University of Colorado Anschutz Medical Campus

Characteristics of Colorado's Medicaid Expansion Clients and Comparisons of Care Utilization Experiences

Final Report

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Executive Summary

The analysis presented in this report examines six dimensions of the Medicaid expansion population in Colorado:

1. Demographic characteristics for the expansion population compared to traditional Medicaid eligibility category populations.
2. Medicaid experiences of the expansion population before and after expansion eligibility episodes.
3. Utilization of primary care services by adults in the expansion, non-expansion MAGI and other eligibility categories.
4. Utilization of emergency department services by adults in the expansion, non-expansion MAGI and other eligibility categories.
5. Pregnancy and childbirth care experiences of adults in the expansion and non-expansion eligibility categories.
6. Utilization of services related to treatment of substance use disorders for adults in the expansion and non-expansion eligibility categories.

Our analysis summarizing the demographic characteristics of the expansion population indicated that this category of Medicaid clients is concentrated in the Front Range area of the state along the Interstate-25 corridor from Larimer County to Pueblo County, which reflects the geographic distribution of the state's general population. Additional analysis demonstrated that the expansion population as a percentage of a county's Medicaid caseload is variable ranging from some small population counties where the expansion population makes up almost half of their Medicaid caseload to other small population counties were only one of every six Medicaid clients is in the expansion eligibility category. A comparison of the personal characteristics of Medicaid clients in 2014 and 2015 suggested that expansion population members are more likely to be male and in the White Non-Hispanic race/ethnicity category compared to traditional Medicaid eligibility categories. Focusing on adult Medicaid clients, the expansion population is composed of more young adults (19-21 years of age) and older working age adults (45-64 years of age) compared to traditional Medicaid eligibility categories.

The findings from our analysis of the Medicaid experiences of the expansion population before and after episodes where members of this population are eligible for Medicaid under the expansion category suggests this is a very dynamic population. Looking back from the time an individual first becomes eligible for Medicaid under the expansion category reveals that a substantial number of these individuals have previous Medicaid experience under the earlier eligibility categories that now comprise the non-expansion MAGI eligibility category. Although a substantial component of the expansion population has previous experience with the Medicaid program, our analysis of the transitions surrounding the beginning and end of expansion eligibility episodes indicates that the majority of these episodes begin by individuals transitioning from off Medicaid to the expansion eligibility category and among the expansion episodes that were completed before July 2015 most of these episodes ended with individuals transitioning off of Medicaid. These results suggest there is a significant need to increase our understanding of churning on and off of Medicaid, as well as the circumstances leading to individuals switching Medicaid eligibility categories.

Our analysis of the utilization of primary care and emergency department services by adults between the ages of 19 and 64 indicates that the use of these services is very similar for the expansion and non-expansion MAGI eligibility categories. The adults in these two eligibility categories are just as likely to receive primary care services and use emergency department services in a month, as well as have a similar number of visits to primary care and emergency departments in the months they use these services. The adults in the expansion and non-expansion MAGI eligibility categories also generally

receive primary care in the same settings with an equal percentage receiving primary care from FQHCs/RHCs, urgent care facilities and hospital outpatient clinics.

Our analysis of pregnancy and childbirth services suggests that women are more likely to have access to these services under Medicaid after the expansion in January 2014 compared to the year before Colorado's expansion of Medicaid under the ACA. While the monthly average number of births to women enrolled in Medicaid increased after the expansion in January 2014, the average percentage of women enrolled in Medicaid giving birth in a month remained relatively unchanged from 2013 to 2014 and the first six months of 2015 with slight increases for women in the Non-expansion MAGI eligibility category and decreases for women in the Other eligibility category. The results also showed that women are more likely to be enrolled in Medicaid at the beginning of their pregnancies after the expansion in January 2014 compared to experiences in 2013. In addition, the findings indicated that women are eligible of Medicaid services earlier in their pregnancies and remain on Medicaid for more months during their pregnancies after the expansion of Medicaid under the ACA. While the results showed an increase in the average amount of Medicaid paid claims for women given birth while enrolled in Medicaid during their pregnancies and for two months after childbirth, additional analysis is needed to understand these increases, as well as the differences in paid claims across the three eligibility categories. Additional analyses are also needed to understand if the increases in Medicaid coverage during pregnancy changed any outcomes for children born to these mothers.

Our analysis of clients with identified substance use disorders indicates that adult clients (19-64 years of age) in the Expansion eligibility category have a slightly higher prevalence of substance use disorder indications compared to clients in the Non-expansion MAGI eligibility category but a lower rate compared to clients in the Other eligibility category. Identified substance use disorder prevalence rates for all age groups and eligibility categories are below 10%, which suggests these disorders are under identified; however, these rates have been increasing for all age groups and eligibility categories in 2014 and 2015. An examination of the percentage of clients with an identified substance use disorder receiving related treatment services revealed that penetration rates for any substance use disorder related treatment services increased in 2014 and 2015 for all age groups and eligibility categories such that by the January – June 2015 period these penetration rates were over 60% for clients in the Expansion and Non-expansion MAGI eligibility categories and over 70% for clients in the Other eligibility category. In contrast, penetration rates for selected treatment services that include evaluation of patient self-assessment services, treatment plan development and/or modification services, case management services, and screening to determine appropriateness of participation in specified program or treatment are 20% or less in 2015 and decreasing suggesting either a lack of capacity in providing these services or a declining proportion of clients with identified substance use disorders requiring these types of services. Finally, our analysis of utilization and cost of emergency department services and hospitalizations for clients with an identified substance use disorder revealed that clients receiving any type of related treatment service had lower utilization and cost of these services. Moreover, the subset of clients receiving substance use disorder treatment services also had lower per-member, per-month Medicaid costs compared to clients identified with a substance use disorder but not receiving treatment services.

1. Introduction

Two of the key components in the Patient Protection and Affordable Care Act of 2010 (ACA) designed to increase health care access among low-income populations were the provision of enhanced federal funding to expand state Medicaid programs and the establishment of the Community Health Center Fund to increase the capacity of all types of community health centers, which are also known as Federally Qualified Health Centers (FQHCs). The funding for the Community Health Center Fund was intended to support increased capacity at FQHCs to serve the expected growth in the newly insured population as a result of both the Medicaid expansion and the newly insured population purchasing insurance through the health insurance exchanges.

As a result of the United States Supreme Court Ruling in *National Federation of Independent Business v. Sebelius*, the ACA provided states the option to expand Medicaid eligibility to adults with incomes at or below 138% percent of the federal poverty line, which is just over $16,000 annually for a single, adult without dependents. Beginning in January 2014, states could expand the eligibility criteria for their Medicaid programs to include non-elderly, non-disabled adults who would not be eligible for Medicaid under the eligibility criteria a state had in place at the end of calendar year 2009. States were able to finance Medicaid expenditures for these newly eligible adults using 100% federal financing through 2016 and the federal match rate falls to 95% in 2017, 94% in 2018, 93% in 2019, and then 90% in 2020 and beyond. In addition to these newly eligible adults, the Medicaid expansion client population includes other adults without dependents and small numbers of clients under technical adjustments that the Centers for Medicare and Medicaid Services (CMS) rules permitted. These adjustments result in some expansion clients being included in the expansion category who do not qualify for the 100% federal match.

Colorado, along with 23 other states and the District of Columbia, implemented the Medicaid expansion authorized by the ACA in January 2014. Subsequently, two states expanded coverage during 2014, three additional states expanded coverage in 2015, and one state expanded coverage in 2016. In addition to the ACA expansion, Colorado has adopted a number of Medicaid innovations over the last several years including two earlier expansions in Medicaid eligibility. In 2009 the Colorado Health Care Affordability Act enabled the state to expand Medicaid and Child Health Plan Plus (CHP+) coverage for children, pregnant women and low-income parents. Starting in 2012, on a limited basis, coverage was extended to adults without dependent children and working people with disabilities. As such, Colorado is often referred to as an early expansion state.

Among the 27 states that had expanded coverage by January 2015, Medicaid and CHIP enrollment increased by over 26% from a baseline period of July-September 2013 to January 2015. States that had not expanded Medicaid reported an increase of just under 8% during the same time period.[1] Colorado experienced an enrollment increase of approximately 52% between the July-September 2013 baseline period and January 2015.[1] Colorado's Medicaid participation continued to increase through the first half of 2015 to the point there were over 1.3 million clients by July 2015 such that almost one out of every four Coloradans are participating in Medicaid. By July 2015 almost 370,000 individuals were enrolled in Medicaid through the expansions in eligibility such that the expansion population is now the second largest category representing over 25% of Medicaid clients.

The Community Health Center Fund provided $11 billion over a 5-year period for the operation, expansion, and construction of FQHCs in all States and Territories. This supplemental funding in combination with annual appropriations for community health centers increased annual funding for community health centers from $1.3 billion in 2002 to $4.9 billion in 2015. In federal Fiscal Year 2015 (FY15), the Community Health Center Fund accounted for 72% of federal funding for health centers. Colorado received over $141 million from the Community Health Center Fund supporting the expansion

of services and providing increased access to care.[2] This increased funding supported the expansion of community health center services in Colorado, which expanded from serving 458,075 patients in 2010 to 519,975 in 2014, including an increase in the number of patients served with Medicaid coverage.

This report provides a summary of the Medicaid expansion population in Colorado focusing on the period from January 2014 through July 2015. While there was a great deal of speculation surrounding the characteristics and care experiences of the expansion population prior to the implementation of the ACA, surprisingly little is known about the expansion population both nationwide and within states that expanded coverage. The next section presents information on the size and demographic characteristics of the expansion population with comparisons to what is often termed the "traditional" Medicaid and Child Health Insurance Program populations. Section 3 describes the extent to which the expansion population had previous experience with the Medicaid program summarizing this population's experiences with traditional Medicaid prior to the first time their eligibility status was recorded as a member of the expansion population. Utilization of Medicaid benefits covering primary care services, emergency department services, pregnancy and childbirth services, and substance use disorder related services is presented in Section 4 comparing the use of these services by the expansion population compared to the traditional non-expansion Medicaid populations.

2. Demographic Characteristics of the Expansion and Traditional Medicaid Populations

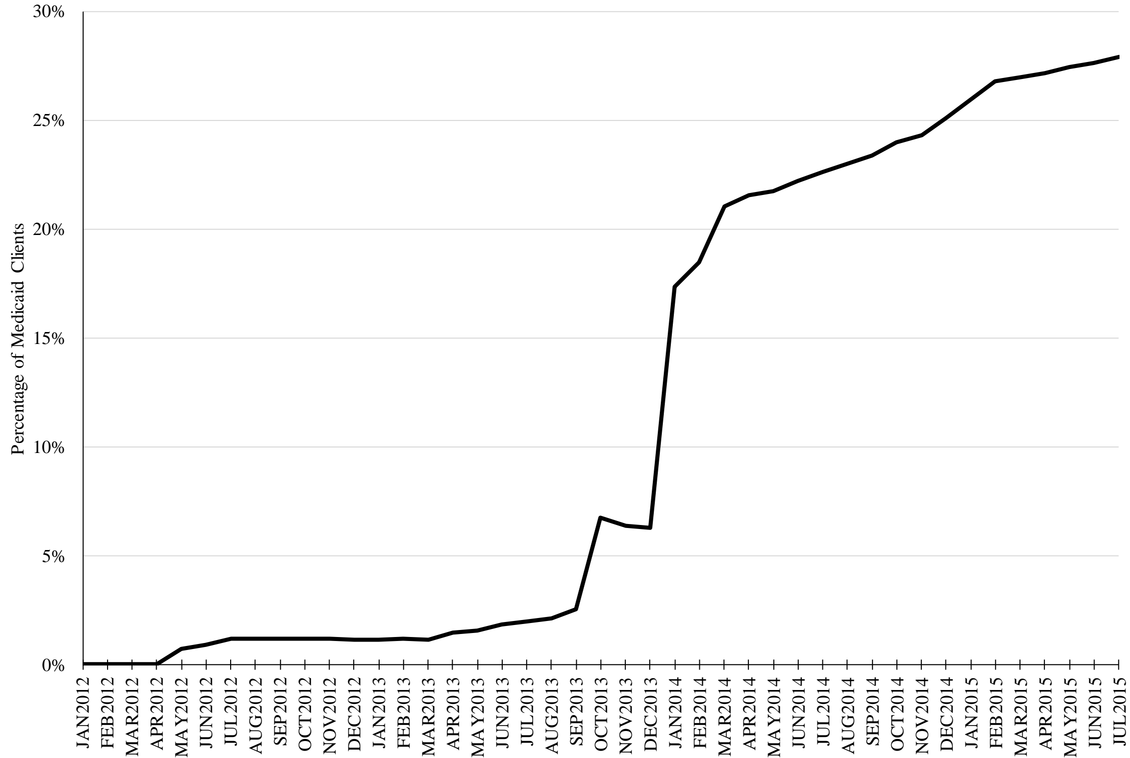
The Colorado Department of Health Care Policy and Financing (the Department) provided the Medicaid administrative and claims data used in this analyses. Client eligibility files provided information on Medicaid clients for all eligibility categories including demographic characteristics. These data files were used to determine whether a client was eligible to receive Medicaid services in each month from January 2010 through July 2015. The analysis focused on the period from January 2014 through July 2015 to summarize the characteristics of the expansion population under the full ACA expansion of eligibility. To concisely summarize and present measures of the expansion population and draw comparisons to other eligibility categories the analysis uses an eligibility-month as the unit of analysis. Specifically, each month of Medicaid eligibility for an individual is considered as a data point in the analysis. This approach accounts for individuals having different numbers of months of Medicaid eligibility over this 19-month period, as well as the possibility that an individual may change eligibility categories over time among the expansion and traditional Medicaid eligibility categories.

Colorado is an early expansion state and starting in 2012 a small number of Medicaid clients are categorized as members of the Medicaid expansion population. Figure 1 shows the percentage of Colorado Medicaid clients that are classified as members of the expansion population by month from January 2012 through July 2015. As shown in this figure the early expansion population was well below 5% of Medicaid clients before October 2013, which represents the beginning of the outreach efforts to encourage use of the health exchanges to obtain health insurance to meet the individual mandate component of the ACA. There is a very rapid increase from October 2013 through March 2014 where the expansion population suddenly comprised over 20% of all Medicaid clients in Colorado. Subsequently, there has been a steady increase in the number of expansion Medicaid clients so that by July 2015 this eligibility category made up almost 28% of the Medicaid population.

This rapid growth of the expansion population obviously increased the number of Medicaid clients in the state and it may also have significantly altered the composition of the Medicaid population. For example, the growth in the expansion population could alter the geographic distribution of Medicaid clients across the state as well as the characteristics of Medicaid clients in each of the state's 64 counties. The expansion population could also significantly shift the age, sex and race/ethnicity characteristics of the Medicaid population. All of these changes have potential policy implications on the types of health care services

that meet the needs of clients as well as the types of broader policies that could more effectively address the social determinants of health for members of the expansion and non-expansion eligibility categories.

Figure 1
Percentage of Medicaid Clients in Expansion Category by Month January 2012 - July 2015



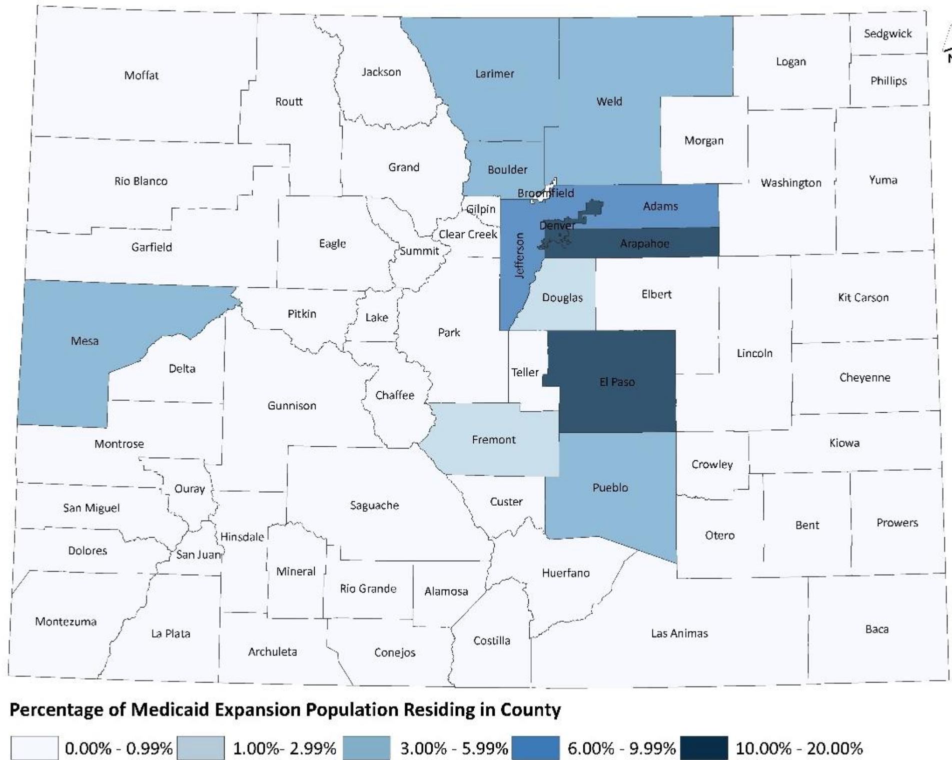
To address the extent to which the expansion population affected the geographic distribution of Colorado's Medicaid clients we examined two measures. The first measure calculated the percentage of the expansion population that resides in each of the 64 counties. As noted above, we calculated this measure as the percentage of eligibility-months in the expansion category over the 19-month period from January 2014 through July 2015. The second measure calculated the percentage of a county's Medicaid population that is in the expansion category over this same 19-month period.

