



COLORADO INDIGENT CARE POPULATION – 2016 STUDY

**PREPARED FOR THE COLORADO COMMISSION ON AFFORDABLE HEALTH CARE
BY LEWIS & ELLIS, INC. ACTUARIES & CONSULTANTS**

August 10, 2016

Prepared by

Michael A Brown, FSA, MAAA, Vice President

Andrea Huckaba, ASA, CERA, MAAA, Assistant Vice President

Spencer Loudon, Actuarial/Data Technician

Table of Contents

Executive Summary 4

Section 1: Introduction and Purpose of Study 5

Advanced Premium Tax Credit Explained 6

Cost Sharing Reductions (CSR) Explained 6

Exhibit 1.1: ACA insurance affordability examples – 40-year-old, 2016 expense example for a low utilizer and a high utilizer. 7

Section 2: Summary Findings of Concerns 8

Exhibit 2.1: A Breakout of Coloradan populations who may need healthcare coverage assistance 8

Underinsured Population Explained..... 9

Exhibit 2.2: Example of Consumer Choice, Metallic Plans with Tax Credits and Cost Sharing Reductions ... 9

Exhibit 2.3: Total Health Care Cost as a percentage of Total Income, High and Low Scenarios 10

Exhibit 2.4: Estimated CICP Members 10

Exhibit 2.5: Counties with high utilization and low provider count..... 11

Exhibit 2.6: Counties with low utilization and low provider count 11

Exhibit 2.7: Counties with low utilization and low service type count 12

Exhibit 2.8: ACA Premium Comparison, by Region, FPL and Metal Level 13

Exhibit 2.9: Commercial Insurance Total Cost by Region and Market..... 13

Section 3: Low Income Population and Sources of Health Care..... 15

Exhibit 3.1: Estimated Colorado Population by Federal Poverty Level 15

Exhibit 3.2: Estimated Uninsured Colorado Population by Federal Poverty Level 16

Exhibit 3.3: Estimated Colorado Distribution by Insurance Type and Federal Poverty Level..... 16

Exhibit 3.4: Estimate Colorado Distribution by Insurance Type and Insurance Status 18

Exhibit 3.5: Colorado Population Comparisons by Type of Insurance..... 18

Section 3 Key Observations 19

Exhibit 3.6: Division of Insurance Rating Regions..... 19

Section 4: Low Income Population and Health Care Cost 21

Exhibit 4.1: Per Member Per Month (PMPM) Allowed Cost for CICP Members 21

Exhibit 4.2: Billed Charges, Cost Sharing and Allowed Cost per Service for CICP 22

Exhibit 4.3: Cost Sharing CICP Clients 22

Exhibit 4.4: 2015 Per Member Per Month (PMPM) Allowed Cost for Colorado Expansion Medicaid by Provider Type..... 23

Exhibit 4.5: 2015 Medicaid Cost per service for Colorado Medicaid by Provider Type..... 23

Exhibit 4.6: 2015 Per Member Per Month Allowed Claims 24

The ACA and Advanced Premium Tax Credits (APTC)..... 24

Exhibit 4.7: ACA Subsidy Exhibit by DOI Rating Region 25

Exhibit 4.8: Annual Member Cost for typical 2016 ACA plans, 40 year old..... 26

Exhibit 4.9: Annual Member Cost by Area for typical 2016 ACA plans, 40 year old 26

Exhibit 4.10: Cost Sharing Features, 2017 ACA plans with high expected membership 28

Section 5: Low Income Population and Health Care Cost by County..... 29

Exhibit 5.1: Per Member per Year Costs Compared to Individual Silver Premium + OOP Costs..... 29

Exhibit 5.2: Relative Cost of Care by Rating Region and Service Type 30

Exhibit 5.3: Comparison of ACA Member Cost by Region and Provider Type 31

Exhibit 5.4: Comparison of ACA Member Cost by Region, FPL and Metal Level 31

Exhibit 5.5: Commercial Use per 1,000 Members for APCD, by Area and Provider Type..... 32

Exhibit 5.7: Relative Cost Per Service for Colorado Medicaid by Area and Provider Type 33

Emergency Room Cost and Use Study 33

Exhibit 5.8: CICP Providers with Emergency Room Services, by Area 34

Exhibit 6.1: Counties with high utilization and low provider count..... 34

Exhibit 6.2: Counties with low utilization and low provider count 35

Exhibit 6.3: Counties with low utilization and low service type count 35

Exhibit 6.4: CICP Utilization by Potential Members (Below 250% FPL, excluding Medicaid and Undocumented workers), and CICP Providers by County 36

Exhibit 6.5: CICP Utilization by Potential Members (Below 250% FPL, excluding Medicaid and Undocumented workers), and CICP Service Types by County 37

Exhibit 6.6: CICP Utilization by Potential Members (Below 250% FPL, excluding Medicaid and Undocumented workers), and Access Score by County..... 39

Exhibit 6.7: Identification of Gaps by Comparing to Unduplicated and Eligible populations 40

