies reimbursed by Medicaid differs because a single licensed home health agency may be associated with multiple billing location identifications.

⁵³ As of 2012, only 23 state Medicaid agencies offer some form of PDN services. See <http://kff.org/medicaid/state-indicator/private-duty-nursing-services/>.

⁵⁴ In Colorado, PDN services are available to clients dependent on medical technology, are limited to 16 hours per day for adults 21 and older and require prior authorization.



Carolina, Ohio and Nebraska.⁵⁵ Once compiled, this information was used to determine the most appropriate analog for each Colorado service within the other states' respective benefit packages.

Information on rates as well as relevant details on the program's services are not always comparable to those of Colorado. As a result, the Department manually created a crosswalk of rates and services to allow for more accurate comparison. For example, reimbursement for PDN services in Colorado is based on revenue codes, but this is not always the case in other states which often use procedure codes. Such instances were handled by analyzing the individual service descriptions. Additionally, although two or more states may share one common service description, those states may not define a single unit of service in the same manner (e.g. one state may define one unit as one hour, while another state may define one unit as 15 minutes, etc.). Due to these and other differences, assumptions were required to compare services in Colorado with those of other states.⁵⁶

One particular example of these assumptions requires additional explanation. Ohio Medicaid pays for PDN services using both a basic and an extended rate, with providers receiving reimbursement at the basic rate for the first hour and the extended rate for every 15 minutes thereafter. However, Colorado reimburses services on an hourly basis. The subsequent assumption is that Ohio's basic rate (accounting for the first hour) would be combined with groups of four units of the extended rate as needed (accounting for each additional hour) to form an adequate estimate of how this service would be billed in Ohio. The comparison would appear as follows:

Service Type	Service Description and Unit Definition	July 2015 CO Rate	July 2015 OH Rate	July 2015 OH Extended Rate (per additional 15 minutes)
PDN-RN	Skilled Nurse – Hour	\$45.00	\$45.40	\$8.32

Table 4 - PDN services comparable state rate example.

Similar assumptions were made for other services and for other states as well.

Once a catalog was in place to describe how Colorado's rates correspond to those of other states, the process of delimiting the fee-for-service data to relevant utilization was completed. Claims with denied status or that were otherwise zero paid were excluded because they do not factor into Colorado's total PDN expenditures. In addition, claims attributed to clients without Medicaid eligibility for the month during which the service occurred were excluded as well. Once this process was completed, the total number of records equaled 322,880, which amounted to \$62,516,803 in paid dollars. A summary of these exclusions and their respective impacts on the base data is available in Appendix 4.

Estimated Expenditures – Benchmark Analysis

The final segment of analysis involved using the defined utilization to re-price claims according to Colorado's July 1, 2015 PDN rates and those of the other six states. For Colorado's rates, a global 0.5%

⁵⁵ The selection process was based solely on the most easily accessible and most recent publicly available information.

⁵⁶ The other states' rates crosswalk (i.e. crosswalk) is a table that maps rates from other states to Colorado's by service code, detailed description and units, when a comparable Medicare rate is not found.

increase was applied, except for PDN-RN (revenue code 0552), which received a 10.2% rate increase effective July 1, 2015.⁵⁷ Next, utilization was multiplied by the corresponding rates from Colorado and each other state, followed by subtraction of third-party liability and co-payments to calculate the estimated total expenditures that would theoretically be reimbursed in each location.

Regarding these estimates of total expenditures, two caveats must be mentioned that lend additional perspective to their interpretation:

- Combining utilization with the fee schedule is an imperfect method of computing final reimbursement in Colorado due to the “lower of” payment (LOP) policy. LOP compares calculated payment with provider billed charges and final reimbursement is based on the lower of the two.
- Expenditures were only compared for the subset of PDN services that are common to Colorado and each other state respectively. In other words, if another state does not cover one of Colorado’s services, then the associated utilization and costs were not counted within that state’s comparison results. For example:

Service	CO Rate	CO Utilization	CO Expenditures	Medicare Rate	Estimated Medicare Expenditures
A	\$2	10	\$20	N/A	N/A
B	\$3	10	\$30	\$4	\$40

Table 5 - PDN services excluded rate example.

Only the row for service B would be used for comparison. However, this discounted portion of utilization and costs was relatively small and did not detract from the overall validity of the analysis.

Final results are presented in Table 6, with Colorado’s expenditures described as a percentage relative to the expenditures of the other six states:

	Colorado as a Percent of Other States’ Expenditures					
Service Type/State	NC	NE	OH	LA	IL	ID
Private Duty Nursing	111.77%	112.38%	125.72%	135.48%	141.76%	144.69%

Table 6 - Colorado PDN service rates as a percent of other states’ expenditures.

Table 6 can be interpreted to mean that Colorado pays an estimated 11.77% above North Carolina’s PDN rates and 44.69% above Idaho’s rates.

Had Colorado Medicaid reimbursed at 100% of North Carolina’s rates in FY 2014-15, it is estimated that Colorado would have saved approximately \$6.5 million total funds and \$3.2 million General Fund. Similarly, Colorado would have saved an estimated \$18.9 million total funds and \$9.3 million General Fund

⁵⁷ The Department, as directed by the legislature, applied a 10.2% increase to this code, bringing the hourly rate to \$45.

by reimbursing at 100% of Idaho's rates.⁵⁸ A summary of the estimated costs or savings for each state is available in Appendix 5.

These figures could be interpreted as the minimum impact for two reasons:

- as mentioned previously regarding the delimiting data step, claims that were denied, zero paid, or lacking valid eligibility status were removed along with their corresponding utilization; and
- a small portion of Colorado's expenditures was excluded from each comparison because there were some services for which a comparable rate could not be found in the respective states.

While these results indicate that Colorado Medicaid reimbursement is greater than the benchmark rates, it should be noted that variation in rates across payers may be due to multiple factors, including: differences in geography; provider travel distance; local provider supply and consumer demand; average population acuity; as well as differences in wages and cost of living, amongst others. However, rate comparison results in this report have not been adjusted to account for each of these potential differences. Additionally, direct comparisons of Colorado Medicaid rates to the wages paid by home health agencies or the actual provider costs of delivering services are beyond the scope of this report.

Conclusion

Claims data shows an increase in the number of clients who utilized PDN services, as well as an increase in the percent of authorized services utilized between FY 2013-14 and FY 2014-15. While there is not clear evidence that 2015 utilization levels were optimal, there is evidence that rates were sufficient to allow for provider retention and that rates supported growth in utilization of services.

Stakeholders in the Rate Review Information Sharing Sessions and MPRRAC meetings expressed concerns regarding client access and provider retention, and stated their belief that these access issues were impacted by insufficient rates. Examples included: experienced nurses are unwilling to work in rural areas due to long commutes; nurses prefer to work in hospitals; and difficulty exists staffing nurses during undesirable shifts (e.g., nights and holidays).

However, rate comparison analysis indicated that PDN service payments are between 111.80% and 144.70% of other states' Medicaid rates. The rate comparison factored into the analysis includes a 0.5% across the board rate increase and a targeted rate increase for registered nurses from \$40 per hour to \$45 (effective July 1, 2015). The impact of these rate increases on utilization and access cannot be fully evaluated until complete FY 2015-16 claims data is available. The results of the benchmark analysis and continued growth in PDN service utilization leads the Department to conclude that provider retention and client access concerns expressed by stakeholders may be attributed to other causes, such as state-wide nursing shortages and home health agency operational differences.

⁵⁸ The total funds amount includes federal funds, General Fund and various cash fund sources. Federal funds are calculated based on the state's Federal Medical Assistance Percentage (FMAP) for various eligible populations. The General Fund and various cash funds are the funding sources that reflect the state's responsibility. The General Fund calculation is the Department's estimate.



VII. Home Health Services

Service Description

Home health services consist of skilled nursing, certified nurse aid (CNA) services, physical (PT) and occupational therapy (OT) services and speech/language pathology (SLP) services. Home health services are a mandatory State Plan benefit offered to Colorado Medicaid clients who need intermittent skilled care. Providers that render home health services must be employed by a class A licensed home health agency.

Home health services are divided into two service types: acute and long-term. Acute home health services are provided for treatment of acute conditions and episodes (e.g., post-surgical care) for up to 60 days without prior authorization. Long-term home health services are available to clients who require ongoing home health services beyond the 60-day acute home health period.

Long-term home health services require prior authorization. For clients 20 years and younger, prior authorization requires an assessment, conducted via the Pediatric Assessment Tool (PAT) and the client's plan of care. Clients 20 years and younger may receive PT, OT and SLP in both acute and long-term home health service periods, while clients 21 years and older may only receive PT, OT and SLP home health services for acute home health periods. For clients 21 years and older, prior authorization requirement criteria are outlined in the Department's Benefit Coverage Standard.⁵⁹

Stakeholders asked the Department for more information regarding the top diagnoses for clients who utilized home health services, both long-term and acute, to better understand utilizer characteristics. The top diagnosis codes associated with clients who utilized long-term home health services are infantile cerebral palsy, diabetes mellitus and pervasive developmental disorders. For clients utilizing acute home health services, the top diagnosis codes were diabetes mellitus, infantile cerebral palsy and care requiring rehabilitation services.

Utilizer Characteristics

In FY 2014-15, 30,516 Medicaid clients utilized home health services at a total expenditure of \$248,817,646.⁶⁰ The average annual paid amount per client utilizing home health services was \$8,154. Home health services accounted for 4.28% of the total Medical Services Premiums expenditure in FY 2014-15. In order to better gain insight into utilization and access trends, analyses detailed in the Utilizer Characteristics, Provider Characteristics and Utilization and Access subsections of this report contain data for FY 2013-14 through FY 2014-15. All figures depict data across two fiscal years, unless otherwise noted.

Characteristics of the clients who utilized home health services are notable in the following ways:

⁵⁹ To view Home Health Benefit Coverage Standard, see:

<https://www.colorado.gov/pacific/sites/default/files/HOME%20HEALTH%20SERVICES.pdf>.

⁶⁰ This number may differ from officially reported expenditures because the budget source of expenditure is the Colorado Operations Resource Engine (CORE). Any discrepancy between CORE data and MMIS data results from accounting adjustments and other financial transactions not captured in the MMIS.

- the largest share of clients who utilized home health services was the elderly population category (Figure 27);
- the largest acuity segment of the clients who utilized home health services population was the dominant chronic CRG (Figure 28); and
- a larger proportion of clients who utilized home health services were adults (Figure 29).⁶¹

⁶¹ Clients receiving Medicare benefits were included in this analysis. Medicare home health benefits differ from those provided by Colorado Medicaid's State Plan (e.g., the patient must be home bound to receive Medicare services), so many of these services are covered only by Medicaid. Claims paid for by Medicare are excluded.



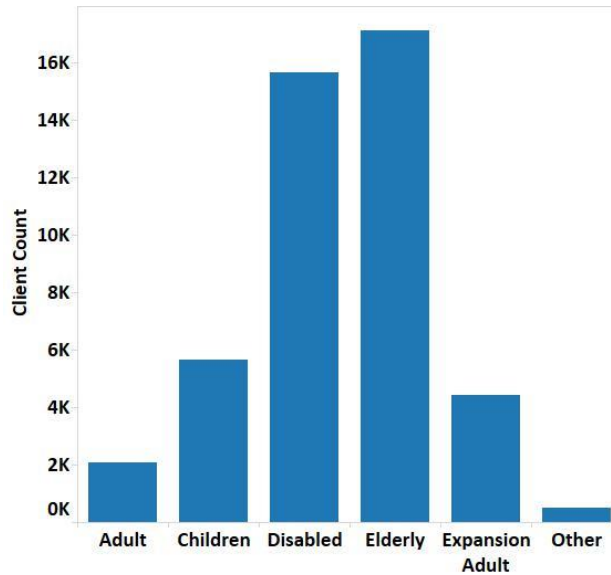


Figure 27 - Clients who utilized home health services by population type.

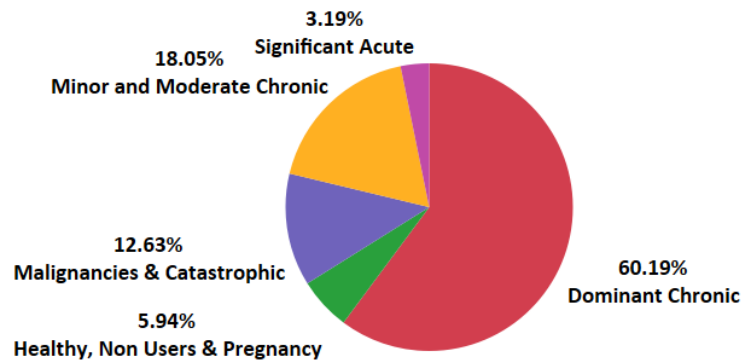


Figure 28 - Clients who utilized home health services by CRG.

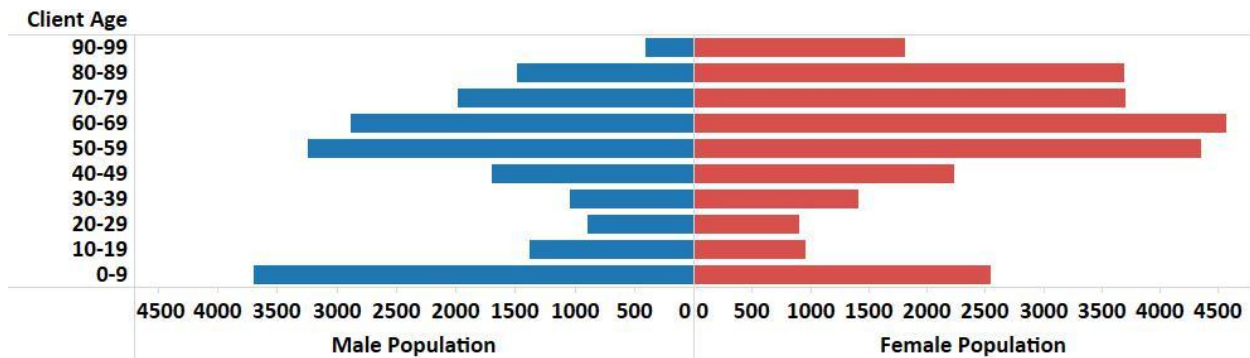


Figure 29 - Clients who utilized home health services age-gender population pyramid.

Provider Characteristics

From FY 2013-14 through FY 2014-15, the number of home health agencies reimbursed by Colorado Medicaid increased from 379 to 390 (Figure 30).⁶²

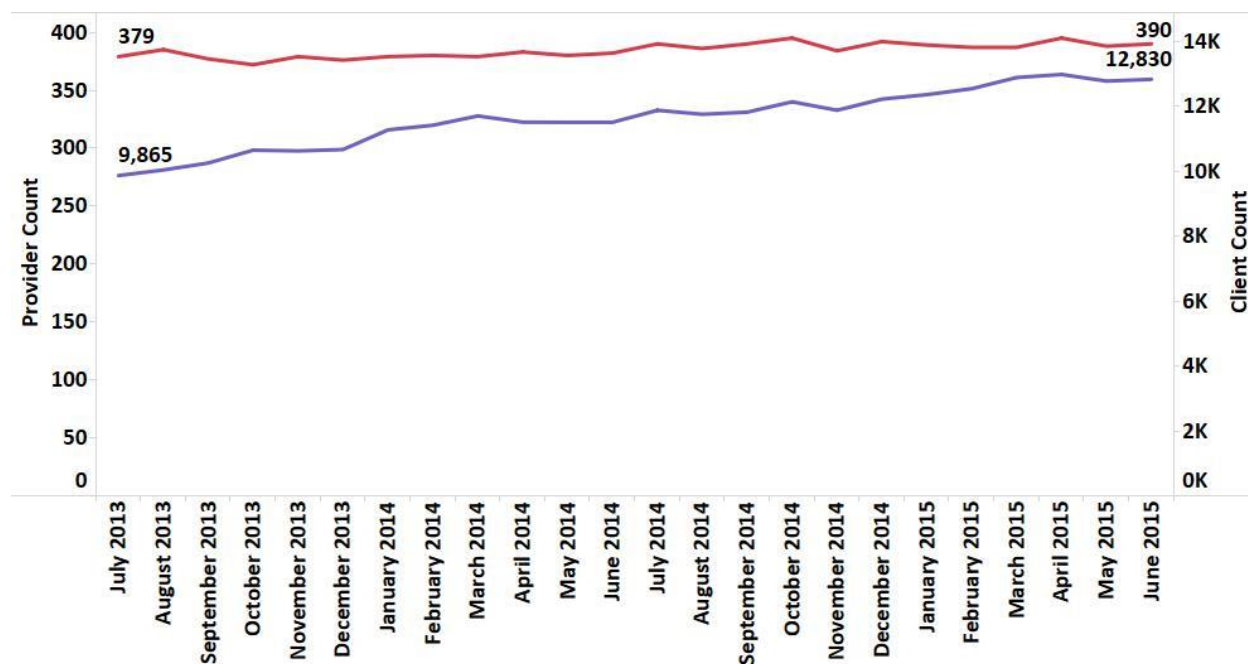


Figure 30 - Growth in clients who utilized home health services and provider count.

The triangles on the following map of Colorado illustrate the billing zip code of each home health agency and the number of Medicaid clients that used home health services by county of residence is shown in shades of blue (Figure 31). Counties with fewer than 30 clients residing in them are depicted as having 30 clients to limit protected health information (PHI).

⁶² The provider count numbers represented in Figure 30 are aggregated at the month of service level and do not represent the total number of providers seen during the time period: 623.

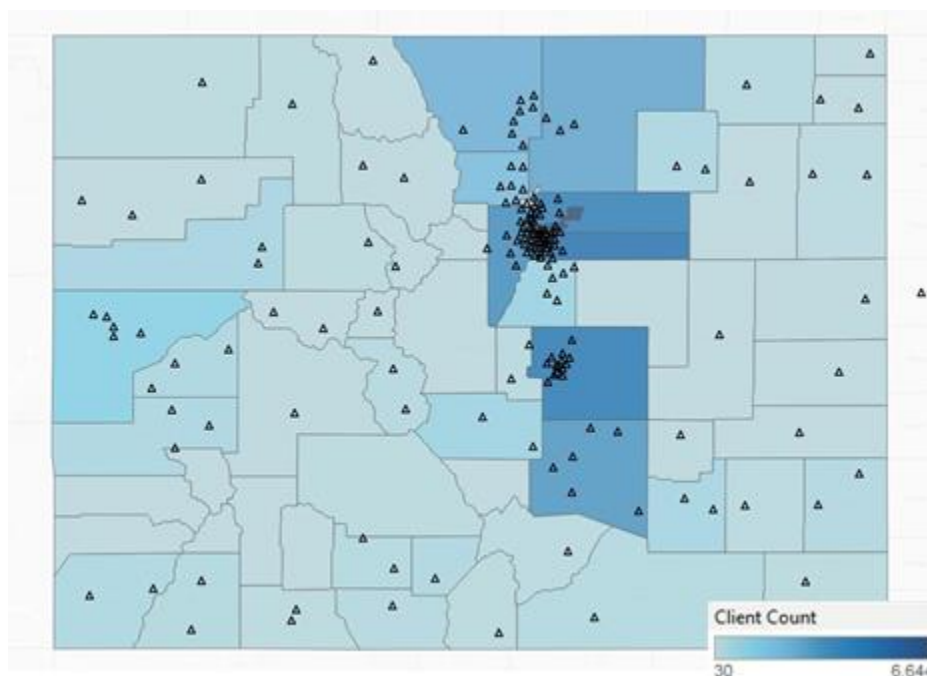


Figure 31 - Home health service utilizer density map and provider billing location.

When examining utilization and access data, there are unique considerations specific to home health agencies. Characteristics of home health agencies differ from other providers in the following ways:

- In claims data, home health agencies are assigned an identification code based on their billing location. Therefore, while a home health agency may employ multiple providers, the home health agency counts as a single provider associated with one billing location.
- Licensure of providers employed by home health agencies varies (e.g., from CNA to RN to physical therapist). Even if the Department were able to obtain an accurate number of providers employed by a home health agency, it would still need a count of the different types of providers to determine an accurate estimate of rendering provider counts.
- Home health agencies do not provide services at their billing location, they provide services in a client's home.⁶³ The billing location is not necessarily indicative of where the service was provided, or how far home health agency employees had to travel to provide the service.

Utilization and Access

Acute home health services and long-term home health services differ in delivery and scope. Utilization and access metrics for each are evaluated separately below.

⁶³ Except when they are provided in settings such as schools.

Long-Term Home Health

Long-term home health services require prior authorization. Long-term home health service PARs are submitted by home health agencies to the Department's designated review entity, eQHealth Solutions. In an attempt to identify an access metric with claims data, the Department chose to examine the percent of authorized services that were actually utilized.

Because the Department was unable to identify a nationally accepted standard for percent of authorized PDN services utilized, the Department examined statewide, average (mean) utilization as the standard for comparison purposes. The Department examined:

- the percent of authorized long-term home health service units utilized in FY 2014-15 (Figures 32, 33 and 34, and Table 7).

The Department examined long-term home health service utilization by region (Figure 8).⁶⁴ The metrics examined by the Department are not commentary on optimal utilization levels; they were used to determine if variations around the state could be attributable to access to care concerns in particular regions. If utilization in a given region was more than one standard deviation below the state-wide average, it was flagged for research as a potential access concern.

Figure 32 depicts the statewide average of the percent of authorized long-term home health service hours utilized (dark line; 71.34%), a one standard deviation threshold (gray shaded area) and the average percent of authorized services utilized by clients in each region (blue columns). For this metric, lower percentages of authorized services utilized in regions 11 and 12 warranted further research.

⁶⁴ See Appendix 1 for a Health Statistics Region map key.



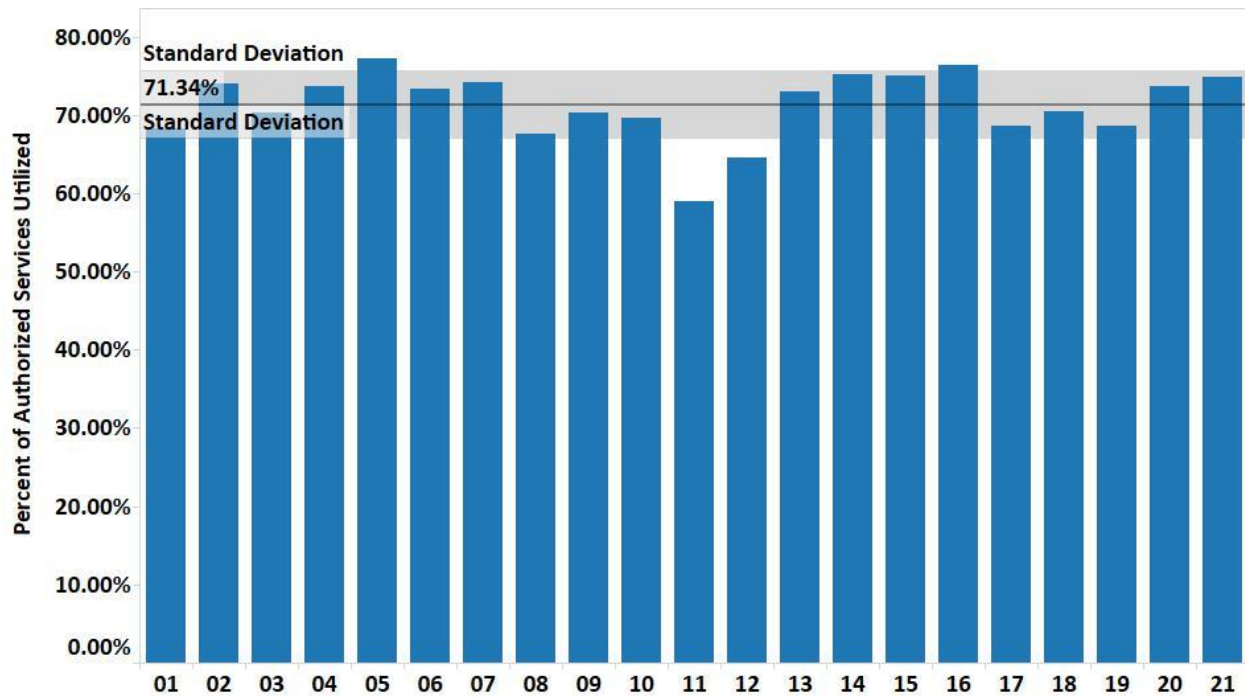


Figure 32 - Percent of authorized long-term home health services utilized by region.

Table 7 allows for further examination of the percent of authorized services utilized by individual code between FY 2013-14 and FY 2014-15.

Service Description	FY 2013-14	FY 2014-15	Percent Increase
Home Health Aide Hour Extended Visit	63.0%	80.6%	27.94%
Home Health Aide Initial Visit	65.9%	80.9%	22.76%
Occupational Therapy/Visit	59.5%	67.6%	13.61%
Physical Therapy/ Visit	56.9%	65.5%	15.11%
RN Brief 1st of Day	69.3%	74.7%	7.79%
RN Brief 2nd or Greater	69.5%	75.1%	8.06%
Skilled Nursing	69.7%	72.8%	4.45%
Speech Therapy Visit	56.1%	64.5%	14.97%
Total	65.13%	79.85%	22.60%

Table 7 - Percent of authorized home health services utilized by service by year.

Access Research

Each service increased in the percent of authorized services utilized from FY 2013-14 through FY 2014-15. The magnitude of these increases may have differed in each region (Figure 32) and a variety of factors could have impacted the increase. Those factors include, but are not limited to: the number of home health agencies; increases in staffing resources; the number of clients; their distinct needs; and changes

in those needs over time. Regions 11 and 12 were below the threshold, with 58.90% and 64.50% of authorized hours utilized, respectively, and warranted further research.

In region 11, represented by the yellow line in Figure 33, from November 2013 to April 2014, three home health agencies provided services to clients in this region and the number of clients utilizing long-term home health services slightly decreased. Claims data is limited and does not provide enough information to draw conclusions about providers. For instance, the agencies could have: increased the staff availability; opened a new affiliated agency (and continued billing under the same ID); been unable to use all of the original hours because of duplicative service delivery (i.e. similar services available to waiver clients); or the number of clients served by the agencies could have decreased, freeing up resources to assist with a lower number of clients, among other possibilities.