The Colorado county map in Figure 2 presents the percentage of the state's Medicaid expansion population that resides in each of the 64 counties. The shading of each county represents the five ranges for the percentage of the state's expansion population residing in the county with the lightest shading indicating less than 1% of the expansion population residing in the county. As the shading becomes darker in Figure 2, the percentage of the expansion population residing in the county increases from 1.00% - 2.99%, to 3.00% - 5.99%, to 6.00% - 9.99% and finally to 10.00% - 20.00%, which is represented by the darkest shading in this Figure. As shown in this figure the expansion population is concentrated in the Front Range area of the state. The three counties of Arapahoe, Denver and El Paso account for over 40% of the state's Medicaid expansion population and the addition of Adams and Jefferson counties accounts for almost 60% of the expansion clients in the state. In contrast the 52 counties with less than 1.00% of the expansion population together account for less than 16% of this Medicaid population in the state. This geographic distribution primarily reflects the distribution of the general population in the state. County population estimates for July 2014 indicated that over 55% of the state's population lived in the five counties of Adams, Arapahoe, Denver, El Paso and Jefferson and the

52 counties with less than 1.00% of the expansion population account for less than 15% of the state's population in July 2014.

Figure 2

Percentage of Medicaid Expansion Population Residing In Each Colorado County, 2014-2015

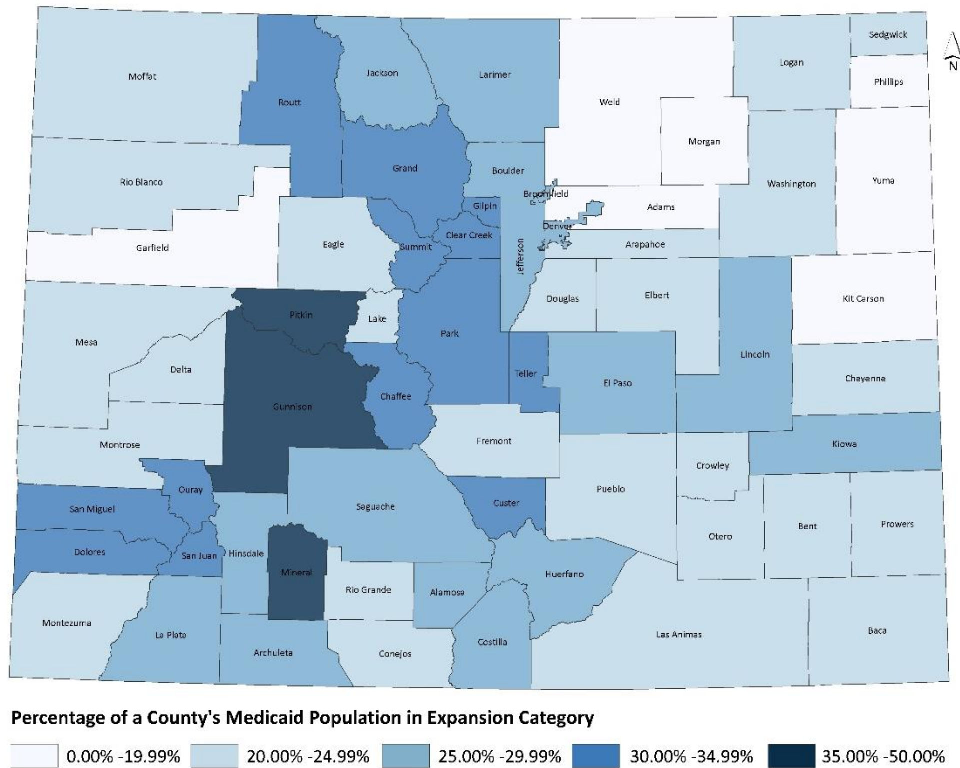


While the distribution of the Medicaid expansion population across the state reflects the population distribution, a different pattern emerges when looking at the percentage of a county's Medicaid population that is in the expansion category. The Colorado county map in Figure 3 presents the percentage of each county's Medicaid clients that are in the expansion population for each of the 64 counties. The shading of each county represents the five ranges for the percentage of the county's Medicaid clients in the expansion population with the lightest shading indicating less than 20% of the expansion population residing in the county. As the shading becomes darker the percentage of the county's Medicaid clients in the expansion population increases from 20.00% - 24.99%, to 25.00% - 29.99%, to 30.00% - 34.99% and the darkest shading representing 35.00%-50.00% of the county's Medicaid clients in the expansion population. As shown in this figure the highest percentage of a county's Medicaid clients in the expansion population are in the three counties of Pitkin, Mineral and Gunnison where more than one of every three Medicaid clients are in the expansion category. The 13 counties with 30.00% - 34.99% of their Medicaid clients in the expansion population are also smaller population counties. Together these 16 counties account for less than 4% of the state's Medicaid expansion population.

The extent to which the growth in the expansion population and its geographic distribution are changing the character of the Medicaid population in Colorado is dependent on the personal characteristics of the expansion population and how these differ from the traditional Medicaid eligibility category populations. Table 1 summarizes the characteristics of the expansion population in comparison to four traditional

Medicaid populations: (1) non-Expansion Modified Adjusted Gross Income (MAGI) category, which primarily consists of Temporary Assistance to Needy Families (TANF)/Colorado Works (CW) participants and clients in the Baby Care Program (BCP); (2) Medicare and Medicaid Eligible (MME) clients; (3) Child Health Insurance Program (CHP+) clients; and (4) a combination of clients in other eligibility categories (Other).[i] The measures presented in this table show the age, sex and race/ethnicity distribution using eligibility-months as the unit of analysis from the period January 2014 through July 2015. The cells present the percentage distributions for each of the eligibility categories such that the rows for each personal characteristic for an eligibility category sum to 100%.

Figure 3



The distributions presented in Table 1 suggest that the personal characteristics of the expansion population differ from the characteristics of the traditional Medicaid eligibility categories; although, as expected, there are also meaningful differences across the traditional eligibility categories. Overall, the expansion population is older than the other eligibility categories (with the exception of the MME category), more male (with the exception of the CHP+ category), and more likely to have a race/ethnicity classification of White Non-Hispanic. However, it is important to note that the expansion population has a much higher occurrence of missing race/ethnicity information making race/ethnicity comparisons less reliable. Although not shown in the table, limiting the analysis of the age distribution to adults (age 19 years old and older) in the expansion, non-expansion MAGI and other eligibility categories makes the

[i] The Other eligibility category includes clients with Medicaid and other insurance that is not Medicare, children in foster care, non-MAGI aged/disabled adults and children, non-MAGI breast/cervical cancer program, non-MAGI buy-in adults and children with disabilities.

three groups more comparable. The age distribution of the adults in the expansion and other eligibility categories are very similar with the exception that the other category has a higher percentage of the adults age 55 and older. In contrast, the non-expansion MAGI has a much higher percentage of adults in the 22 to 44 age range with over 80% of the adults in this eligibility category between these ages compared to 55% of the expansion population in this age category. The expansion population also has a higher percentage of adults in the 19-21 age range compared to the non-expansion MAGI category (11% compared to 2%). The concentration of adults in the non-expansion MAGI category between the ages of 22 and 44 is not surprising as this category includes low-income adults with dependent children.

Table 1
Characteristics of the Medicaid Population by Eligibility Category January 2014 – July 2015

Characteristic	Expansion	Non-Expansion MAGI	MME	CHP+	Other
Age					
18 and under	.02%	74.1%	0.1%	98.6%	45.7%
19 – 21	11.3%	1.7%	0.2%	0.1%	5.3%
22 – 34	35.1%	13.5%	5.8%	1.1%	17.3%
35 – 44	17.7%	7.1%	8.3%	0.2%	7.9%
45 – 54	18.8%	2.9%	13.8%	0.0%	9.0%
55 – 64	17.1%	0.6%	18.1%	0.0%	11.3%
65+	0.1%	0.0%	53.7%	0.0%	3.6%
Sex					
Female	51.1%	55.9%	59.5%	49.1%	53.9%
Male	48.9%	44.2%	40.6%	50.9%	46.1%
Race/Ethnicity					
Hispanic	17.4%	36.3%	17.8%	32.8%	23.7%
White non-Hispanic	37.3%	27.1%	41.6%	32.3%	35.5%
Black non-Hispanic	5.6%	7.7%	5.2%	5.1%	8.1%
Other	16.6%	13.9%	22.2%	13.3%	17.6%
Missing	23.1%	14.9%	13.2%	16.5%	15.1%

Finally, to develop a better understanding of the age distribution of the expansion population we analyzed the age at which an individual was first a member of the Medicaid expansion category. We limited this analysis to the 490,041 clients that had at least one month in the expansion eligibility category during the period from January 2014 through July 2015. This analysis excluded individuals who had at least one month in the expansion eligibility category in the early expansion period prior to January 2014. This analysis revealed that 36.3% of these clients experienced their first month of expansion eligibility in the 22 – 34 age range and that approximately 17% experienced their first month of expansion eligibility in each of the age ranges of 35 – 44, 45 – 54, and 55 – 64. These percentages are very similar when the analysis included the early expansion period.

3. Expansion Population's Experience with Traditional Medicaid

Very little is also known about the Medicaid experiences of the expansion population as a member of one or more traditional Medicaid eligibility categories. The extent to which the expansion population has experience with traditional Medicaid has important policy implications in meeting the needs of this population. For example, if the expansion population does not have any experience with traditional

Medicaid either before or after their expansion eligibility period, then issues surrounding continuity of care when their eligibility begins and ends has different policy implications compared to a situation where the expansion population primarily moves among the different Medicaid eligibility categories.

To add to our understanding of this important policy area, we examined two dimensions of the experiences of the Colorado Medicaid expansion population. The first dimension looks back from the first month that an individual is initially in the expansion eligibility category to summarize prior Medicaid experiences. With the data available we calculate the number of months from January 2010 to the first month of expansion eligibility that the individual was eligible for Medicaid under each of the non-expansion eligibility categories. The second dimension examines episodes of Medicaid eligibility under the expansion category looking at the transitions at the beginning and end of a continuous number of months of eligibility for Medicaid under the expansion category. The measures we examine are the percentage of expansion episodes that begin with a transition from another Medicaid eligibility category or off of Medicaid and the percentage of expansion episodes that end with a transition to another Medicaid eligibility category or off of Medicaid. Whereas the experiences of an individual are included only once in the analysis of the first dimension, the same individual can be included more than once in the transition analysis if the individual has more than one episode of Medicaid eligibility under the expansion category.

Table 2 summarizes the experiences of the expansion population before their first expansion episode. This table presents the percentage of individuals in the expansion population who experienced at least one month of Medicaid eligibility under the non-expansion MAGI, MME, CHP+ and other eligibility categories from January 2010 until their first month of eligibility under the expansion category. Individuals can have experience under multiple Medicaid eligibility categories prior to their first episode under the expansion category. The table presents results for different age groups based on age in the first month of the first expansion eligibility episode.

Table 2
Percentage of Expansion Population with Prior Medicaid Eligibility by Category and Age

Age at Beginning of First Expansion Episode	Non-Expansion MAGI	MME	CHP+	Other
18 and under	48.4%	0.0%	26.0%	7.8%
19 – 21	59.1%	0.0%	25.0%	8. 7%
22 – 34	33.8%	0.1%	1.7%	5.4%
35 – 44	37.6%	0.1%	0.7%	4.8%
45 – 54	18.2%	0.1%	0.0%	3.8%
55 – 64	5.1%	0.1%	0.0%	9.8%
65+	7.2%	1.3%	0.3%	51.6%

The results presented in Table 2 suggest that a substantial number of the expansion population have previous experience with Medicaid and that these experiences differ based on age at the start of the first expansion eligibility episode. Members of the expansion population that experience their first expansion eligibility episode before age 22 are likely to have previous Medicaid experience under the non-expansion MAGI eligibility category and experience with the CHP+ program. More than one out of three individuals who start their first expansion eligibility episode between the ages of 22 and 44 has previous experience with Medicaid under the non-expansion MAGI eligibility category. In contrast, the vast majority of expansion clients who begin their first expansion eligibility episode between the ages of 45 and 64 do not have previous experience with Medicaid since January 2010. In interpreting these results it

is important to recognize that these older expansion clients may have had previous experiences with Medicaid prior to January 2010 that the analysis does not capture.

In addition, for the individuals who experienced at least one month in an eligibility category prior to their first expansion eligibility episode, we analyzed the number of episodes and the number of months of Medicaid eligibility in each category. The results indicated that there were only minor differences across the age groups. On average, the number of episodes in the non-expansion MAGI eligibility category was approximately 1.4 for a total number of 18 to 24 months of Medicaid eligibility under this category prior to their first expansion eligibility episode. Prior experience under CHP+ for the youngest expansion population members showed an average of one episode of about 12 months.

To provide insights into the second dimension of Medicaid experiences of the expansion population Tables 3 and 4 summarize the Medicaid status of this population the month before and the month after each expansion eligibility episode. Individuals can begin an expansion eligibility episode either from a status of not being on Medicaid as well as enrolled in Medicaid under one of the other eligibility categories. Similarly, individuals can end an expansion eligibility category by transitioning to a different eligibility category or ending eligibility for Medicaid. In addition, to account for all expansion eligibility episodes we also measure the percentage of episodes that are still in progress at the end of our available data (July 2015). Results are presented by the age of the individual at the beginning of the expansion eligibility episode.

Table 3
Percentage of Expansion Eligibility Episodes Beginning with a Transition from Non-Expansion Eligibility Categories

Age	Off Medicaid	Non-Expansion MAGI	MME	CHP+	Other
18and under	53.8%	36.0%	0.0%	6.8%	3.0%
19– 21	59.8%	33.6%	0.0%	2.5%	4.1%
22 – 34	67.2%	29.3%	0.0%	0.1%	3.4%
35 – 44	64.6%	32.1%	0.1%	0.0%	3.2%
45 – 54	81.6%	15.3%	0.1%	0.0%	3.0%
55 – 64	87.2%	4.3%	0.1%	0.0%	8.5%
65+	56.0%	4.7%	2.3%	0.0%	37.0%

The results in Table 3 show that the vast majority of expansion eligibility episodes begin with the individual not participating in Medicaid in the month before beginning to participate in Medicaid under the expansion eligibility category. More than 9 of every 10 expansion eligibility episodes begin when the client is between the ages of 19 and 64 and the results in Table 3 show that well over 90% of expansion eligibility episodes begin with the client either off Medicaid or eligible under the non-expansion MAGI category. Combining these results with the findings in Table 2 suggests that even though many of these individuals have prior experience with Medicaid more than 2 out of every 3 begin their expansion eligibility episode from a non-Medicaid status. Additional analyses are needed to investigate whether the transitions for adults from the non-expansion MAGI eligibility category to the expansion eligibility category is the result of dependents leaving the household or other events that could result in this eligibility category transition.

The results in Table 4 show that more than half of all expansion eligibility episodes are still in progress on July 2015, which is the last month of data used in the analysis. Although not shown in the table, the average completed expansion eligibility episode is approximately 5 months, which is less than the

average number of months of completed episodes in other eligibility categories. This table also suggests that there are very different transitions for completed expansion eligibility categories by age at the beginning of the episode. Episodes where the expansion client is between 22 and 44 are more likely to end with a transition where the client remains on Medicaid through a transition to the non-expansion MAGI eligibility category whereas younger and older clients are more likely to transition off of Medicaid. These results also suggest a need to better understand the circumstances surrounding transitions from the expansion eligibility category to other eligibility categories, such as the addition of a dependent.