Appendix 1: Data and Information Sources 42

Appendix 2: Data Tables..... 43

Estimated 2015 population heat map, below 133% FPL 43

Estimated 2015 population heat map, 133%-250% FPL..... 44

Estimated 2015 population heat map, 133%-400% FPL..... 45

Annual Member Premium and Cost Share Estimates By Region- 2016 ACA Plans, Individual Market 46

Appendix 3: Population Estimate Methodology 51

Executive Summary

The changing landscape of health care in Colorado due to the federal Affordable Care Act components had a significant impact on the Colorado Indigent Care Program (CICP). The number of clients eligible for the CICP have significantly declined as more low income Coloradans are covered by Medicaid and Exchange Qualified Health Plans (QHP) with the Advance Premium Tax Credits (APTC) and Cost Sharing Reductions (CSR). The Colorado Commission on Affordable Health Care (Cost Commission) would like a deeper understanding of this landscape to guide health care policy makers on the direction of the CICP to ensure that Colorado's lower income population continues to have access to affordable health care. However, it is imperative for the Cost Commission to acknowledge in order to advance delivery system transformation and improve population health for Coloradans that public and private payers of health care be aligned.

Furthermore, the Cost Commission would like to understand general health care cost by Colorado rating region. The Cost Commission is also concerned with understanding which services the low income population are utilizing compared to the general population and what, if any, inferences can be made based on those observations. For this work, the Cost Commission has contracted with Lewis & Ellis Actuaries & Consultants (L&E) to perform this study.

Key findings in this report are as follows. Additional analysis and supporting information follows the executive summary.

- As policy makers consider recommendations for the future of CICP, they should consider the following:
 - **Increasing the FPL level in the CICP,**
 - **Lowering the CICP copayments for hospital services, and**
 - **Recruiting CICP-eligible providers in areas of the state that may have gaps in care.**
- Low income individuals may choose bronze plans over silver plans because premiums are lower. However, it is possible **these individuals will pay less overall if a silver plan with CSR is chosen.** At lower federal poverty levels, overall expenses can be much lower on a silver CSR plan due to lower out of pocket cost in the form of deductibles, copays and coinsurance. This may be difficult for an individual to understand and consumer education may be beneficial. Exhibits 1.1 and 4.8.
- Premium and out-of-pocket costs seem to align with total APCD costs in most DOI rating regions of the state except for two regions: **in the West and Grand Junction rating regions, premium and out-of-pocket costs exceed average APCD costs by 25% to 45%, respectively.** This may be driven by population health differences. Additional analysis is needed to determine the drivers of the differences. Exhibit 5.1.
- For commercial insurance, there is significant variance in cost by DOI rating region and service type. For example, **costs for outpatient hospital services are more than 100% higher in the West rating region as compared to Boulder and Denver.** Overall **cost in the West rating region are 20% higher than the statewide average.** Additional analysis is needed to determine the drivers of the differences. Exhibits 5.2 and 5.3.

Section 1: Introduction and Purpose of Study

The Colorado Department of Health Care Policy and Financing (HCPF) administers Colorado Medicaid, Child Health Plan *Plus* (CHP+) and other public health care programs such as the Colorado Indigent Care Program (CICP). The CICP provides discounted health care services to individuals and families with income and assets at or below 250% of the Federal Poverty Level (FPL) who are not eligible for Medicaid or CHP+.

There are two primary Affordable Care Act (ACA) components that had and will continue to have a major impact on the CICP. These components are Medicaid expansion and insurance affordability programs offered in conjunction with Qualified Health Plans (QHP).

Colorado adopted the 2014 Medicaid expansion which increased coverage for adults with incomes up to 133% of FPL. This expansion significantly reduced the number of Coloradans eligible for CICP.

The insurance affordability programs offered through the ACA are the Advance Premium Tax Credits (APTC) and Cost Sharing Reductions (CSR). These programs are available to individuals purchasing QHP's through the Colorado Health Insurance Marketplace, Connect for Health Colorado (C4HCO). The APTC allows for immediate assistance by reducing premiums for individuals and families (insured) between 133% and 400% FPL. CSR lowers the cost sharing (deductible, copays and/or coinsurance) that individuals and families will have to pay for silver plans for income levels between 133% and 250% FPL. In addition, certain Native Americans with FPL at or below 300% may qualify to enroll in a zero cost sharing plan.

NOTE: When we use the phrase Cost Sharing, we are referring to the insured's cost in the form of deductibles, copays and coinsurance only – NOT including insurance premiums. Understanding these affordability programs is key to this report, therefore, we provide a more thorough explanation of APTC and CSR at the end of this section in conjunction with Exhibit 1.1.

The changing landscape of health care in Colorado due to the ACA components noted above will have a significant impact on the CICP. The number of clients eligible for the CICP may be reduced as more low income Coloradans will be covered by Medicaid and Exchange QHPs with APTC and CSR. The Colorado Commission on Affordable Health Care (Cost Commission) would like a deeper understanding of this landscape to guide health care policy makers on the direction of the CICP. This understanding will assist policy makers in reaching a primary goal: how can CICP continue to ensure that Colorado's lower income population has access to affordable health care.