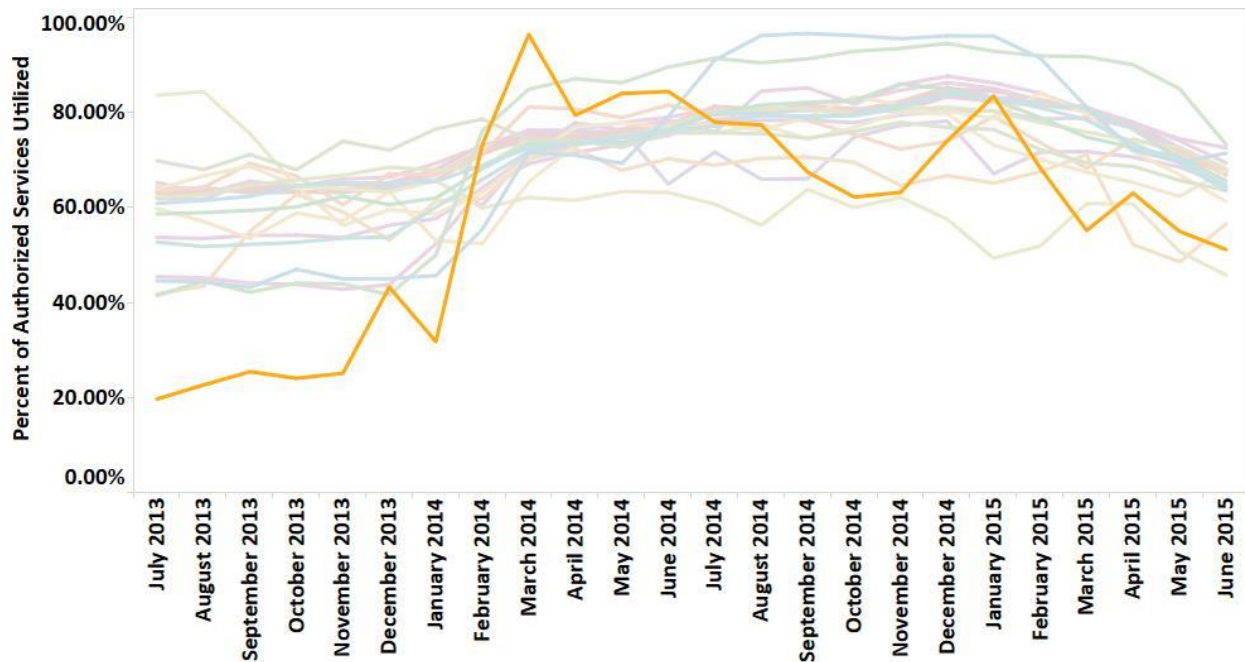


Figure 33 - Percent of authorized long-term home health services utilized in region 11 by month.

In Figure 34, region 11 is below the mean for home health aide visits and extended visits, OT and SLP. This could potentially represent an access concern in this rural area for these specialist services, especially in light of the fact that authorized skilled nursing and PT services were utilized at much higher rates (79.42% and 76.80%, respectively).

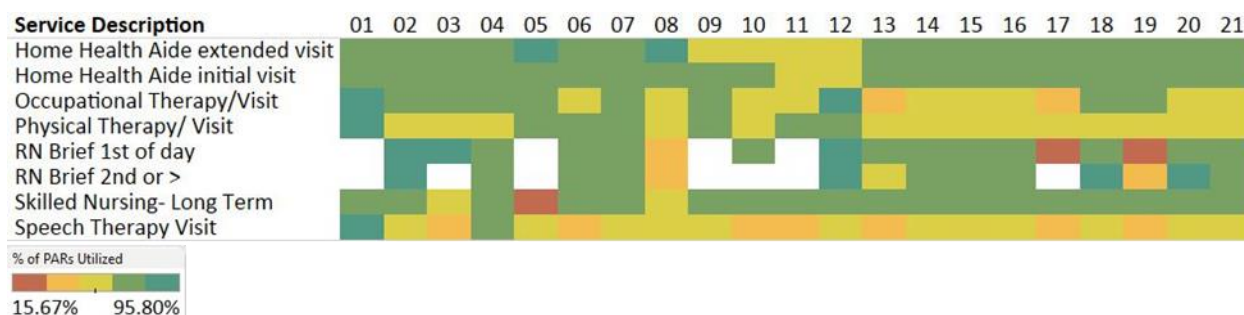


Figure 34 - Percent of authorized long-term home health services utilized by service by region.

HSR 12 also fell below the mean. Service utilization did not increase at the same rate as in HSR 11 (Figure 33), but the percent of authorized services did increase from 41.82% in July 2013 to 56.58% in June 2015, reaching a high of 71.11% in March 2015. The number of clients receiving services in this region remained fairly constant, with a slight increase around the same time of the peak in percent of authorized services utilized, while the number of home health agencies decreased by one.

Figure 34 depicts lower percentages for home health aide visits, extended visits and SLP (all three around 63%) in region 12. As in region 11, this could represent an access concern in this rural area for these specific specialist services. This trend did not appear with regard to other specialist services; RN brief visits and OT.

The Department presented the above data as preliminary data to MPRRAC and stakeholders in February 2016. However, after further examination, the Department determined that the percent of authorized services utilized metric is not a complete measure of access. Specifically, PARs are a snapshot of a client's current needs and take into account a spectrum of services. PARs are an upper estimate of needed services and home health agencies have the ability to revise PARs if the needs and services of the client change. The percent of authorized services utilized could change for multiple reasons, such as a change in a client's work or school schedule or a change in health status that results in more or fewer services being required. Additional data outside of claims data would be needed from directly from client and providers to perform a complete analysis.

Acute Home Health

Acute home health services do not require prior authorization, so the Department could not calculate percent of authorized services utilized (as it did for PDN services) for the purpose of establishing an access metric.

Other than the member to provider ratio, the Department is unaware of nationally accepted utilization and access standards for acute home health services. Therefore, in addition to the member to provider ratio, the Department examined statewide, average (mean) utilization as the standard for comparison. The Department examined the following indicators to highlight potential access concerns:

- member to provider ratio for acute home health services (Figure 35); and
- average number of acute home health service days utilized per client (Figure 36).

The Department examined acute home health service utilization by region (Figure 8).⁶⁵ The metrics examined by the Department are not commentary on optimal utilization levels; they were used to determine if variations around the state could be attributable to access to care concerns in particular regions. If utilization in a given region was more than one standard deviation below the state-wide average, it was flagged for research as a potential access concern.

Figure 35 depicts the statewide average member to provider ratio for acute home health services (dark line; 412.5:1), which can be interpreted as one home health agency for every 413 Medicaid FTEs, a one standard deviation threshold (gray shaded area) and the member to provider ratio in each region (blue columns). For this metric, higher member to provider ratios may represent an access concern; any region above the standard deviation threshold warranted further research. Regions 4, 15 and 16 met this criteria.

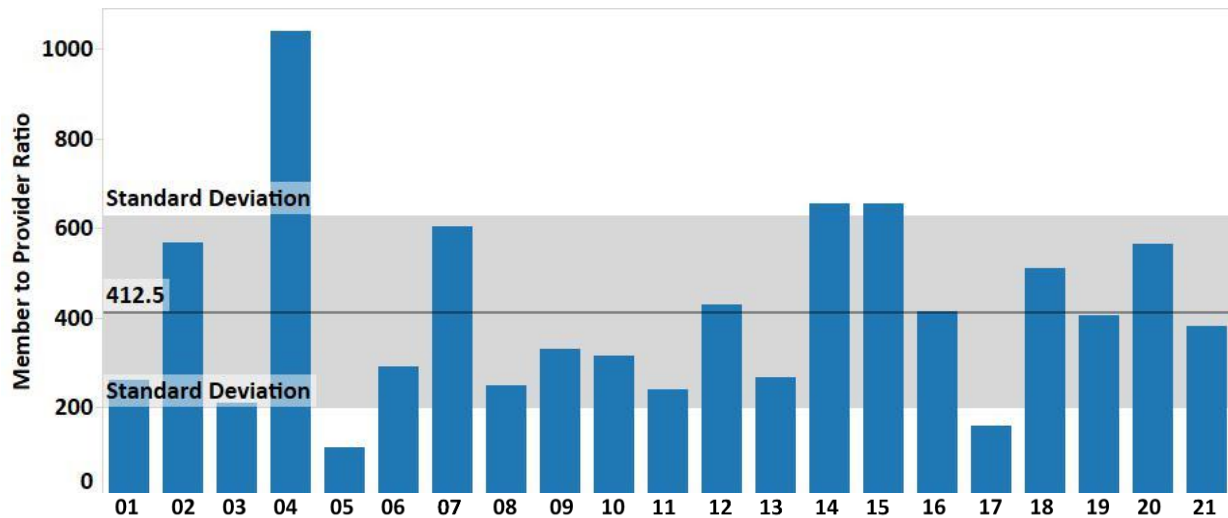


Figure 35 - Acute home health service member to provider ratio by region.

Figure 36 depicts the average number of acute home health service utilization days per person (dark line; 17.28 days), a one standard deviation threshold (gray shaded area) and the average number of days acute home health services were utilized per person by region (blue columns). While 60 days is the upper limit for acute home health services, the Department does not assume that number is necessary or appropriate for every client. The metric points to where utilization was significantly different from the state as a whole to help identify where access concerns may exist. Regions 5, 8 and 19 were below the standard deviation threshold and warranted further research.

⁶⁵ See Appendix 1 for a Health Statistics Region map key.

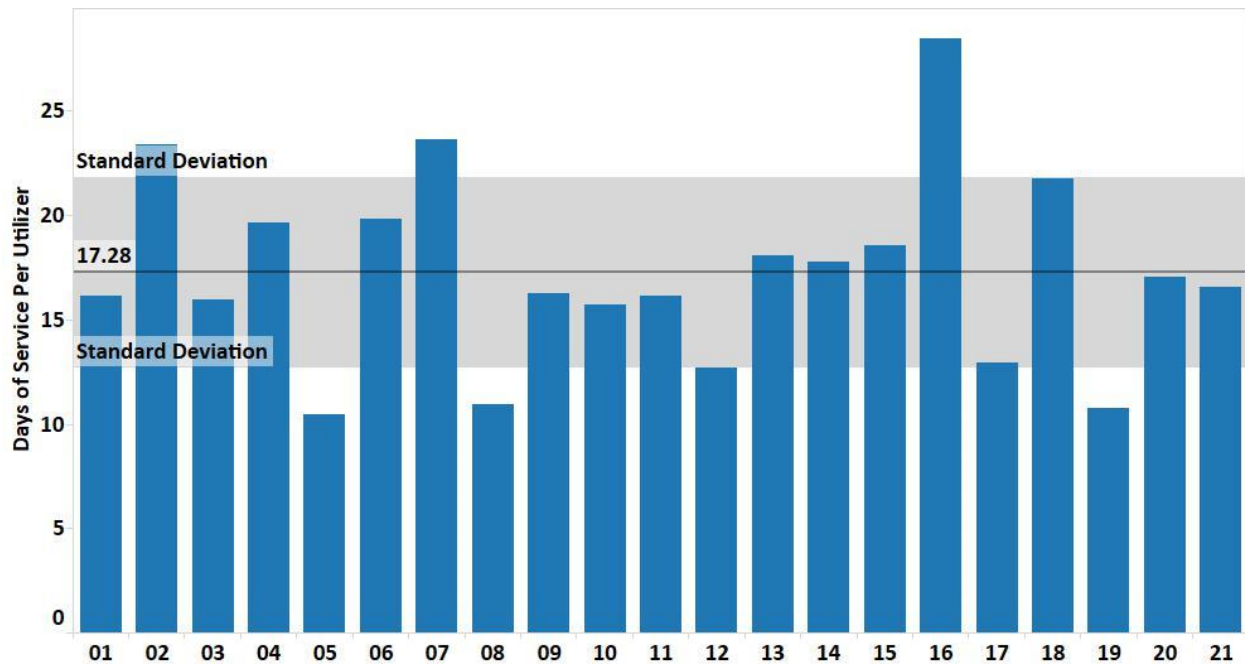


Figure 36 - Acute home health service average days of utilized services by region.

Access Research

HSRs 4, 15 and 16 (El Paso, Adams and Arapahoe Counties, respectively) were above the member to provider ratio threshold. These regions include some of the most populous counties in the state. This result could be a reflection of the county population or proportion of the population enrolled in Medicaid, or the size of the home health agencies providing services to clients in those counties. Claims data limited the Department from capturing a true reflection of home health agency capacity.

Regarding home health service utilization by days (Figure 36), further research showed consistently lower utilization in regions 5, 8 and 19 than the other regions (between 10.4 and 10.9 days) and relatively low client counts (less than 100) over the time period. When analyzed at the county level, in region 5, three of the four counties were below the threshold, and Elbert County (the closest to Denver) fell within one standard deviation from the mean. In region 8, only Conejos County was within one standard deviation; the others fell below. There are no home health agencies in Mineral and Saguache Counties while at least one exists in each of the other counties in the region. There may have been an access to care concern in these rural counties, or they may have been home to individuals with lower acuity cases.

HSR 19 consists only of Mesa County, in which 42 home health agencies provided acute home health services to less than 100 clients. Based on Mesa County's home health agency and client counts, the data suggest that the low utilization by days in region 19 was not necessarily an access concern. Clients in this region, over this time period, may simply have needed fewer days to recover from an acute episode. A low average number of days may also be an indication of quick placement of a client into long-term home health services if the need was present and the plan of care and PAR were put in place and approved.

For region 16, higher utilization by days than the statewide average may indicate a greater amount of individuals with severe acute episodes (i.e., severe acute episodes may require 55 days of services, versus less severe acute episodes that require 15 days). Clients in this region had a similar CRG distribution to the entire Medicaid population, however, it is more difficult to determine accurate CRGs for acute home health services. This is because there are time lags for claim payments and a lag for incorporating claims data into new CRG calculations. Again, it is difficult to pinpoint if this represents an access to care concern or if these counties were home to individuals with higher acuity cases.

Quality

Home health agencies provide acute home health services, long-term home health services and PDN services. The Department and CDPHE have an interagency agreement to ensure robust information sharing and work collaboratively to address home health agency complaints.⁶⁶ In addition to working with CDPHE, the Department recently began surveying clients receiving Home and Community-Based Services through certain waivers.⁶⁷ Because there is some overlap between clients that utilize waiver services and clients that utilize home health services, some of the survey questions could serve as a proxy for gathering quality metrics for home health services. The survey data results are not currently public, but the Department will provide MPRRAC members with survey data when the information is published publicly.

The Department is aware of the OASIS survey, administered by Medicare to home health agencies, but does not have access to this data.

Rate Comparison

The Department contracted with Optumas, an actuarial consulting firm, to provide analytic support in comparing Medicaid provider rates to those established by Medicare, other states' Medicaid programs and additional sources, where applicable.

Claims Data

The raw claims data for FY 2014-15 was subject to a validation process to ensure correctness. To do so, total payments were compared with budget numbers, payments over time were compared and a frequency analysis was completed. The result of this process indicated that the relevant home health services data was both complete and reliable.

During the analysis, it was also necessary to delimit the fee-for-service data to relevant utilization. Claims with denied status or that were otherwise zero paid were excluded because they do not factor into Colorado's total home health expenditures. Any claims associated with clients enrolled in the CHP+ program were likewise excluded because these costs are incorporated into per-member-per-month capitation rates and thus are outside the scope of the rate review process. Finally, claims attributed to members without Medicaid eligibility for the month during which the service occurred were excluded as

⁶⁶ For more information about home health agency licensing and CDPHE's Quality Management Program resources, see: <https://www.colorado.gov/pacific/cdphe/home-care-agencies>.

⁶⁷ For more information on Colorado Medicaid waivers, see: <https://www.colorado.gov/pacific/hcpf/program-list>.



well.⁶⁸ A summary of the exclusions and their respective impacts on the base data is available in Appendix 6.

Comparable Rates

The Home Health Benefit includes services unique to Medicaid programs. Because it is considered a mandatory State Plan benefit, each state has some flexibility in deciding how best to design and manage it.⁶⁹ In order to collect comparable information, it was necessary to reference the program manuals and fee schedules from other state Medicaid programs. Publicly available files were collected from Idaho, Illinois, Louisiana, North Carolina, Ohio and Nebraska.⁷⁰ Once compiled, this information was used to determine the most appropriate analog for each Colorado service within the other states' respective benefit packages.

Information on rates, as well as relevant details on other programs services are not always directly comparable to those of Colorado. For example, reimbursement for home health services in Colorado is based on revenue codes, while a number of other states pay based off of the procedure code. Such instances were reconciled through a careful examination of the service descriptions. Additionally, while two states might share a single service description, the same two states may not define a single unit of service in the same manner (e.g. one state may define one unit as one hour, while another state may define one unit as 15 minutes, etc.). Due to these and other differences, assumptions were made to compare a majority of services in Colorado with those of other states.

One particular example of these assumptions requires additional explanation. Colorado pays for home health aide services using both a basic and an extended rate, with providers receiving reimbursement at the basic rate for the first hour and the extended rate for every 15 minutes thereafter.⁷¹ While Nebraska and Ohio employ a similar system with corresponding rates, the other states pay on a per visit basis. Therefore, it was necessary to assume that these other states' rates fully encompass basic and extended utilization. Given that services provided under the home health aide revenue codes represent roughly 60% of home health expenditures in FY 2014-15, this assumption was essential to the overall comparison of Colorado's rates for this service type.

Conversely, Ohio Medicaid pays for all of its home health services using an extended rate component while Colorado does not use an extended rate for all services. For example, Colorado reimburses PT services on a per visit basis, with each visit lasting up to 2.5 hours. The subsequent assumption is that

⁶⁸ Claims were matched to Medicaid enrollment files provided by the Department to determine eligibility.

⁶⁹ To view differences in home health coverage policy by state, see: <http://kff.org/medicaid/state-indicator/home-health-services-includes-nursing-services-home-health-aides-and-medical-supplies/equipment/>

⁷⁰ With the exception of Nebraska, the selection process was based solely on the most easily accessible and most recent publicly available information. Nebraska was included as an example of a state with higher reimbursement than Colorado.

⁷¹ These services fall under revenue codes 0570 and 0571, for home health agency basic and, revenue codes 0572 and 0579, for home health agency extended, in the Home Health & PDN Rate Schedule found on the Department website: <https://www.colorado.gov/hcpf/provider-rates-fee-schedule>.



Ohio's basic rate (accounting for the first hour) combined with six units of the extended rate (accounting for another 1.5 hours) form an adequate estimate on a per visit basis. Similar assumptions were made for other services and for other states as well.

Estimated Expenditures – Benchmark Analysis

The final segment of analysis involved using the defined utilization to re-price claims according to Colorado's July 1, 2015 home health rates and those of the other six states.⁷² For Colorado's rates, a global 0.5% increase was applied. Next, utilization was multiplied by the corresponding rates from Colorado and each other state, followed by subtraction of third-party liability and co-payments to calculate the estimated total expenditures that would theoretically be reimbursed in each location.⁷³

Regarding these estimates of total expenditures, two caveats must be mentioned that lend additional perspective to their interpretation:

- Combining utilization with the fee schedule is an imperfect method of computing final reimbursement in Colorado due to the "lower of" payment (LOP) policy. LOP compares calculated payment with provider billed charges and final reimbursement is based on the lower of the two.
- Expenditures were only compared for the subset of home health services that are common to Colorado and each other state respectively. In other words, if another state does not cover one of Colorado's services, then the associated utilization and costs were not counted within that state's comparison results. For example:

Service	CO Rate	CO Utilization	CO Expenditures	Medicare Rate	Estimated Medicare Expenditures
A	\$2	10	\$20	N/A	N/A
B	\$3	10	\$30	\$4	\$40

Table 8 - Home health services excluded rate example.

Only the row for service B would be used for comparison. However, this discounted portion of utilization and costs was relatively small and did not detract from the overall validity of the analysis.

Final results are presented in Table 9, with Colorado's expenditures described as a percentage relative to the expenditures of the other six states:

⁷² During this stage of analysis, there were a small number of claims for which revenue codes were not found on Colorado's home health fee schedule and therefore were excluded. These are noted in Appendix 6 as "No Match Found".

⁷³ Third-party liability and co-payments were assumed to be unchanged as of July 2015. These dollars must be removed to isolate the costs to Medicaid.

	Colorado as a Percent of Other States' Expenditures					
Service Type/State	NE	IL	NC	ID	OH	LA
Home Health	72.49%	108.58%	109.78%	114.50%	154.41%	197.11%

Table 9 – Colorado home health service rates as a percent of other states' expenditures.

Table 9 can be interpreted to mean that Colorado pays an estimated 27.51% less than Nebraska's home health rates and 97.11% more than Louisiana's rates.

Had Colorado Medicaid reimbursed at 100% of Nebraska's rates in fiscal year 2015, it is estimated that Colorado would have spent an additional \$95.7 million total funds and \$45.3 General Fund. In contrast, Colorado could have saved an estimated \$124.2 million total funds and \$58.8 million General Fund by reimbursing at 100% of Louisiana's rates. A summary of the estimated impact based on total funds and General Fund split for each state is available in Appendix 7.⁷⁴

These figures could be interpreted as the minimum impact for two reasons:

- as mentioned previously regarding the delimiting data step, claims that were denied, zero paid, or lacking valid eligibility status were removed along with their corresponding utilization; and
- a small portion of Colorado's expenditures was excluded from this comparison because there were some services for which a comparable rate could not be found in the respective states.

While these results indicate that Colorado Medicaid reimbursement is greater than the benchmark rates, it should be noted that variation in rates across payers may be due to multiple factors including: differences in geography; provider travel distance; local provider supply and consumer demand; average population acuity; as well as differences in wages and cost of living, amongst others. However, rate comparison results in this report have not been adjusted to account for each of these potential differences. Additionally, direct comparisons of Colorado Medicaid rates to the wages paid by home health agencies or the actual provider costs of delivering services are beyond the scope of this report.

Conclusion

Claims data shows increases in the number of active home health agencies, the number of clients receiving both long-term and acute home health services and the percent of authorized long-term home health services utilized. While there is not clear evidence that utilization levels were optimal, there is evidence that rates, in aggregate, were sufficient to allow for provider retention and that rates supported growth in utilization of services.

Analysis results varied by region. There were indications of potential long-term home health services access concerns in Regions 11 and 12 (particularly home health aide visits, OT services and SLP services) and acute home health services access concerns in certain counties in Regions 5 and 8. Stakeholders

⁷⁴ The total funds amount includes federal funds, General Fund and various cash fund sources. Federal funds are calculated based on the state's Federal Medical Assistance Percentage (FMAP) for various eligible populations. The General Fund and various cash funds are the funding sources that reflect the state's responsibility. The General Fund calculation is the Department's estimate.



stated their belief that rates for skilled nursing services may be insufficient to allow for recruiting and retaining nurses in rural areas.

However, provider supply appears to have been sufficient to accommodate increases in utilization, which would not be likely had reimbursement been insufficient. Further, rate comparison analyses indicated that home health service payments are between 72.49% and 197.11% of other states' Medicaid rates. The results of the benchmark analysis and continued growth in home health service utilization leads the Department to conclude that provider retention concerns expressed by stakeholders may be attributed to other causes, such as home health agency operational differences, licensure requirements, or other non-fiscal constraints.



VIII. Non-Emergent Medical Transportation

Service Description

Non-emergent medical transportation (NEMT) is transportation to and from Medicaid services. NEMT services are a mandatory State Plan benefit offered to all Medicaid clients. NEMT service providers must be enrolled in Medicaid and licensed, based on the delivery system.⁷⁵ Prior authorization for NEMT services is only required for train, out-of-state and air travel.

NEMT service delivery systems differ throughout the state (Figure 37):

- in 36 counties NEMT services operate locally using a number of different approaches and processes through the County Departments of Human Services;
- three multi-county collaboratives, comprising a total of 19 counties, have partnered with a non-county Department of Human Services agency (e.g., a Regional Council of Government or a community-based agency) to act as their regional transportation broker; and
- in nine counties along the northern Front Range, a Department-managed broker contract operated by Total Transit provides NEMT services.

More detailed information concerning NEMT services and the differences in delivery systems can be found in the Department's response to a legislative request for information (LRFI), submitted to the Joint Budget Committee on November 1, 2015.⁷⁶ This LRFI addressed questions pertaining to performance and policy issues in NEMT and emergency transportation services.

⁷⁵ In cases where an individual with a vested interest (e.g., family member or friend) or an organization (e.g., volunteers or physician groups) provide NEMT services, those individuals are not enrolled in Medicaid. Rather, they may receive reimbursement from an enrolled entity, such as a county or broker, and that enrolled entity bills the State.

⁷⁶ To view the complete response to the legislative request for information, see: <https://www.colorado.gov/pacific/sites/default/files/Health%20Care%20Policy%20and%20Financing%20FY%202015-16%20RFI%205.pdf>.