Table 4
Percentage of Expansion Eligibility Episodes in Progress or Ending with a Transition to Non-Expansion Eligibility Categories

Age	In Progress	Off Medicaid	Non-Expansion MAGI	MME	CHP+	Other
18 and under	22.5%	24.2%	44.0%	0.0%	4.7%	4.7%
19 – 21	66.1%	20.7%	10.9%	0.0%	0.0%	2.2%
22 – 34	53.7%	19.6%	23.8%	0.1%	0.0%	2.8%
35 – 44	51.8%	19.0%	25.7%	0.3%	0.0%	3.3%
45 – 54	60.6%	22.8%	11.6%	0.8%	0.0%	4.1%
55 – 64	58.6%	28.0%	3.0%	4.6%	0.0%	5.9%
65+	5.0%	67.1%	4.7%	3.2%	0.0%	20.1%

Taken together the results presented in Tables 2, 3 and 4 suggest a significant need to better understand client transitions not only among the different Medicaid eligibility categories, but also the transitions on and off of Medicaid. These latter transitions are often referred to as Medicaid churn and movements on and off of Medicaid coverage has been of long-standing interest to Medicaid programs, policy makers and other stakeholders. A better understanding of churn is particularly relevant with the expansion of Medicaid as well as the introduction of the health insurance exchanges and federal subsidies for coverage purchased through these exchanges. Churning represents a significant public policy concern because it compromises access to quality health care, disrupts the continuity of care associated with more cost-effective care and impacts a significant segment of the population. An analysis of data sources such as the Colorado All Payer Claims Database would provide a unique opportunity to greatly improve our understanding of churn and its implications for public policy.

4. Care Experiences of Expansion and Traditional Populations

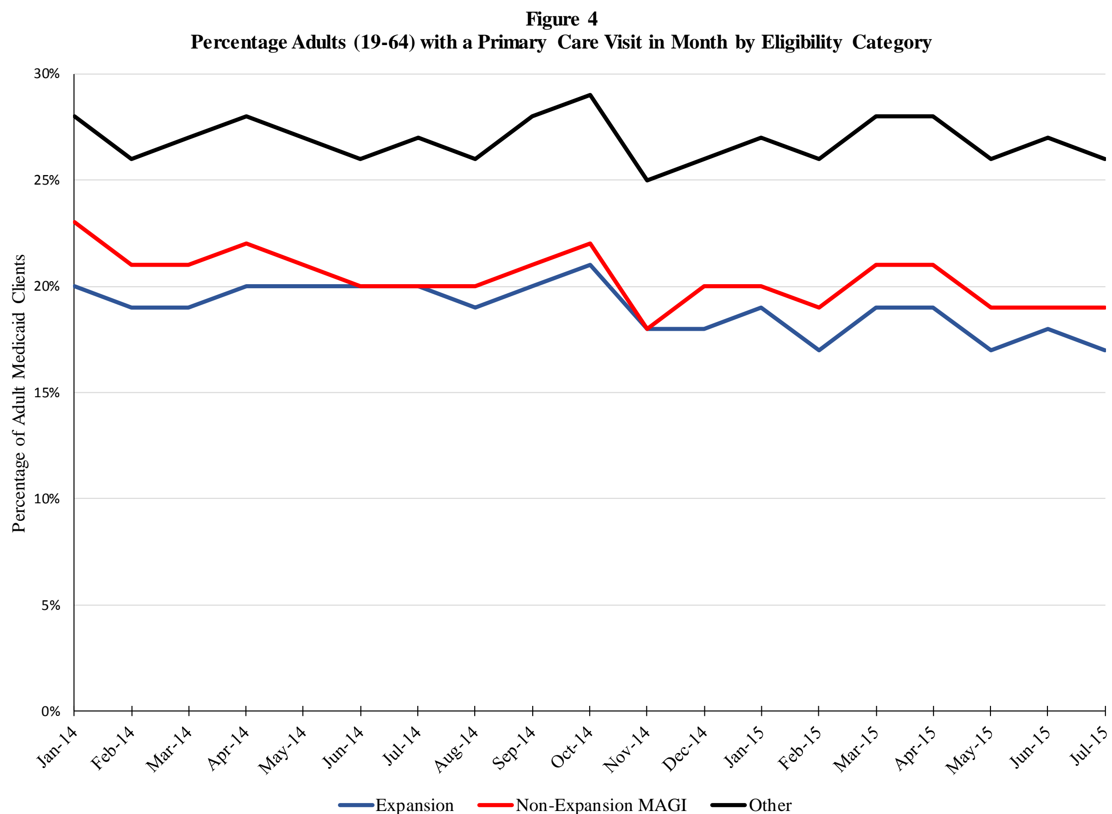
As noted above, one of the primary reasons for inclusion of the Community Health Center Fund in the ACA was to support increased capacity among FQHCs to serve the expected increase in the Medicaid population resulting from eligibility expansion. However, very little is known about the extent to which the expansion population used FQHCs or other Medicaid covered services. Moreover, there is also a significant gap in our understanding of the utilization of Medicaid covered services by the expansion population relative to the traditional Medicaid populations. To address these gaps, this section summarizes primary care experiences, use of emergency department services, use of pregnancy and childbirth services, and use of substance use disorder related services for expansion and non-expansion Medicaid clients between the ages of 19 and 64.

The Department provided Medicaid claims data files for both professional services and institutional claims to analyze the primary care, emergency department, pregnancy and childbirth, and substance use disorder related service utilization of the expansion and traditional Medicaid populations. While these two

claims data files provide information for the vast majority of Medicaid clients, these files do not include information on the small number of clients in Colorado that are enrolled in a capitated managed care program, such as the plan operated by Denver Health Medicaid Choice. To fill this gap, the Department provided encounter data files for the Denver Health Medicaid Choice plan and these files were analyzed separately from the claims data files. As the size of the expansion population increased significantly beginning in January 2014, we focus our analysis of the comparison of the care experiences of the expansion and non-expansion populations to the period from January 2014 through July 2015. In summarizing and comparing care experiences across the different eligibility categories we limit the analysis to adults between the ages of 19 and 64 and clients participating in Medicaid under the expansion, non-expansion MAGI or other eligibility categories. Among the adults in these three eligibility categories the percentage of expansion clients steadily increases from 47% to 61% in the claims data and from 18% to 25% in the Denver Health Medicaid Choice plan.

Utilization of Primary Care Services

Figure 4 presents the percentage of adults aged 19 to 64 with at least one primary care visit during a month for the Medicaid population that is eligible in the month under the expansion, non-expansion MAGI and other eligibility categories. To capture a broad array of primary care visits we included all Current Procedural Terminology (CPT®) codes that are used in the definition of the Healthcare Effectiveness Data and Information Set (HEDIS) Adult Access to Preventive Care (AAP) Measure and in Section 1202 of the ACA excluding visits to emergency departments.

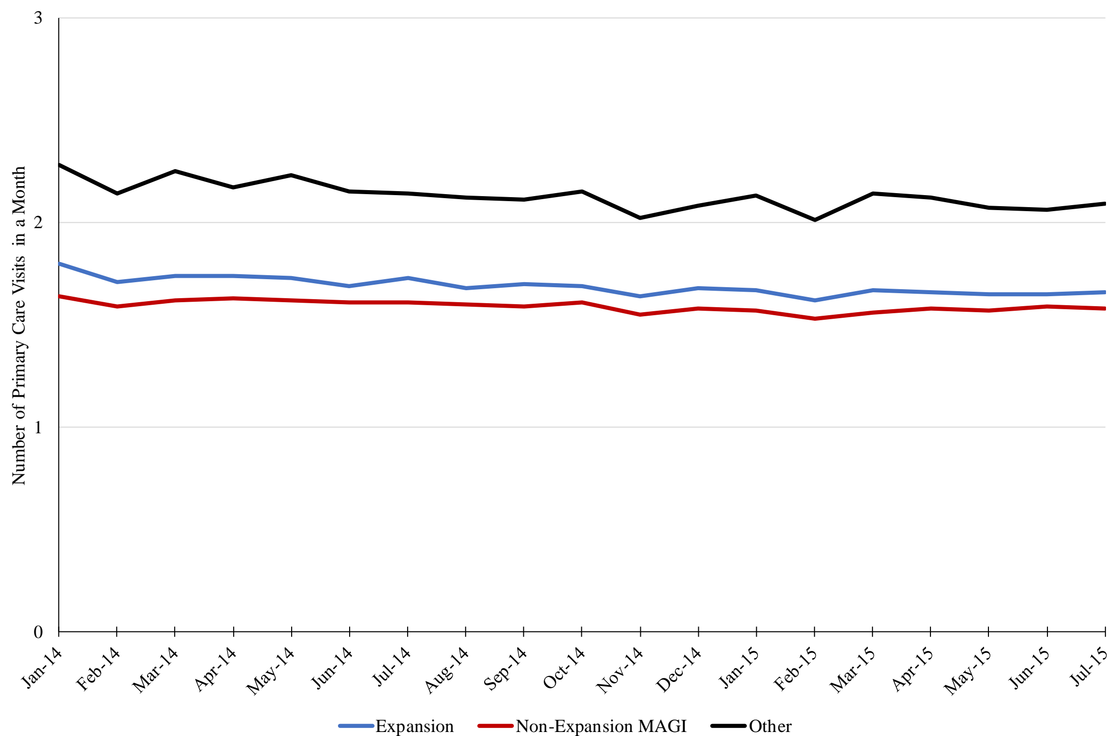


The results in this figure suggest that adults in the expansion and non-expansion MAGI eligibility categories have very similar levels and time trends in the percentage using primary care services in a

month with clients in the expansion category slightly less likely to use primary care in a month. In contrast, clients in the other eligibility category are more likely to use primary care services consistently over time but with similar time trends over this period. Although not presented in the figure, among the adults enrolled in the Denver Health Medicaid Choice plan the percentage with a primary care visit is essentially identical after a temporarily higher rate for expansion clients in the first three months of 2014. This higher rate in the first three months of the expansion period may reflect initial primary care visits for newly enrolled participants, which are strongly encouraged by the Denver Health Medicaid Choice plan.

Intensity of primary care service utilization displays a very similar pattern across these three eligibility categories. Figure 5 presents the average number of primary care visits in a month for adult clients that had at least one visit during the month by eligibility category. Again, adult clients in the expansion and non-expansion MAGI category have very similar numbers of visits in a month and time trends. Clients in the other eligibility category are not only more likely to have a primary care visit; this category also utilizes more primary care in these months with approximately 0.5 additional visits per month, on average. A similar pattern is also displayed among the adults in these three eligibility categories enrolled in the Denver Health Medicaid Choice plan.

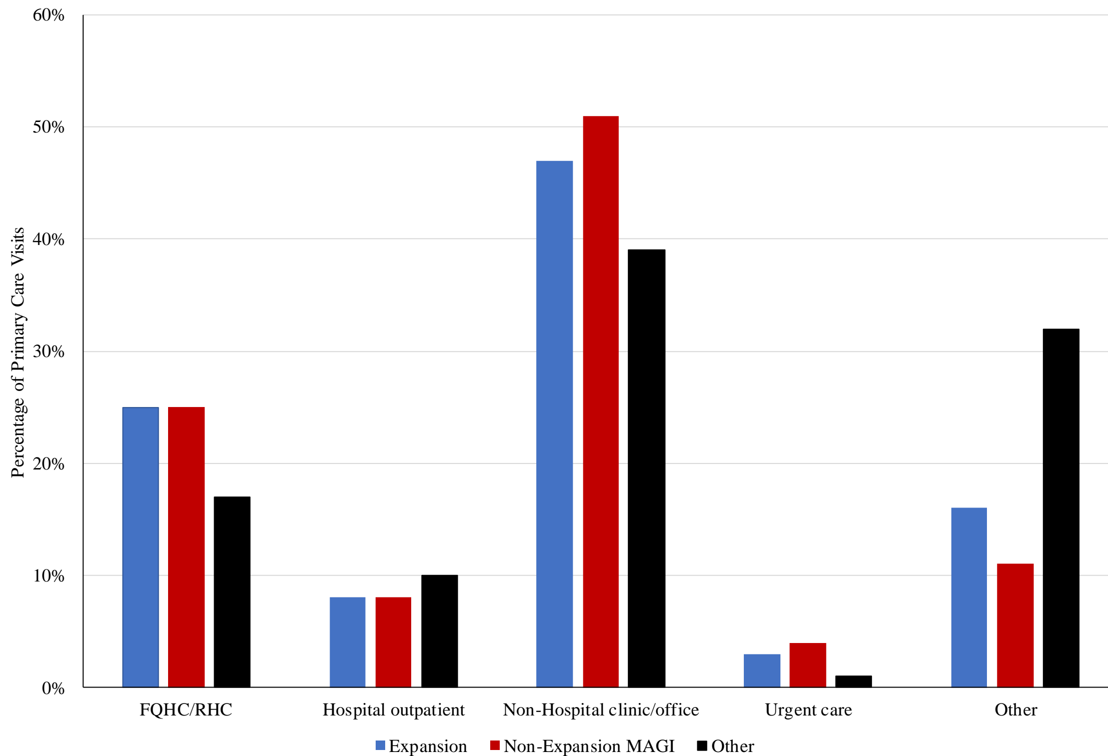
Figure 5
Number of Pimary Care Visits in Month among Adult Clients with a Visit in the Month by Eligibility Category



To examine whether the place of service where the expansion population received primary care services differs from the place of service for the non-expansion MAGI and other eligibility categories, we analyzed the place of service codes for the primary care services delivered outside of an emergency department. We categorized the place of service into the following settings: (1) FQHC or Rural Health Clinic (RHC); (2) non-hospital clinic or office; (3) hospital outpatient clinic; (4) urgent care facility; and (5) other.

Figure 6 presents the percentage of primary care visits delivered in each of these five care delivery settings for adult clients aged 19 to 64 in the expansion, non-expansion MAGI and other eligibility categories over the period January 2014 through July 2015. The results presented in this figure suggest that the expansion and non-expansion MAGI adult Medicaid clients receive primary care in similar care settings; whereas adults in the other eligibility category are more likely to receive primary care services in hospital outpatient and other care delivery settings. For example, 25% of primary care visits occurred at FQHCs/RHCs for both the expansion and non-expansion MAGI populations while 17% of primary care visits were at FQHCs/RHCs for the adults in the other eligibility category. Similar proportions of expansion and non-expansion MAGI populations received primary care services at hospital outpatient clinics and urgent care centers. The expansion population is somewhat less likely to received primary care services in non-hospital clinics and offices compared to the non-expansion MAGI population. We did not analyze the primary care settings for clients enrolled in the Denver Health Medicaid Choice plan.

Figure 6
Percentage of Primary Care Visits for Adults (19-64) Delivered in Care setting by Eligibility Category

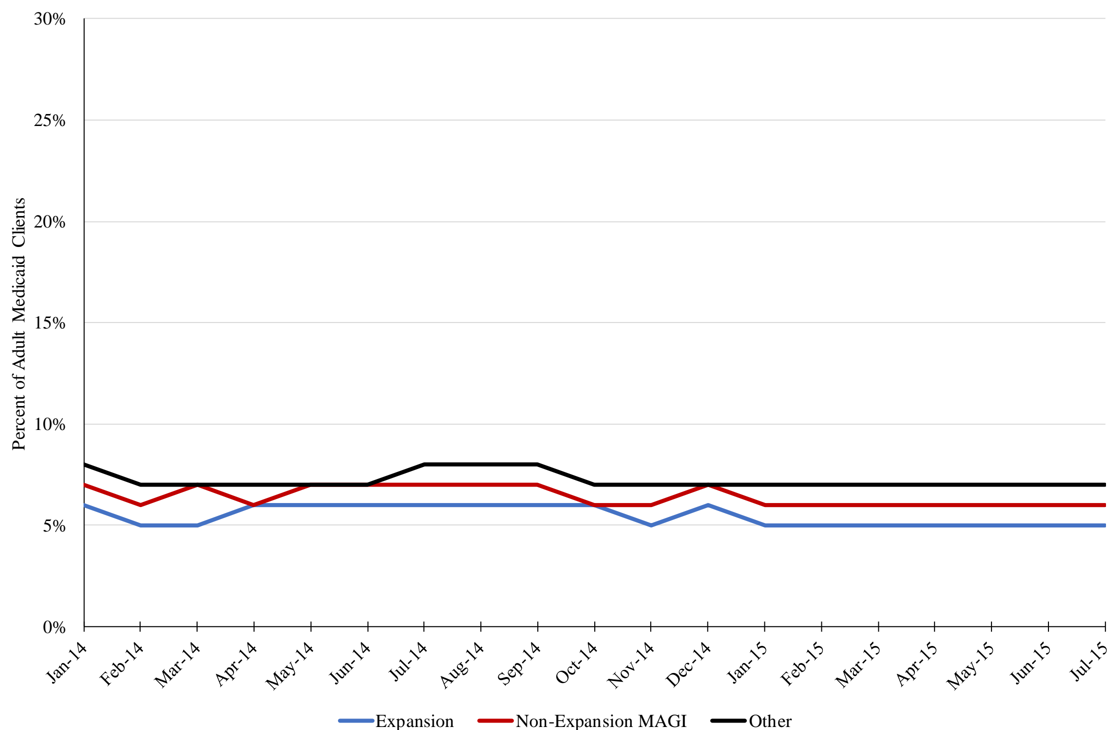


Utilization of Emergency Department Services

We also analyzed the emergency department experiences of the adults in these same three eligibility categories over the same time period from January 2014 through July 2015. Similar to our analysis of primary care visits we calculated the percentage of clients in each eligibility category in a month that had an emergency department visit in the month from January 2014 through July 2015. We also calculated the average number of emergency department visits in a month for those that had a visit in the month over this same 19-month period for clients with an emergency department visit under the expansion, non-expansion MAGI and other eligibility category. We did not analyze the emergency department experiences of clients enrolled in the Denver Health Medicaid Choice plan because of the relatively small number of adult clients enrolled in this Medicaid plan within each of the eligibility categories.