Furthermore, the Cost Commission would like to understand general health care cost by county and determine if there are any gaps in access to affordable care given current providers participating in the CICP. The Cost Commission is also concerned with understanding which services the low income population are utilizing compared to the general population and what, if any, inferences can be made based on those observations.

The Cost Commission has contracted with Lewis & Ellis Actuaries & Consultants (L&E) to perform this study. The purpose of this study is to address the concerns noted above. L&E has previously performed studies for the Colorado Division of Insurance regarding health insurance cost by county, health cost trends and health cost utilization. L&E has performed these studies using the Colorado All Payers Claims Database (APCD) administered by the Center for Improving Value in Health Care (CIVHC). L&E employs health actuaries and consultants who are qualified to perform this study.

Advanced Premium Tax Credit Explained

Advanced Premium Tax Credits (APTC) are available to individuals and families (insured) with incomes between 133% and 400% FPL. In order to receive APTC, the insured must be a U.S. citizen or lawfully present in the U.S. In order to qualify for APTC, the insured must purchase a plan on the marketplace. The APTC is higher for insureds with lower incomes and decreases as an insured income approaches 400% FPL. For more detail on the calculation see Section 4 of this report. An illustrative example is given in Exhibit 1.1 below.

Cost Sharing Reductions (CSR) Explained

In order to understand cost sharing reductions, it is important to discuss Actuarial Value (AV). In general, AV represents the portion of medical and pharmacy claims that an insurance company will pay versus what the insured will pay in the form of deductible, copays and coinsurance (Not including premium). For example, if a plan has a 70% AV, then we expect roughly 70% of the claims to be paid by the insurance carrier and 30% to be paid by the insured (Not including premium). The majority of plans offered are bronze, silver and gold plans; these are referred to as Metal Level plans. Bronze plans have 60% AV, silver plans have 70% AV and gold plans have 80% AV (Platinum plans have 90% AV, however these plans are rare). If the AV is higher, then in general, the amount the insurance company pays for claims is higher, and therefore, the premium is higher. **Note: As AV increases, insured out of pocket cost decreases. CSR is only available to insureds purchasing silver plans through C4HCO.** CSR plans are offered at the same premium as the standard plan, but with a higher AV level. A higher AV means lower deductibles, copays, and coinsurance. Cost sharing reductions are available at three different levels depending on FPL. Individuals up to 150% FPL qualify for a 94% AV plan (CSR94), Individuals at 151%-200% FPL qualify for an 87% AV plan (CSR87) and Individuals with 201%-250% qualify for a 73% AV plan (CSR73). In addition, a fourth option with zero cost sharing is available for American Indians.

Exhibit 1.1 illustrates a few scenarios for a 40-year-old individual, in 2016, at various FPL levels. Key observations are noted below:

- APTC increases as FPL decreases.
- FPLs at or below 400% qualify for APTC, however, if premiums are low enough in a particular area then APTC may actually be \$0, this is the case for this example at 300% FPL.
- Premium paid by insured decreases as FPL decreases for silver plans.

- When the insured chooses a qualified CSR silver plan, out-of-pocket cost sharing components of plan design decrease for CSR silver plans as FPL decreases.
- Insured Cost (Premiums + Cost Sharing) decreases as FPL decreases.
- Insured cost for a bronze plan (compared to a silver plan) at a particular FPL may be lower for an insured with few claims (Scenario 1) due to the lower bronze premium. In Exhibit 1.1, we show an example for an individual at 200% FPL (shaded columns).
- Insured cost for a bronze plan (compared to a CSR silver plan) at a particular FPL may be higher for an insured with high claims (Scenario 2) due to the higher bronze cost sharing.
- A low utilizer could potentially pay 5%-10% of their total income on health care premium and out of pocket cost.
- A high utilizer could potentially pay 10% - 33% of their income on health care cost depending on their FPL and Metal choice.

Exhibit 1.1: ACA insurance affordability examples – 40-year-old, 2016 expense example for a low utilizer and a high utilizer.

	Description	Silver Standard (No CSR or APTC)	Silver Standard (No CSR)	Silver (CSR73)	Silver (CSR87)	Silver (CSR94)	Bronze Plan
	Actuarial Value	70%	70%	73%	87%	94%	60%
	FPL	400+%	300%	250%	200%	150%	200%
	Premium (Annual)	\$3,336	\$3,336	\$3,336	\$3,336	\$3,336	\$2,646
	APTC (Annual)	\$0	\$0	\$929	\$1,827	\$2,617	\$1,827
	Premium after APTC (Annual)	\$3,336	\$3,336	\$2,407	\$1,509	\$719	\$819
Cost Sharing	Deductible	\$2,500	\$2,500	\$2,400	\$800	\$25	\$5,000
	Coinsurance	40%	40%	30%	10%	5%	40%
	Primary Care Visit	\$10	\$10	\$10	\$10	\$5	Ded+Coin
	Specialty Care Visit	Ded+Coin	Ded+Coin	Ded+Coin	Ded+Coin	Ded+Coin	Ded+Coin
	Hospital Visit	Ded+Coin	Ded+Coin	Ded+Coin	Ded+Coin	Ded+Coin	Ded+Coin
	Pharmacy Generic Copay	\$8	\$8	\$8	\$5	\$5	40%
	Pharmacy Preferred Brand Copay	\$60	\$60	\$60	\$50	\$30	40%
	Max Out of Pocket for Insured	\$6,850	\$6,850	\$5,450	\$2,250	\$2,200	\$6,850
	Insured Cost - Low Use Scenario ^{1,2}	\$3,642	\$3,642	\$2,713	\$1,749	\$884	\$1,545
	Insured Cost - High Use Scenario ^{1,3}	\$10,186	\$10,186	\$7,857	\$3,759	\$1,683	\$7,669
	2016 FPL	\$47,080	\$35,310	\$29,425	\$23,540	\$17,655	\$23,540
	Insured Cost, Low Use, % of Income	7.7%	10.3%	9.2%	7.4%	5.0%	6.6%
	Insured Cost, High Use, % of Income	21.6%	28.8%	26.7%	16.0%	9.5%	32.6%