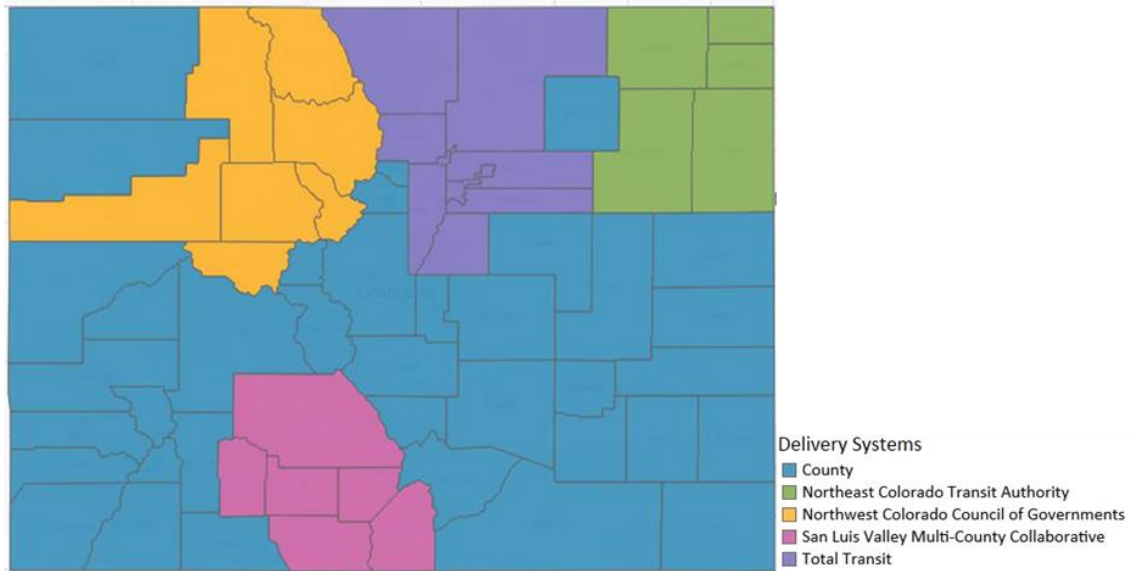


Figure 37 - NEMT service delivery system by county.

Utilizer Characteristics

In November 2014, Total Transit began operating as the Department-managed broker of NEMT services for nine counties. Total Transit's performance contract addressed issues and problems of the previous broker by instituting clearer performance standards, closer monitoring and MMIS claim submission (no claims were submitted by the previous broker). As a result, unless otherwise stated, the following analysis includes MMIS data from the entire state for the eight months in FY 2014-15 during which the Department received data from Total Transit.

In FY 2014-15, total expenditure for NEMT services was \$13,670,286.⁷⁷ NEMT services accounted for 0.23% of total Medical Services Premiums expenditures in FY 2014-15. In the eight months of complete data, 28,684 clients used NEMT services.⁷⁸

Characteristics of the clients who utilized NEMT services are notable in the following ways:

- the largest share of clients who utilized NEMT services was clients with a disability (Figure 38);
- the largest acuity segment of the clients who utilized NEMT services was the dominant chronic CRG (Figure 39);
- a larger proportion of clients who utilized NEMT services were adults (Figure 40); and
- the largest age grouping was women and men between 50-59 years old (Figure 40).

⁷⁷ This number refers to the amount reported in the budget for total NEMT expenditures from July 1, 2014-June 30, 2015 (Exhibit M). This analysis is based on claims data, which does not include expenditures from July 2014-November 2014 because the previous broker did not submit claims into the MMIS.

⁷⁸ No average paid per client amount is included here because the total spend amount represents 12 months and this client count represents only 8 months.

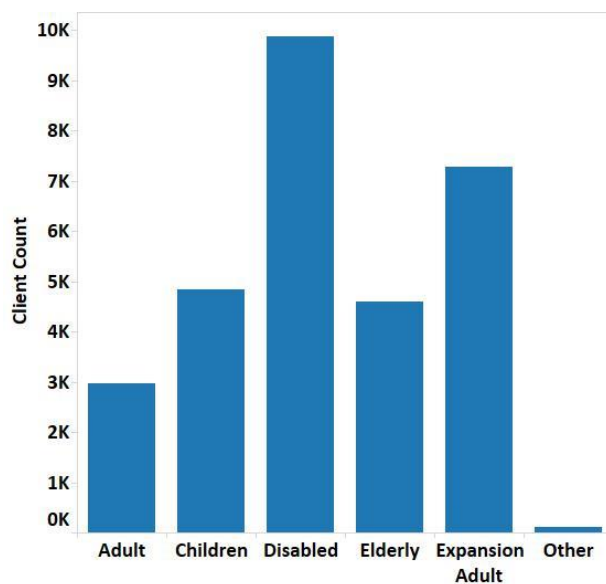


Figure 38 - Clients who utilized NEMT services by population type.

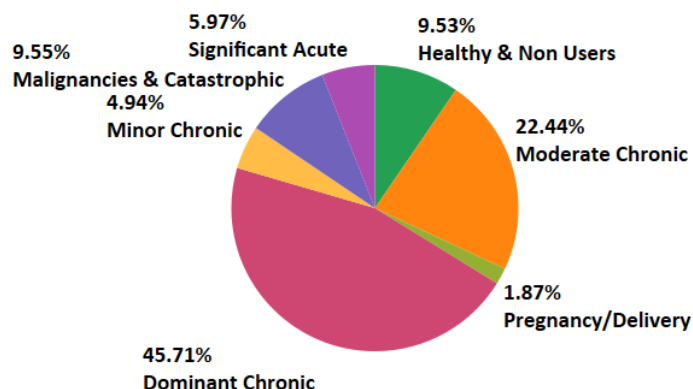


Figure 39 - Clients who utilized NEMT services by CRG.

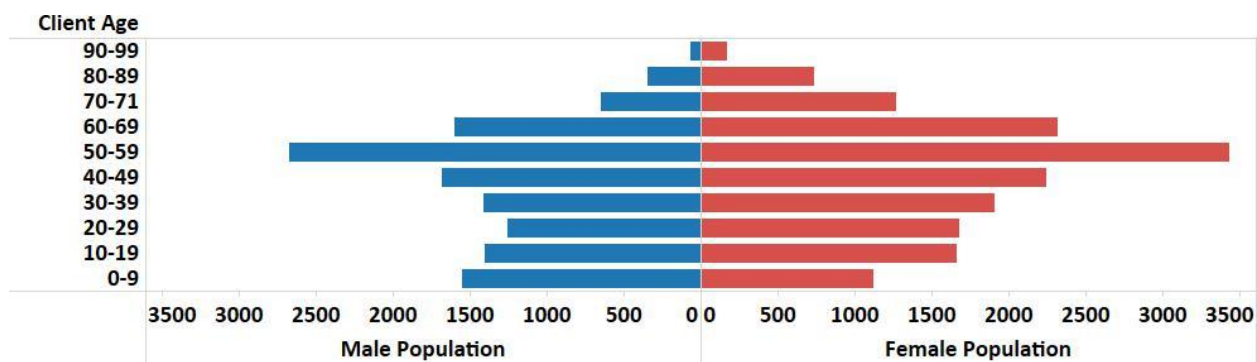


Figure 40 - Clients who utilized NEMT services age-gender population pyramid.

Provider Characteristics

From FY 2013-14 through FY 2014-15, the number of NEMT providers reimbursed by Colorado Medicaid increased by 17.44%, from 86 to 101 (Figure 41).⁷⁹

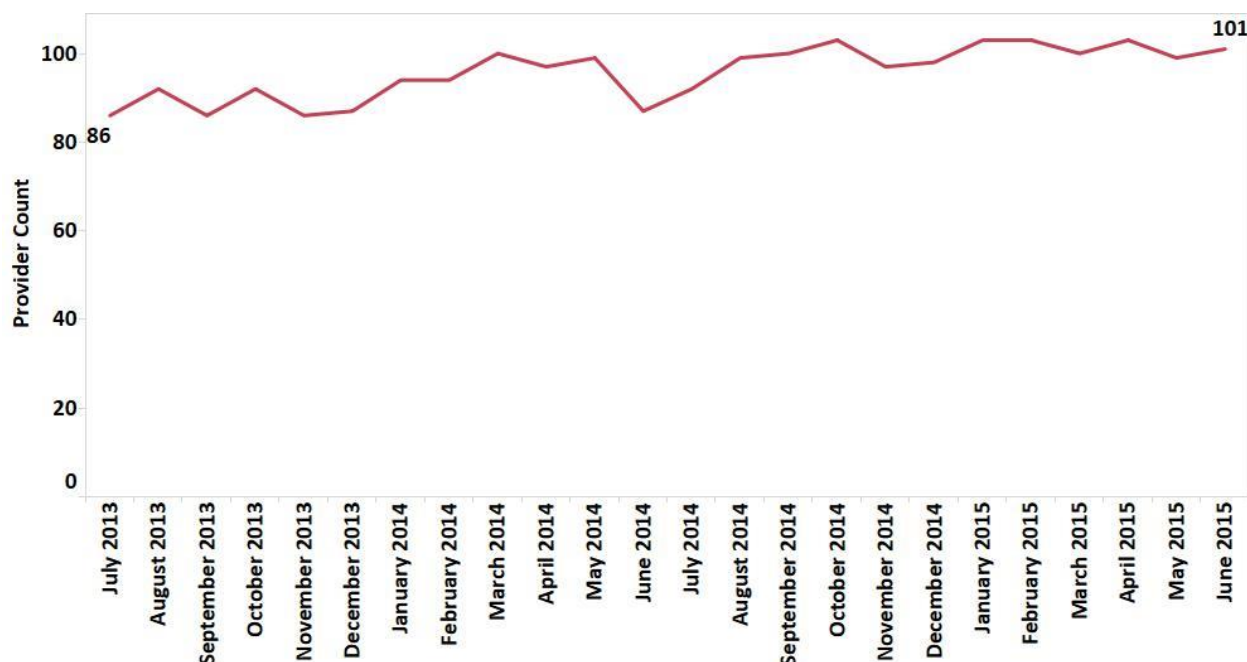


Figure 41 - NEMT service provider growth.

The triangles on the following map of Colorado illustrate the billing zip code of each NEMT provider and the number of Medicaid clients that used NEMT services by county of residence is shown in shades of blue (Figure 42).⁸⁰ Counties with fewer than 30 clients residing in them are depicted as having 30 clients to limit protected health information (PHI).

⁷⁹ These distinct provider count numbers are aggregated at the month of service level and do not represent the total number of providers during the time period: 248.

⁸⁰ Some Medicaid clients received NEMT services from out-of-state providers, represented by a triangle in the right margin of Figure 43.

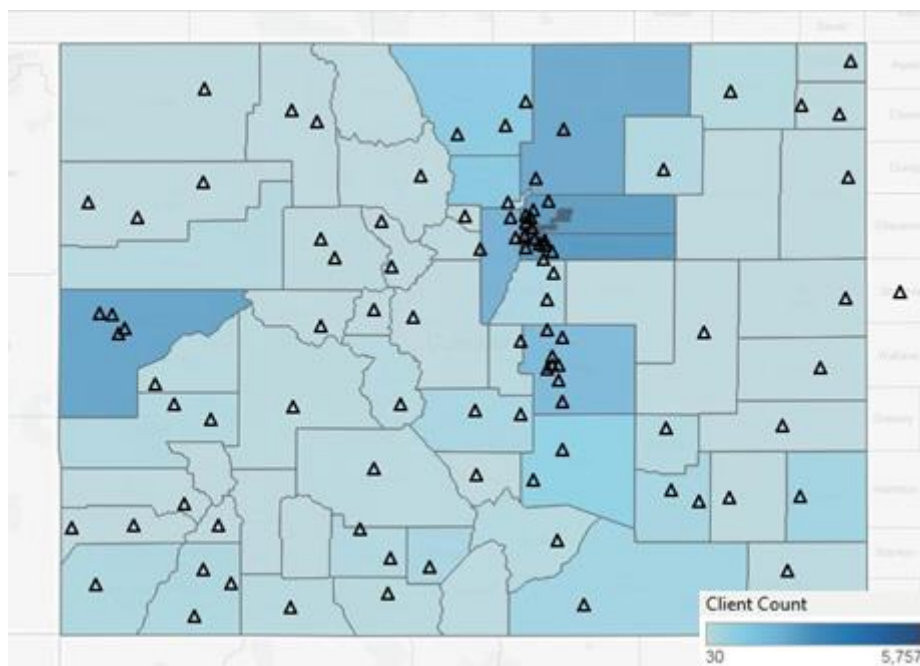


Figure 42 - NEMT service utilizer density map and provider billing location.

When examining utilization and access data, there are unique considerations specific to NEMT service providers. Characteristics of NEMT service providers differ from other providers in the following ways:

- in claims data, NEMT providers have an identification code based on their billing location, which does not necessarily reflect the location of their providers; and
- providers are not required to report the number of employees or vehicles, nor are they required to report details about their capacity. Claims data does not support the determination of a provider's capacity, or whether an individual NEMT service provider performed at, over, or under capacity.

Utilization and Access

Because of the aforementioned issues with the availability of complete data, the Department did not calculate access or utilization metrics from claims data for NEMT services. Instead, the Department chose to incorporate data gathered by the Colorado Health Institute (CHI) in the Colorado Health Access Survey (CHAS). The CHAS is conducted every other year to gain a comprehensive view of insurance coverage, access to care and health care utilization in Colorado.⁸¹ The CHAS responses are presented by region(Figure 8).⁸²

⁸¹ For more information about the CHAS and to view CHAS results, see: <http://coloradohealthinstitute.org/key-issues/detail/health-coverage-and-the-uninsured/colorado-health-access-survey-1>.

⁸² See Appendix 1 for a Health Statistics Region map key.

Those surveyed were asked this NEMT related question: “In the past 12 months, were you unable to find transportation to the doctor’s office or was the doctor’s office too far away?” While this question can be used to capture a high-level snapshot of access issues, it presents a problem. Namely, it is impossible to know if respondents were answering affirmatively to “were you unable to find transportation to the doctor’s office” or “was the doctor’s office too far away” or both. This data allows for identification of access concerns, however, more data would be needed to draw definitive conclusions. There is not clear evidence as to which levels are optimal and how different socioeconomic factors might impact both having commercial insurance and responding affirmatively.

Figure 43 depicts the percent of survey respondents who answered the question above in the affirmative, broken out by region and insurance type (commercial vs Medicaid). The results for region 3 (Douglas County) were omitted because the sample size in that region was too small to produce reliable results. The red dots indicate the positive response rate among survey respondents covered by Medicaid (statewide average of 11.85%) and the blue dots indicate the positive response rate among commercially insured survey respondents (statewide average of 2.07%).

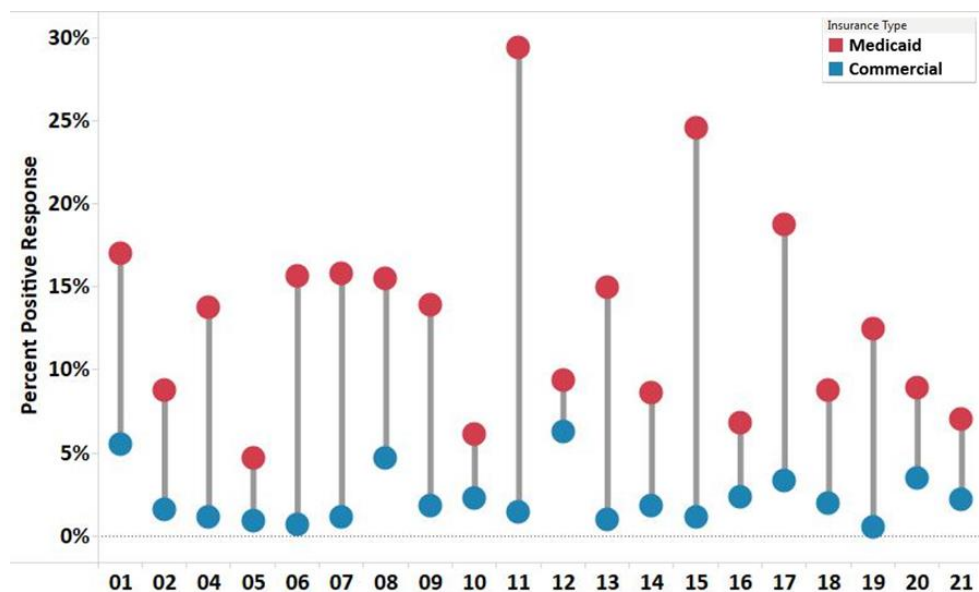


Figure 43 - CHAS: percent positive (affirmative) responses by insurance type by region.

Figure 44 compares the positive response rates of Medicaid clients by region; it depicts the statewide average/mean (dark line; 5.20%), a one standard deviation threshold (gray shaded area) and the affirmative response rate by region (blue columns). For this metric, lower percentages may indicate a potential access concern; any region below the standard deviation threshold warranted further research. Regions 11 and 15 met this criteria, with rates of 29.39% and 24.49%, respectively. Again, the results for region 3 (Douglas County) were omitted because the sample size in that region was too small to produce reliable results.

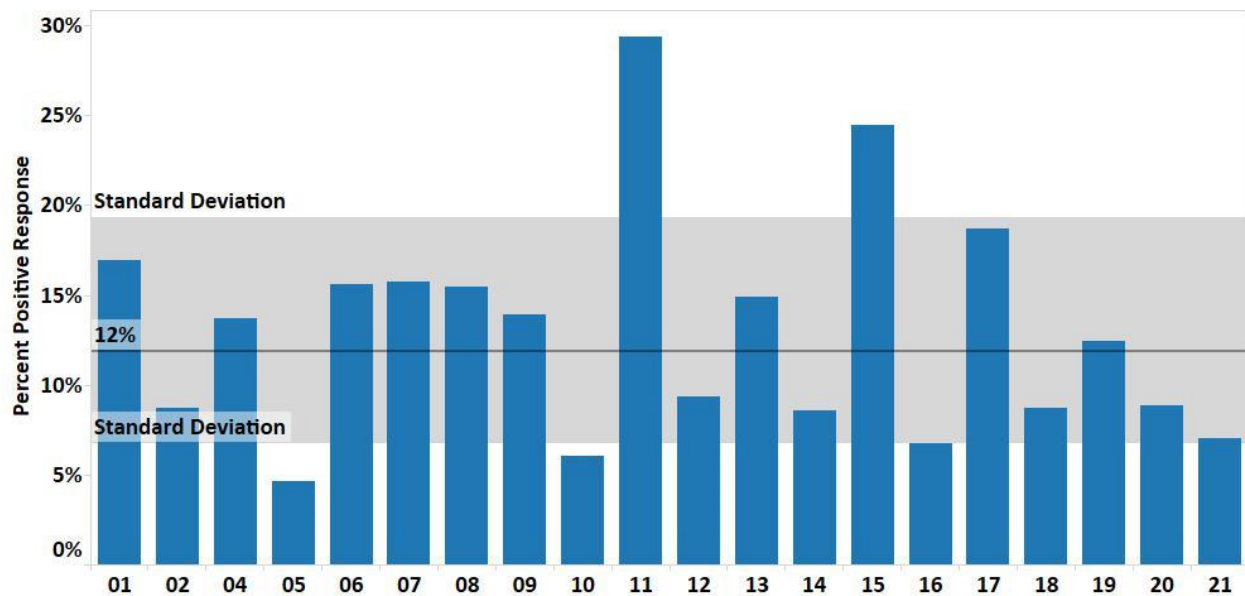


Figure 44 - CHAS: percent positive (affirmative) responses for Medicaid respondents by region.

Access Research

HSR 11, located in the northwest corner of the state, is a rural region and does not include a high concentration of Medicaid medical service providers. Investigation into the eight months of reliable claims data indicated that utilization in region 11 was the lowest (as measured by the penetration rate); less than 30 clients utilized the service per month. The survey results and low penetration rate could potentially be indicative of an access issue in this region.

HSR 15 (Arapahoe County) is within the Total Transit region and an area where public transportation is widely available. Investigation into the eight months of reliable claims data indicated that Arapahoe county had the third highest penetration rate (after Denver and Mesa Counties), and the number of distinct clients utilizing NEMT services per month averaged between 835 to 980. More information is needed to understand why survey data do not align with claims data.

Quality

The Department relies on counties and county collaboratives to monitor NEMT service provider quality. In the nine counties served by Total Transit, the Department has established contract performance standards, including monthly performance reports which document - and address - any issues or concerns identified. Total Transit is responsible for oversight of NEMT providers within the counties it services, including the creation and enforcement of corrective action plans and the issuance of NEMT provider terminations, as required. Additionally, Total Transit has a procedure in place for investigating and resolving all complaints received; this is reviewed by the Department at least monthly. The Department plans to initiate a new client survey to collect and analyze data in the next 12 months.

Rate Comparison

The complete rate comparison analyses for NEMT services and emergency medical transportation (EMT) is combined in this report and is included in the EMT section.

Results of the comparison of the NEMT rates with available rates from other states showed that Colorado pays approximately 71.81% less than the benchmark (or 28.19%). A comparison was made only when the following was true:

- NEMT services were not manually priced;
- Medicare fee was not available (i.e. non-ambulance codes); and
- A comparable rate was found.

Conclusion

Results indicate that NEMT service payments are 28.19% of the benchmark. The Department was unable to draw reliable conclusions on the sufficiency of rates to allow for provider retention and client access for NEMT services. This is due to variations in the three NEMT delivery systems, including the amount and quality of data available in each system, and a lack of reliable and complete claims data from nine urban counties prior to November 2014.

The Department has received anecdotal feedback that access to NEMT services is insufficient. While this feedback was not received through the rate review process and is not evident in the claims data, the Department is committed to take action to address stakeholder concerns regarding client access and provider retention. For example, effective July 1, 2015, a targeted rate increase was applied to a number of transportation services in addition to the 0.5% across the board rate increase. Most recently, the Department authored House Bill 16-1097 during the 2016 Legislative Session. HB 16-1097 would allow for an increased number of qualified applicants to obtain a yearly permit to provide NEMT services to Medicaid clients.

The Department plans on addressing unreliable and incomplete data in different ways. For example, continued administration of NEMT services by Total Transit will allow for better data in nine urban counties, and the implementation of a new MMIS capable of accommodating data across services will increase the Department's ability to monitor and improve access to NEMT services over time.



IX. Emergency Medical Transportation

Service Description

Emergency medical transportation (EMT) services include emergency transportation to and from a hospital. EMT services are a mandatory State Plan benefit offered to all Colorado Medicaid clients. Providers that render EMT services must be enrolled with Medicaid, be licensed ambulance or air ambulance providers and employ Emergency Medical Service (EMS) staff certified by CDPHE.⁸³

Utilizer Characteristics

In FY 2014-15, 59,081 Medicaid clients used EMT services at a total expenditure of \$15,306,850.⁸⁴ The average annual paid amount per client utilizing EMT services was \$259. EMT services accounted for 0.26% of total Medical Services Premiums expenditures in FY 2014-15. In order to better gain insight into utilization and access trends, analyses detailed in the Utilizer Characteristics, Provider Characteristics and Utilization and Access subsections of this report contain data for FY 2013-14 through FY 2014-15. All figures depict data across two fiscal years, unless otherwise noted.

Characteristics of the clients who utilized EMT services are notable in the following ways:

- the largest share of clients who utilized EMT services was the expansion adult category (Figure 45);
- the largest acuity segments of the EMT population were the dominant chronic and moderate chronic CRGs (Figure 46);
- a larger proportion of clients who utilized EMT services were adults (Figure 47); and
- the largest age and gender grouping was women between 20-29 years old (Figure 47).

⁸³ For more information about EMS certification, see:

<https://www.colorado.gov/pacific/cdphe/categories/services-and-information/health/emergency-care/ems>.

⁸⁴ This number may differ from officially reported expenditures because the budget source of expenditure is the Colorado Operations Resource Engine (CORE). Any discrepancy between CORE data and MMIS data results from accounting adjustments and other financial transactions not captured in the MMIS.

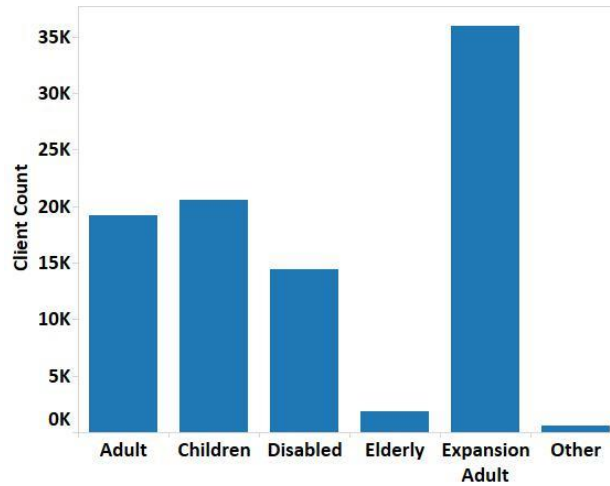


Figure 45 - Clients who utilized EMT services by population type.

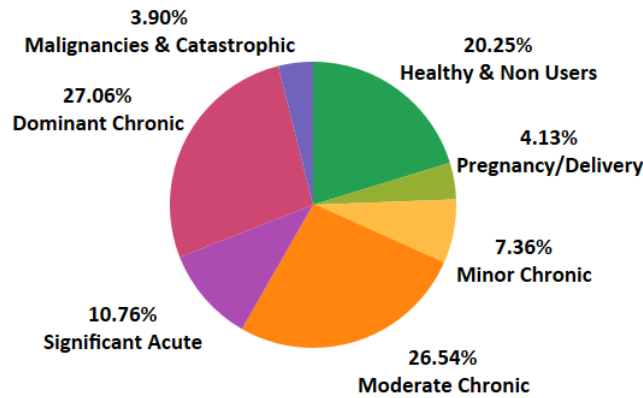


Figure 46 - Clients who utilized EMT services by CRG.

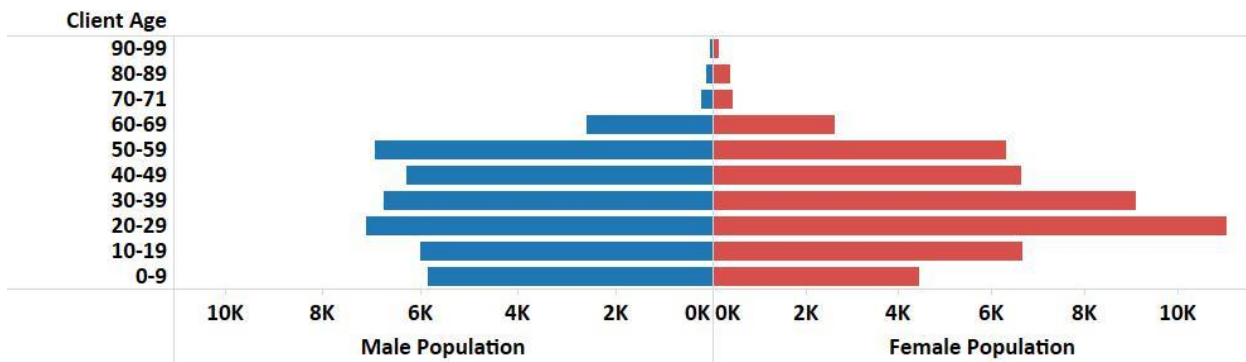


Figure 47 - Clients who utilized EMT services age-gender population pyramid.