Figure 7 shows the percentage of clients in each eligibility category in a month that have at least one visit to an emergency department during the month from January 2014 through July 2015. The results in this figure show that less than 10% of adult clients in these three Medicaid eligibility categories visit an emergency department in a month. These results also suggest that there are small differences in emergency department use across these three eligibility categories particularly for the expansion and non-expansion MAGI eligibility categories. As shown in this figure, over the 19-month period approximately the same percentage of expansion and non-expansion MAGI adult clients visited an emergency department in a month. Clients in the other eligibility category are slightly more likely to use the emergency department in a month over this entire period. The time series plots in this figure also show that use of the emergency department is relatively constant over this 19-month period.

Figure 7
Percentage of Adults (19-64) with an Emergency Department Visit in Month by Eligibility Category



We also analyzed the average number of emergency department visits among adult clients in each eligibility category that had an emergency department visit in the month. The results of this analysis indicated that average number of emergency department visits were very similar across the three eligibility categories showing a slight increase from about 1.7 visits in a month during early 2014 to about 1.9 visits in a month by July 2015. This small increase in the number of visits is common across all three eligibility categories. In addition, we also analyzed the cumulative number of emergency department visits for adult clients with different cumulative number of months in each eligibility category. The results of this analysis also did not reveal any substantial differences between clients in the expansion and non-expansion MAGI eligibility categories. Clients that were eligible for Medicaid in the other eligibility category for more than nine months over the period from January 2014 through July 2015 had slightly higher cumulative number of emergency department visits compared to adult Medicaid clients in the expansion and non-expansion MAGI eligibility categories. For example, among the adult clients that were eligible for Medicaid under the same eligibility category over this time period the average number of

cumulative emergency department visits for clients in the expansion and non-expansion MAGI categories is about 2.0 compared to an average of about 2.5 for clients in the other eligibility category.

Utilization of Pregnancy and Childbirth Services

Pregnancy and childbirth services is one of the categories of services with the highest level of overall Medicaid expenditures. To compare the pregnancy and childbirth care experiences of the Medicaid expansion population to traditional Medicaid populations, we limit the analysis to clients who gave birth while enrolled in Medicaid. We examine pregnancy and childbirth care experiences for five client groups over two time periods: (1) expansion clients from January 2014 through June 2015; (2) non-expansion MAGI clients from January 2013 through December 2013; (3) non-expansion MAGI clients from January 2014 through June 2015; (4) clients in the other eligibility category from January 2013 through December 2013; and, (5) clients in the other eligibility category from January 2014 through June 2015. We will further focus this analysis on three age groups: (1) 19 to 24 years of age at time of childbirth; (2) 25 to 34 years of age at time of childbirth; and (3) 35 to 44 years of age at time of childbirth.

Our analysis of pregnancy and childbirth care experiences examines six dimensions of clients' use of pregnancy and childbirth services before and after January 2014: (1) number of births per month by eligibility category during the birth month; (2) average percentage of clients with a birth in a month by eligibility category during the birth month; (3) Medicaid eligibility category at the beginning of the pregnancy, including off Medicaid, for each eligibility category at the time of birth; (4) estimated number of months into the pregnancy the client becomes eligible for Medicaid by eligibility category at the first month of eligibility during the pregnancy; (5) number of months of Medicaid eligibility by eligibility category from beginning of the pregnancy through birth by eligibility category at birth; and (6) Medicaid cost for clients from the beginning of the pregnancy through two months post-childbirth by eligibility category.[ii]

Table 5 presents the average number of births per month for the 12 months immediately before Medicaid expansion (January 2013 through December 2013) and the 18 months following expansion (January 2014 through June 2015) for clients in each eligibility category at the time of the birth and for five age groups. As shown in this table there are relatively smaller numbers of births in the 18 and under and 45 to 54 age groups and the following analysis is limited to the 19-24, 25-34 and 35-44 age groups. There are very few births among the expansion population group in 2013 and results are presented only for 2014-2015 below.

Table 5
Average Number of Births Per Month for Medicaid Clients in Eligibility Category at time of Birth by Age Group from January 2013-December 2013 and January 2014-July 2015

	Expansion		Non-Expansion MAGI		Other	
Age Group	2013	2014-2015	2013	2014-2015	2013	2014-2015
18 and Under	0.0	0.0	99.7	91.7	41.3	29.9
19-24	1.0	13.1	571.8	590.9	185.2	186.6
25-34	2.3	17.2	637.8	709.3	311.5	300.7
35-44	0.8	3.9	113.3	133.2	93.4	98.6
45-54	0.0	0.1	1.3	1.7	0.4	1.2
Total*	4.1	34.2	1424.6	1527.1	631.9	616.9

*Includes births for missing age category.

[ii] The cost measures only include Medicaid and CHP+ paid amounts on valid claims and excludes dental, pharmacy, independent laboratory, medical supply, home health, nursing facility and transportation claims, as well as any third party or out of pocket payments.

Table 6 presents the average percentage of female Medicaid clients in an eligibility category experiencing a birth in a month during each time period before and after Medicaid expansion in January 2014 for three age categories. The results presented in this table show that a very small percentage of female clients in the expansion eligibility category are experiencing a birth in a month for all three age groups. Although as shown in Table 5 the age 25-34 group in the non-expansion MAGI category has the highest number of births in a month, the highest percentage of clients in this eligibility category with a birth in a month are in the 19-24 age group. Moreover, the percentage of clients in this eligibility category for both these age groups increased slightly after the Medicaid expansion in January 2014. Table 6 also shows that the highest percentage of clients with a birth in a month are in the other eligibility category for all age groups.

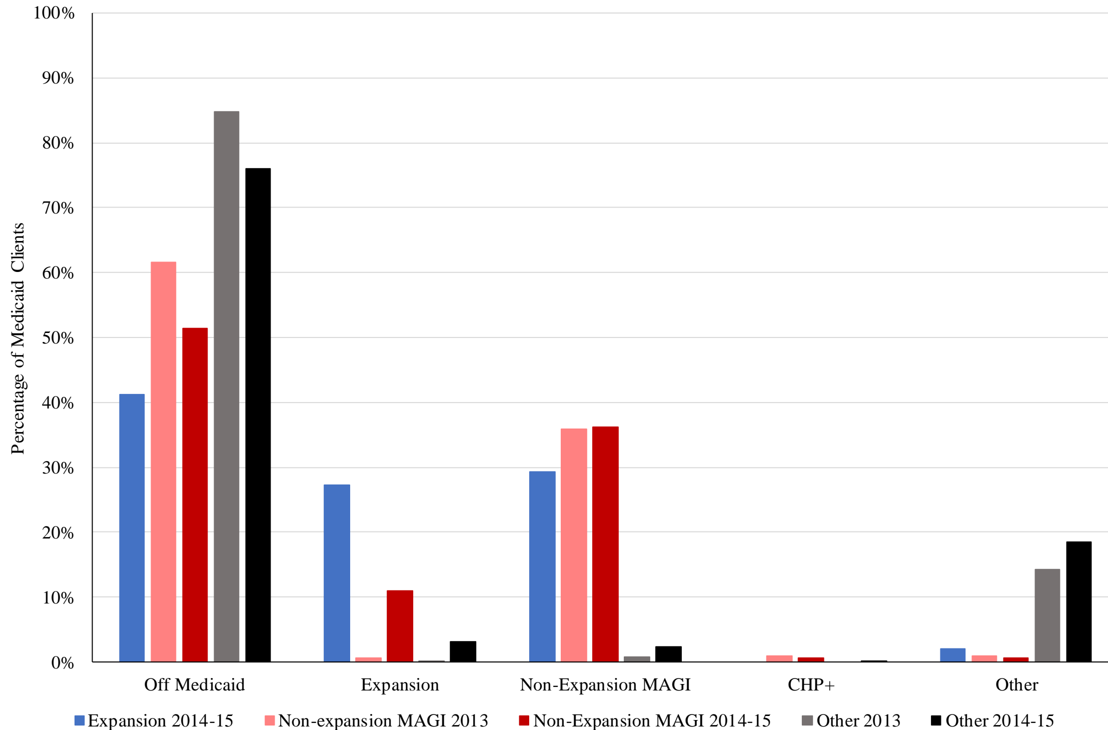
Table 6
Average Monthly Percentage of Medicaid Clients with a Birth by Eligibility Category at Birth and Age Group from January 2013-December 2013 and January 2014-July 2015

	Expansion	Non-Expansion MAGI		Other	
Age Group	2014-2015	2013	2014-2015	2013	2014-2015
19-24	0.05%	2.30%	2.46%	2.84%	2.61%
25-34	0.05%	1.29%	1.35%	3.82%	3.36%
35-44	0.01%	0.43%	0.43%	1.74%	1.67%

The expansion of Medicaid coverage to adults without dependents may have resulted in women without dependents obtaining Medicaid coverage at the beginning of a pregnancy or earlier in their pregnancy than would have been the case without this expansion. To examine this potential consequence of the Medicaid expansion we examine three dimensions of pregnancy and childbirth: (1) the percentage of births by women in an eligibility category by their Medicaid eligibility at the estimated month their pregnancy began; (2) the average number of months into a pregnancy that a woman is first eligible for Medicaid during the pregnancy by eligibility category during this first month on Medicaid; and (3) the average number of months of Medicaid coverage from the beginning of the pregnancy through childbirth for women in each eligibility category at the time of birth.

Figure 8 shows the percentage of women age 19 to 24 at time of birth that were in each of five Medicaid statuses at the beginning of their pregnancy by each of the five Medicaid eligibility categories at time of birth. Specifically, the five statuses at the beginning of pregnancy are (1) off Medicaid, (2) Expansion, (3) Non-expansion MAGI, (4) CHP+, and (5) Other. For example, this figure shows that 41% of women age 19 to 24 giving birth in the Expansion eligibility category were off of Medicaid at the beginning of their pregnancy, 27% were in the Expansion category at the beginning of their pregnancy, and 29% were in the Non-expansion MAGI category at the beginning of their pregnancy. This figure shows that a substantially higher percentage of women giving birth in the Expansion eligibility category were on Medicaid at the beginning of their pregnancies compared to women in the Non-expansion MAGI and Other eligibility categories. The results in this figure also indicate that 11% fewer births to mothers in the Non-expansion MAGI eligibility category were off of Medicaid at the beginning of their pregnancy after the expansion compared to before the expansion, which corresponds directly to the 11% that were in the Expansion category at the beginning of their pregnancy. This figure also shows that a 9% fewer births to women in the Other eligibility category were off Medicaid at the beginning of their pregnancy after the expansion with increases in the percentages in the Expansion, Non-expansion MAGI and Other eligibility categories. Overall, these findings suggest that a higher percentage of women were on Medicaid at the beginning of their pregnancies after the expansion compared to women giving birth on Medicaid prior to January 2014.

Figure 8
Eligiblity Category at Beginning of Pregnancy for Women Age 19 - 24 by Medicaid Eligiblity Status at Time of Birth and Time Period



Figures 9 and 10 present the same information for women age 25 to 34 and 35 to 44 at the time of birth, respectively. The findings in these figures are very consistent with the findings for women age 19 to 24. Specifically, a higher percentage of births to women in the Expansion eligibility category occur to clients that were on Medicaid at the beginning of their pregnancies compared to women in the Non-expansion MAGI and Other eligibility categories. Similarly, 11% of births to women in the Non-expansion MAGI eligibility category for both these age groups were in the Expansion eligibility category at the beginning of their pregnancy after expansion and there was a corresponding decrease in the percentage of these women that were off Medicaid at the beginning of their pregnancies.

Together, the analysis results presented in Figures 8, 9 and 10 suggest that women are more likely to be receiving Medicaid services earlier in their pregnancies after the Medicaid expansion in January 2014. To investigate this further, we examined two measures of Medicaid coverage during pregnancy and childbirth. The first measure calculated the number of months into a pregnancy that a woman was first eligible for Medicaid beginning with the estimated month her pregnancy began. The second measure calculated the cumulative number of months of Medicaid coverage for a woman beginning with the estimated month her pregnancy began through the month she gave birth. Figure 11 presents the findings for the first measure distinguishing between eligibility categories in the month women were first eligible for Medicaid during their pregnancies. Figure 12 presents the findings for the second measure distinguishing between women by their eligibility categories in the month of the birth.

Figure 9
Eligiblity Category at Beginning of Pregnancy for Women Age 25 - 34 by Medicaid Eligiblity Status at Time of Birth and Time Period