1) Insured cost = premium + cost sharing - APTC

2) Low Use Scenario = 3 primary care visits + 12 generics scripts + 3 brand scripts

3) High Use Scenario = 3 primary care visits + 12 generics scripts + 3 brand scripts + 2 specialty care visits + inpatient hospital visit

Section 2: Summary Findings of Concerns

This report has three primary concerns as noted in Section 1. We will restate those concerns here and point to key findings that are relevant to each.

Concern 1: The Cost Commission would like a deeper understanding of the ACA landscape to guide health care policy makers on the direction of the CICIP. This understanding will assist policy makers in determining how CICIP may continue to ensure Colorado’s lower income population has access to affordable health care. Concern 1 key findings are noted below.

Exhibit 2.1: A Breakout of Coloradan populations who may need healthcare coverage assistance

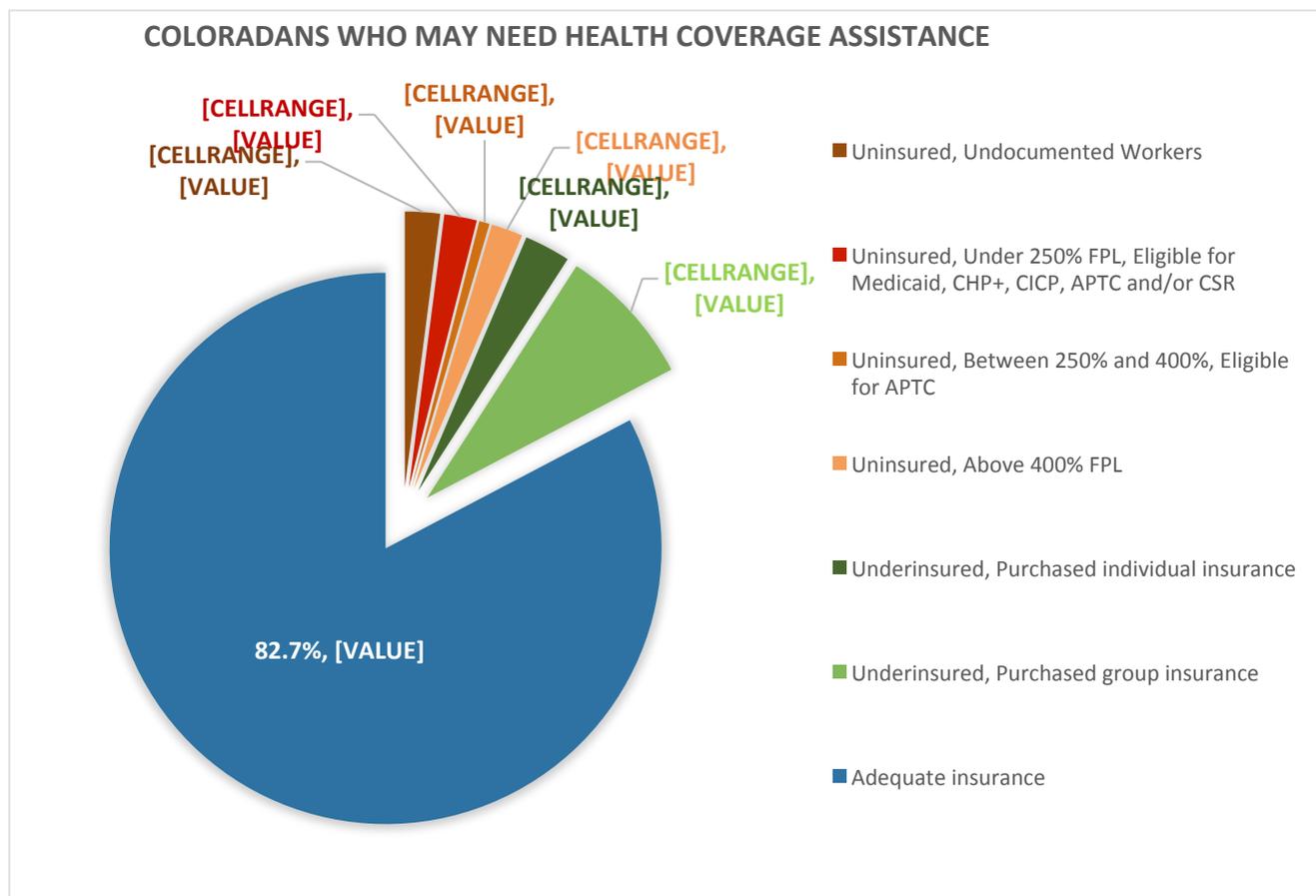
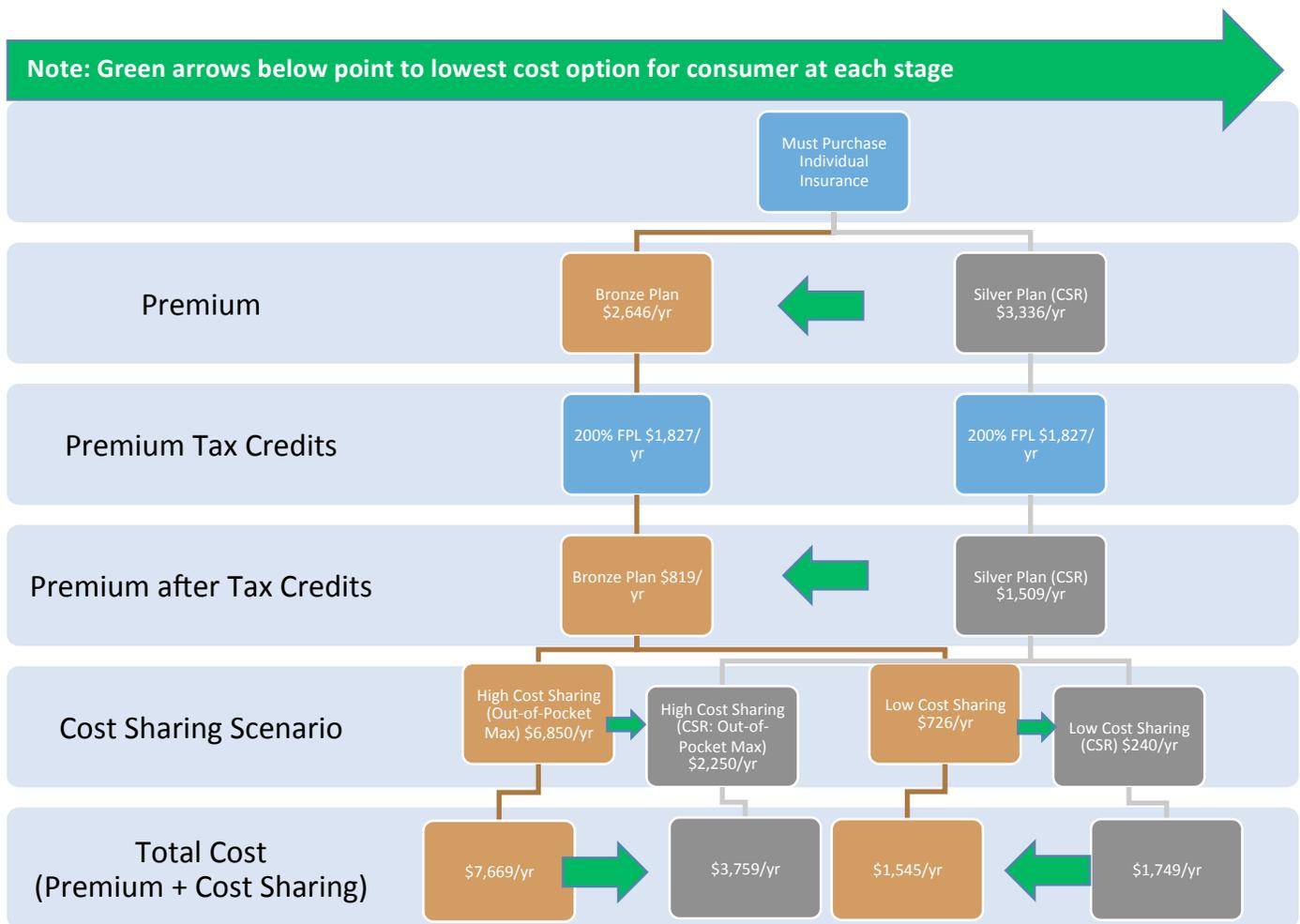


Exhibit 2.1 illustrates that 17.3% of the population is either uninsured or underinsured. Of this, 13.4%, or roughly 731,000 Coloradans may need assistance in acquiring and/or paying for health insurance. An additional 3.9%, or 213,000 Coloradans are not eligible for assistance, but are considered to have inadequate coverage (Undocumented workers, and Uninsured above 400% FPL).

Underinsured Population Explained

The underinsured population is based on the Colorado Health Institute definition (S3-CHI). This defines any member or household as “underinsured” if their total health care costs exceed 10% of their income. For members or households below 200% of the Federal Poverty Level (FPL), the underinsured are those whose total health care costs exceeding 5% of their income. This metric was applied to the US Census population and income data (S8-Statistical Atlas) and average total cost to develop estimates of underinsured in Colorado. See Appendix 3 for a more detailed description of methodology.