Provider Characteristics

From FY 2013-14 through FY 2014-15, the number of EMT providers reimbursed by Colorado Medicaid increased by 19.71%, from 137 to 164 (Figure 48).⁸⁵

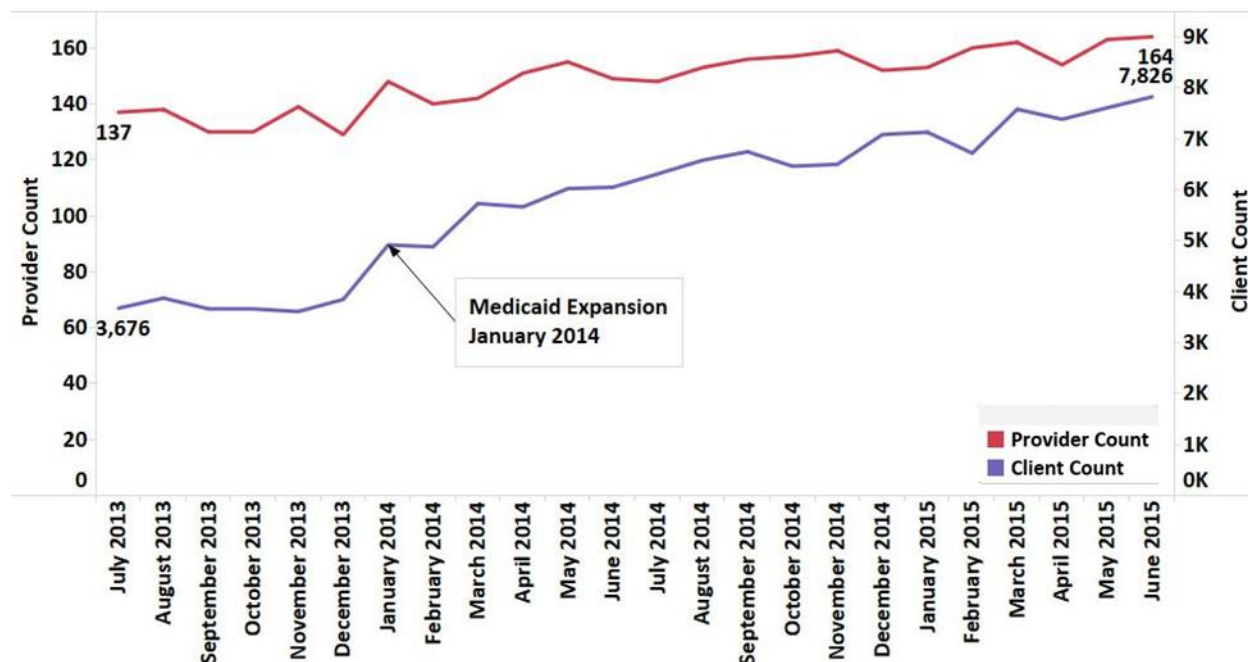


Figure 48 - Growth in clients who utilized EMT services and provider count.

The triangles on the following map of Colorado illustrate the billing zip code of each EMT provider and the number of Medicaid clients that utilized EMT services by county of residence is shown in shades of blue (Figure 49).⁸⁶ Counties with fewer than 30 clients residing in them are depicted as having 30 clients to limit protected health information (PHI).

⁸⁵ Numbers are aggregated at the month of service level and do not represent the total number of providers during the time period: 165.

⁸⁶ Some Medicaid clients received EMT services from out-of-state providers, represented by a triangle in the right margin of Figure 49.

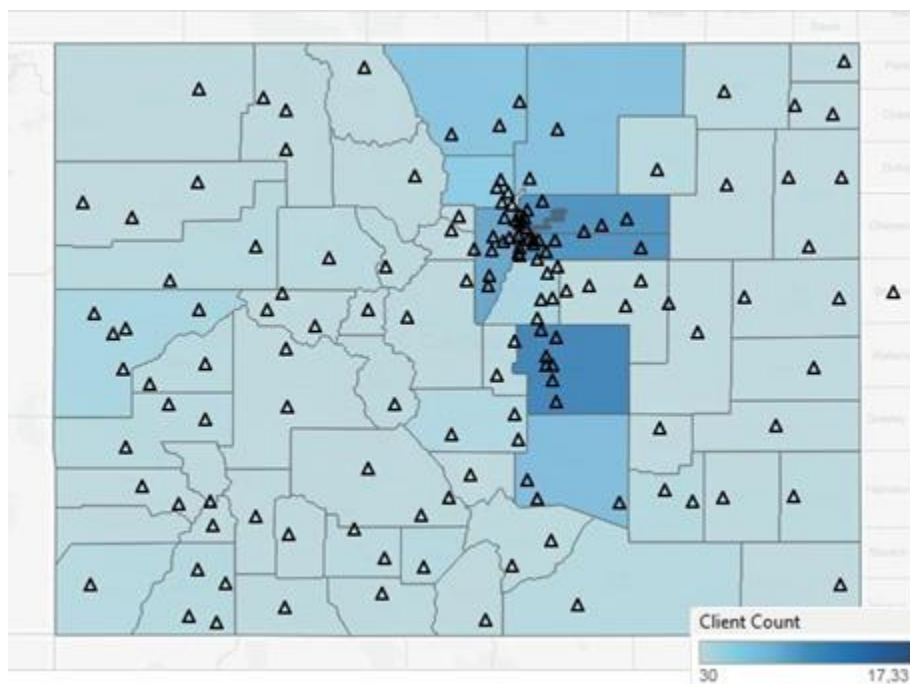


Figure 49 - EMT service utilizer density map and provider billing location.

When examining utilization and access data, there are unique considerations specific to EMT service providers, particularly that they cannot refuse to provide services when requested. Characteristics of EMT service providers differ from other providers, though are similar to NEMT providers, in the following ways:

- in claims data, EMT providers are assigned an identification code based on their billing location, which does not necessarily reflect the location of their providers; and
- providers are not required to report the number of employees or vehicles, nor are they required to report details about their capacity. Claims data does not support the determination of a provider's capacity, or whether an individual EMT service provider performed at, over, or under capacity.

Utilization and Access

In January 2014 there was a large increase in EMT utilization statewide (Figure 48). This increase is attributable, in part, to the expansion population utilization, which accounted for 40.75% of total utilization of EMT services. Utilization of EMT services for non-expansion clients also grew, to a lesser degree, throughout the observation period (Figure 50).

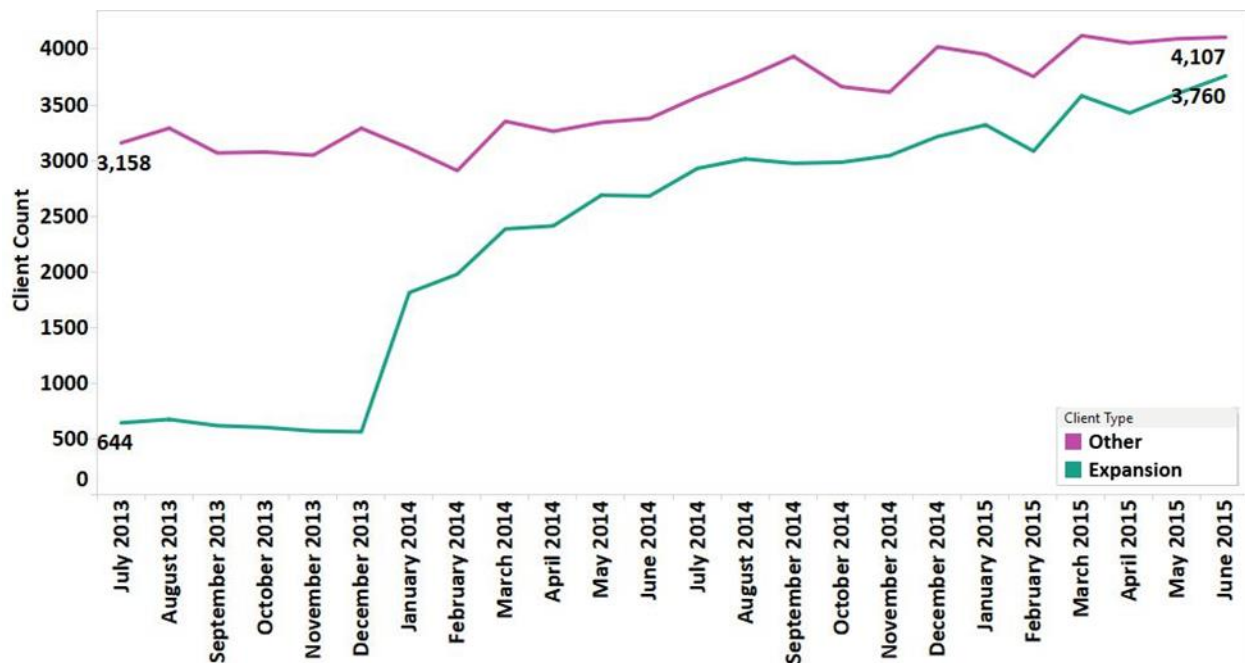


Figure 50 - EMT service utilization by expansion status.

Other than the member to provider ratio, the Department is unaware of nationally accepted utilization and access standards for EMT services. Therefore, in addition to the member to provider ratio, the Department examined statewide, average (mean) utilization as the standard for comparison. The Department examined the following indicators for potential access concerns:

- the member to provider ratio (Figure 52); and
- the penetration rate (mean), or the percentage of the population that utilized EMT services (Figure 53).

The Department chose to examine EMT service utilization by region (Figure 8).⁸⁷ The metrics examined by the Department are not commentary on optimal utilization levels; they were used to determine if variations around the state could be attributable to access to care concerns in particular regions. If utilization in a given region was determined to be more than one standard deviation below the statewide average, the Department identified this as an area in need of further research.

⁸⁷ See Appendix 1 for a Health Statistics Region map key.

The member to provider ratio is a nationally recognized (MACPAC) measure of provider supply for access to care analyses.⁸⁸ For FY 2014-15, the statewide member to provider ratio for EMT services was 428.4, meaning that for every EMT service provider there were 428 Medicaid FTEs (Figure 52).⁸⁹

Figure 52 depicts the statewide average member to provider ratio (dark line; 428.4), a one standard deviation threshold (gray shaded area) and the member to provider ratio in each region (blue columns). For this metric, a higher ratio may indicate a potential access concern; any region above the standard deviation threshold warranted further research. Regions 4, 14, 15 and 20 (El Paso, Adams, Arapahoe and Denver Counties) met this criteria with ratios of 990.4, 928.0, 862.6 and 888.1, respectively.

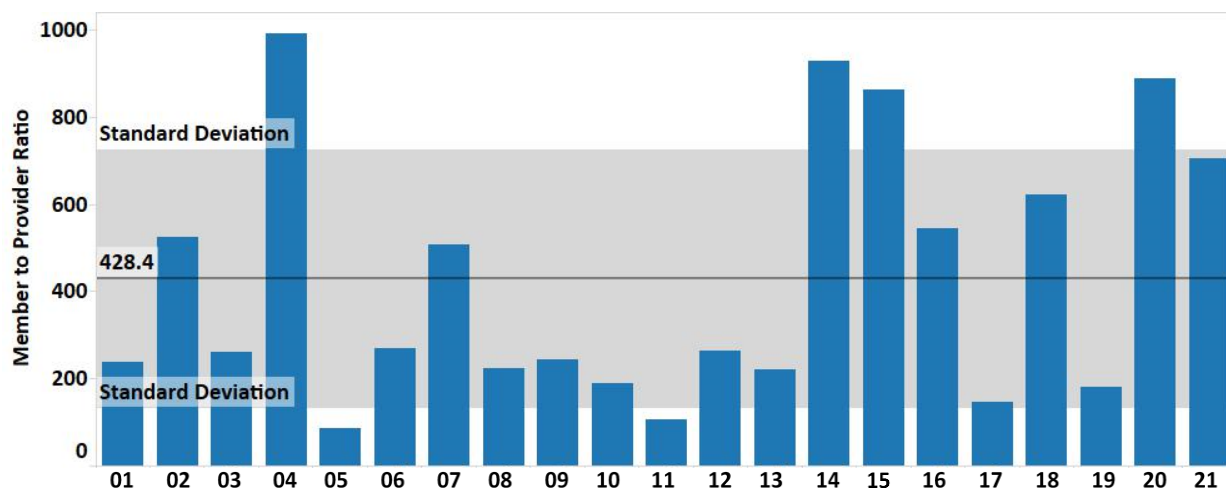


Figure 51 - EMT service member to provider ratio by region.

Figure 53 depicts the statewide average penetration rate, or the percent of the Medicaid population that utilized EMT services (dark line; 5.20%), a one standard deviation threshold (gray shaded area) and the average penetration rate by region (blue columns). For this metric, lower utilization may indicate a potential access concern; any region below the standard deviation threshold warranted further research. Penetration rates for regions 3, 10, 12 and 19, with utilization percentages ranging from 3.16% to 3.89%, met this criteria.

⁸⁸ The MACPAC is a non-partisan legislative branch agency that provides policy and data analysis and makes recommendations to Congress, the Secretary of the U.S. Department of Health and Human Services and the states. See: MACPAC, Examining Access to Care in Medicaid and CHIP (March 2011).

<https://www.macpac.gov/subtopic/access-to-care/>.

⁸⁹ For context, the Health Resources and Services Administration (HRSA) defines a primary care Health Professional Shortage Area (HPSA) as having a member to provider ratio of at least 3,500:1. See:

<http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primarycarehpsacriteria.html>.

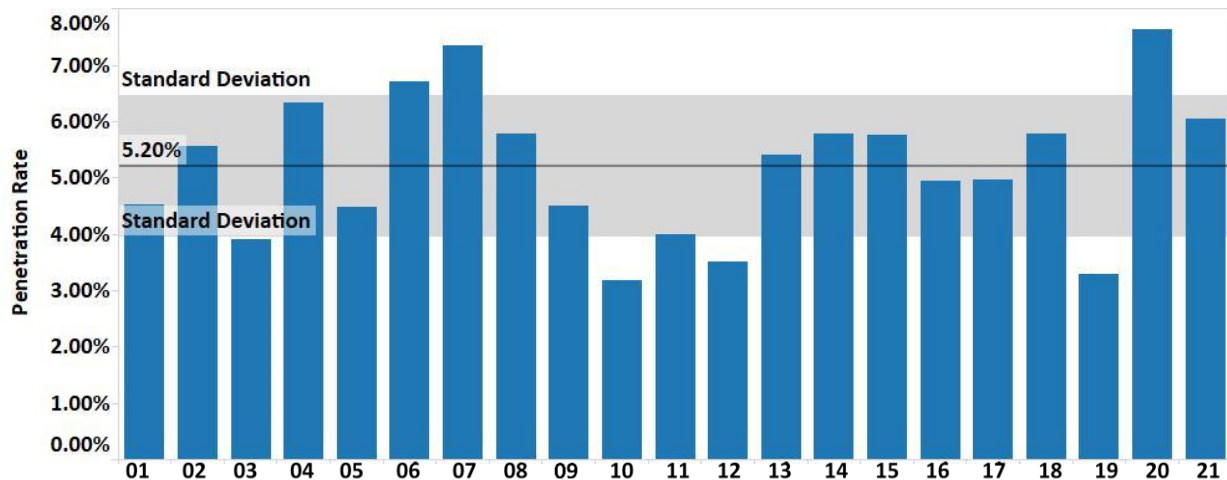


Figure 52 - EMT service penetration rate by region.

During the Rate Review Information Sharing Session held on April 1, 2016, stakeholders suggested that the relationship between EMT and NEMT services should be considered together when assessing utilization. Figure 54 illustrates the penetration rate for both EMT and NEMT services by region during the eight months for which complete NEMT claims data was available. While it is difficult to draw broad conclusions from the graphic because the regional variation appears substantial, there is a pattern that illustrates a dip in EMT utilization corresponding to an increase in NEMT utilization, and vice versa. While this may support the idea that higher NEMT utilization reduces - or reduced - the use of EMT services (resulting in lower transportation costs), this data does not provide enough information to highlight potential access concerns.

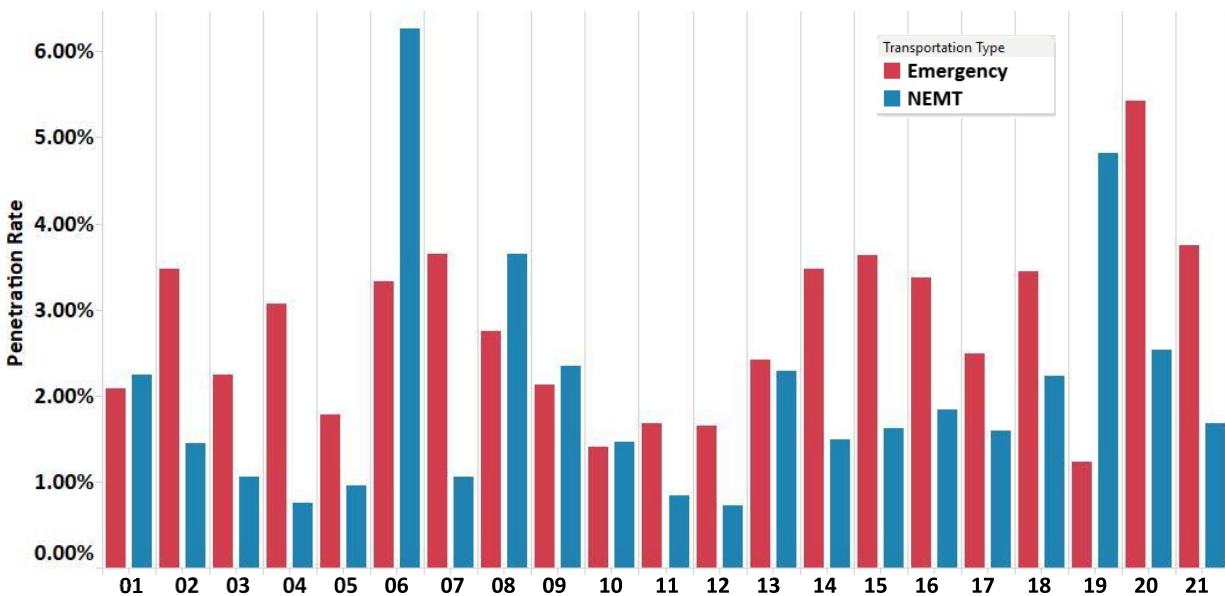


Figure 53 - EMT and NEMT penetration rate by region.

Access Research

The member to provider ratio in regions 4, 14, 15 and 20 (El Paso, Adams, Arapahoe and Denver counties) met the criteria for further research. The populations and CRGs in these regions did not appear to differ significantly from the EMT utilizer population as a whole, so the difference was not the result of a different utilizer population, or an acuity difference, which may indicate an access concern. These four regions are the most populous regions in the state, with high proportions of Medicaid enrolled clients. Coupled with the fact that one billing ID may represent multiple ambulance units, these outliers likely do not represent a provider capacity issue. El Paso County had the highest member to provider ratio, with 990.4 Medicaid FTEs to one EMT provider, which appears to have been adequate because of the relatively high percentage of FTE that utilized this service (6.32%). Furthermore, penetration rates in all four of these regions were above the statewide mean, indicating that the higher member to provider ratios were not a barrier to access.

The penetration rate, or the percent of the population that utilized EMT services, metric shows that regions 3, 10, 12 and 19 met the criteria for further research. Region 3 is the Denver metro area, region 19 is Mesa County and regions 10 and 12 are rural regions on the Western Slope.

Data for region 3 (Douglas County) shows a steadily increasing penetration rate, doubling over the observation period, which indicates that access increased in this region over time.

In region 19 (Mesa County), the expansion population comprised 47.22% of the total clients who utilized EMT services, which was higher than the general Medicaid population. The penetration rate began to decrease in this region at the same time that adults were enrolled into a managed care program (MCO) as part of the Accountable Care Collaborative (ACC) payment reform project Rocky Mountain Prime (ACC RMHP). Once enrolled, these clients were no longer under the scope of this review; this change in enrollment most likely contributed to the lower penetration rate in this county.

HSRs 10 and 12 are both on the Western Slope and include counties that participate in the ACC RMHP MCO, however, there was no significant downward shift in the trend penetration rate at the time the program started. Because the populations and CRGs in these regions did not differ significantly from the average service utilizer population, data in these regions may point to an access to care concern.

Quality

EMT service providers are alternatively referred to as emergency medical service (EMS) providers by CDPHE. CDPHE certifies EMS staff (the individual personnel performing medical acts in ground and air ambulances) and it licenses air ambulance providers (the legal entity operating an air ambulance business). Counties license the EMT provider (the legal entity operating a ground ambulance business). At the end of FY 2014-15, 17,134 EMS staff and 22 air ambulance agencies were licensed by CDPHE. While neither the Department nor CDPHE has precise data on the number of licensed ground ambulance agencies, other data suggests that there were approximately 200 such licensed agencies.

A comprehensive report that addresses quality of overall EMS services is submitted by CDPHE to the Joint Budget Committee annually.⁹⁰ Refer to that report for an overview of the emergency and trauma system in Colorado, including the data on certified EMS personnel, grant funding reports and data on designated trauma centers.

Rate Comparison

This section comprises the rate comparison analyses for both EMT and NEMT services, due to certain data limitations.

The Department contracted with Optumas, an actuarial consulting firm, to provide analytic support in comparing Medicaid provider rates to those established by Medicare, other states' Medicaid programs and additional sources, where applicable.

Claims Data

The raw claims data for FY 2014-15 was subject to a validation process to ensure correctness. To do so, total payments were compared with budget numbers, payments over time were compared and a frequency analysis was completed. The result of this process indicated that the relevant EMT and NEMT services data was both complete and reliable.

The Department informed Optumas of the partial data set available for NEMT services coordinated within the Denver metro area.⁹¹ Because the new broker began operations in November 2014, a significant portion of brokered NEMT claims were unavailable through the MMIS before that time and therefore did not appear in the data. Optumas' examination of the NEMT data provided confirmed the Department's assessment regarding incomplete claims brokered data, and details of how this issue was addressed are provided later in this report. Results of the validation process suggested that the relevant transportation data was both complete and reliable.

During the analysis, it was also necessary to delimit the fee-for-service data to relevant utilization. Claims with denied status or that were otherwise zero paid were excluded because they do not factor into Colorado's total transportation expenditures. Any claims associated with members enrolled in the CHP+ program were likewise excluded because these costs are incorporated into per-member-per-month capitation rates and thus are outside the scope of the rate review process. Additionally, claims for which procedure codes are manually priced were excluded since a set fee is not available for comparison. Finally, claims attributed to members without Medicaid eligibility for the month during which the service occurred were excluded as well.⁹² Once this process was completed, the total number of records equaled 1,006,428 which amounted to \$29,792,216 in paid dollars. A summary of these exclusions and their respective impacts on the base data is available in Appendix 8.

⁹⁰ To view the most recent report, see: https://www.colorado.gov/pacific/sites/default/files/EMTS_Legislative-Report-2015.pdf.

⁹¹ The broker, Total Transit, manages 9 counties: Larimer, Weld, Boulder, Broomfield, Denver, Jefferson, Adams, Arapahoe and, Douglas. For more information, see: <https://medicaidco.com/>

⁹² Claims were matched to Medicaid enrollment files provided by the Department to determine eligibility.



Following the removal of extraneous utilization, a modification to the base data was required to adjust for the missing brokerage data discussed previously. Since the goal was to extrapolate from the existing data to that of a full year, the broker's average monthly cost over the final four months of FY 2014-15 was used to populate the first eight months. This methodology used to fill-in missing months, and adjusting the first months by the calculated average, reduced any understatement from the broker's start-up period and served as the best approximation of prospective monthly costs. The adjustment assumed a rate of spend over the course of an entire year and the results generated an increase of 61.7%. To illustrate its impact, the outcomes of the Transportation comparison are shown with and without this adjustment in Table 11.

Comparable Rates

The Colorado Medicaid transportation fee schedule includes rates for EMT and NEMT services using Healthcare Common Procedure Coding System (HCPCS) codes. The July 1, 2015 effective rates include an average targeted rate increase to these codes of approximately 9.93%, estimated at the time to be an increase of \$1,109,263 total fund expenditures.⁹³ Total Transit reimburses its network of providers using the fee schedule rates that are in effect for the remainder of the state. Thus, all utilization was priced according to one statewide fee schedule.

Because Colorado Medicaid transportation services include some services that are covered by Medicare, particularly ambulance services, it was necessary to reference program information and fee schedules from Medicare to make valid comparisons. Publicly available files and manuals relating to the Medicare Ambulance Fee Schedule (AFS) were collected for use in identifying the appropriate Medicare rates for services provided in Colorado.⁹⁴ Medicare fees included in this analysis are equal to the simple average of the urban and rural Medicare rate.⁹⁵ The simple average between the urban and rural AFS rates was matched with claims on a procedure code basis. Overall, this process was successfully applied to 59.1% of the data.⁹⁶

Additional payment reductions and increases currently in use by Medicare were not factored into the analysis, including:⁹⁷

⁹³ An across the board rate increase of 0.5% was applied to all transportation services prior to the 9.93% increase. The 0.5% targeted rate increase was specifically applied to the following EMT codes: A0433, A0434, A0425, A0021, A0422, A0430, A0431, A0429 and A0427, and to the following NEMT codes: A0428, A0426, A0190, A0210, A0999, A0180 and T2003.