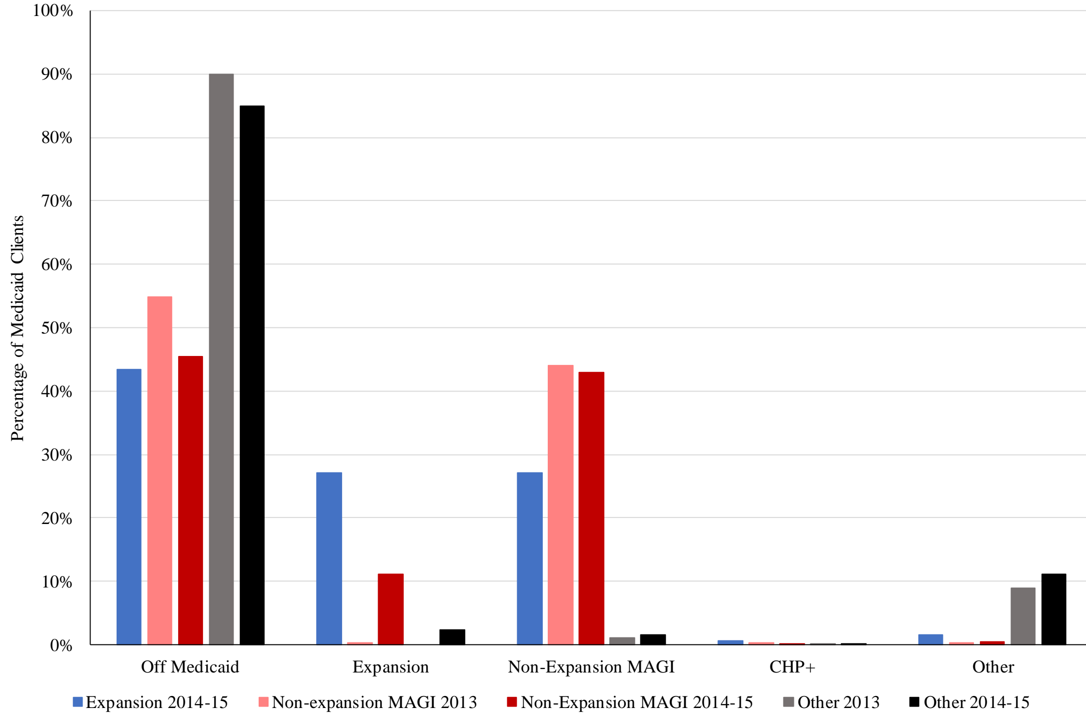
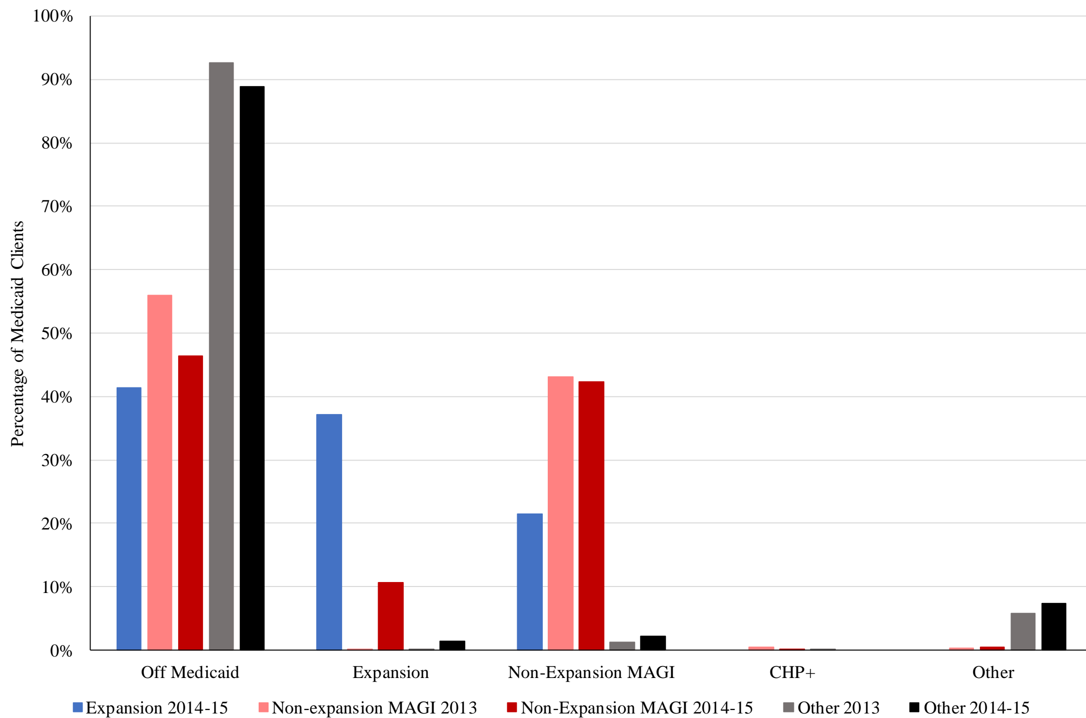
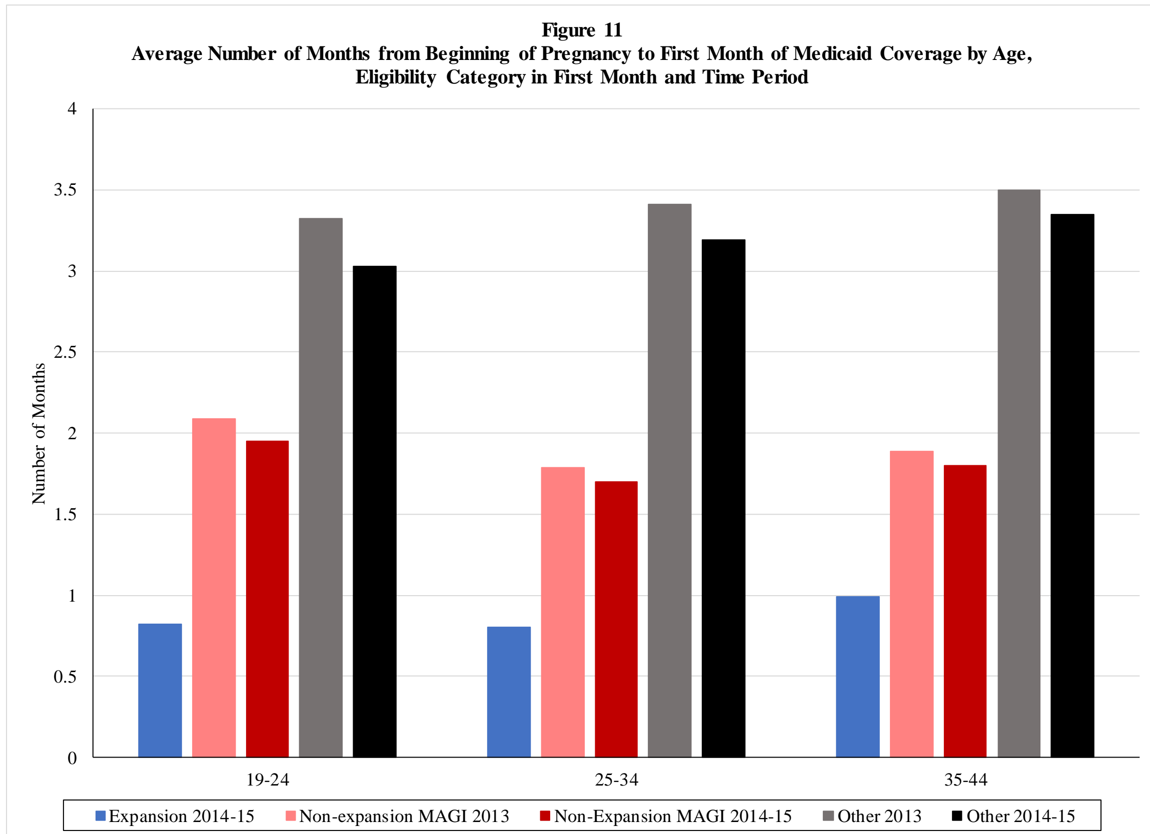


Figure 10
Eligiblity Category at Beginning of Pregnancy for Women Age 35 - 44 by Medicaid Eligiblity Status at Time of Birth and Time Period



The results presented in Figure 11 show that women whose first month of Medicaid eligibility during their pregnancies is under the Expansion category are, on average, receiving Medicaid within one month of the beginning of their pregnancies across all three age groups. In contrast, women whose first month of eligibility during their pregnancies is under the Non-expansion MAGI category are almost one month further into their pregnancies, on average, compared to the women in the Expansion category. Moreover, women in all three age groups whose first month of eligibility is under the Other category are, on average, over three months into their pregnancies before first being covered by Medicaid during their pregnancies. In addition, for all three age groups across both the Non-expansion MAGI and Other category women are first becoming covered by Medicaid slightly earlier in their pregnancies after the expansion in January 2014.

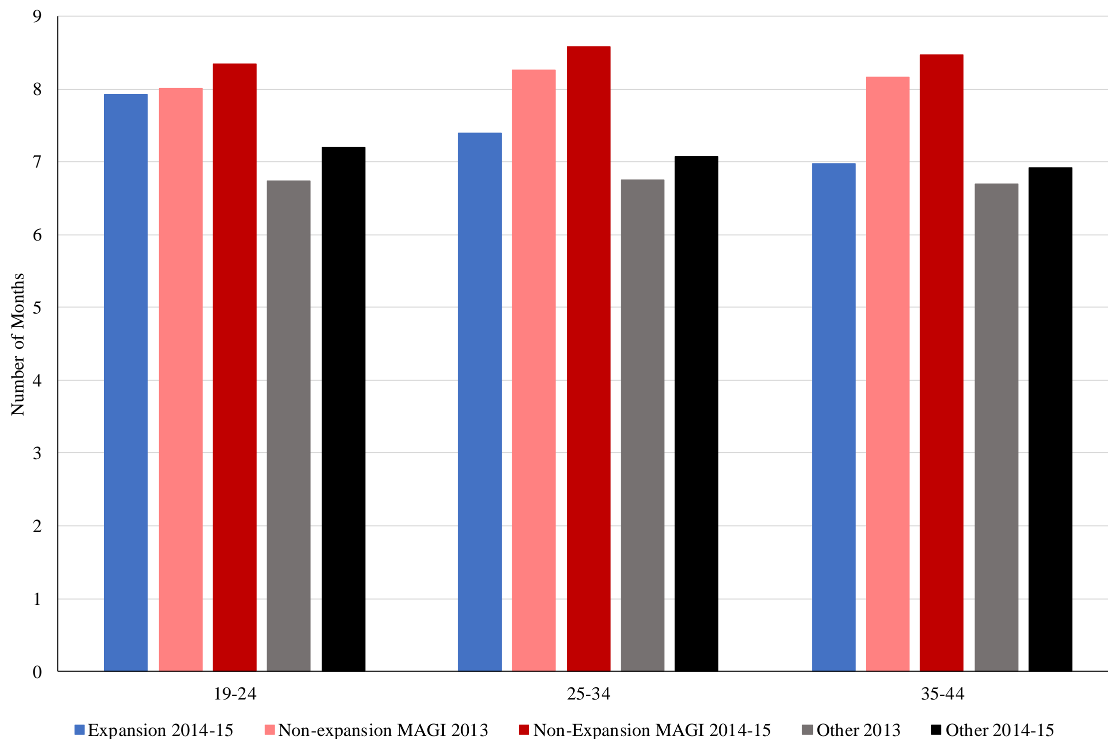


The findings presented in Figure 12 provide additional evidence that the Medicaid expansion in January 2014 increased the number of months of Medicaid coverage for women eligible for Medicaid at the time of birth. For example, women giving birth under both the Non-expansion MAGI and Other eligibility categories are, on average, covered by Medicaid over one additional week during their pregnancies for the period after the Medicaid expansion compared to 2013. This finding is consistent with the results presented in Figure 11 suggesting that once women are enrolled in Medicaid during their pregnancy they remain enrolled through childbirth.

The final measure of care experiences we examined for women with a Medicaid covered birth is the average total amount of Medicaid claims paid for clients from the beginning of their pregnancy through two months post-childbirth. Figure 13 presents the average total Medicaid claims paid for women in each of the three age groups and by their Medicaid eligibility category at the time of birth. The results presented in this figure suggest that women giving birth when eligible for Medicaid as part of the

Expansion eligibility group have the lowest amount of Medicaid claims paid during pregnancy and childbirth. For example, across all three age groups, women in the Expansion category have paid claims that are approximately $2,000 less than women in the Non-expansion MAGI category. While some of this difference can be explained by the higher number of months of Medicaid coverage for women in the Non-expansion MAGI category, as shown in Figure 12, this differential is more than expected for the additional number of months during the pregnancy covered by Medicaid. These results also indicate that Medicaid paid claims amounts increased for both the Non-expansion MAGI and Other eligibility categories after January 2014, which is also consistent with the increase in the number of months of Medicaid coverage shown in Figure 12 for these two eligibility categories before and after the expansion. Additional analyses are needed to identify the sources of these differences in Medicaid paid claims both across these three eligibility categories and for women in the Non-expansion and Other eligibility categories before and after the expansion.

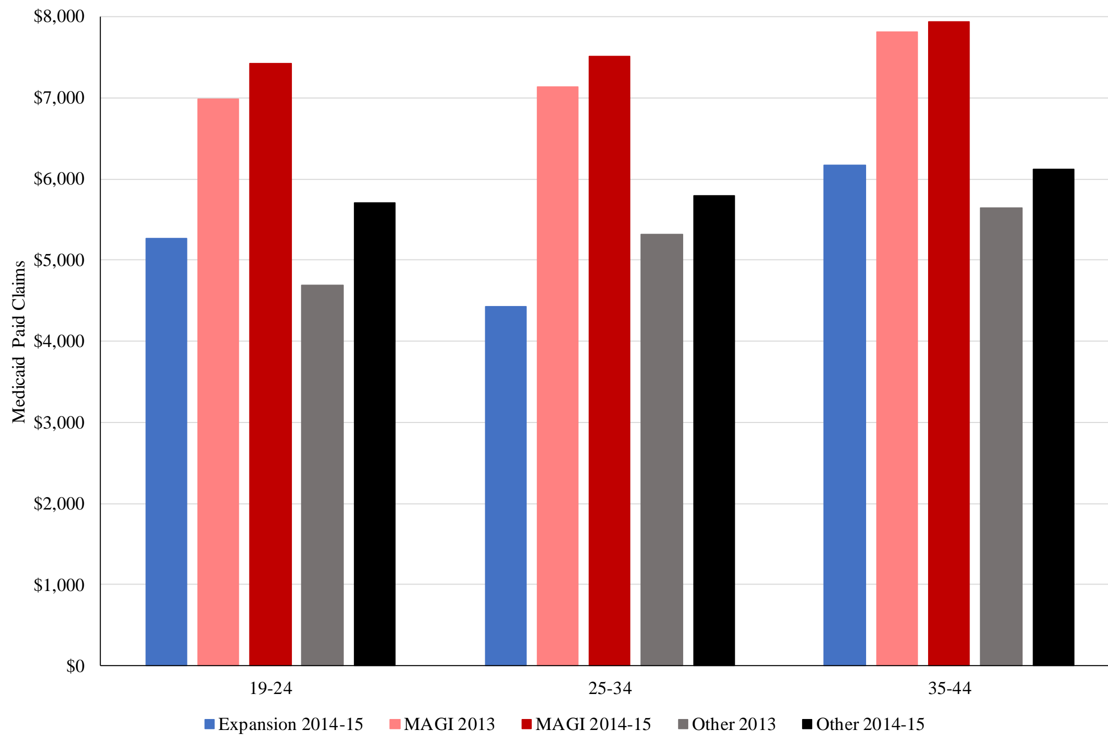
Figure 12
Average Number of Months with Medicaid Coverage from Beginning of Pregnancy to Childbirth by Age, Eligibility Category at Birth and Time Period



Overall, the results of the analysis of pregnancy and childbirth services suggests that women are more likely to have access to these services under Medicaid after the expansion in January 2014 compared to the year before Colorado's expansion of Medicaid under the ACA. While the monthly average number of births to women enrolled in Medicaid increased after the expansion in January 2014, the average percentage of women enrolled in Medicaid giving birth in a month remained relatively unchanged from 2013 to 2014 and the first six months of 2015 with slight increases for women in the Non-expansion MAGI eligibility category and decreases for women in the Other eligibility category. The results also showed that women are more likely to be enrolled in Medicaid at the beginning of their pregnancies after the expansion in January 2014 compared to experiences in 2013. In addition, the findings indicated that women are eligible of Medicaid services earlier in their pregnancies and remain on Medicaid for more months during their pregnancies after the expansion of Medicaid under the ACA. While the results

showed an increase in the average amount of Medicaid paid claims for women given birth while enrolled in Medicaid during their pregnancies and for two months after childbirth, additional analysis is needed to understand these increases, as well as the differences in paid claims across the three eligibility categories. Additional analyses are also needed to understand if the increases in Medicaid coverage during pregnancy changed any outcomes for children born to these mothers.

Figure 13
Average Medicaid Paid Claims from Beginning of Pregnancy through Two Months After Childbirth by Age, Eligibility Category at Birth and Time Period



Substance Use Disorders and Use of Related Services

Another set of relatively high-cost services that the expansion of Medicaid eligibility under the ACA could impact are substance use disorder related services. To improve our understanding of the potential changes in the utilization of substance use disorder related services, we examined the Medicaid experiences of the clients diagnosed with a substance use disorder over the period July 2013 through June 2015. This analysis combined Medicaid administrative and claims data with data from Behavioral Health Organizations for Medicaid clients from July 2013 through June 2015. We distinguish among clients in the same three eligibility categories (Expansion, Non-expansion MAGI and Other) and present findings for Medicaid clients age 19 to 64 years of age during the months these clients are eligible for Medicaid services. The analysis includes services received through Behavioral Health Organizations in addition to medical providers that are reported in claims for inpatient services, outpatient services, practitioner/physician services and Early and Periodic Screening, Diagnostic and Treatment (EPSDT) services.

The analysis examines the prevalence of substance use disorders and for clients with a substance use disorder reports findings for the utilization of substance use disorder treatment services, utilization and

costs of emergency department services, utilization and costs of inpatient services, and total cost of care.[iii] To compare the experiences of clients in different eligibility categories, we have assigned each client to a single eligibility category (Expansion, Non-expansion MAGI, and Other) for the analysis based on the plurality of the number of months the client was eligible under a category over this 24-month time period. In the event a client had an equal number of months in more than one category we assigned clients to a single category using the following order of precedence: Expansion, Non-expansion MAGI, and lastly Other. We also limited our analysis of experiences to the months that clients were age 19 to 64 over the 24-month period because there are very few clients in the Expansion category under 19 or over 64. Results are presented for five age groups, 19-24 years of age, 25-34 years of age, 35-44 years of age, 45-54 years of age and 55-64 years of age, based on the age of the client at the beginning of a month.

Table 7 presents the number of Medicaid clients in each of the three eligibility categories by age group that are identified as having a substance use disorder in any month they were eligible for Medicaid from July 2013 through June 2015. Clients were identified as having a substance use disorder using a combination of diagnosis and treatment services codes including Healthcare Common Procedure Coding System (HCPCS)/CPT codes, International Classification of Diseases-Ninth Revision (ICD-9) procedure codes, ICD-9 diagnosis codes, Diagnosis-Related Group (DRG) codes for inpatient services, and Medicaid revenue category codes for inpatient services.[iv] Specifically, a client is identified as having a substance use disorder if any of the diagnosis codes for a drug or alcohol use disorder are included in a paid Medicaid claim (inpatient, outpatient, practitioner/physician, EPSDT or Medicare crossover) or BHO encounter record. In addition, a client is identified as having a substance use disorder if a paid Medicaid claim or BHO encounter indicates receipt of a substance use disorder treatment service, a brief intervention (SBIRT) service, or a medically managed detox service. In interpreting the results presented in Table 7, as well as all of the other analyses below, it is important to recognize the we did not have access to pharmacy claims that are also routinely used to identify clients with a substance use disorder.

Table 7
Number of Medicaid Clients in Eligibility Category with an Indication of a Substance Use Disorder at Any Time from July 2013 through June 2015 by Age as of July 2013

Age Group	Expansion	Non-expansion MAGI	Other	Total
19-24 years old	6,974	4,136	2,206	13,316
25-34 years old	11,481	9,504	2,131	23,116
35-44 years old	8,731	5,376	2,175	16,282
45-54 years old	10,145	1,805	3,435	15,385
55-64 years old	4,462	283	2,786	7,531
Total	41,793	21,104	12,733	75,630

The findings presented in Table 7 shows that the majority of clients identified as having a substance use disorder are in the Expansion eligibility category for all age groups. The two oldest age groups have the largest number of clients in the Expansion category compared to the Non-expansion MAGI and Other categories. This is consistent with the findings in Table 1 indicating that a substantial percentage of the expansion population are in these two age categories.