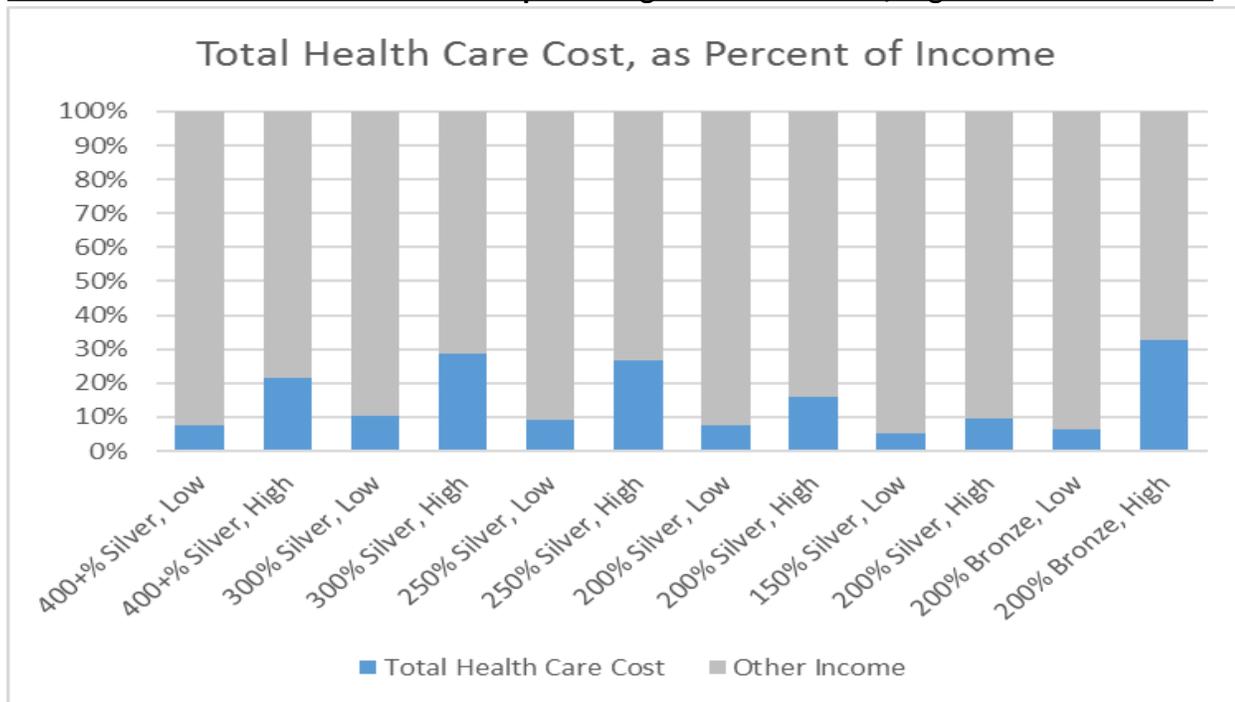
Exhibit 2.2: Example of Consumer Choice, Metallic Plans with Tax Credits and Cost Sharing Reductions



Low income individuals may choose bronze plans over silver plans because premiums are lower. However, it is possible these individuals will pay less overall if a silver plan with CSR is chosen. Overall expenses can be much lower on a CSR plan due to lower out-of-pocket cost in the form of deductibles, copays and

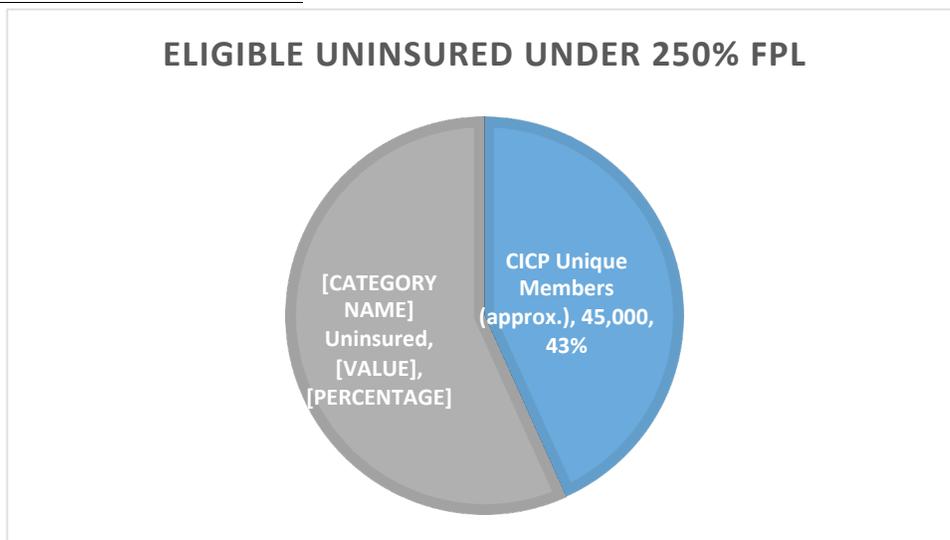
coinsurance. This is not readily apparent, so consumer education may be beneficial for lowering consumer out of pocket cost. However, this selection will increase insurer cost and may lead to higher premiums.