⁹⁴ The Medicare AFS was developed prior to 2000 with a phased-in implementation period from 2002 through 2005.

⁹⁵ For more information regarding Medicare's AFS for CY2015 and the Medicare Access and CHIP Reauthorization Act of 2015 see: <https://www.congress.gov/bill/114th-congress/house-bill/2>.

⁹⁶ This percentage is based on the Colorado Medicaid re-priced dollars following the brokerage adjustment.

⁹⁷ For more information on the CMS Ambulance Fee Schedule and applicable add-ons, see: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AmbulanceFeeSchedule/afspuf.html> and for more detail on how the ambulance payment is calculated by Medicare, see: <http://medpac.gov/documents/payment-basics/ambulance-services-payment-system-15.pdf?sfvrsn=0>.



- a 10% payment reduction (calculated when claims are paid) applicable to NEMT trips to/from End Stage Renal Disease facilities;
- a 50% increase to the standard mileage rate applicable to the first 17 miles for rural ground ambulance transportation; and
- a 22.6% payment increase applicable to the base payment for super-rural trips.⁹⁸

Additionally, the Department researched and provided supplemental rates to derive suitable comparisons for those services not covered by the Medicare AFS. Information was drawn from the states of Alabama, Alaska, Arkansas, California, Connecticut, Montana, Nebraska, New Mexico, North Dakota and Wisconsin.⁹⁹ These rates were linked to claims on a procedure code basis. In cases where multiple rates were available for a single code, the simple average of all corresponding rates was used. Codes that were matched using this methodology accounted for another 26.7% of the data.

As mentioned above, the rate comparison analyses for both EMT and NEMT are combined in this section. Particular to NEMT services, there were two instances for which a comparable rate was not possible: the taxi service (A0100) and, the “nonemergency transportation: mini-bus, mountain area transports, or other transportation systems” (A0120). In Colorado, taxi rates are set by the Public Utilities Commission . Likewise, taxi rates are regulated in other states by similar agencies. As a result, rates are set independently of the Department’s rate setting process with minimal public information available to establish a reasonable comparison. The other highly utilized NEMT service (A0120) was removed from the analysis because a comparable rate was not found. The exclusion of these two services represented 6.87% and 5.01%, respectively, out of the total transportation paid base data during FY 2014-15. During this time, among NEMT services, service A0100 was the second largest paid and A0120 was the fourth largest.

Estimated Expenditures – Benchmark Analysis

The final segment of analysis involved using the defined utilization to re-price claims according to Colorado’s July 1, 2015 transportation rates and to those rates found in the Medicare AFS or the Department’s supplemental crosswalk of other states’ fees.¹⁰⁰ When appropriate, subtraction of third-party liability and co-payments was applied; additionally brokered data was adjusted for the missing months. This is an estimate of the total expenditures that would theoretically be reimbursed by each source.¹⁰¹

⁹⁸ Under the Basis of Payment section of rule at 42 C.F.R. §414.610 (c) (5), the bottom quartile of zip codes with the lowest population density are rural. Due to the zip code locations, they are popularly known as *super rural* areas. Thus, this payment bonus is contingent on this designation.

⁹⁹ The selection process was based solely on the most easily accessible and most recent publicly available information. Twenty eight states were looked at for updated comparable information, only 10 had comparable fees based on the states using FFS or non- managed reimbursement. To view differences in NEMT coverage policy by state, see: <http://kff.org/medicaid/state-indicator/non-emergency-medical-transportation-services/>.

¹⁰⁰ The other states’ rates crosswalk (i.e. crosswalk) is a table that maps rates from other states to Colorado’s by service code, detailed description and units, when a comparable Medicare rate is not found.

¹⁰¹ Third-party liability and co-payments were assumed to be unchanged as of July 2015. These dollars must be removed to isolate the costs to Medicaid.



Regarding these estimates of total expenditures, three caveats must be mentioned that lend additional perspective to their interpretation:

- Combining utilization with the fee schedule is an imperfect method of computing final reimbursement in Colorado due to the “lower of” payment (LOP) policy. LOP compares calculated payment with provider billed charges and final reimbursement is based on the lower of the two.
- Expenditures were only compared for the subset of Transportation services that are common to Colorado and another source. In other words, if neither Medicare nor the Department’s crosswalk could provide a rate for one of Colorado’s services, then the associated utilization and costs were not counted within the comparison results. For example:

Service	CO Rate	CO Utilization	CO Expenditures	Medicare Rate	Estimated Medicare Expenditures
A	\$2	10	\$20	N/A	N/A
B	\$3	10	\$30	\$4	\$40

Table 10 - Transportation services excluded rate example.

Only the row for service B would be used for comparison. However, this discounted portion of utilization and costs was small and did not detract from the overall validity of the analysis.

Lastly, the crosswalk provided by the Department includes states that use a fairly broad range of rates for the transportation services in question. The average from these ranges was used to re-price 26.7% of the data. As a result, a margin of error exists within the data.

Final results are presented in the Table 11:

	Without Brokerage Adjustment ^(a)	With Brokerage Adjustment ^(b)
Colorado as a Percent of Medicare/Other Sources' Expenditures	30.59%	30.74%
Colorado 7/1/15 Medicaid Repriced Amount	\$ 28,705,538	\$ 32,895,120
Medicare/Other Sources' Repriced Amount	\$ 93,834,283	\$ 107,024,738
Estimated Impact Total Fund	\$ 65,128,746	\$ 74,129,617
Estimated Impact General Fund^(c)	\$ 22,134,473	\$ 25,193,484

Table 11 - Transportation services final rate comparison results.

(a)Transportation base data using claims information for FY 2014-15 includes only eight months of available claims brokered data.

(b)Transportation adjusted data to the full FY 2014-15. The broker's average monthly cost over the final four months of FY 2014-15 was used to populate the first eight months to account for a full year of brokered data.

(c)These figures represent the Department's estimated impact to the General Fund.

Table 11 can be interpreted to mean that Colorado pays an estimated 69% less than the combination of Medicare and other states cited in the Department's crosswalk, regardless of whether the brokerage adjustment is considered. The brokerage adjustment does affect the magnitude of the difference between Colorado and the other sources.

Had Medicaid reimbursed at 100% of the combined benchmark's rates in FY 2014-15, it is estimated that Colorado would have spent approximately an additional \$65.1 million total funds and \$22.13 million General Fund *without* the brokerage adjustment. Conversely, Colorado would have spent approximately \$74.13 million total funds and \$25.19 million General Fund *with* the brokerage adjustment.¹⁰²

Given that the results of the analysis for this service type showed a significant difference between Colorado's estimated expenditures and the aggregated estimates for Medicare and the other states, the primary drivers of this difference were identified. Three procedure codes accounted for \$63.46 million of

¹⁰² The total funds amount includes federal funds, General Fund and various cash fund sources. Federal funds are calculated based on the state's Federal Medical Assistance Percentage (FMAP) for various eligible populations. The General Fund and various cash funds are the funding sources that reflect the state's responsibility. The General Fund calculation is the Department's estimate.

the \$74.1 million estimated impact total fund disparity (between Colorado Medicaid and the comparable amount):

- A0425 (ground mileage, per statute mile) has a July 1, 2015 Colorado Medicaid rate of \$1.81, while the average Medicare rate is more than four times higher at \$7.31 per mile;
- A0427 (ambulance service advanced life support emergency transport level 1) is paid at \$148.71 by Colorado, while the average Medicare rate is \$434.95; and
- T2003 (nonemergency transportation; encounter/trip) has a July 1, 2015 Colorado Medicaid rate of \$1.86; only one rate from Nebraska Medicaid was available for comparison at \$12.80.

These figures could be interpreted as the minimum impact for two reasons:

- as mentioned previously regarding the delimiting data step, claims that were denied, zero paid, or lacking valid eligibility status were removed along with their corresponding utilization; and
- a small portion of Colorado's expenditures was excluded because there were some services for which a comparable rate could not be found.

Conclusion

The increase in EMT service providers and the continued growth in EMT service utilization leads the Department to conclude that payments were sufficient to allow for client access and provider retention. However, EMT service providers cannot refuse services to clients. Therefore it is difficult to evaluate whether EMT service rates support appropriate reimbursement for high-value services. Results show that EMT service payments at 30.74% of the benchmark are significantly below Medicare and other states. Stakeholders shared this as a concern in the Rate Review Information Sharing Session.

The Department is committed to further evaluating utilization, access and rates for both NEMT and EMT transportation services, including the extent to which NEMT rates may impact access to transportation and identifying measures other than rates that may shed light on EMT-related transportation concerns. This includes understanding the impact of the 0.5% across-the-board rate increase and 9.93% targeted rate increase recently applied to certain NEMT and EMT service codes (both rate increases effective July 1, 2015).



X. Physician-Administered Drugs

Service Description

Physician-administered drugs are medications and devices that require delivery in an office under medical supervision. Physician-administered drugs are encompassed by Physician Services in the State Plan and are a mandatory service offered to all Colorado Medicaid clients. Providers that render physician-administered drugs must be enrolled in Medicaid. The Department is required to cover most drugs manufactured by members of the Medicaid Drug Rebate Program. The Medicaid Drug Rebate Program “requires a drug manufacturer to enter into, and have in effect, a national rebate agreement with the Secretary of the Department of Health and Human Services in exchange for state Medicaid coverage of most of the manufacturer’s drugs.”¹⁰³ Physician-administered drugs are different from pharmacy services, which consist of self-administered drugs and operate through a different claims system. Pharmacy services are not included in this report.

Utilizer Characteristics

In FY 2014-15, 181,824 clients used physician-administered drugs at a total expenditure of \$43,183,867.¹⁰⁴ The average annual paid amount per client utilizing physician-administered drugs was \$602.¹⁰⁵ Physician-administered drugs accounted for 0.74% of total Medical Services Premiums expenditures in FY 2014-15.¹⁰⁶ In order to better gain insight into utilization and access trends, analyses detailed in the Utilizer Characteristics, Provider Characteristics and Utilization and Access subsections of this report contain data for FY 2013-14 through FY 2014-15. All figures depict data across two fiscal years, unless otherwise noted.

Characteristics of the clients who utilized physician-administered drugs are notable in the following ways:

- the largest share of clients who received physician-administered drugs was the expansion adult population category (Figure 55);
- while the healthy and non-user segment comprised the largest single share of clients that utilized physician-administered drugs, more than half (64.84%) of the clients who received physician-administered drugs were in CRG categories that are not healthy, ranging from one chronic condition to severe life-threatening illnesses (Figure 56); and
- the largest age and gender grouping was women between 20-29 years old, presumably because many forms of contraception are included in this benefit (Figure 56).

¹⁰³ For more information, see: <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/benefits/prescription-drugs/medicaid-drug-rebate-program.html>.

¹⁰⁴ This number may differ from officially reported expenditures because the budget source of expenditure is the Colorado Operations Resource Engine (CORE). Any discrepancy between CORE data and MMIS data results from accounting adjustments and other financial transactions not captured in the MMIS.

¹⁰⁵ This total was calculated using the number of clients receiving physician-administered drugs at a physician office (71,680) rather than the 181,824 who received physician-administered drugs in all service settings.

¹⁰⁶ These dollar figures account for the drugs administered in a physician office. Access and utilization analyses included drugs administered in outpatient hospital and Community Health Center. Outpatient hospitals and Community Health Centers are excluded from the scope of the MPPRAC; expenditures associated with their claims were therefore excluded.

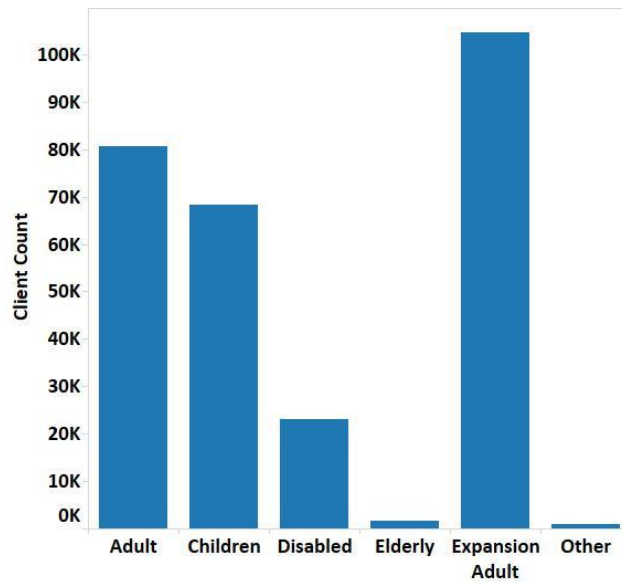


Figure 54 - Clients who received physician-administered drugs by population type.

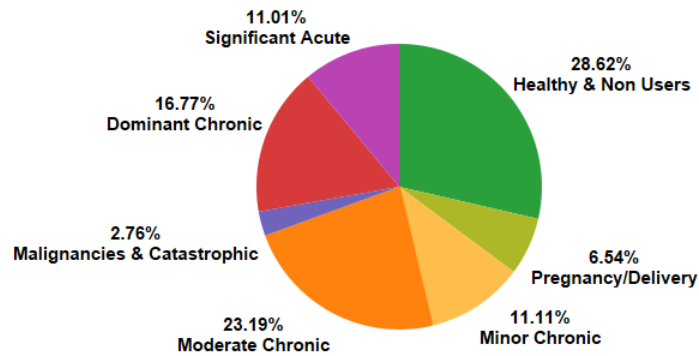


Figure 55 - Clients who received physician-administered drugs by CRG.

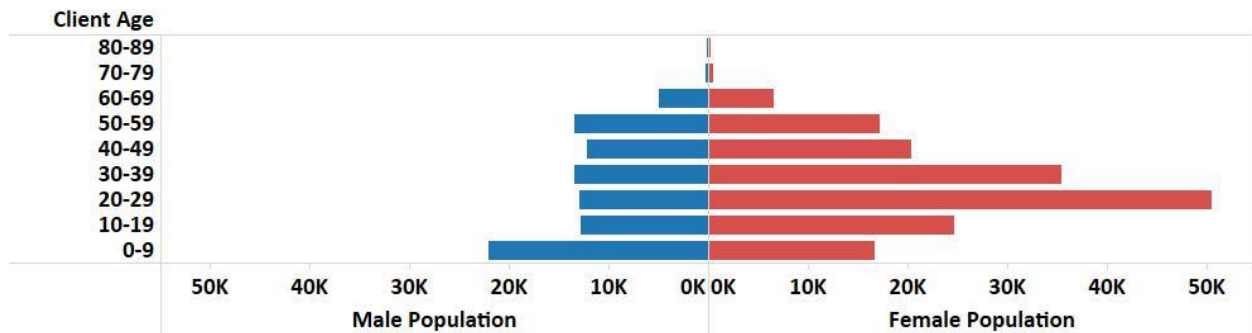


Figure 56 - Physician-administered drug utilizer age-gender population pyramid.

Provider Characteristics

From FY 2013-14 through FY 2014-15, the number of physician-administered drug providers reimbursed by Colorado Medicaid increased by 28.99%, from 759 to 979 (Figure 57).¹⁰⁷

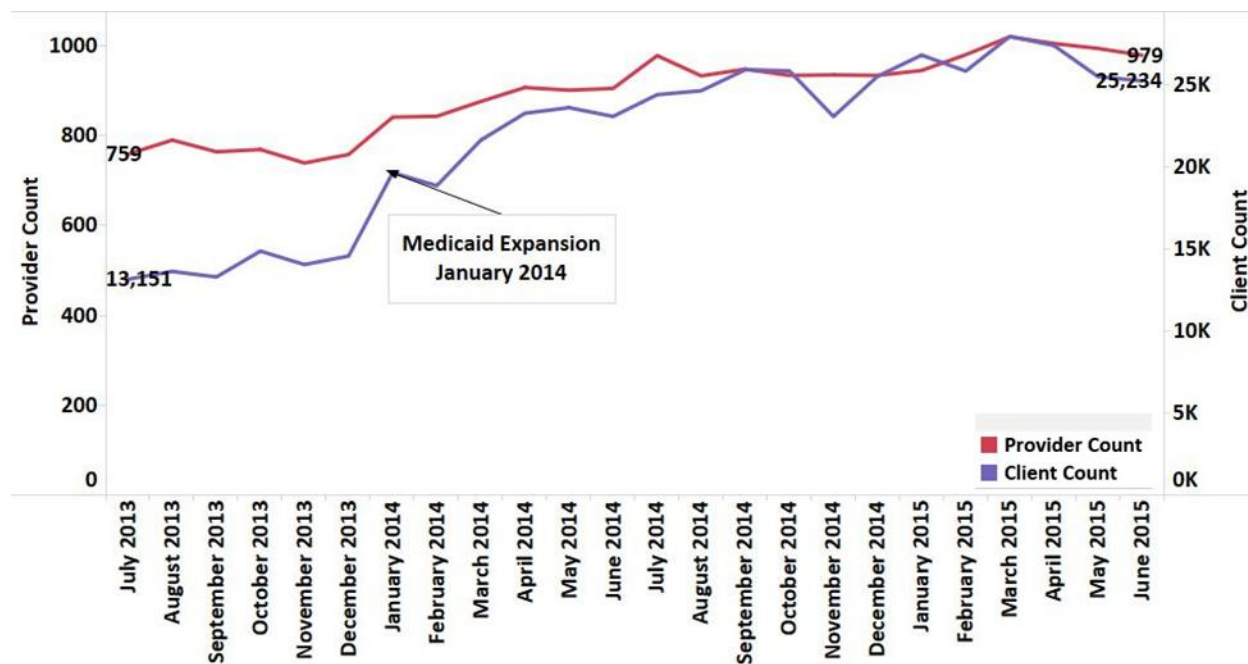


Figure 57 - Growth in clients who received physician-administered drugs and provider count.

The triangles on the following map of Colorado illustrate the billing zip code of each physician-administered drug provider and the number of Medicaid clients that utilized physician-administered drugs by county of residence is shown in shades of blue (Figure 58).¹⁰⁸ Counties with fewer than 30 clients residing in them are depicted as having 30 clients to limit protected health information (PHI).

¹⁰⁷ Numbers are aggregated at the month of service level and do not represent the total number of providers seen during the time period: 1,954.

¹⁰⁸ Medicaid clients in all counties received physician-administered drug services from out-of-state providers, represented by a triangle in the right margin of Figure 58.

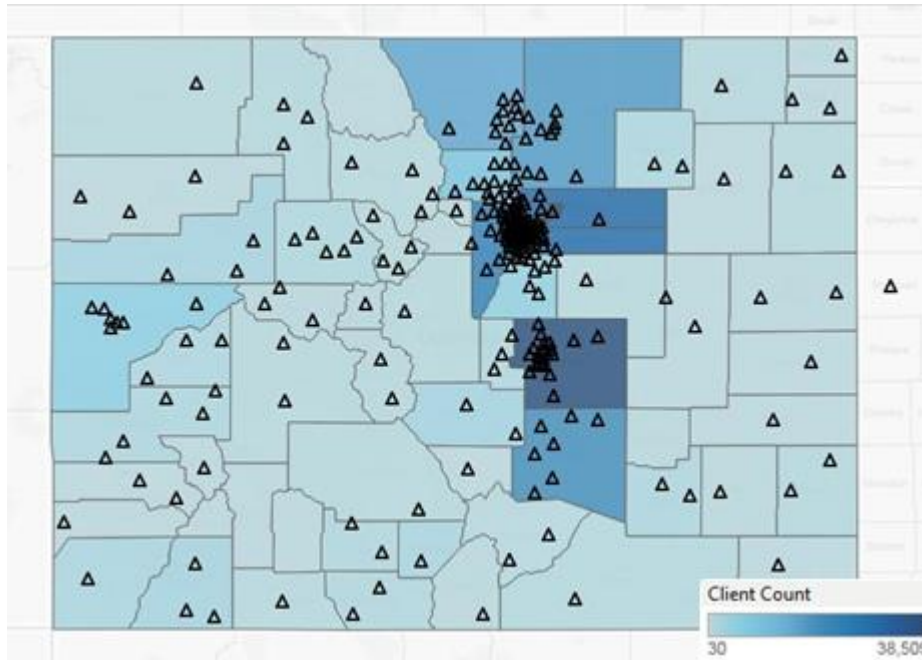


Figure 58 - Physician-administered drug utilizer density map and provider billing location.

When examining utilization and access data, there is a unique consideration specific to physician-administered drug providers. The majority of physician-administered drugs are provided in a physician's office or an outpatient setting. Reviewing outpatient hospital rates is outside the scope of the rate review process because the current reimbursement is based on a cost settlement process. However, because there was significant utilization in the outpatient hospital setting (71.94% of all administered drugs in FY 2014-15), it was important to include this data in the access and utilization portions of the analysis for a more complete picture (Figure 59).¹⁰⁹

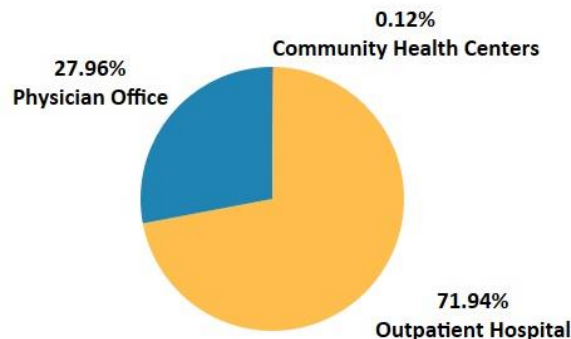


Figure 59 - Physician-administered drug provider type by utilization.

¹⁰⁹ While Community Health Center utilization is shown in the graphic it is less than actual utilization due to systems challenges associated with reporting more than one line, limiting the completeness of claims data. Physician-administered drug costs were included in the calculated encounter rate with the exception of only two services: J7303 (Implanon/Explanon) and 90469 (Gardasil), which are billed separately by these providers.

Utilization and Access

In January 2014, there was a large increase in physician-administered drug utilization (Figure 57). This increase was attributable, in part, to expansion population utilization, which accounted for 40.66% of the total physician-administered drug utilizer population (Figure 54). Utilization of physician-administered drugs also grew, to a lesser degree, for non-expansion clients throughout the observation period (Figure 60).

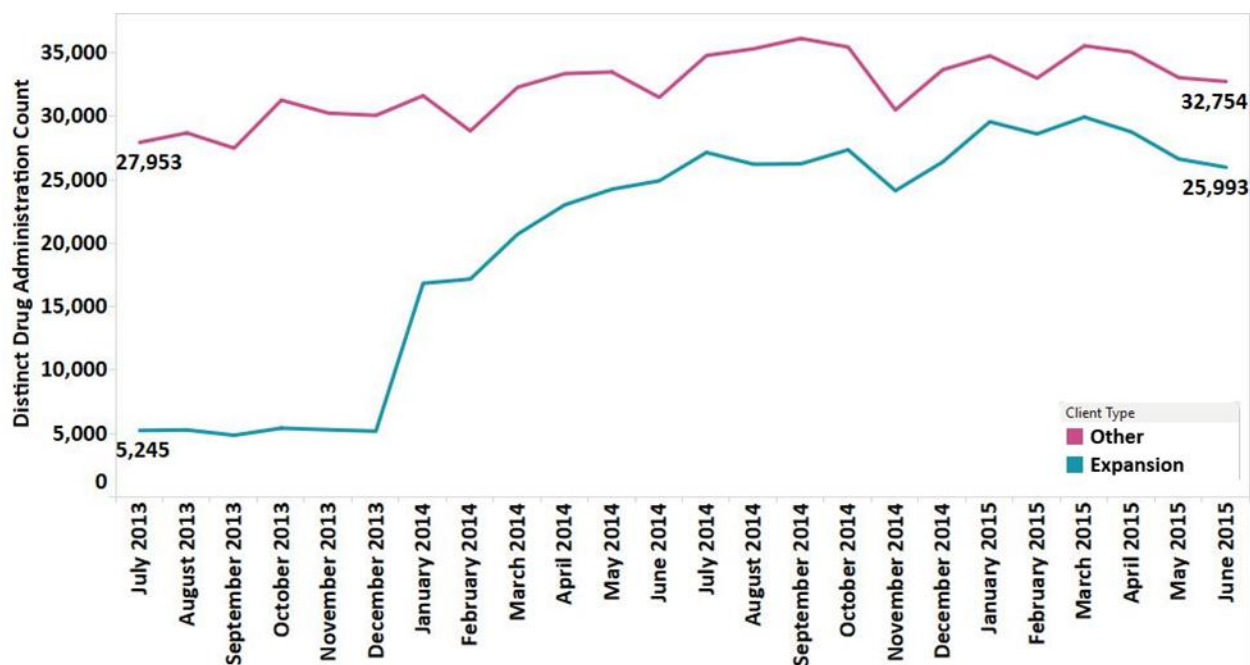


Figure 60 – Growth of clients who received physician-administered drugs by expansion status.

Other than the member to provider ratio, the Department is unaware of nationally accepted utilization and access standards for physician-administered drugs. Therefore, in addition to the member to provider ratio, the Department examined statewide, average (mean) utilization as the standard for comparison. The Department examined the following utilization indicators to analyze access to physician-administered drugs:

- the member to provider ratio (Figure 61);
- the percentage of the population that utilized physician-administered drugs (Figure 62); and
- the number of drug administrations per 1,000 FTEs (Figure 63).

The Department chose to examine physician-administered drug utilization by region (Figure 8).¹¹⁰ The metrics examined by the Department are not commentary on appropriate, target, or ideal utilization levels; they were used to determine if variations around the state could be attributable to access to care concerns in particular regions. If utilization in a given region was determined to be more than one standard

¹¹⁰ See Appendix 1 for a Health Statistics Region map key.

deviation above or below the state-wide average (depending on the metric), the Department selected this as an area in need of further research.

Figure 61 depicts the statewide average member to provider ratio (dark line; 95.8:1), meaning that there were 96 Medicaid FTEs for each physician who administered these drugs, a one standard deviation threshold (gray shaded area) and the member to provider ratio in each region (blue columns). For this metric, regions above the one standard deviation threshold may indicate a potential access concern; any region above the standard deviation threshold warranted further research. Regions 4, 14 and 15 (El Paso, Adams and Arapahoe counties) met this criteria.