[iii] The total cost of care measure only includes Medicaid and CHP+ paid amounts on valid claims and excludes dental, pharmacy, independent laboratory, medical supply, home health, nursing facility and transportation claims, as well as any third party or out of pocket payments.
[iv] The specific diagnosis and treatment services codes used to identify clients with a substance use disorder are listed in the Appendix.

Given the differences in the number of Medicaid clients in each age range for these three eligibility categories, Table 8 presents the prevalence of a substance use disorder for clients in each of the three eligibility categories for each age range in the four six-month time periods of July – December 2013, January – June 2014, July – December 2014 and January – June 2015. Percentages for the Expansion category are not presented for the July – December 2013 because the expansion of Medicaid eligibility under the ACA did not take full effect until January 2014.

Table 8
Prevalence of Substance Use Disorder Over Time for Medicaid Clients in an Eligibility Category

	Expansion				Non-expansion MAGI				Other			
Age Group	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015
19-24 years old		1.76%	2.33%	2.58%	1.55%	1.43%	1.62%	1.72%	2.89%	2.75%	3.64%	3.78%
25-34 years old		3.11%	3.94%	4.14%	2.24%	2.21%	2.70%	2.93%	2.98%	2.74%	4.21%	4.31%
35-44 years old		3.48%	4.61%	4.83%	2.21%	2.22%	2.74%	2.99%	4.78%	4.01%	6.25%	6.68%
45-54 years old		3.56%	4.59%	4.72%	1.57%	1.67%	2.36%	2.57%	6.72%	6.40%	9.04%	9.56%
55-64 years old		1.84%	2.50%	2.72%	1.55%	1.36%	1.69%	1.72%	4.23%	4.44%	6.68%	7.15%

The findings in Table 8 indicate that the prevalence of substance use disorder among the Expansion population category is in between the prevalence rates for the Non-expansion MAGI and Other eligibility categories for all age groups. For example, in the January – June 2015 period, the prevalence rates for the Expansion category ranged from 2.58% to 4.83%, whereas the rates across age groups for the Non-expansion MAGI category ranged from 1.72% to 2.74% and the rates for the Other eligibility category ranged from 3.78% to 9.45%. The results in this table also show that prevalence rates have been increasing for all eligibility and age categories from the period beginning in January 2014 through the period ending in June 2015. This increase may reflect an increased emphasis on the diagnosis and treatment of substance use disorders in the Medicaid population rather than an increase in substance use disorders among the Medicaid client population. Additional analysis will be needed to determine whether these trends continue and the extent to which any continued increase reflects better diagnosis and treatment versus increased rates of underlying substance use disorders.

The results in Table 8 suggest there is a growing number of Medicaid clients in all age and eligibility categories identified with a substance use disorder. To add to our understanding of the extent to which these clients are receiving treatment for their substance use disorders, we identified clients that received any type of substance use disorder treatment services from July 2013 through June 2015. In addition, we also examined the utilization of selected substance use disorder treatments that consisted of evaluation of patient self-assessment, treatment plan development and/or modification, case management, and screening to determine appropriateness of participation in specified program or treatment and that are referred to below as “Select Codes”.

Table 9 presents the number of Medicaid clients receiving substance use disorder treatments for the three eligibility categories for each of the five age groups. This table shows the number of clients receiving any treatment services for substance use disorders and the number receiving the selected substance use disorder treatments. A comparison of the numbers receiving the selected substance use treatment services to those receiving any treatment services indicates that clients in the Expansion eligibility category are more likely to receive a selected treatment services compared to clients in the Non-expansion MAGI and Other eligibility categories across all age groups.

Table 9
Number of Medicaid Clients in Eligibility Category Receiving Substance Use Disorder Treatment at Any Time from July 2013 through June 2015 by Age as of July 2013

	Expansion		Non-expansion MAGI		Other	
Age Group	Any	Select Codes	Any	Select Codes	Any	Select Codes
19-24 years old	3,358	772	2,345	482	1,565	346
25-34 years old	6,340	1,693	5,543	973	1,504	185
35-44 years old	4,880	1,427	3,113	501	1,459	235
45-54 years old	5,588	1,745	1,004	164	2,051	427
55-64 years old	2,377	643	147	17	1,478	274

To gain an understanding of the extent to which clients identified with a substance use disorder are receiving treatment we calculated the penetration rate for any substance use disorder treatment and the penetration rate for selected substance use disorder treatments. These penetration rates are calculated as the percentage of Medicaid clients receiving at least one treatment service in a month among the clients that are eligible for Medicaid during the corresponding month and were identified as having a substance use disorder at some time between July 2013 and June 2015. We calculated penetration rates for each combination of age group and eligibility category for four time periods: July – December 2013, January – June 2014, July – December 2014 and January – June 2015. As above, we do not report rates for the Expansion eligibility category for the July – December 2013 period because of the small number of clients in this eligibility category before January 2014. Table 10 presents the penetration rates for any substance use disorder treatment and Table 11 presents the penetration rates for the selected substance use disorder treatments for each age group and eligibility category.

The results presented in Table 10 indicate that clients in the Expansion eligibility category are the least likely to be receiving any substance use disorder treatments and clients in the Other eligibility category have the highest penetration rates across all five age groups. For example, in the January – June 2015 period, penetration rates for the Expansion eligibility category ranged from 62.45% to 65.55% across the age groups, whereas the penetration rates for the Other eligibility category ranged from 71.36% to 81.34% and for the Non-expansion MAGI category from 62.11% to 67.06% in this same time period. The findings in this table also indicate that penetration rates are increasing for all age groups and eligibility categories over the period from January 2014 to June 2015. These increases over time are most notable for clients in the Expansion and Other eligibility categories.

Table 10
Substance Use Disorder Treatment Penetration Rate Over Time for Medicaid Clients in an Eligibility Category

	Expansion				Non-expansion MAGI				Other			
Age Group	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015
19-24 years old		45.26%	62.95%	65.55%	59.47%	54.94%	64.94%	68.13%	76.75%	72.88%	82.18%	81.34%
25-34 years old		48.79%	60.66%	62.52%	56.89%	56.01%	67.06%	67.78%	65.66%	62.72%	80.58%	80.45%
35-44 years old		47.57%	62.72%	63.45%	55.89%	51.98%	63.11%	64.47%	62.01%	58.61%	77.21%	79.54%
45-54 years old		45.69%	62.77%	64.57%	53.97%	47.26%	62.51%	62.11%	55.76%	53.04%	72.12%	72.18%
55-64 years old		44.66%	59.39%	62.45%	46.72%	49.76%	63.92%	63.95%	53.08%	50.99%	69.19%	71.36%

The penetration rates for the selected substance use disorder treatment services presented in Table 11 reveals several different patterns in the utilization of these selected services relative to any substance use disorder treatment services summarized in Table 10. First, the penetration rates for these selected services are substantially lower than the rates for any substance use disorder treatments. For example, the penetration rates for these selected services range from a low of 3.08% to a high of 34.65%, whereas the penetration rates for any substance use disorder treatment range from a low of 44.66% to a high of 82.18%. Second, in contrast to the increasing trend in penetration rates for any substance use disorder treatment, the penetration rates for these selected treatments are generally trending downward suggesting that these services are not keeping pace with the increasing prevalence of identified substance use disorders and the growing number of Medicaid clients. Finally, the penetration rate of these selected services is the highest for the Expansion eligibility category in contrast to any substance use disorder treatments where this eligibility category has the lowest penetration rates. This suggests that disproportionately more Medicaid clients in the Expansion category receiving substance use disorder treatments are receiving these selected services. Additional analysis is needed to assess the extent to which these differences in penetration rates for the Expansion category is related to differences in the types of substance use disorders for the clients in this eligibility category compared to clients in other eligibility categories.

Table 11
Substance Use Disorder Treatment Penetration Rate for Selected Codes Over Time for Medicaid Clients in an Eligibility Category

	Expansion				Non-expansion MAGI				Other			
Age Group	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015
19-24 years old		14.28%	10.01%	10.36%	8.86%	7.06%	7.17%	8.15%	34.65%	32.72%	18.99%	19.47%
25-34 years old		15.09%	14.35%	13.79%	7.84%	5.78%	6.18%	6.55%	8.23%	5.76%	3.79%	3.91%
35-44 years old		20.71%	17.15%	16.31%	8.61%	5.83%	5.57%	5.81%	9.28%	7.71%	6.00%	5.98%
45-54 years old		28.51%	21.36%	20.54%	9.42%	9.41%	8.53%	7.58%	15.97%	12.70%	9.01%	9.13%
55-64 years old		28.29%	20.94%	18.30%	4.87%	7.34%	5.58%	3.08%	15.22%	15.16%	8.29%	7.32%

In addition to examining receipt of substance use disorder treatment services, we also examined the utilization of emergency department services for Medicaid clients with an identified substance use disorder. We calculated the average number of emergency department visits in a month for Medicaid clients with an indication of a substance use disorder, as well as for the subset of these clients that received a substance use disorder treatment service in the same month. Averages were calculated for each age group and eligibility category combination for the same four six-month time periods. As above, averages are not reported for the July – December 2013 period for clients in the Expansion eligibility category because of the small number of clients in this eligibility category before the Medicaid expansion under the ACA in January 2014. Table 12 presents the average number of emergency department visits in a month for clients with an indication of a substance use disorder for each of the age group, eligibility category and time period. Similarly, Table 13 presents the average number of emergency department visits in a month for the subset of clients that received any substance use disorder treatment in the month.

Table 12
Average Number of Emergency Department Visits for Medicaid Clients with an Indication of Substance Use Disorder per Month Over Time by Eligibility Category

	Expansion				Non-expansion MAGI				Other			
Age Group	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015
19-24 years old		1.0	1.1	1.1	1.2	0.7	0.9	1.0	1.0	0.6	0.7	0.8
25-34 years old		1.1	1.4	1.3	1.2	0.7	0.9	0.9	1.9	1.0	1.0	1.1
35-44 years old		1.2	1.4	1.4	1.2	0.6	0.9	1.0	1.8	0.9	1.1	1.0
45-54 years old		1.2	1.4	1.3	1.2	0.6	0.9	1.1	1.9	0.9	1.0	1.1
55-64 years old		1.0	1.2	1.2	0.7	0.4	0.7	0.6	1.5	0.8	0.9	0.9

The findings in Table 12 indicate that clients with an indication of a substance use disorder in the Expansion eligibility category are visiting the emergency department more frequently than their counterparts in the Non-expansion MAGI and Other eligibility categories. For example, in the January to June 2015 period, clients with a substance use disorder in the Expansion category averaged between 1.1 and 1.4 emergency department visits in a month, whereas during this same period, clients in the Non-expansion MAGI category averaged from 0.6 to 1.1 visits and clients in the Other category averaged between 0.8 and 1.1 visits per month to an emergency department. These findings also suggest that the average number of visits to an emergency department in a month has remained relatively unchanged over this two-year period.

Table 13
Average Number of Emergency Department Visits for Medicaid Clients Receiving Substance Use Disorder Treatment per Month Over Time by Eligibility Category

	Expansion				Non-expansion MAGI				Other			
Age Group	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015
19-24 years old		0.5	0.7	0.7	0.6	0.4	0.6	0.7	0.7	0.3	0.5	0.6
25-34 years old		0.7	0.9	0.9	0.7	0.4	0.6	0.7	1.5	0.7	0.8	0.8
35-44 years old		0.9	1.0	1.0	0.7	0.4	0.6	0.7	1.2	0.5	0.9	0.8
45-54 years old		1.0	1.1	1.0	0.7	0.3	0.7	0.8	1.2	0.6	0.7	0.8
55-64 years old		0.8	1.0	0.9	0.2	0.2	0.5	0.3	1.1	0.5	0.6	0.6

The findings in Table 13 suggest that clients with an indication of a substance use disorder and are receiving treatment during a month on average have slightly fewer visits to an emergency department in a month. This pattern of fewer emergency department visits by clients receiving substance use disorder treatment services is consistent across age groups, eligibility categories and periods and ranges from 0.2 to 0.5 fewer emergency department visits per month. This suggests that the receipt of substance use disorder treatment services reduces utilization of emergency department services; however, additional analysis is needed to better understand the source and consequences of this difference.

We also examined the average cost, as measured by the Medicaid paid claim amount, for each emergency room visit by clients with an indication of a substance use disorder. Medicaid paid claim amounts were calculated for each emergency department visit and this cost was averaged across all visits by clients in an age group and eligibility category over the two-year period from July 2013 through June 2015. We also calculated this average cost for clients receiving a substance use disorder treatment service in the month of the emergency department visit. These average costs are presented in Table 14.

Table 14
Average Cost of an Emergency Department Visit for Medicaid Clients with an Indication of Substance Use Disorder by Eligibility Category

	Expansion		Non-expansion MAGI		Other	
Age Group	SUD Indication	SUD Treatment	SUD Indication	SUD Treatment	SUD Indication	SUD Treatment
19-24 years old	$141.37	$134.09	$133.17	$121.69	$131.26	$124.09
25-34 years old	$154.95	$149.15	$139.64	$131.78	$130.47	$121.14
35-44 years old	$159.19	$150.15	$151.68	$140.05	$142.19	$138.72
45-54 years old	$170.24	$160.60	$162.39	$151.65	$143.94	$132.30
55-64 years old	$176.53	$167.29	$152.47	$137.13	$152.55	$140.02

The findings in Table 14 are consistent with the results presented in Tables 12 and 13. Medicaid clients with an indication of a substance use disorder that receive treatment during a month have slightly lower average cost of an emergency department visit compared to all clients with an indication of a substance use disorder. In addition, clients in the Expansion eligibility category have higher average costs of an emergency department visit compared to their counterparts in the Non-expansion MAGI and Other eligibility categories. These higher average costs in combination with the higher average number of emergency department visits per month suggest that clients with an indication of a substance use disorder but not receiving treatment services in a month have higher utilization and costs of emergency department services compared to clients in other eligibility categories.

We also examined the utilization and cost of inpatient hospital admissions for Medicaid clients with an indication of substance use disorder. Specifically, we calculated the average number of hospital admissions in a month per 1,000 clients with an indication of a substance use disorder and for the subset of these clients that received any substance use disorder treatment in the month. Tables 15 and 16 present the findings for the number of inpatient hospital admissions for the five age groups, three eligibility categories and four time periods. In addition, we calculated the average Medicaid paid amount for inpatient hospital admissions for clients with a substance use disorder indication and for the subset receiving any substance use disorder treatment in the month of the hospitalization. Table 17 presents the results of this analysis for the five age groups and three eligibility categories.

The findings in Table 15 are consistent with the findings related to utilization of emergency department services in that clients with a substance use disorder indication in the Expansion eligibility category utilize hospital inpatient services at a higher rate than their counterparts in the Non-expansion MAGI and Other eligibility categories, with the exception of the youngest age group. The results in Table 15 show a marked decline over time in hospital admissions for all but one of the age groups and eligibility categories, which is in contrast to the relatively stable utilization of emergency department services of these same Medicaid clients that remained relatively stable over time.

Table 15
Average Number of Hospital Admissions in a Month per 1,000 Clients with an Indication of Substance Use Disorder Over Time by Eligibility Category

	Expansion				Non-expansion MAGI				Other			
Age Group	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015
19-24 years old		61.6	41.7	37.7	69.4	62.9	54.7	55.2	35.8	42.3	33.7	27.3
25-34 years old		96.0	75.3	65.3	58.1	54.3	49.7	48.1	78.6	73.9	42.2	42.7
35-44 years old		130.2	89.8	84.0	78.5	65.0	51.8	48.0	109.2	69.8	51.5	46.1
45-54 years old		151.6	107.8	96.6	92.7	74.9	73.6	79.3	139.4	132.7	90.8	80.7
55-64 years old		158.5	131.0	116.1	173.6	180.9	127.2	72.1	128.4	143.4	99.2	87.9

The results presented in Table 16 indicate that the subset of Medicaid clients with a substance use disorder indication that receive any related treatment services have substantially lower hospital admissions across all age groups and eligibility categories. In addition, these results do not display the marked differences in hospital admissions for clients in the Expansion eligibility category that are apparent in Table 15. Taken together, the results in Tables 15 and 16 suggest that clients with a substance use disorder indication that do not receive related treatment services utilize considerably more hospital services compared to clients that receive substance use disorder treatment and that this difference is even larger for clients in the Expansion eligibility category.