Exhibit 2.3: Total Health Care Cost as a percentage of Total Income, High and Low Scenarios



An individual that requires more medical care than the average consumer, may have total health care expenses of premium + deductible + copay + coinsurance of up to 15%-30% of their income. The above graph is based on values from Exhibit 1.1.

Exhibit 2.4: Estimated CACP Members



Approximately 45,000 Coloradans received CACP care in fiscal year 2014-15. This number is roughly 43% of the uninsured population under 250% FPL. CACP member cost may be lower as compared to ACA members

(insureds) for low utilizers, due to CICIP members not being required to pay premium. Whereas CICIP high utilizers will pay more due to ACA maximum out of pocket limitations, CSR and APTC.

Concern 2: The Cost Commission would like to understand general health care cost by county and determine if there are any gaps in access to affordable care given current providers participating in the CICIP. Concern 2 key findings are presented graphically below.

Exhibit 2.5: Counties with high utilization and low provider count

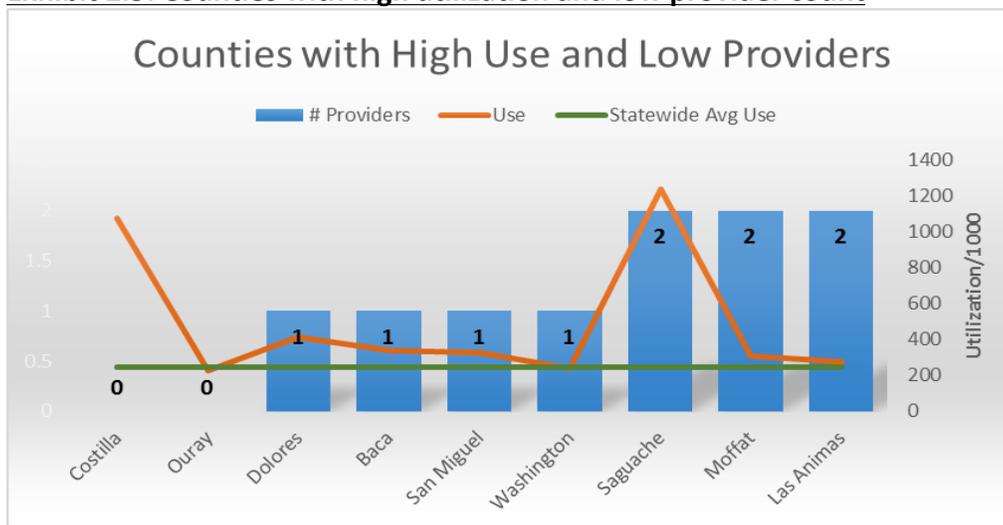


Exhibit 2.5 is one indication of gaps in coverage. If a county has high use (above the statewide average), but low providers, this may be an opportunity to determine if the county needs more CICIP eligible providers. It may be possible that the high utilization is attributable to members visiting providers in other counties. If so, it may be necessary to determine if they are traveling a reasonable distance for care.

Exhibit 2.6: Counties with low utilization and low provider count

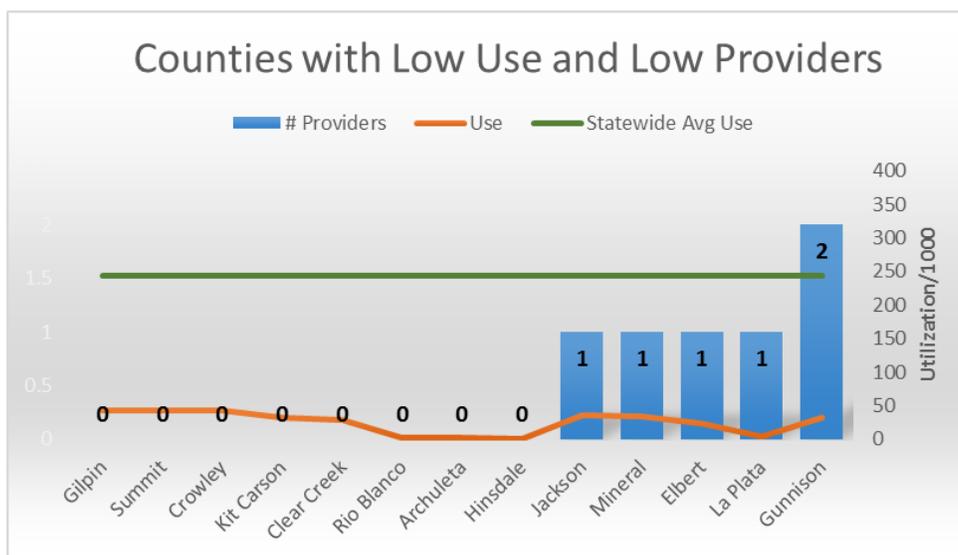


Exhibit 2.6 indicates another gap in coverage. Areas where utilization is far below statewide averages and providers are not available indicates that a population is not benefiting from CICIP services. They may be using other safety net providers or they may not have options available to them. More investigation may be needed to determine if these areas are truly underserved, or simply underrepresented in the CICIP data but are receiving sufficient assistance from other programs.