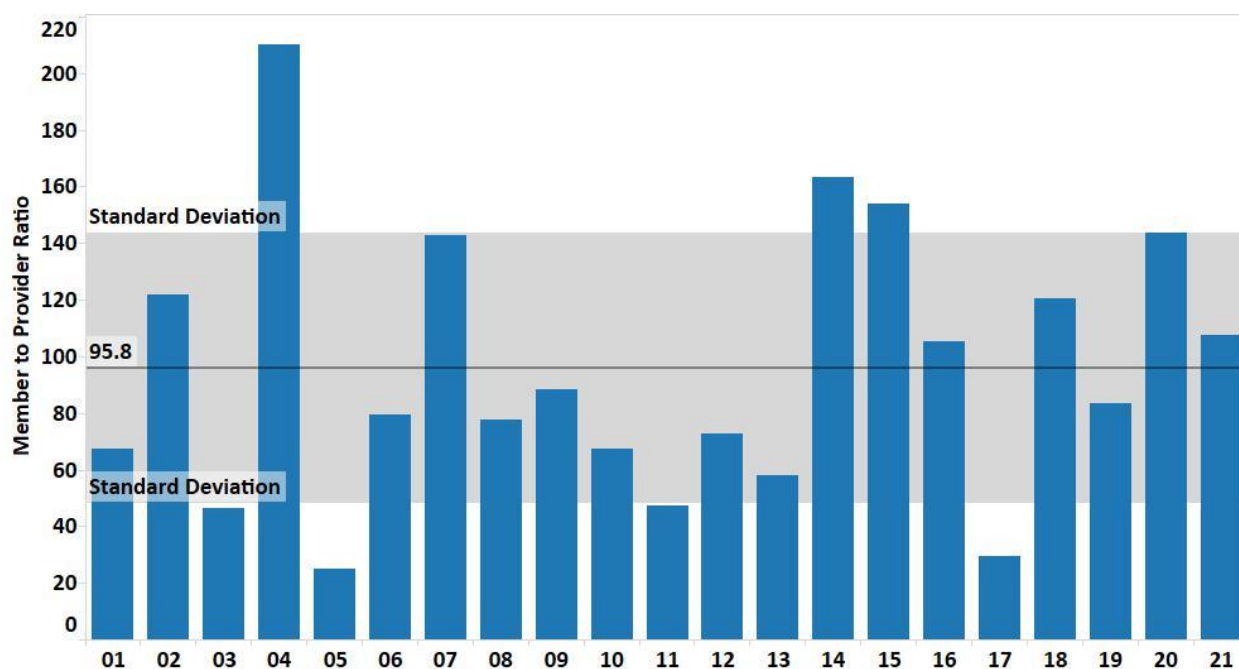


Figure 61 - Physician-administered drug member to provider ratio by region.

Figure 62 depicts the statewide average penetration rate, or the percent of the Medicaid population that utilized physician-administered drugs (dark line; 15.91%), a one standard deviation threshold (gray shaded area) and the average utilization by region (blue columns). For this metric, lower utilization may indicate a potential access concern; any region below the standard deviation threshold warranted further review. Penetration rates for regions 5 and 19, with utilization percentages of 11.82% and 11.15%, respectively, met this criteria.

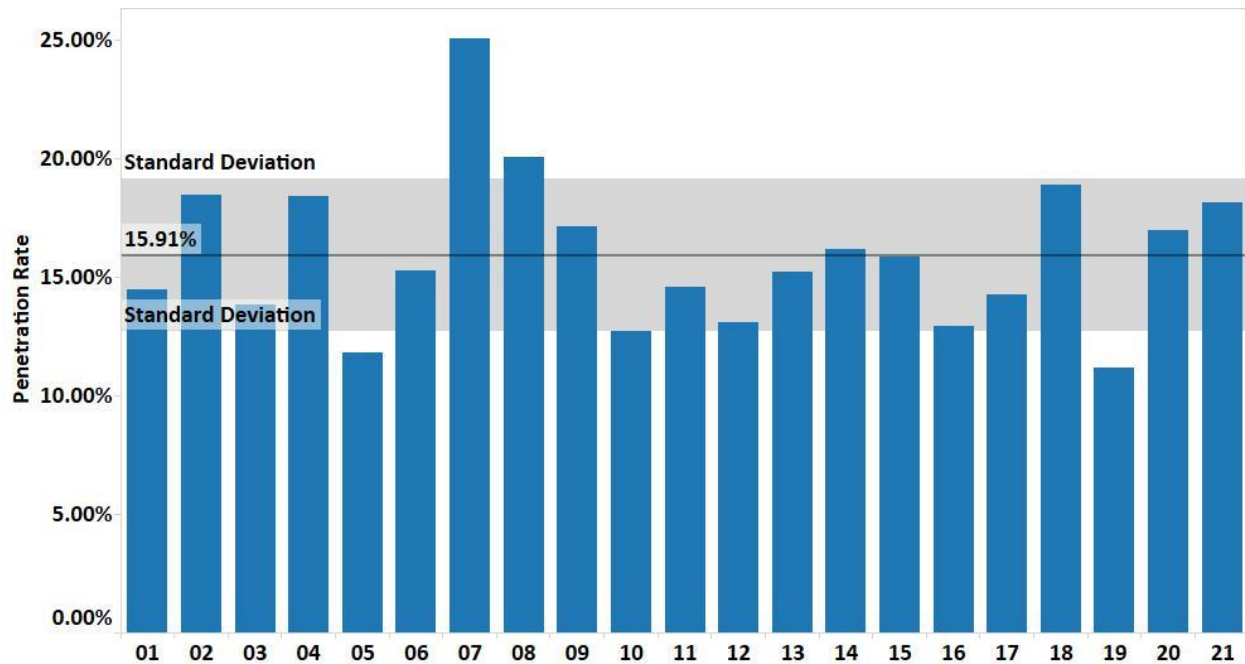


Figure 62 - Physician-administered drug penetration rate by region.

Figure 63 depicts the statewide average utilization per 1,000 FTEs (dark line; 1.25), a one standard deviation threshold (gray shaded area) and the number of distinct drug administrations per 1,000 FTEs by region (blue columns). For this metric, regions below the standard deviation threshold may indicate an access concern. Regions 1, 5, 6, 13 and 16 met this criteria and warranted further research.

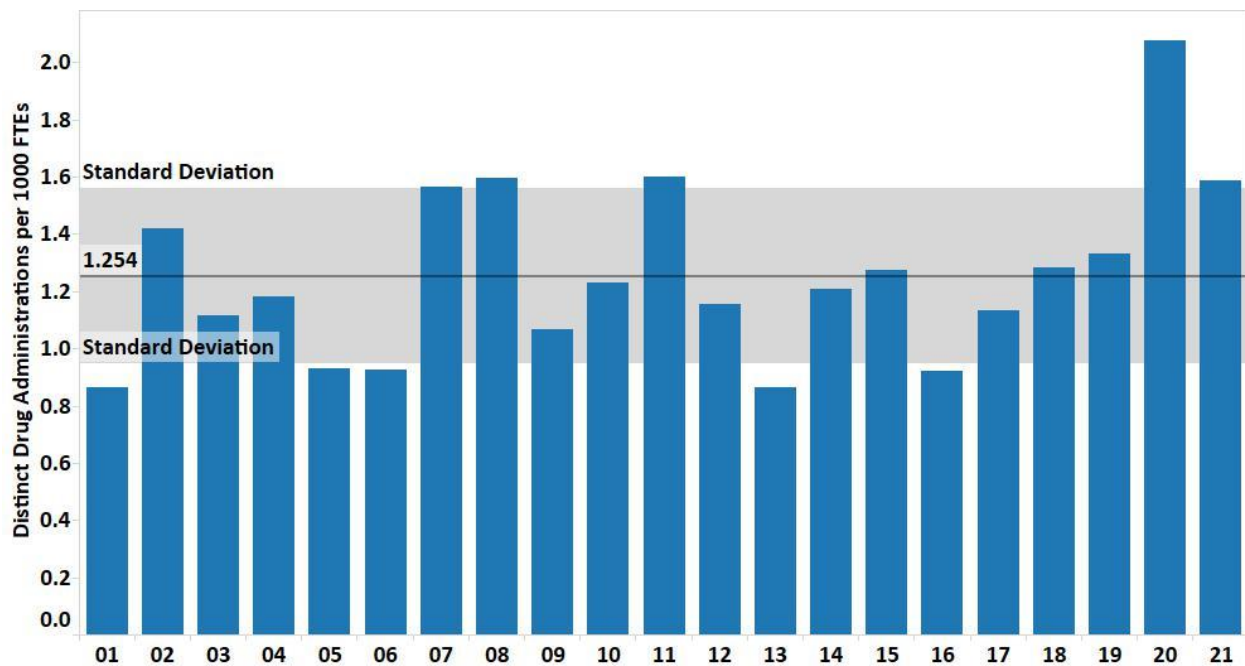


Figure 63 - Physician-administered drug administrations per 1000 FTEs by region.

Stakeholders in the Rate Review Information Sharing Session suggested that, when assessing access and utilization, the Department look at whether a drug was administered at a physician's office or in an outpatient hospital setting. The rationale given was that many physicians may have to send their patients to the outpatient hospital setting because physician reimbursement is too low. While the site of administration may indicate that services are not being provided in the most cost effective setting, it is not indicative of an access to care issue. If clients were able to receive these services in the outpatient hospital setting, it would indicate that access was available, especially in areas of the state where specialists may not provide services.

Members of the MPRRAC indicated that it would be beneficial to analyze utilization and access by common drug classes (e.g., oncology and contraception). However, time constraints limited the Department from creating a new crosswalk of HCPCS and National Drug Codes for use in this report.

Access Research

Three regions were flagged for further review of their member to provider ratio metrics. Highest above the standard deviation threshold was El Paso County, with a member to provider ratio of 210.4:1, meaning there were 210 Medicaid FTEs in El Paso County for every physician who administered these drugs in-county. All three regions are among the most populous counties in Colorado; together they are home to roughly 35% of all Medicaid FTEs. These regions were not outliers when measuring other metrics, which supports the hypothesis that the high member to provider ratio in these counties could be a reflection of the county population or proportion of the population enrolled in Medicaid, or the size of the providers in those counties, rather than an access to care issue.

Seven regions met the criteria for further review based on both the penetration rate and the number of drug administrations per 1,000 FTEs metrics. Upon closer inspection, with the exception of region 19, the number of providers administering drugs to clients who lived in these regions increased by at least 19.57%. With a penetration rate of 11.15%, Mesa County (HSR 19), met the threshold for a potential access concern.

Mesa County is a member of the Accountable Care Collaborative Rocky Mountain Health Plan Prime (ACC RMHP Prime) managed care organization (MCO), which began enrolling adults in September 2014. Because children are not enrolled in the MCO ACC RMHP Prime, the enrolled population in regions covered by ACC RMHP Prime is disproportionately older than other regions. Encounter data for Medicaid clients enrolled in MCOs is beyond the scope of this report and excluded from the analysis. The sharp decrease in utilization in region 19 may be explained by disproportionate utilization of physician-administered drugs among the adult population.

HSR 5 (Elbert, Lincoln, Cheyenne and Kit Carson Counties) was the only region that met criteria for more than one metric. Because the population group composition, CRG composition, and mix of the most commonly administered drugs did not vary substantially from that of the general utilizer population, the Department determined the lower utilization was not attributable to case mix or drug availability. While the number of providers who administered these drugs to clients grew by 25.71% in this region during the time period, lower utilization in both metrics may indicate an access to care issue.



Quality

Physician-administered drugs, and the rates and codes associated with them, are frequently also associated with other services provided in the physician practice and outpatient settings. Examples include encounter and management codes, visit codes and revenue codes. The Department does not directly measure quality for physician-administered drugs. The Department does collect data on quality measurements for physician services and outpatient hospital services. While outpatient hospital services are excluded from the rate review process, specific areas of physician services will be examined over the next two years and relevant quality metrics in these areas may serve as a proxy for measuring quality of certain physician-administered drugs at that time.

Rate Comparison

The Department contracted with Optumas, an actuarial consulting firm, to provide analytic support in comparing Medicaid provider rates to those established by Medicare, other states' Medicaid programs, and additional sources, where applicable.

Claims Data

The raw claims data for FY 2014-15 was subject to a validation process to ensure correctness. To do so, total payments were compared with budget numbers, payments over time were compared and a frequency analysis was completed. The result of this process indicated that the relevant Physician Administered Drugs services data was both complete and reliable.

During the analysis, it was also necessary to delimit the fee-for-service data to relevant utilization. Claims with denied status or that were otherwise zero paid were excluded because they do not factor into Colorado's total physician-administered drugs expenditures. Any claims associated with members enrolled in the CHP+ program were likewise excluded because these costs are incorporated into per-member-per-month capitation rates and thus are outside the scope of the rate review process. Finally, claims attributed to members without Medicaid eligibility for the month during which the service occurred were excluded as well. Once this process was completed, the total number of records equaled 359,950, which amounted to \$42,280,967 in paid dollars. A summary of these exclusions and their respective impacts on the base data is available in Appendix 4.

Comparable Rates

The Colorado Medicaid physician-administered drugs fee schedule is based on HCPCS and CPT codes.¹¹¹ New physician-administered drug rates are initially set based on Medicare or other available fees and subsequently updated to account for changes in appropriations.

¹¹¹ The Department maintains a list of physician-administered drug services that includes National Drug Codes. This list is also known as the Physician-administered Drugs Crosswalk and the last update of this file was completed in 2013. Refer to Appendix X at the following website:
<https://www.colorado.gov/pacific/sites/default/files/HCPCS%20to%20NDC%20crosswalk%20080913-2.pdf>.



Since physician-administered drugs include many services that are covered by Medicare, publicly available files and manuals related to the ASP Drug Pricing File were collected.¹¹² The ASP Drug Pricing File contains a list of fees used by Medicare to reimburse for Part B covered drugs. It is updated quarterly to account for market factors that affect the price such as: multiple manufacturers, alternative therapies, new products, recent generic entrants, or market shifts to lower price products. The Medicare fees are set at 106% of the average sale price (ASP) and are calculated based on data submitted by drug manufacturers. For this analysis, the Medicare fees were matched with claims on a procedure code basis. Overall, this process was successfully applied to 76.18% of the data.¹¹³

Additionally, the Department researched and provided supplemental rates to derive suitable comparisons for those services not covered by the ASP Drug Pricing File. Information was drawn from the states of Texas, Alabama, Nebraska, Mississippi, New Mexico and North Dakota.¹¹⁴ These rates were linked to claims on a procedure code basis. In cases where multiple rates were available for a single code, the simple average of the corresponding rates was used. Codes that were matched using this methodology accounted for virtually all of the remaining 23.82% of the base data.

Estimated Expenditures – Benchmark Analysis

The final segment of analysis involved using the defined utilization to estimate total expenditures using adjusted allowed dollars from the fee-for-service data, Colorado's July 1, 2015 physician-administered drugs fee schedule and rates found in the ASP Drug Pricing File or the Department's supplemental other states' rates crosswalk. A 0.5% increase was applied to both the allowed dollars and Colorado's fee schedule to reflect budget actions effective July 1, 2015. Next, utilization was multiplied by the corresponding rates from Colorado, the ASP Drug Pricing File and the other states' rates crosswalk, followed by subtraction of third-party liability and co-payments to calculate the estimated total expenditures that would theoretically be reimbursed by each source.^{115,116}

Regarding these estimates of total expenditures, two caveats must be mentioned that lend additional perspective to their interpretation:

- A separate comparison was made against the adjusted allowed dollars to account for the lower of pricing logic (LOP) payment process in Colorado. The LOP compares calculated payment with provider billed charges and final reimbursement is based on the lower of the two. Prior

¹¹² See Chapter 3 - MedPAC, Report to Congress, June 2015 at the following link:

[http://www.medpac.gov/documents/reports/chapter-3-part-b-drug-payment-policy-issues-\(june-2015-report\).pdf?sfvrsn=0](http://www.medpac.gov/documents/reports/chapter-3-part-b-drug-payment-policy-issues-(june-2015-report).pdf?sfvrsn=0)

¹¹³ This percentage is based on the total allowed dollars; this accounting was used in the comparison to account for the lower of pricing logic.

¹¹⁴ The selection process was based solely on the most easily accessible and most recent publicly available information.

¹¹⁵ Third-party liability and co-payments were assumed to be unchanged as of July 2015. These dollars must be removed to isolate the costs to Medicaid.

¹¹⁶ The other states' rates crosswalk (i.e. crosswalk) is a table that maps rates from other states to Colorado's by service code, detailed description and units, when a comparable Medicare rate is not found.

research conducted by the Department suggested that physician-administered drug rates have not been re-based recently, and incorporating these lower billed charges would therefore yield estimates that better reflect the true cost of services. The results of this analysis showed that estimating expenditures in this fashion does indeed produce a lower number than re-pricing at the physician-administered drugs fee schedule.

- Expenditures were only compared for the subset of physician-administered drugs services that are common to Colorado and another source. In other words, if neither Medicare nor the Department's crosswalk could provide a rate for one of Colorado's services, then the associated utilization and costs were not counted within the comparison results. For example:

Service	CO Rate	CO Utilization	CO Expenditures	Medicare Rate	Estimated Medicare Expenditures
A	\$2	10	\$20	N/A	N/A
B	\$3	10	\$30	\$4	\$40

Table 12 - Physician-administered drugs excluded rate example.

Only the row for service B would be used for comparison. However, this discounted portion of utilization and costs was relatively small and did not detract from the overall validity of the analysis.

Final results are presented in Table 13:

	CO 7/1/15 Medicaid Allowed Amount ^(a)	CO 7/1/15 Medicaid Repriced Amount ^(b)
Colorado as a Percent of Medicare/Other Sources' Expenditures	100.7%	106.5%
Estimated Total Expenditures	\$42,493,958	\$44,930,572
Medicare/Other Sources' Repriced Amount	\$42,184,486	\$42,184,486
Estimated Impact Total Fund	(\$309,471)	(\$2,746,086)
Estimated Impact General Fund^(c)	(96,300)	(854,517)

Table 13 - Physician-administered drugs final rate comparison results.

(a)The allowed amount is used here as a synonym for the payment amount. The allowed amount accounts for the lower of pricing by reimbursing the lower between the billed amount and the calculated amount.

(b)The repriced amount is used as a synonym for the calculated payment amount, which is the product between the units multiplied by the physician-administered drugs rate corresponding to each service.

(c)These figures represent the Department's estimated impact to the General Fund.

Table 13 can be interpreted to mean that Colorado pays an estimated 0.7% more than the combination of Medicare and other states when comparing to the allowed dollars in the data or 6.5% more when comparing to the fee schedule re-priced dollars.

Had Medicaid reimbursed at 100% of this combined benchmark's rates in FY 2014-15, it is estimated that Colorado could have saved \$2.7 million total funds and \$854,517 General Fund. Taking into account the LOP logic, Colorado could have saved \$309,471 total funds and \$96,300 General Fund. These figures could be interpreted as the minimum impact for two reasons:

- as mentioned previously regarding the delimiting data step, claims that were denied, zero paid, or lacking valid eligibility status were removed along with their corresponding utilization; and
- a small portion of Colorado's expenditures was excluded because there were some services for which a comparable rate could not be found.¹¹⁷

Colorado's estimated physician-administered drugs expenditures are higher than the aggregated estimates for Medicare and the other states reviewed. It should also be noted that a great deal of variation exists relative to the benchmark on a drug by drug basis. A number of Medicaid rates are considerably lower than the benchmark rate, and there are also a number of drugs for which the Medicaid rate is much higher than the benchmark rate.

Regarding the portion of services that were compared to Medicare alone (shown in the Medicare Repricing table of Appendix 4), potential changes in federal policy may soon affect this comparison. Research suggests that, when selecting between two similar drugs of different prices, providers under the current Part B reimbursement methodology may have a financial incentive to choose the higher cost alternative.^{118, 119} In March of 2016, CMS issued a proposed rule to revise the methodology for Part B drugs. One of the approaches included in the proposed rule would reduce the percentage paid above ASP from 6% to 2.5% and shift the difference in payments towards a flat administration fee of \$16.80, in a budget neutral manner. Other methodologies are included in the proposed rule such as reimbursing at ASP plus a tiered percentage add-on and, in a second phase, to implement value-based purchasing (VBP). Revised payment for Part B drugs will be implemented in the fall of 2016, once the proposed rule is finalized; the VBP phase would be implemented in January, 2017.¹²⁰

¹¹⁷ For instance, comparable rates could not be found for codes where payment has been consistently manually priced.

¹¹⁸ See Chapter 3 - MedPAC, Report to Congress, June 2015 at the following link:

[http://www.medpac.gov/documents/reports/chapter-3-part-b-drug-payment-policy-issues-\(june-2015-report\).pdf?sfvrsn=0](http://www.medpac.gov/documents/reports/chapter-3-part-b-drug-payment-policy-issues-(june-2015-report).pdf?sfvrsn=0).

¹¹⁹ Among the 106 rates for which Medicaid reimburses at a higher rate than Medicare, 39 drugs have a generic alternative available (such as Oxaliplatin). Other discrepancies may reflect the market changes over time.

¹²⁰ The proposed regulation is found at Federal Register Vol.81 No.48, see: <https://www.gpo.gov/fdsys/pkg/FR-2016-03-11/pdf/2016-05471.pdf>.



Conclusion

Results from physician-administered drug analyses suggest that payments at 100.7% of the benchmark were sufficient, in aggregate, to allow for provider retention and client access to most physician-administered drugs:

- the number of providers increased substantially from FY 2013-14 through FY 2014-15; and
- The number of clients receiving physician-administered drugs increased substantially from FY 2013-14 through FY 2014-15.

The increase in clients receiving physician-administered drugs could be attributed to the influx of newly eligible clients to Medicaid as a result of the Affordable Care Act. However, not only did utilization increase for expansion clients, utilization also increased for non-expansion clients.

Provider supply appears to have been sufficient to accommodate overall increases in utilization by both expansion and non-expansion clients, which would not be likely had reimbursement been insufficient.

While the Department concludes that, in aggregate, rates were sufficient to allow for client access and provider retention:

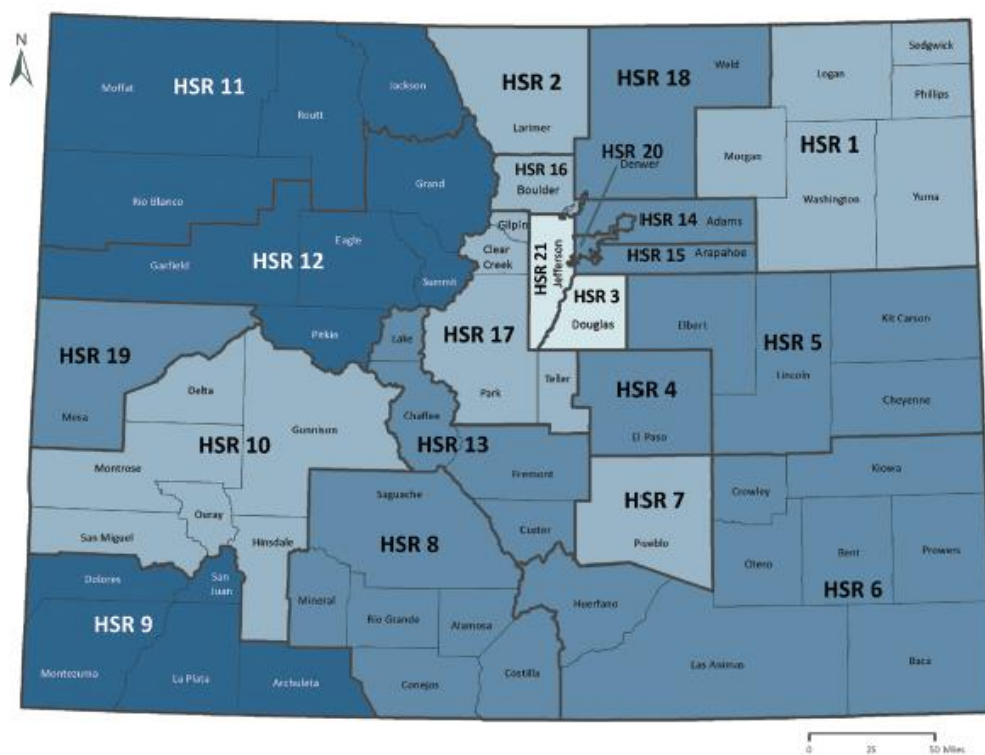
- Analysis results varied by region. There were indications of potential access concerns in Region 5, a rural region that fell below the standard deviation threshold for two of the access metrics analyzed. The Department cannot conclude whether payments were sufficient to ensure client access in that region.
- The Department is not able to draw conclusions regarding certain complexities that arose in the analyses. Specifically:
 - Due to different payment methodologies across physician offices, outpatient hospitals and Community Health Centers, providers may have a financial incentive to shift services to an outpatient hospital setting, regardless of rate sufficiency. While this is an area of concern for the Department, it does not indicate an access issue.
 - While utilization in the outpatient setting accounted for the majority of physician-administered drug utilization by volume, claims data does not provide information on necessity and/or appropriateness of setting. In rural areas, the outpatient hospital setting may be the only access point to certain specialty services. The Department will review access to physician specialty services in years two and three of the rate review process.

Although Medicaid pays above the benchmark in aggregate, a great deal of variation exists relative to the benchmark on a drug-by-drug basis. The majority of stated stakeholder concerns pertained to long-acting anti-psychotic drugs and, while the Department was unable to verify stated concerns via claims data, the Department anticipates receiving further quality and access data from stakeholders as this process continues.



XI. Appendices

Appendix 1 – Health Statistics Region Map Key



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

Appendix 2 - Methodology

Access and Utilization Analyses

Fee-for-service (FFS) claims data for FY 2013-14 and FY 2014-15, paid through December 15, 2015, were pulled from the MMIS. Clients with dual Medicaid-Medicare enrollment were included, however, crossover claims (in which Medicare pays first and Medicaid is the payer of last resort) were excluded. This resulted in the exclusion of the majority of Medicaid-Medicare enrollees for all services except home health and private duty nursing (PDN), for which Medicaid is often the primary payer.