Table 16
Average Number of Hospital Admissions in a Month per 1,000 Clients Receiving Substance Use Disorder Treatment Over Time by Eligibility Category

	Expansion				Non-expansion MAGI				Other			
Age Group	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015	Jul-Dec 2013	Jan-Jun 2014	Jul-Dec 2014	Jan-Jun 2015
19-24 years old		12.7	12.5	10.6	36.9	30.2	26.9	28.6	13.3	13.6	11.8	7.9
25-34 years old		21.1	23.4	21.1	26.7	24.0	22.5	22.7	33.0	25.7	17.3	19.9
35-44 years old		33.6	34.7	30.9	31.8	21.3	16.4	18.8	30.0	19.2	20.7	21.9
45-54 years old		37.8	34.5	37.0	26.8	14.8	20.3	24.0	44.2	31.3	31.9	35.1
55-64 years old		37.9	43.8	35.7	23.0	17.7	11.5	18.5	30.7	32.4	33.4	30.2

In addition to utilization of inpatient hospital services, we also examined the average Medicaid paid claim for hospitalizations for clients with a substance use disorder indication overall and for the subset of clients receiving related treatment services. The results of this analysis are presented in Table 17. The findings related to average cost of a hospitalization presented in Table 17 are consistent with the results examining costs of emergency department visits and the utilization of inpatient hospital services. Specifically, across all age groups and eligibility categories clients with a substance use disorder indication that received a related treatment service in the month of hospitalization have a lower average costs compared to all clients with an identified substance use disorder. For example, for clients in the Expansion eligibility

category the cost difference ranges from about $700 for clients 35-44 years old to over $1,300 for clients 55-64 years old. Similarly, for clients in the Non-expansion MAGI category the difference ranges from just over $200 for clients 35-44 years old to over $2,200 for clients 55-64 years old. These differences are even larger for clients in the Other eligibility category with clients receiving a substance use disorder related treatment having on average almost $2,000 lower hospitalization costs for all age groups with the exception of the oldest age group with a difference of just under $1,250.

Table 17
Average Cost of a Hospitalization for Medicaid Clients with an Indication of Substance Use Disorder by Eligibility Category

	Expansion		Non-Expansion MAGI		Other	
Age Group	SUD Indication	SUD Treatment	SUD Indication	SUD Treatment	SUD Indication	SUD Treatment
19-24 years old	$6,599.61	$5,449.76	$4,163.60	$3,562.54	$6,265.37	$4,338.21
25-34 years old	$6,599.06	$5,764.84	$5,440.48	$5,035.60	$7,208.15	$5,373.36
35-44 years old	$6,814.03	$6,110.95	$6,076.58	$5,874.39	$7,984.48	$6,234.05
45-54 years old	$7,774.16	$6,797.72	$7,046.25	$6,415.86	$9,249.92	$6,904.02
55-64 years old	$8,193.38	$6,865.34	$7,934.48	$5,726.59	$8,529.94	$7,281.45

Taken together, the findings presented in Tables 12 through 17 suggest that clients with a substance use disorder indication that are receiving a related treatment service will have lower Medicaid paid total cost of care compared to all clients with an indication of a substance use disorder. To assess the extent to which there are total cost of care differences, we calculated the average Medicaid per-member, per-month total claims paid in for clients with an indication of a substance use disorder for the five age groups and the three eligibility categories. Three averages are reported in Table 18 for each age group and eligibility category: (1) months clients were eligible for Medicaid; (2) months in which clients were receiving a substance use disorder related treatment service; and, (3) months in which clients were receiving selected treatment services that included evaluation of patient self-assessment services, treatment plan development and/or modification services, case management services, and screening to determine appropriateness of participation in specified program or treatment.

Table 18
Average Medicaid Per-Member, Per-Month Costs for Medicaid Clients with an Indication of Substance Use Disorder by Eligibility Category

	Expansion			Non-Expansion MAGI			Other		
Age Group	SUD Indication	SUD Treatment	Select Codes	SUD Indication	SUD Treatment	Select Codes	SUD Indication	SUD Treatment	Select Codes
19-24 years old	$1,147.21	$886.67	$814.80	$982.54	$788.81	$671.89	$1,171.84	$1,010.49	$340.81
25-34 years old	$1,372.02	$911.96	$1,539.52	$1,041.21	$851.99	$1,376.28	$1,597.87	$1,284.41	$1,250.27
35-44 years old	$1,610.33	$1,044.96	$1,842.10	$1,148.61	$869.13	$1,447.62	$1,662.59	$1,251.07	$1,545.51
45-54 years old	$1,890.07	$1,114.97	$1,865.11	$1,391.78	$832.09	$1,766.04	$2,086.06	$1,175.70	$1,979.72
55-64 years old	$2,084.52	$1,100.49	$1,800.44	$1,932.05	$778.32	$1,405.92	$1,987.43	$1,172.26	$1,606.59

The findings in Table 18 confirm that clients with a substance use disorder indication receiving any related treatment service have lower per-member, per-month total cost of care than all clients with an

indication of a substance use disorder for all age groups and eligibility categories. However, this pattern does not carry over to the selected treatment services where per-member, per-month total costs of care are lower for same age and eligibility combinations but higher for others. Additional analyses are needed to assess the extent to which these lower per-member, per-month costs are associated with the receipt of substance use disorder treatment services or related to the characteristics of clients that receive these services compared to clients that do not receive these services.

5. Conclusion

The analyses presented in this report examined six dimensions of the Medicaid expansion population in Colorado:

1. Demographic characteristics for the expansion population compared to traditional Medicaid eligibility category populations.
2. Medicaid experiences of the expansion population before and after expansion eligibility episodes.
3. Utilization of primary care services by adults in the expansion, non-expansion MAGI and other eligibility categories.
4. Utilization of emergency department services by adults in the expansion, non-expansion MAGI and other eligibility categories.
5. Pregnancy and childbirth care experiences of adults in the expansion and non-expansion eligibility categories.
6. Prevalence of indications of substance use disorders and utilization of services related to substance use disorder by adults in the expansion and non-expansion eligibility categories.

Our analysis summarizing the demographic characteristics of the expansion population indicated that the expansion population is concentrated along the Front Range area along the Interstate-25 corridor from Larimer County to Pueblo County that reflects the geographic distribution of the state's general population. Additional analysis demonstrated that the expansion population as a percentage of a county's Medicaid caseload is variable ranging from some small population counties where the expansion population makes up almost half of their Medicaid caseload to other small population counties were only one of every six Medicaid clients is in the expansion eligibility category. A comparison of the personal characteristics of Medicaid clients in 2014 and 2015 suggested that expansion population members are more likely to be male and of in the White Non-Hispanic race/ethnicity category. Focusing on adult Medicaid clients, the expansion population is composed of slightly more young adults (19-21 years of age) and older working age adults (45-64 years of age) compared to the other Medicaid eligibility categories.

The findings from our analysis of the Medicaid experiences of the expansion population before and after episodes where the members of this population are eligible for Medicaid under the expansion eligibility category suggests this is a very dynamic population. Looking back from the time an individual first becomes eligible for Medicaid under the expansion category indicates that a substantial number of these individuals have previous Medicaid experience under the non-expansion MAGI eligibility category. Although a substantial component of the expansion population has previous experience with the Medicaid program, our analysis of the transitions surrounding the beginning and end of expansion eligibility episodes indicates that majority of these episodes begin by individuals transitioning from off Medicaid to the expansion eligibility category and among the episodes that completed before July 2015 most of these episodes end with individuals transitioning off of Medicaid. These results suggest there is a significant need to increase our understanding of churning on and off of Medicaid, as well as the circumstances leading to individuals switching Medicaid eligibility categories.

Our analysis of the utilization of primary care and emergency department services by adults between the ages of 19 and 64 indicates that the use of these services is very similar for the expansion and non-expansion MAGI eligibility categories. The adults in these two eligibility categories are just as likely to receive primary care services and use emergency department services in a month, as well as the number of visits to primary care and emergency departments in the months they use these services. The adults in the expansion and non-expansion MAGI eligibility categories also receive primary care in the roughly the same settings with an equal percentage receiving primary care from FQHCs/RHCs, urgent care facilities and hospital outpatient clinics.

The findings from our analysis of pregnancy and childbirth care experiences shows that a very small percentage (0.05% or less) of women age 19 to 44 in the Expansion eligibility category are experiencing a Medicaid covered childbirth in a month. These findings also indicate that the percentage of women in this age range experiencing a Medicaid covered childbirth in the Non-expansion MAGI and Other eligibility categories are relatively stable before and after the expansion of Medicaid in January 2014. Although our results suggest that the percentage of clients with a Medicaid covered childbirth has remained relatively stable, the findings also suggest that the Medicaid expansion increased the likelihood that women will be on Medicaid earlier in their pregnancies. For example, a smaller percentage of women with a birth covered by Medicaid in the Non-expansion MAGI and Other categories were not covered by Medicaid at the beginning of their pregnancies after January 2014. Moreover, our results also suggest that women with a Medicaid covered childbirth the are becoming eligible for Medicaid earlier in and are covered by Medicaid for more time during their pregnancies. Finally, the average cost of pregnancy and childbirth for women in the Expansion category at the time of birth are the same or substantially lower (for those age 25-34) compared to the average cost for women in the Non-expansion MAGI and Other categories. Additional analyses are needed to assess the extent to which the additional time with Medicaid coverage during pregnancy is related to outcomes for mothers and infants.

Our analysis of clients with an identified substance use disorder indicated that adult clients (19-64 years of age) in the Expansion eligibility category have a slightly higher prevalence of a substance use disorder indication compared to clients in the Non-expansion MAGI eligibility category but a lower rate compared to clients in the Other eligibility category. Although identified substance use disorder prevalence rates for all age groups and eligibility categories are below 10%, which suggests these disorders are under identified, these rates have been increasing for all age groups and eligibility categories in 2014 and 2015. Additional analyses are needed to understand whether these increasing prevalence rates are the result of improved identification and treatment of substance use disorders or whether underlying rates of substance use are increasing or a combination of both of these factors.

An examination of the percentage of clients with an identified substance use disorder receiving related treatment services, which is referred to as the treatment penetration rate, revealed that penetration rates for any substance use disorder related treatment services increased in 2014 and 2015 for all age groups and eligibility categories. During the January – June 2015 period penetration rates for any related treatment service were over 60% for clients in the Expansion and Non-expansion MAGI eligibility categories and over 70% for clients in the Other eligibility category. In contrast, penetration rates for selected treatment services that include evaluation of patient self-assessment services, treatment plan development and/or modification services, case management services, and screening to determine appropriateness of participation in specified program or treatment are 20% or less in 2015 and decreasing. Additional analyses are needed to assess the extent to which the lower and decreasing penetration rates for these selected treatment services are the result of a lack of capacity in providing these services or a declining proportion of clients with identified substance use disorders requiring these types of services.

Finally, our analysis of utilization and cost of emergency department services and hospitalizations for clients with an identified substance use disorder revealed that clients receiving any type of related

treatment service had lower utilization and cost of these services. Moreover, the subset of clients receiving substance use disorder treatment services also had lower per-member, per-month Medicaid costs compared to clients identified with a substance use disorder but not receiving treatment services. Additional analyses are needed to assess the extent to which these lower per-member, per-month costs are associated with the receipt of substance use disorder treatment services or related to the characteristics of clients that receive these services compared to clients that do not receive these services.

References

1. Centers for Medicare and Medicaid Services. Medicaid & CHIP: January 2015 Monthly Applications, Eligibility Determinations, and Enrollment Report. Baltimore, MD: US Department of Health and Human Services; 2015.

2. Heisler EJ. *The Community Health Center Fund: In Brief.* Congressional Research Service; February 12, 2015 2015.

Appendix: Substance Use Disorder Codes

The following codes in Medicaid claims records for inpatient services, outpatient services, practitioner/physician services, Early and Periodic Screening, Diagnostic and Treatment (EPSDT) services, or in a BHO encounter record were used to identify clients with an indication of a substance use disorder.

ICD 9 Code	Description
291	Alcohol-induced mental disorders
2910	Alcohol withdrawal delirium
2911	Alcohol-induced persisting amnestic disorder
2912	Alcohol-induced persisting dementia
2913	Alcohol-induced psychotic disorder with hallucinations
2914	Idiosyncratic alcohol intoxication
2915	Alcohol-induced psychotic disorder with delusions
2918	Other specified alcohol-induced mental disorders
29181	Alcohol withdrawal
29182	Alcohol induced sleep disorders
29189	Other alcohol-induced mental disorders
2919	Unspecified alcohol-induced mental disorders
292	Drug-induced mental disorders
2920	Drug withdrawal
2921	Drug-induced psychotic disorders
29211	Drug-induced psychotic disorder with delusions
29212	Drug-induced psychotic disorder with hallucinations
2922	Pathological drug intoxication
2928	Other specified drug-induced mental disorders
29281	Drug-induced delirium
29282	Drug-induced persisting dementia
29283	Drug-induced persisting amnestic disorder
29284	Drug-induced mood disorder
29285	Drug induced sleep disorders
29289	Other specified drug-induced mental disorders
2929	Unspecified drug-induced mental disorder
303	Alcohol dependence syndrome
3030	Acute alcoholic intoxication
30300	Acute alcoholic intoxication in alcoholism, unspecified
30301	Acute alcoholic intoxication in alcoholism, continuous
30302	Acute alcoholic intoxication in alcoholism, episodic
30303	Acute alcoholic intoxication in alcoholism, in remission
3039	Other and unspecified alcohol dependence
30390	Other and unspecified alcohol dependence, unspecified
30391	Other and unspecified alcohol dependence, continuous
30392	Other and unspecified alcohol dependence, episodic
30393	Other and unspecified alcohol dependence, in remission
304	Drug dependence
3040	Opioid type dependence
30400	Opioid type dependence, unspecified
30401	Opioid type dependence, continuous
30402	Opioid type dependence, episodic
30403	Opioid type dependence, in remission
3041	Sedative, hypnotic or anxiolytic dependence
30410	Sedative, hypnotic or anxiolytic dependence, unspecified

ICD 9 Code	Description
30411	Sedative, hypnotic or anxiolytic dependence, continuous
30412	Sedative, hypnotic or anxiolytic dependence, episodic
30413	Sedative, hypnotic or anxiolytic dependence, in remission
3042	Cocaine dependence
30420	Cocaine dependence, unspecified
30421	Cocaine dependence, continuous
30422	Cocaine dependence, episodic
30423	Cocaine dependence, in remission
3043	Cannabis dependence
30430	Cannabis dependence, unspecified
30431	Cannabis dependence, continuous
30432	Cannabis dependence, episodic
30433	Cannabis dependence, in remission
3044	Amphetamine and other psychostimulant dependence
30440	Amphetamine and other psychostimulant dependence, unspecified
30441	Amphetamine and other psychostimulant dependence, continuous
30442	Amphetamine and other psychostimulant dependence, episodic
30443	Amphetamine and other psychostimulant dependence, in remission
3045	Hallucinogen dependence
30450	Hallucinogen dependence, unspecified
30451	Hallucinogen dependence, continuous
30452	Hallucinogen dependence, episodic
30453	Hallucinogen dependence, in remission
3046	Other specified drug dependence
30460	Other specified drug dependence, unspecified
30461	Other specified drug dependence, continuous
30462	Other specified drug dependence, episodic
30463	Other specified drug dependence, in remission
3047	Combinations of opioid type drug with any other drug dependence
30470	Combinations of opioid type drug with any other drug dependence, unspecified
30471	Combinations of opioid type drug with any other drug dependence, continuous
30472	Combinations of opioid type drug with any other drug dependence, episodic
30473	Combinations of opioid type drug with any other drug dependence, in remission
3048	Combinations of drug dependence excluding opioid type drug
30480	Combinations of drug dependence excluding opioid type drug, unspecified
30481	Combinations of drug dependence excluding opioid type drug, continuous
30482	Combinations of drug dependence excluding opioid type drug, episodic
30483	Combinations of drug dependence excluding opioid type drug, in remission
3049	Unspecified drug dependence
30490	Unspecified drug dependence, unspecified
30491	Unspecified drug dependence, continuous
30492	Unspecified drug dependence, episodic
30493	Unspecified drug dependence, in remission
3050	Nondependent alcohol abuse
30500	Alcohol abuse, unspecified
30501	Alcohol abuse, continuous
30502	Alcohol abuse, episodic
30503	Alcohol abuse, in remission
3052	Nondependent cannabis abuse
30520	Cannabis abuse, unspecified
30521	Cannabis abuse, continuous
30522	Cannabis abuse, episodic

ICD 9 Code	Description
30523	Cannabis abuse, in remission
3053	Nondependent hallucinogen abuse
30530	Hallucinogen abuse, unspecified
30531	Hallucinogen abuse, continuous
30532	Hallucinogen abuse, episodic
30533	Hallucinogen abuse, in remission
3054	Nondependent sedative, hypnotic or anxiolytic abuse
30540	Sedative, hypnotic or anxiolytic abuse, unspecified
30541	Sedative, hypnotic or anxiolytic abuse, continuous
30542	Sedative, hypnotic or anxiolytic abuse, episodic
30543	Sedative, hypnotic or anxiolytic abuse, in remission
3055	Nondependent opioid abuse
30550	Opioid abuse, unspecified
30551	Opioid abuse, continuous
30552	Opioid abuse, episodic
30553	Opioid abuse, in remission
3056	Nondependent cocaine abuse
30560	Cocaine abuse, unspecified
30561	Cocaine abuse, continuous
30562	Cocaine abuse, episodic
30563	Cocaine abuse, in remission
3057	Nondependent amphetamine or related acting sympathomimetic abuse
30570	Amphetamine or related acting sympathomimetic abuse, unspecified
30571	Amphetamine or related acting sympathomimetic abuse, continuous
30572	Amphetamine or related acting sympathomimetic abuse, episodic
30573	Amphetamine or related acting sympathomimetic abuse, in remission
3058	Nondependent antidepressant type abuse
30580	Antidepressant type abuse, unspecified
30581	Antidepressant type abuse, continuous
30582	Antidepressant type abuse, episodic
30583	Antidepressant type abuse, in remission
3059	Nondependent other mixed or unspecified drug abuse
30590	Other, mixed, or unspecified drug abuse, unspecified
30591	Other, mixed, or unspecified drug abuse, continuous
30592	Other, mixed, or unspecified drug abuse, episodic
30593	Other, mixed, or unspecified drug abuse, in remission
3575	Alcoholic polyneuropathy
3576	Polyneuropathy due to drugs
4255	Alcoholic cardiomyopathy
53530	Alcoholic gastritis without bleeding
53531	Alcoholic gastritis with bleeding
5710	Alcoholic fatty liver
5711	Acute alcoholic hepatitis
5712	Alcoholic cirrhosis of liver
5713	Alcoholic liver damage, unspecified
6483	Drug dependence complicating pregnancy childbirth or the puerperium
64830	Drug dependence of mother, unspecified as to episode of care or not applicable
64831	Drug dependence of mother, delivered, with or without mention of antepartum condition
64832	Drug dependence of mother, delivered, with mention of postpartum complication
64833	Drug dependence of mother, antepartum condition or complication
64834	Drug dependence of mother, postpartum condition or complication
6555	Suspected damage to fetus from drugs affecting management of mother

ICD 9 Code	Description
65550	Suspected damage to fetus from drugs, affecting management of mother, unspecified as to episode of care or not appl
65551	Suspected damage to fetus from drugs, affecting management of mother, delivered, with or without mention of antep condition
65553	Suspected damage to fetus from drugs, affecting management of mother, antepartum condition or complication
76071	Alcohol affecting fetus or newborn via placenta or breast milk
76072	Narcotics affecting fetus or newborn via placenta or breast milk
76073	Hallucinogenic agents affecting fetus or newborn via placenta or breast milk
76075	Cocaine affecting fetus or newborn via placenta or breast milk
7795	Drug withdrawal syndrome in newborn
9461	Alcohol rehabilitation
9462	Alcohol Detoxification
9463	Alcohol rehabilitation and detoxification
9464	Drug rehabilitation
9465	Drug Detoxification
9466	Drug rehabilitation and detoxification
9467	Combined alcohol and drug rehabilitation
9468	Combined Alcohol/Drug Detoxification
9469	Combined alcohol and drug rehabilitation and detoxification
9620	Poisoning by adrenal cortical steroids
9621	Poisoning by androgens and anabolic congeners
9635	Poisoning by vitamins, not elsewhere classified
9650	Poisoning by opiates and related narcotics
96500	Poisoning by opium (alkaloids), unspecified
96501	Poisoning by heroin
96502	Poisoning by methadone
96509	Poisoning by other opiates and related narcotics
9651	Poisoning by salicylates
9654	Poisoning by aromatic analgesics, not elsewhere classified
9655	Poisoning by pyrazole derivatives
9656	Poisoning by antirheumatics (antiphlogistics)
96569	Poisoning by other antirheumatics
9657	Poisoning by other non-narcotic analgesics
9658	Poisoning by other specified analgesics and antipyretics
9659	Poisoning by unspecified analgesic and antipyretic
966	Poisoning by anticonvulsants and anti-parkinsonism drugs
9660	Poisoning by oxazolidine derivatives
9661	Poisoning by hydantoin derivatives
9662	Poisoning by succinimides
9663	Poisoning by other and unspecified anticonvulsants
9664	Poisoning by anti-Parkinsonism drugs
967	Poisoning by sedatives and hypnotics
9670	Poisoning by barbiturates
9671	Poisoning by chloral hydrate group
9672	Poisoning by paraldehyde
9673	Poisoning by bromine compounds
9674	Poisoning by methaqualone compounds
9675	Poisoning by glutethimide group
9676	Poisoning by mixed sedatives, not elsewhere classified
9678	Poisoning by other sedatives and hypnotics
9679	Poisoning by unspecified sedative or hypnotic
9680	Poisoning by central nervous system muscle-tone depressants
9681	Poisoning by halothane

ICD 9 Code	Description
9682	Poisoning by other gaseous anesthetics
969	Poisoning by psychotropic agents
9690	Poisoning by antidepressants
96900	Poisoning by antidepressant, unspecified
96901	Poisoning by monoamine oxidase inhibitors
96902	Poisoning by selective serotonin and norepinephrine reuptake inhibitors
96903	Poisoning by selective serotonin reuptake inhibitors
96904	Poisoning by tetracyclic antidepressants
96905	Poisoning by tricyclic antidepressants
96909	Poisoning by other antidepressants
9691	Poisoning by phenothiazine-based tranquilizers
9692	Poisoning by butyrophenone-based tranquilizers
9693	Poisoning by other antipsychotics, neuroleptics, and major tranquilizers
9694	Poisoning by benzodiazepine-based tranquilizers
9695	Poisoning by other tranquilizers
9696	Poisoning by psychodysleptics (hallucinogens)
9697	Poisoning by psychostimulants
96970	Poisoning by psychostimulant, unspecified
96971	Poisoning by caffeine
96972	Poisoning by amphetamines
96973	Poisoning by methylphenidate
96979	Poisoning by other psychostimulants
9698	Poisoning by other specified psychotropic agents
9699	Poisoning by unspecified psychotropic agent
970	Poisoning by central nervous system stimulants
9700	Poisoning by analeptics
9701	Poisoning by opiate antagonists
9708	Poisoning by other specified central nervous system stimulants
97081	Poisoning by cocaine
97089	Poisoning by other central nervous system stimulants
9709	Poisoning by unspecified central nervous system stimulant
9710	Poisoning by parasympathomimetics (cholinergics)
9731	Poisoning by irritant cathartics
9732	Poisoning by emollient cathartics
9733	Poisoning by other cathartics, including intestinal atonia
9751	Poisoning by smooth muscle relaxants
9752	Poisoning by skeletal muscle relaxants
9753	Poisoning by other and unspecified drugs acting on muscles
9754	Poisoning by antitussives
9755	Poisoning by expectorants
9756	Poisoning by anti-common cold drugs
9770	Poisoning by dietetics
980	Toxic effect of alcohol
9800	Toxic effect of ethyl alcohol
9801	Toxic effect of methyl alcohol
9802	Toxic effect of isopropyl alcohol
9803	Toxic effect of fusel oil
9808	Toxic effect of other specified alcohols
9809	Toxic effect of unspecified alcohol
9872	Toxic effect of nitrogen oxides
E8500	Accidental poisoning by heroin
E8501	Accidental poisoning by methadone

ICD 9 Code	Description
E8502	Accidental poisoning by other opiates and related narcotics
E8503	Accidental poisoning by salicylates
E8504	Accidental poisoning by aromatic analgesics, not elsewhere classified
E8505	Accidental poisoning by pyrazole derivatives
E8506	Accidental poisoning by antirheumatics (antiphlogistics)
E8507	Accidental poisoning by other non-narcotic analgesics
E8508	Accidental poisoning by other specified analgesics and antipyretics
E8509	Accidental poisoning by unspecified analgesic or antipyretic
E851	Accidental poisoning by barbiturates
E852	Accidental poisoning by other sedatives and hypnotics
E8520	Accidental poisoning by chloral hydrate group
E8521	Accidental poisoning by paraldehyde
E8522	Accidental poisoning by bromine compounds
E8523	Accidental poisoning by methaqualone compounds
E8524	Accidental poisoning by glutethimide group
E8525	Accidental poisoning by mixed sedatives, not elsewhere classified
E8528	Accidental poisoning by other specified sedatives and hypnotics
E8529	Accidental poisoning by unspecified sedative or hypnotic
E853	Accidental poisoning by tranquilizers
E8530	Accidental poisoning by phenothiazine-based tranquilizers
E8531	Accidental poisoning by butyrophenone-based tranquilizers
E8532	Accidental poisoning by benzodiazepine-based tranquilizers
E8538	Accidental poisoning by other specified tranquilizers
E8539	Accidental poisoning by unspecified tranquilizer
E854	Accidental poisoning by other psychotropic agents
E8540	Accidental poisoning by antidepressants
E8541	Accidental poisoning by psychodysleptics [hallucinogens]
E8542	Accidental poisoning by psychostimulants
E8543	Accidental poisoning by central nervous system stimulants
E8548	Accidental poisoning by other psychotropic agents
E8550	Accidental poisoning by anticonvulsant and anti-parkinsonism drugs
E8551	Accidental poisoning by other central nervous system depressants
E8553	Accidental poisoning by parasympathomimetics [cholinergics]
E860	Accidental poisoning by alcohol not elsewhere classified
E8600	Accidental poisoning by alcoholic beverages
E8601	Accidental poisoning by other and unspecified ethyl alcohol and its products
E8602	Accidental poisoning by methyl alcohol
E8603	Accidental poisoning by isopropyl alcohol
E8604	Accidental poisoning by fusel oil
E8608	Accidental poisoning by other specified alcohols
E8609	Accidental poisoning by unspecified alcohol
E8690	Accidental poisoning by nitrogen oxides
V6542	Counseling on substance use and abuse

HCPCS Code	Description
G0396	SBIRT, 15-30 Minutes
G0397	SBIRT, 30+ Minutes
H0001	Alcohol and/or drug assessment
H0004	Behavioral health counseling and therapy, per 15 minutes
H0005	Alcohol and/or drug services; group counseling by a clinician
H0006	Alcohol and/or drug services; case management
H0007	Alcohol and/or drug services; crisis intervention
H0008	Alcohol and/or drug services; sub-acute detoxification
H0009	Alcohol and/or drug services; acute detoxification
H0010	Alcohol and/or drug services; sub-acute detoxification
H0011	Alcohol and/or drug services; acute detoxification
H0012	Alcohol and/or drug services; sub-acute detoxification
H0013	Alcohol and/or drug services; acute detoxification
H0014	Alcohol and/or drug services; ambulatory detoxification
H0015	Alcohol and/or drug services; intensive outpatient
H0016	Alcohol and/or drug services; medical/somatic
H0017	Behavioral health; residential (hospital residential treatment program), without room and board, per diem
H0018	Behavioral health; short-term residential (non-hospital residential treatment program), without room and board, per
H0019	Behavioral health; long-term residential (non-medical, non-acute care in a residential treatment program where stay longer than 30 days), without room and board, per diem
H0020	Alcohol and/or drug services; methadone administration and/or service (provision of the drug by a licensed program
H0034	Alcohol and/or drug abuse halfway house services, per diem
H0047	Alcohol and/or Drug abuse services, not otherwise specified
H2035	Alcohol and/or other drug treatment program, per hour
H2036	Alcohol and/or other drug treatment program, per diem
S3005	Performance measurement, evaluation of patient self-assessment, depression
T1007	Alcohol and/or substance abuse services, treatment plan development and/or modification
T1017	Targeted case management, each 15 minutes
T1019	Personal care services, per 15 minutes, part of the individualized plan of treatment
T1023	Screening to determine appropriateness of participation in specified program or treatment

CPT Code	Description
99408	SBIRT, 15-30 Minutes
99409	SBIRT, 30+ Minutes
96153	Health and behavior intervention, each 15 minutes, face-to-face; group (2 or more patients)
96154	Health and behavior intervention, each 15 minutes, face-to-face; family (with the patient present)
96155	Health and behavior intervention, each 15 minutes, face-to-face; family (without the patient present)

DRG Code	Description
433	Cirrhosis & Alchoholic Hepatitis W CC
434	Cirrhosis & Alchoholic Hepatitis W/O CC
435	Malignancy of Hepatobiliary System or Pancreas W MCC
436	Malignancy of Hepatobiliary System or Pancreas W CC
437	Malignancy of Hepatobiliary System or Pancreas W/O CC/MCC
743	Opioid Abuse/Dependence, Left AMA
744	Opioid Abuse/Dependence W CC
745	Opioid Abuse/Dependence W/O CC
746	Cocaine Abuse/Dependence, Left AMA
747	Cocaine Abuse/Dependence W CC
748	Cocaine Abuse/Dependence W/O CC
749	Alcohol Abuse/Dependence, Left AMA
750	Alcohol Abuse/Dependence W CC
751	Alcohol Abuse/Dependence W/O CC

Rev Codes	Description
0116	Detoxification / private bed
0126	Detoxification / 2 beds
0136	Detoxification / 3 & 4 beds
0146	Detoxification / delux bed
0156	Detoxification / ward

The following codes were used to identify clients that received a substance use disorder treatment service using Medicaid claims records for inpatient services, outpatient services, practitioner/physician services, Early and Periodic Screening, Diagnostic and Treatment (EPSDT) services, and BHO encounter records.

ICD 9 Code	Description
9461	Alcohol rehabilitation
9463	Alcohol rehabilitation and detoxification
9464	Drug rehabilitation
9466	Drug rehabilitation and detoxification
9467	Combined alcohol and drug rehabilitation
9469	Combined alcohol and drug rehabilitation and detoxification

HCPCS Code	Description
H0004	Behavioral health counseling and therapy, per 15 minutes
H0005	Alcohol and/or drug services; group counseling by a clinician
H0006	Alcohol and/or drug services; case management
H0007	Alcohol and/or drug services; crisis intervention
H0015	Alcohol and/or drug services; intensive outpatient
H0016	Alcohol and/or drug services; medical/somatic
H0017	Behavioral health; residential (hospital residential treatment program), without room and board, per diem
H0018	Behavioral health; short-term residential (non-hospital residential treatment program), without room and board, per diem
H0019	Behavioral health; long-term residential (non-medical, non-acute care in a residential treatment program where stay is typically longer than 30 days), without room and board, per diem
H0020	Alcohol and/or drug services; methadone administration and/or service (provision of the drug by a licensed program)
H0034	Alcohol and/or drug abuse halfway house services, per diem
H0047	Alcohol and/or Drug abuse services, not otherwise specified
H2035	Alcohol and/or other drug treatment program, per hour
H2036	Alcohol and/or other drug treatment program, per diem
S3005	Performance measurement, evaluation of patient self-assessment, depression
T1007	Alcohol and/or substance abuse services, treatment plan development and/or modification
T1017	Targeted case management, each 15 minutes
T1019	Personal care services, per 15 minutes, part of the individualized plan of treatment
T1023	Screening to determine appropriateness of participation in specified program or treatment

CPT Code	Description
96153	Health and behavior intervention, each 15 minutes, face-to-face; group (2 or more patients)
96154	Health and behavior intervention, each 15 minutes, face-to-face; family (with the patient present)
96155	Health and behavior intervention, each 15 minutes, face-to-face; family (without the patient present)

DRG Code	Description
433	Cirrhosis & Alchoholic Hepatitis W CC
434	Cirrhosis & Alchoholic Hepatitis W/O CC
435	Malignancy of Hepatobiliary System or Pancreas W MCC
436	Malignancy of Hepatobiliary System or Pancreas W CC
437	Malignancy of Hepatobiliary System or Pancreas W/O CC/MCC
743	Opioid Abuse/Dependence, Left AMA
744	Opioid Abuse/Dependence W CC
745	Opioid Abuse/Dependence W/O CC
746	Cocaine Abuse/Dependence, Left AMA
747	Cocaine Abuse/Dependence W CC
748	Cocaine Abuse/Dependence W/O CC
749	Alcohol Abuse/Dependence, Left AMA
750	Alcohol Abuse/Dependence W CC
751	Alcohol Abuse/Dependence W/O CC

The following codes were used to identify clients that received the selected substance use disorder treatment services using Medicaid claims records for inpatient services, outpatient services, practitioner/physician services, Early and Periodic Screening, Diagnostic and Treatment (EPSDT) services, and BHO encounter records.

HCPCS Code	Description
S3005	Performance measurement, evaluation of patient self-assessment, depression
T1007	Alcohol and/or substance abuse services, treatment plan development and/or modification
T1017	Targeted case management, each 15 minutes
T1019	Personal care services, per 15 minutes, part of the individualized plan of treatment
T1023	Screening to determine appropriateness of participation in specified program or treatment