The service utilizer population is a distinct count of clients who used any of the services under review during the time period. By contrast, references to the Medicaid population are FTE calculations based on member months obtained in an enrollment table in the decision support system (DSS) called the Client Monthly Table.¹²¹ Penetration rates use a distinct client count rather than the FTE calculation in their denominator (service utilizer population/distinct client count from the Client Monthly Table) to help normalize the metric across regions.

Population categories were determined based on client program aid codes, which are indicative of how the client became eligible for Medicaid (i.e.: pregnant woman; Home and Community-Based Elderly, Blind and Disabled; or Foster Care), and budget classifications that are used to determine the percentage of federal match. Clients sometimes move between categories based on various circumstances, such as changing income or enrollment into a waiver program.

Clinical Risk Groups (CRG) are determined based on 12 months of rolling claims history, so the number of people attributed to a particular CRG may change from month to month. Due to limited data availability from 3M, the CRG for each client in the third quarter of SFY2014-15 was assigned to the client for the entire two fiscal year time period assessed in the analysis. Because of known data exchange issues between 3M and the MMIS, a small portion of clients are not assigned a CRG (those with no history are categorized in the healthy non-users group); these clients have been removed from the CRG pie charts only. Due to claims runout, there is a time lag in the assignment or updating of CRGs. For example, a diagnosis that might change a client's category (i.e. diabetes), will be incorporated up to one quarter after the claim is paid.

Geographic information is not included on claims for clients with presumptive eligibility, therefore these clients have been removed from all geographic comparisons.¹²² Because the majority of presumptively eligible clients enroll after the first claim, most claims eventually map to the correct geographic region. For this reason, very few clients are entirely excluded. For all services, less than 0.05% of the service utilizer population were identified as presumptively eligible.

¹²¹ For example, if one client is enrolled for nine months and another client is enrolled for three months, together they qualify as one FTE.

¹²² For more information about presumptive eligibility in Colorado Medicaid, see:
<https://www.colorado.gov/pacific/hcpf/presumptive-eligibility>.



All geographic data, with the exception of provider zip codes as indicated by black triangles on maps, is based on the client county or zip code of residence. All out-of-state providers are grouped together and represented as a border zip code on maps; this placement does not reflect their actual location.



Appendix 3 – FY 2014-15 Summary Data for Laboratory Services

Laboratory Services	Record Count	Paid	Percent of Paid
Base Data	9,119,180	\$102,334,739	100.0%
Exclusions			
Denied	397,612	\$ -	0.0%
CHP+	3,108	\$28,290	0.0%
Outpatient Hospital (Cost-to-Charge Ratio)	3,787	\$584,012	0.6%
No Eligibility Span	86,685	\$858,185	0.8%
No Match	472,434	\$6,246,231	6.1%
Zero Paid	81,396	\$ -	0.0%
Zero Repriced	-	\$ -	0.0%
Total Exclusions	1,045,022	\$7,716,719	7.5%
Medicaid Repricing			
Total Base Medicaid Data to Reprice	8,074,158	\$94,618,020	92.5%
Medicaid Only	7,748,052	\$90,686,948	95.8%
Medicaid and Medicare Enrolled	33,304	\$308,221	0.3%
Other Commercial Insurance	292,802	\$3,622,851	3.8%
Total Medicaid July 2015 Repriced Amount ¹	8,074,158	\$99,180,000	



¹ Applied a 0.5% increase to FY 2014-15 data for all Lab/Path codes. The Medicaid July 2015 Repriced amount does not account for the "lower of billed" logic.

Laboratory Services	Repriced Dollars	Percent of Repriced
Medicare Repricing		
Total Medicaid Repriced with Medicare Rate	\$81,598,885	82.3%
Total Medicare July 2015 Repriced Amount	\$95,163,374	

Other Repricing		
Total Medicaid Repriced with Crosswalk Rate	\$12,810,083	12.9%
Total Crosswalk Repriced Amount (Average Rate)	\$12,165,342	

Total Repricing		
Total Medicaid Repriced with Matching Rate	\$94,408,968	95.2%
Total July 2015 Repriced Amount (All Sources)	\$107,328,717	



Appendix 4 – FY 2014-15 Summary Data for Private Duty Nursing

Private Duty Nursing	Record Count	Paid ¹	Percent of Paid
Base FY15 Data	329,643	\$62,538,051	100.0%
Exclusions			
Denied	5,167	\$ -	0.0%
CHP+	-	\$ -	0.0%
No Eligibility Span	208	\$21,248	0.0%
No Match Found	-	\$ -	0.0%
Zero Paid	1,388	\$ -	0.0%
Zero Repriced	-	\$ -	0.0%
Total Exclusions	6,763	\$21,248	0.0%
Medicaid Repricing			
Total Base Medicaid Data to Reprice	322,880	\$62,516,803	100.0%
Medicaid Only	231,280	\$45,137,473	72.2%
Medicaid and Medicare Enrolled	34,835	\$6,074,343	9.7%
Other Commercial Insurance	56,765	\$11,304,988	18.1%
Total Medicaid July 2015 Repriced Amount ²	322,880	\$67,026,186	

¹ TPL and Co-payments figures were excluded from the amounts used to compare payments.

² Applied a 0.5% increase to FY 2014-15 data for all codes except revenue code '0552' (PDN-RN), for which a 10.2% increase was applied. The Medicaid July 2015 Repriced amount does not account for the "lower of billed" logic.



Appendix 5 – FY 2014-15 Summary of Cost/Savings to Reimburse at 100% of Other States' Rates

Private Duty Nursing	Cost/(Savings) to Reimburse at 100% of Other States' Rates						
	CO	NC	NE	OH	LA	IL	ID
CO 7/1/15 Medicaid Repriced Amount ¹	\$67,026,186	\$61,319,349	\$61,319,349	\$58,621,871	\$67,026,186	\$61,319,349	\$61,319,349
Other State's Repriced Amount		\$54,861,941	\$54,563,296	\$46,629,371	\$49,472,695	\$43,254,229	\$42,379,881
Estimated Total Fund²		(\$6,457,407)	(\$6,756,052)	(\$11,992,499)	(\$17,553,491)	(\$18,065,120)	(\$18,939,468)
Estimated General Fund³		(\$3,163,665)	(\$3,309,980)	(\$5,875,464)	(\$8,599,949)	(\$8,850,611)	(\$9,278,978)

¹ For each comparison, a small portion of Colorado's estimated expenditures were excluded as a result of services for which a suitable analog could not be found.

² Due to the excluded utilization as well as instances in which a comparable service was not found, the Cost/Savings estimates may understate the impact.

³ These figures represent the Department's estimated impact to the General Fund.



Appendix 6 – FY 2014-15 Summary Data for Home Health

Home Health	Record Count	Paid ¹	Percent of Paid
Base FY15 Data	6,081,800	\$244,909,644	100.0%
Exclusions			
Denied	51,696	\$ -	0.0%
CHP+	1,826	\$81,339	0.0%
No Eligibility Span	27,000	\$985,717	0.4%
No Match Found	428	\$3,610	0.0%
Zero Paid	1,081	\$ -	0.0%
Zero Repriced	-	\$ -	0.0%
Total Exclusions	82,031	\$1,070,667	0.4%
Medicaid Repricing			
Total Base Medicaid Data to Reprice	5,999,769	\$243,838,978	99.6%
Medicaid Only	3,303,514	\$142,231,786	58.3%
Medicaid and Medicare Enrolled	1,863,193	\$67,884,798	27.8%
Other Commercial Insurance	833,062	\$33,722,394	13.8%
Total Medicaid July 2015 Repriced Amount ²	5,999,769	\$252,245,234	

¹ TPL and co-payment figures were excluded from the amounts used to compare payments.

²Applied a 0.5% increase to FY 2014-15 data for all home health codes. The Medicaid July 2015 Repriced amount does not account for the "lower of billed" logic.



Appendix 7 – FY 2014-15 Summary of Cost/Savings to Reimburse at 100% of Other States' Rates

Home Health	Cost/Savings to Reimburse at 100% of Other States' Rates						
	CO	NE	IL	NC	ID	OH	LA
CO 7/1/15 Medicaid Repriced Amount ¹	\$252,245,234	\$252,136,820	\$252,136,820	\$241,623,788	\$252,136,820	\$241,623,788	\$252,136,820
Other State's Repriced Amount		\$347,801,269	\$232,218,653	\$220,107,833	\$220,199,104	\$156,482,897	\$127,918,119
Estimated Total Fund Impact²		\$95,664,449	(\$19,918,166)	(\$21,515,955)	(\$31,937,716)	(\$85,140,891)	(\$124,218,700)
Estimated General Fund Impact³		\$45,266,197	(\$9,424,814)	(\$10,180,852)	(\$15,112,186)	(\$40,286,695)	(\$58,777,407)

¹ For each comparison, a small portion of Colorado's estimated expenditures were excluded as a result of services for which a suitable analog could not be found.

² Due to the excluded utilization as well as instances in which a comparable service was not found, the Cost/Savings estimates may understate the impact.

³ These figures represent the Department's estimated impact to the General Fund.





Appendix 8 – FY 2014-15 Summary Data for Transportation

Transportation	Record Count	Paid	Percent of Paid
Base Data	1,026,997	\$30,467,807	100.0%
Exclusions			
Denied	585	\$ -	0.0%
CHP+	136	\$6,259	0.0%
Paid After 9/30/2015	7,673	\$197,246	0.6%
No Eligibility Span	6,449	\$181,865	0.6%
Manually Priced	2,680	\$290,221	1.0%
Zero Paid	3,046	\$ -	0.0%
Zero Repriced	-	\$ -	0.0%
Total Exclusions	20,569	\$675,590	2.2%
Medicaid Repricing			
Total Base Medicaid Data to Reprice	1,006,428	\$29,792,216	97.8%
Total Medicaid July 2015 Repriced Amount ¹	1,006,428	\$36,698,202	
Total Medicaid Repriced with Brokerage Adjustment ²	1,006,428	\$43,067,619	

¹ The Medicaid July 2015 Repriced amount does not account for the "lower of billed" logic.

² This adjustment approximates the impact of the broker's operation for a full year.



	Medicare Repricing	Crosswalk Repricing
Non-Brokerage Claims		
Total Medicaid Repriced with Medicare Rate	\$16,096,924	\$5,818,241
Total Medicare July 2015 Repriced Amount	\$47,933,479	\$24,522,041
Brokerage Claims Adjusted		
Total Medicaid Repriced with Medicare Rate	\$9,355,156	\$1,624,799
Total Medicare July 2015 Repriced Amount	\$32,684,123	\$1,885,094

Total Medicare/Crosswalk Repricing with Brokerage Claims Adjusted	Repriced Dollars	Percent of Repriced
Total Medicaid Repriced with Matching Rate	\$32,895,120	76.4%
Total July 2015 Repriced Amount (All Sources)	\$107,024,738	



Appendix 9 – FY 2014-15 Summary Data for Physician-administered drugs

Physician-administered drugs	Record Count	Paid	Percent of Paid
Base Data	409,770	\$43,004,190	100.0%
Exclusions			
Denied	38,759	\$ -	0.0%
CHP+	77	\$7,316	0.0%
No Eligibility Span	3,634	\$273,009	0.6%
No Match	3,819	\$442,898	1.0%
Zero Paid	3,531	\$ -	0.0%
Zero Repriced	-	\$ -	0.0%
Total Exclusions	49,820	\$723,223	1.7%
Medicaid Repricing			
Total Base Medicaid Data to Reprice	359,950	\$42,280,967	98.3%
Total Base Medicaid Allowed Amount ^{1, 2}	359,950	\$42,494,023	
Total Medicaid July 2015 Repriced Amount ^{1, 2, 3}	359,950	\$44,930,636	

¹ Excludes TPL and Co-payments.

² Applied a 0.5% increase.

³ The Medicaid July 2015 Repriced amount does not account for the "lower of billed" logic.



Physician-administered drugs	Repriced Dollars	Percent of Medicaid
Medicare Repricing		
Total Medicaid Allowed Amount ¹ with Medicare Rate	\$32,371,127	76.2%
Total Medicaid Repriced with Medicare Rate	\$33,809,554	75.2%
Total Medicare Repriced Amount ²	\$32,243,716	
Total Medicare Repriced Amount ³	\$32,243,716	

Other Repricing		
Total Medicaid Allowed Amount ¹ with Other State Rate	\$10,122,831	23.8%
Total Medicaid Repriced with Other State Rate	\$11,121,018	24.8%
Total Other State Average Repriced Amount ²	\$9,940,770	
Total Other State Average Repriced Amount ³	\$9,940,770	

Total Repricing		
Total Medicaid Allowed Amount ¹ with Matching Rate	\$42,493,958	100.0%
Total Medicaid Repriced with Matching Rate	\$44,930,572	100.0%



Total July 2015 Repriced Amount ²	\$42,184,486	
Total July 2015 Repriced Amount ³	\$42,184,486	

¹ Applied a 0.5% increase.

² Total Amount Over the FY 2014-15 Medicaid Allowed Amount.

³ Total Amount Over the Medicaid July 2015 Repriced Amount.



Appendix 10 – Year One Service Summaries

The following six pages contain service summaries for: laboratory services; private duty nursing services; home health services; non-emergent medical transportation services; emergency medical transportation services; and physician-administered drugs.

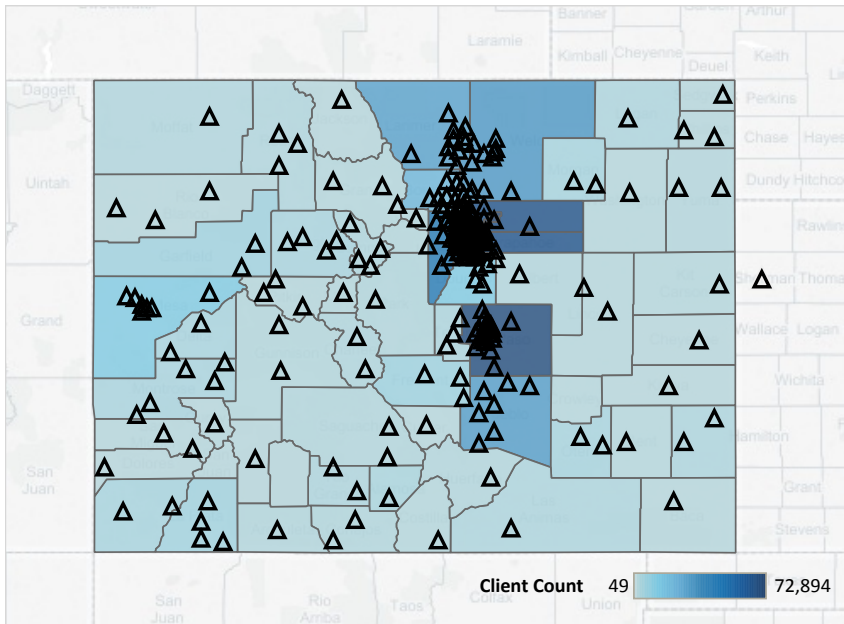




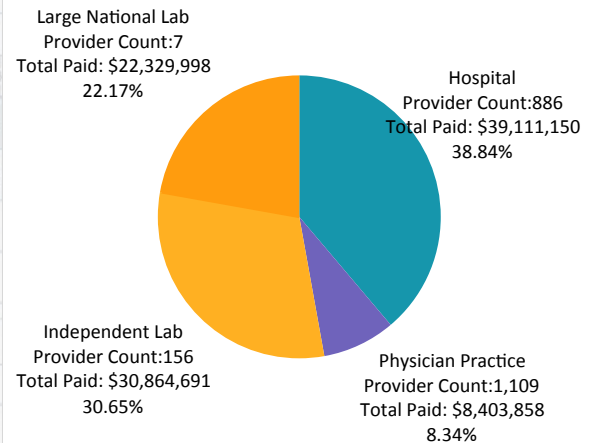
Laboratory Services Summary State Fiscal Year 2014-15

Client Count	Total Paid	Avg. Paid Per Utilizer	PMPM	Provider Count
517,326	\$100,709,696	\$194.67	\$4.53	1,870

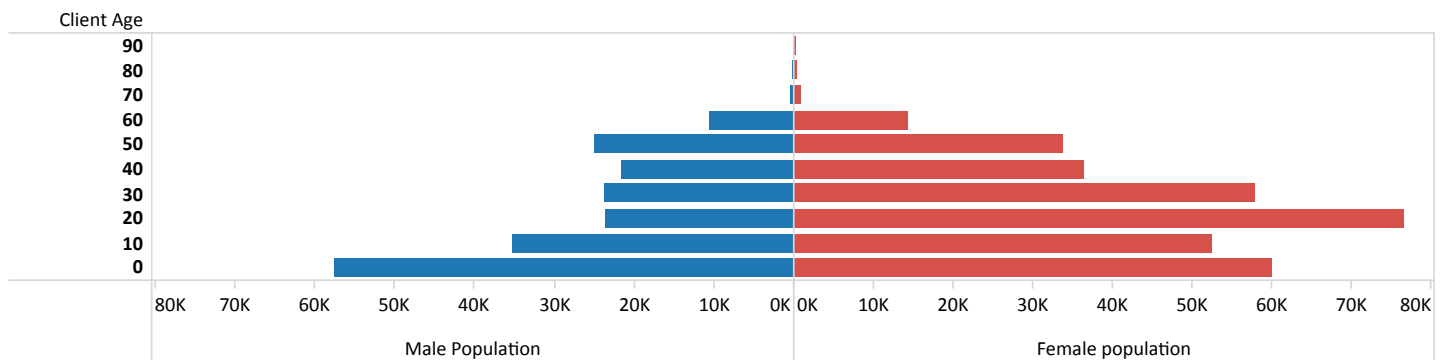
Utilizer Density Map and Provider Billing Location
(Triangles indicate provider billing location zip code)



Type of Lab



Age-Gender Population Pyramid



Top Laboratory Services (Top 23 codes encompass 50% of expenditures for laboratory services)

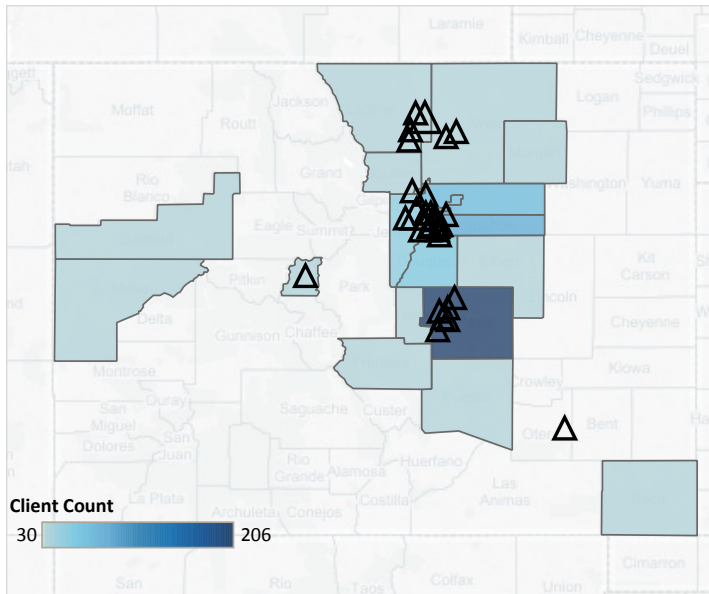
Service Code	Service Description	Avg. Paid Per Utilizer	Client Count	% of Total Paid	Total Paid
87491	Chylmd trach dna amp probe	\$58.80	82,621	4.72%	\$4,857,998
87591	N.gonorrhoeae dna amp prob	\$58.79	82,216	4.69%	\$4,833,543
81220	Cftr gene com variants	\$1,086.23	3,735	3.94%	\$4,057,073
88305	Tissue exam by pathologist	\$101.04	38,369	3.76%	\$3,876,886
80053	Comprehen metabolic panel	\$22.95	155,782	3.47%	\$3,575,556
85025	Complete cbc w/auto diff wbc	\$17.07	185,768	3.08%	\$3,171,205
84443	THYROID STIM HORMONE	\$27.37	102,738	2.73%	\$2,812,451
80050	General health panel	\$47.71	58,259	2.70%	\$2,779,721
80101	Drug Screen	\$208.43	12,518	2.53%	\$2,609,171
80061	Lipid panel	\$20.09	115,651	2.26%	\$2,323,988
81211	Brca1&2 seq & com dup/del	\$2,908.90	735	2.08%	\$2,138,044
82306	Vitamin d 25 hydroxy	\$45.83	42,680	1.90%	\$1,956,079
87880	STREP A ASSAY W/OPTIC	\$19.11	80,721	1.50%	\$1,542,361
80048	Metabolic panel total ca	\$16.04	89,058	1.39%	\$1,428,589



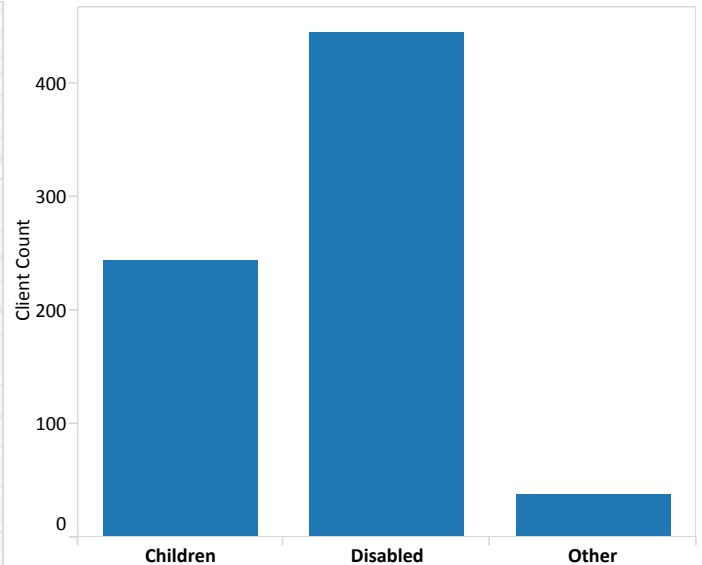
Private Duty Nursing Summary State Fiscal Year 2014-15

Client Count	Total Paid	Avg. Paid Per Utilizer	PMPM	Provider count
614	\$62,835,661	\$102,338	\$2.83	34

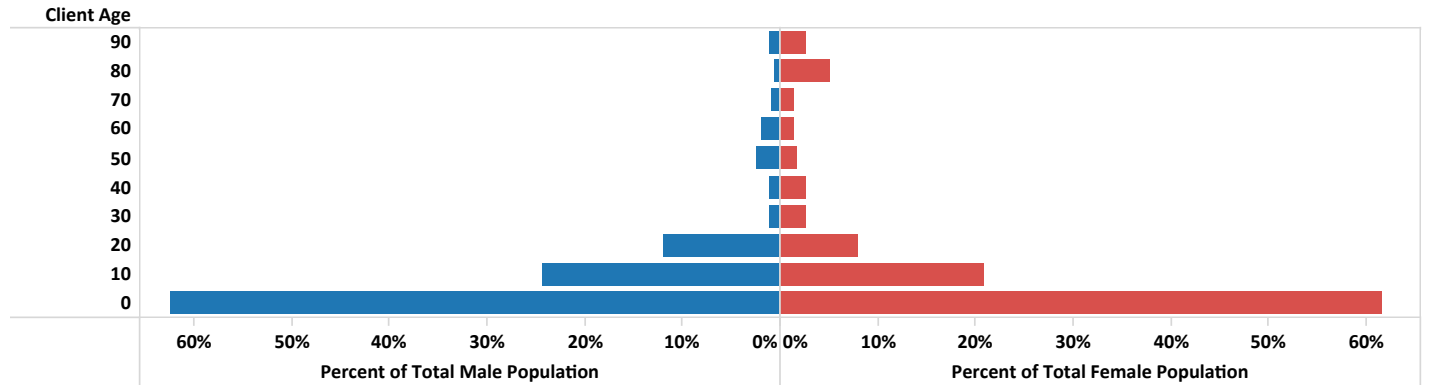
Utilizer Density Map and Provider Billing Location
(Triangles indicate provider billing location zip code)



Utilizer Population



Age-Gender Population Pyramid



PDN Services

Rev Cd	Service Description	Client Count	Provider count	Avg. Paid Per Utilizer	% of Total Paid	Total Paid
0552	RN Skilled Nurse	540	33	\$77,940	66.98%	\$42,087,429
0559	LPN Skilled Nurse	368	28	\$33,675	19.72%	\$12,392,337
0580	RN Group Visit				3.08%	\$1,937,986
0582	Blended Group Rate	63	7	\$89,988	9.02%	\$5,669,225
0581	LPN Group Visit				1.19%	\$748,683

Top Diagnoses

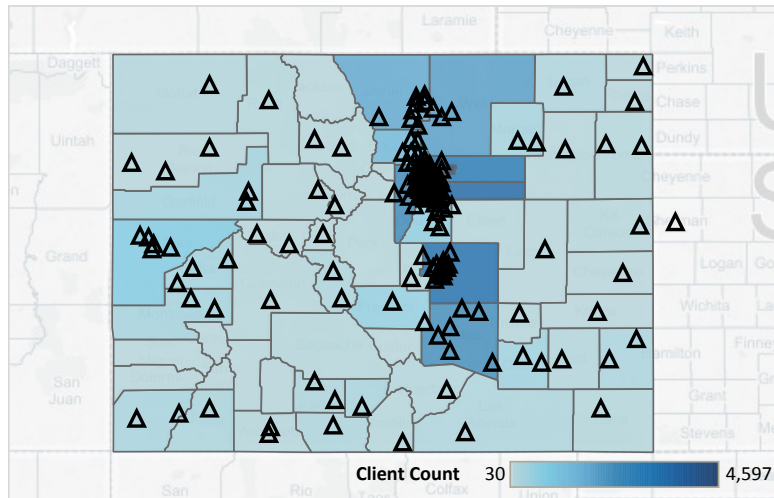
Nursing Level	Rank	Principal Diagnosis
LPN	1	INFANTILE CEREBRAL PALS
	2	OTHER DISEASES OF LUNG
	3	OTHER PARALYTIC SYNDROMES
	4	OTHER RESPIRATORY CONDITIONS OF FETUS &
	5	OTHER CONGENITAL ANOMALIES OF NERVOUS SY
	6	OTHER & UNSPECIFIED CONGENITAL ANOMALIES
	7	CHROMOSOMAL ANOMALIES
RN	1	INFANTILE CEREBRAL PALS
	2	OTHER DISEASES OF LUNG
	3	OTHER RESPIRATORY CONDITIONS OF FETUS &
	4	CHROMOSOMAL ANOMALIES
	5	OTHER & UNSPECIFIED CONGENITAL ANOMALIES
	6	EPILEPSY AND RECURRENT SEIZURES
	7	OTHER CONDITIONS OF BRAIN



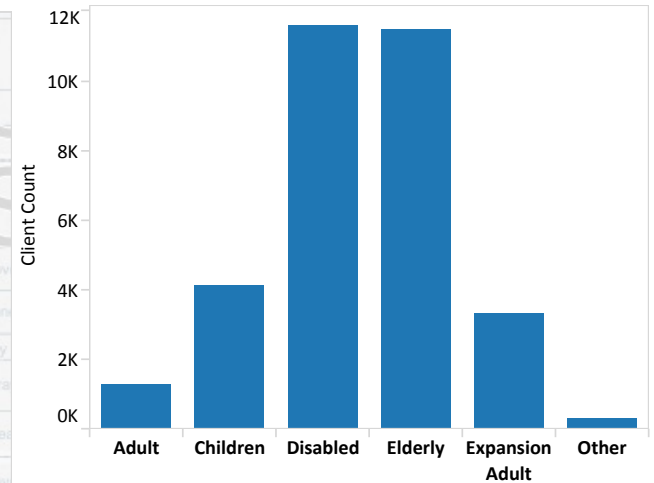
Home Health Services Summary State Fiscal Year 2014-15

	Client Count	Total Paid	Avg. Paid Per Utilizer	PMPM	HH Agency Count
Acute Home Health	23,305	\$34,213,113	\$1,468	\$1.54	443
Long Term Home Health	12,688	\$214,604,533	\$16,914	\$9.65	180

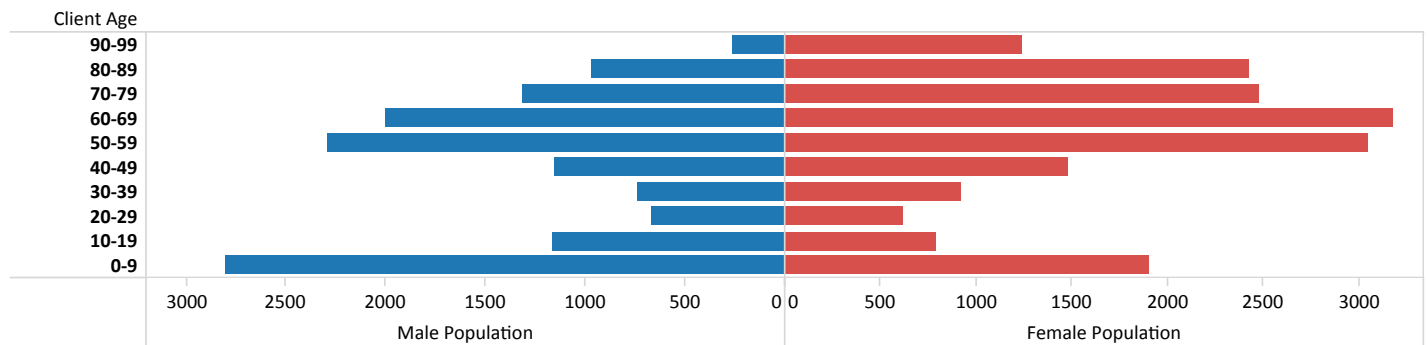
Utilizer Density Map and Provider Billing Location
(Triangles indicate provider billing location zip code)



Utilizer Population



Age-Gender Population Pyramid



Home Health Services

Rev Cd	Service Description	Client Count	HH Agency Count	% of Total Total Paid al..	Total Paid
0571	Home Health Aide initial visit	4,886	123	40.53%	\$100,833,775
0579	Home Health Aide extende..	3,261	101	19.05%	\$47,397,483
0551	Skilled Nursing- Long Term	5,473	136	13.40%	\$33,339,923
0550	Skilled Nursing- Acute	7,906	154	5.38%	\$13,395,234
0441	Speech Therapy Visit	2,627	61	3.60%	\$8,956,903
0570	Home Health Aide initial visit	2,383	124	3.16%	\$7,872,543
0590	RN Brief 1st of day	894	60	3.12%	\$7,760,748
0431	Occupational Therapy/Visit	2,519	79	2.83%	\$7,051,333
0421	Physical Therapy/ Visit	2,620	79	2.60%	\$6,466,958
0420	Physical Therapy- Acute	14,079	407	2.54%	\$6,313,654
0599	RN Brief 2nd or >	238	35	1.12%	\$2,778,773
0430	Occupational Therapy- Acute	7,844	363	1.09%	\$2,711,583
0572	Home Health Aide Hour ext..	1,169	72	0.98%	\$2,434,820
0440	Speech Therapy- Acute	3,377	304	0.50%	\$1,247,764
0424	Physical Therapy/ Eval	8,028	243	0.05%	\$120,210
0434	Occupational Therapy/ Eval	4,617	242	0.05%	\$113,276
0780	Telehealth	30	6	0.01%	\$18,637
0583	Telehealth	30	3	0.00%	\$4,029

Primary Diagnoses

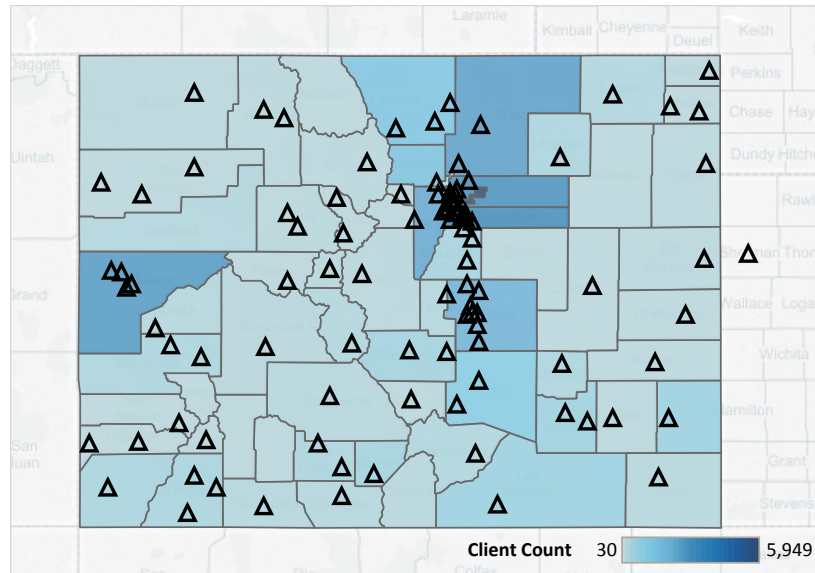
HH Category	Rank	Principial Diagnosis
Acute	1	DIABETES MELLITUS
	2	INFANTILE CEREBRAL PALSY
	3	CARE INVOLVING USE OF REHABILITATION PRO
	4	OTHER & UNSPEC PROCEDURES AND AFTERCARE
	5	PERVASIVE DEVELOPMENTAL DISORDERS
	6	OTHER ORTHOPEDIC AFTERCARE
	7	EPILEPSY AND RECURRENT SEIZURES
	8	CHROMOSOMAL ANOMALIES
	9	MULTIPLE SCLEROSIS
Long Term	1	INFANTILE CEREBRAL PALSY
	2	DIABETES MELLITUS
	3	PERVASIVE DEVELOPMENTAL DISORDERS
	4	CHROMOSOMAL ANOMALIES
	5	SPECIFIC DELAYS IN DEVELOPMENT
	6	OTHER CONGENITAL ANOMALIES OF NERVOUS SY
	7	OTHER PARALYTIC SYNDROMES
	8	OTHER & UNSPECIFIED CONGENITAL ANOMALIES
	9	EPILEPSY AND RECURRENT SEIZURES



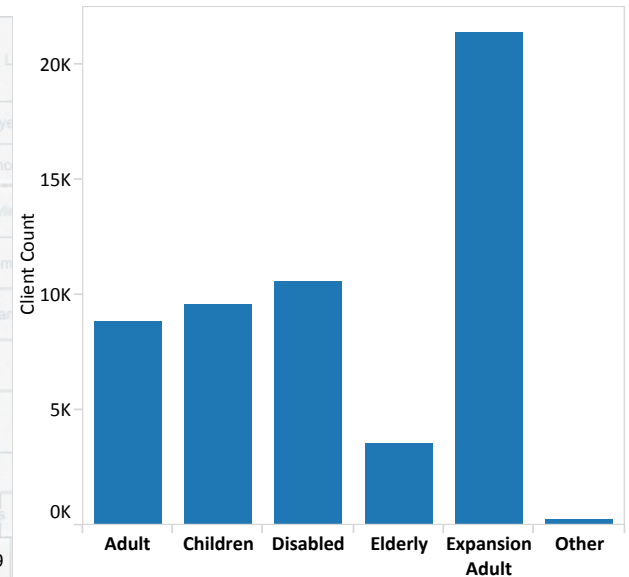
Non-Emergent Medical Transportation Services Summary November 1, 2014- June 30, 2015

Client Count	Total Paid	Avg. Paid per Utilizer	PMPM	Provider Count
28,684	\$9,051,135	\$316	\$0.41	133

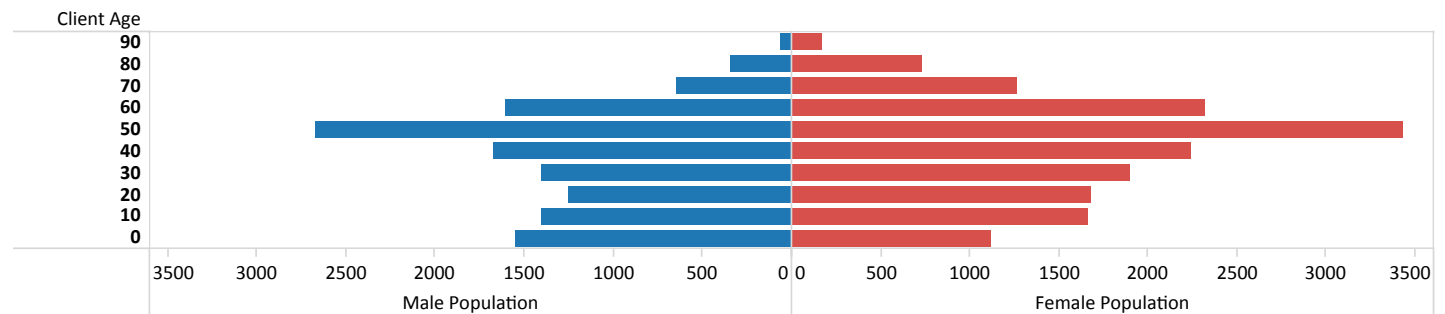
Utilizer Density Map and Provider Billing Location
(Triangles indicate Provider billing zip codes)



Utilizer Population



Age-Gender Population Pyramid



NEMT Services

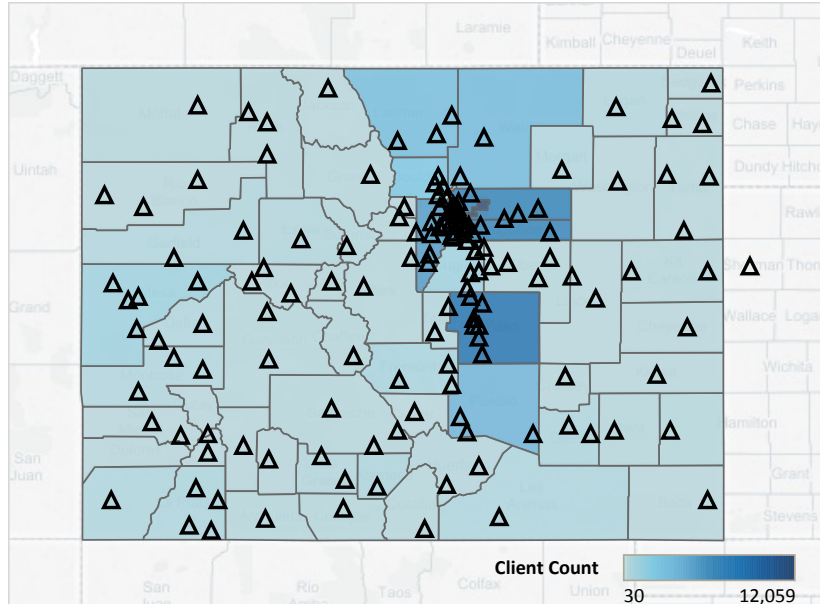
Service Code	Service Description	Unit Definition	Client Count	Provider Count	Avg. Units per person	Avg. Paid per Utilizer	% of Total Paid	Total Paid
A0120	Mobility Van	One Way Trip	8,116	23	20	\$224	20.10%	\$1,818,888
T2003	N-et; encounter / trip	One Way Trip	1,448	23	729	\$1,181	18.90%	\$1,710,775
A0100	Taxi	One Way Trip	10,008	15	8	\$159	17.53%	\$1,587,071
A0130	Wheelchair Van	One Way Trip	3,529	25	18	\$321	12.51%	\$1,132,687
A0090	Individual Vehicle	Mile	3,381	38	855	\$316	11.81%	\$1,068,586
A0428	Basic Life Support	One Way Trip	6,398	66	2	\$166	11.71%	\$1,059,672
A0426	Advanced Life Support, Level 1	One Way Trip	1,572	50	1	\$106	1.83%	\$165,846
A0110	Public Transportation	Public Transit	171	7	18	\$728	1.38%	\$124,462
A0200	Escort Lodging	Per Diem	278	29	13	\$356	1.09%	\$98,997
A0080	Volunteer Vehicle	Mile	391	12	519	\$193	0.83%	\$75,346
A0180	Member Lodging	Per Diem	343	24	9	\$213	0.81%	\$73,221
S0209	Wheelchair Van	Mile	860	13	104	\$79	0.75%	\$67,744
A0190	Member Meals	Per Diem	335	18	8	\$85	0.32%	\$28,524
A0210	Escort Meals	Per Diem	290	20	7	\$97	0.31%	\$28,051
T2001	Escort Transportation	One Way Trip					0.04%	\$3,750
T2005	Stretcher Van	One Way Trip	34	1	8	\$135	0.05%	\$4,597
A0140	Train and/or Air	One Way Trip					0.03%	\$2,917



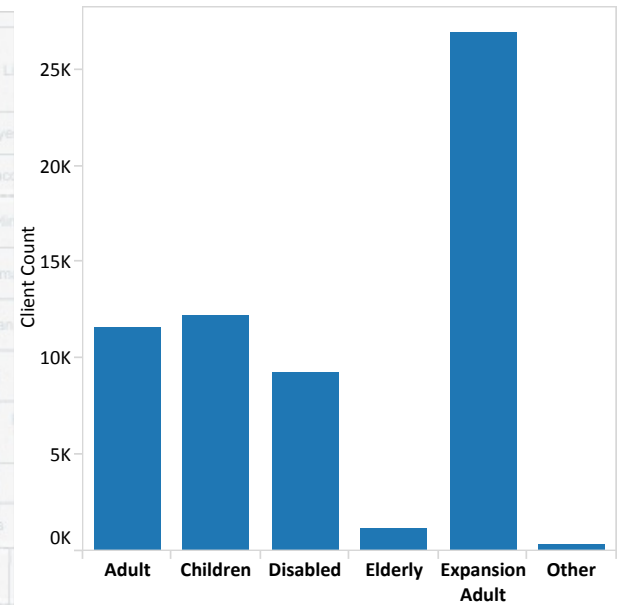
Emergency Transportation Services Summary State Fiscal Year 2014-15

Client Count	Total Paid	Avg. Paid per Utilizer	PMPM	Provider Count
59,081	\$15,306,850	\$259	\$0.69	223

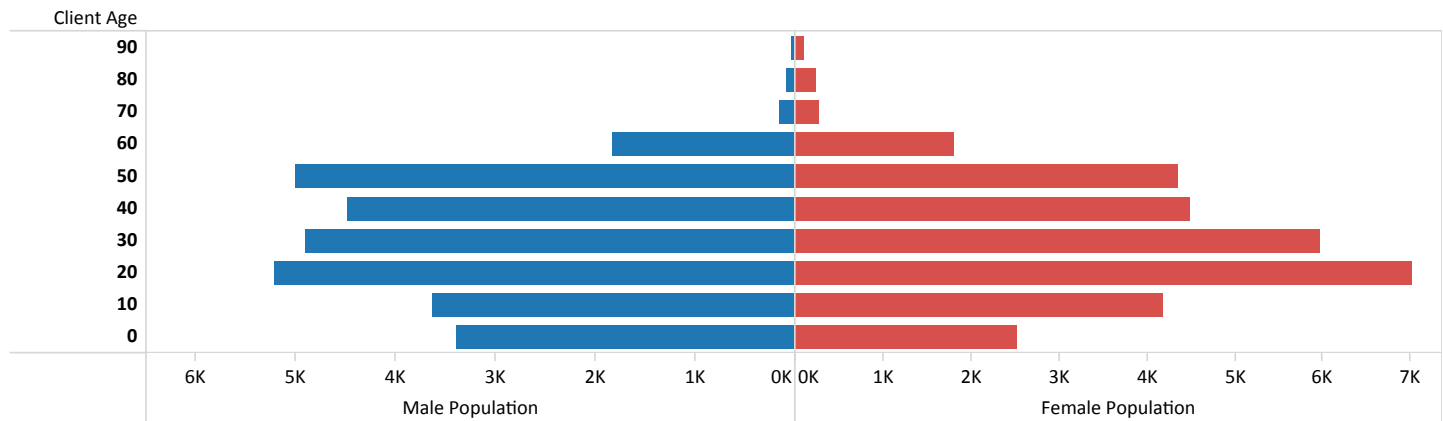
Utilizer Density Map and Provider Billing Location
(Triangles indicate Provider billing location zip codes)



Utilizer Population



Age-Gender Population Pyramid



Emergency Transportation Services

Service Code	Service Description	Unit Definition	Client Count	Provider Count	Avg. Units per person	Avg. pd per person	% of Total Paid	Total Paid
A0427	Advanced Life Support, Level 1	One Way Trip	35,576	160	2	\$208	48.44%	\$7,414,034
A0429	Basic Life Support	One Way Trip	21,865	160	1	\$136	19.50%	\$2,984,556
A0431	Rotary wing air transport	One Way Trip	995	28	1	\$1,797	11.68%	\$1,787,837
A0425	Mileage- In State	Mile	56,145	188	16	\$25	9.14%	\$1,399,164
A0430	Fixed wing air transport	One Way Trip	607	20	1	\$1,971	7.82%	\$1,196,258
A0433	Advanced Life Support, Level 2	One Way Trip	1,271	82	1	\$177	1.47%	\$224,429
A0434	Specialty care transport	One Way Trip	1,038	26	1	\$191	1.29%	\$197,758
A0422	Life Sustaining Supplies	Per Unit	6,648	62	1	\$14	0.62%	\$94,719
A0225	Neonatal	One Way Trip	61	2	1	\$125	0.05%	\$7,623
A0021	Mileage- Out of State	Mile						\$471



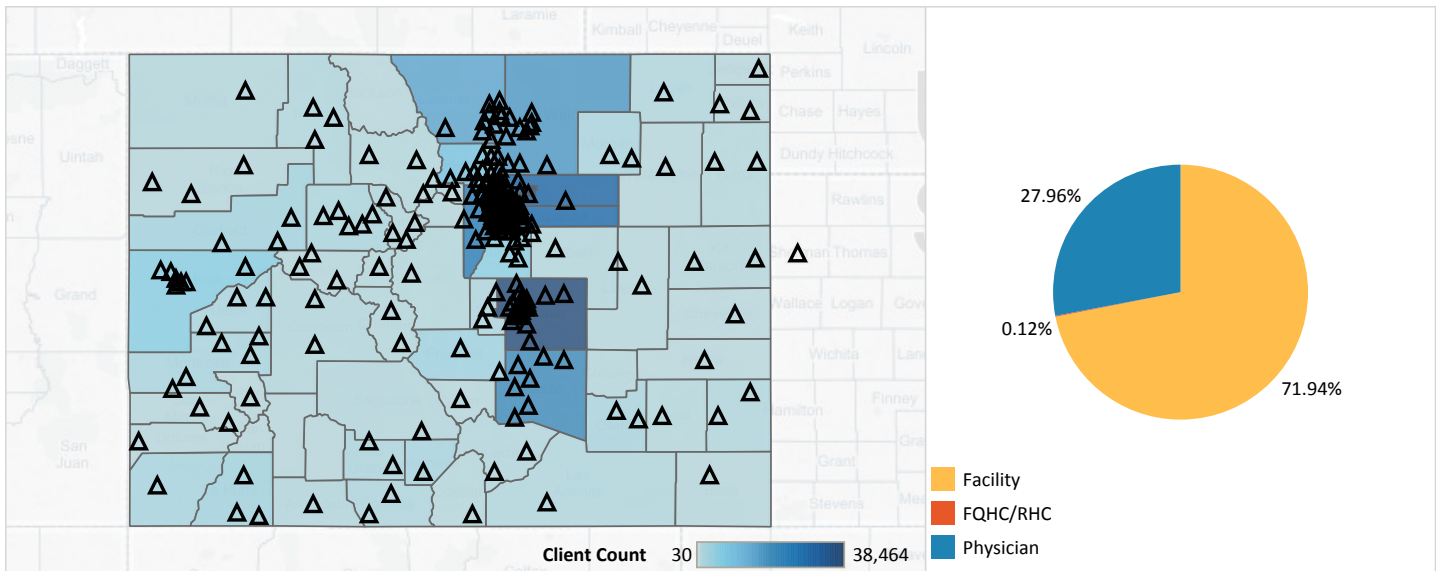
Physician-Administered Drugs Summary State Fiscal Year 2014-15

Client Count*	Total Paid	Avg. paid per utilizer	PMPM	Provider Count*
181,824	\$43,183,867	\$602	\$1.94	1,743

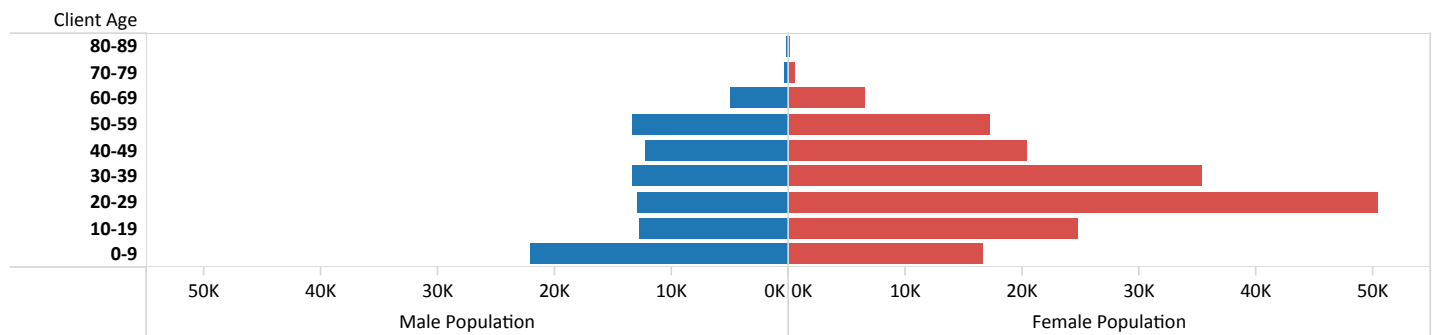
*Client and provider counts include data from four settings: physician office, outpatient hospital, Federally Qualified Health Center, and Rural Health Center. Dollar amounts are indicative only of payments for drugs administered in the physician office setting.

Utilizer Density Map and Provider Billing Location
(Triangles indicate provider billing location zip code)

Place of Administration
(Measured by number of drug administrations)



Age-Gender Population Pyramid



Top Drugs (Top 10 codes encompass 50% of dollars for drugs administered in the physician office setting)

Service Code	Drug Description	Client Count	Provider Count	Avg. paid per utilizer	% of Total Paid	Total Paid
J7302	Levonorgestrel iu 52 mg	5,219	216	\$818	9.89%	\$4,269,335
J2426	Paliperidone palmitate inj	366	14	\$8,665	7.34%	\$3,171,357
J7307	Etonogestrel implant system	4,496	177	\$687	7.15%	\$3,088,256
J0585	Injection,onabotulinumtoxinA	878	77	\$2,507	5.10%	\$2,200,733
S4993	CONTRACEPTIVE PILLS FOR BC	8,519	32	\$217	4.27%	\$1,845,708
J9035	Bevacizumab injection	506	28	\$3,259	3.82%	\$1,648,944
J9355	Trastuzumab injection	55	7	\$29,423	3.75%	\$1,618,254
J1300	Ecuzumab 10 mg				3.54%	\$1,529,660
J9310	Rituximab injection	80	13	\$18,008	3.34%	\$1,440,657
J9263	Oxaliplatin	84	9	\$16,318	3.17%	\$1,370,693
J1745	Infliximab injection	97	11	\$13,472	3.03%	\$1,306,806
J2794	Risperidone, long acting	165	14	\$6,368	2.43%	\$1,050,755
J1050	Injection,medroprogesterone ..	9,260	388	\$111	2.39%	\$1,032,375
J7300	INTRAUTERINE COPPER CONTR..	1,628	164	\$617	2.33%	\$1,004,328