Exhibit 2.7: Counties with low utilization and low service type count

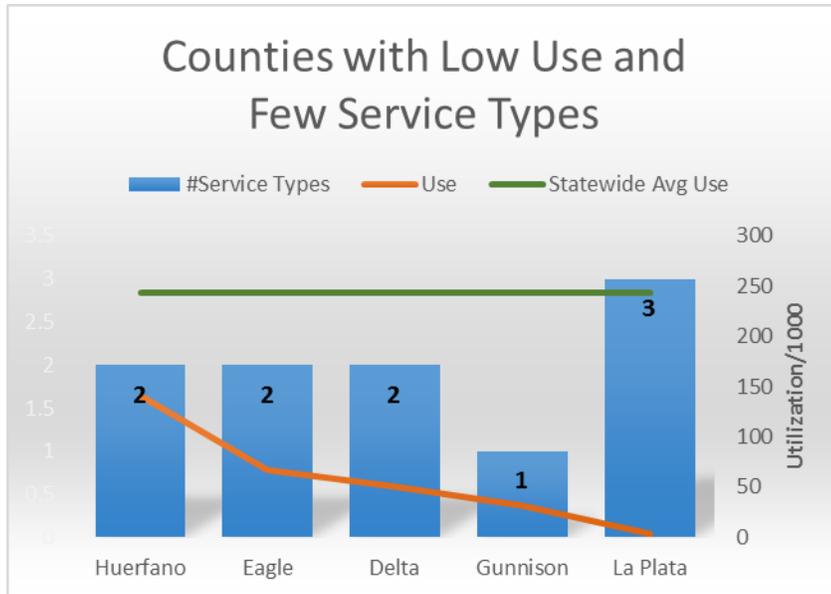


Exhibit 2.7 shows the counties with only a few service types (listed below in the methodology section) and lower than average statewide utilization. Areas where this pattern occurs may indicate that specific services available in that county may not align with needed services.

For example, the La Plata provider offers three service types: inpatient, emergency care and urgent care. Perhaps utilization is low because La Plata population has a greater need for primary care services, and are getting these services from another safety net program. Alternately, there may be an education gap and members are going to non-CICIP providers for emergency care.

Exhibit 2.8: ACA Premium Comparison, by Region, FPL and Metal Level

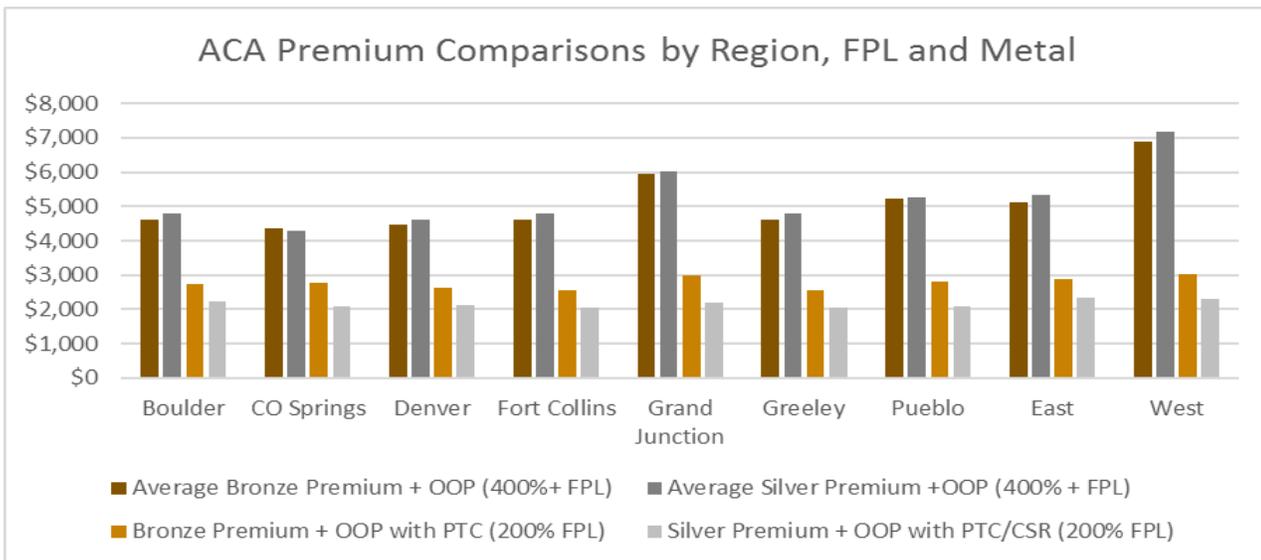


Exhibit 2.8 shows commercial premium in each Division of Insurance (DOI) rating area, by metallic level. We observe the benefit of the ACA Premium Tax Credits and Cost Sharing Reductions on the overall out-of-pocket costs. This graph also shows lower total costs for silver premium than bronze when you consider CSR adjustments to the silver plans. The total costs for 200% FPL, after APTC and CSR, generally falls between \$2,000 and \$3,000 annually, or roughly \$167 to \$250 per month for a 40-year old single person.

Exhibit 2.9: Commercial Insurance Total Cost by Region and Market

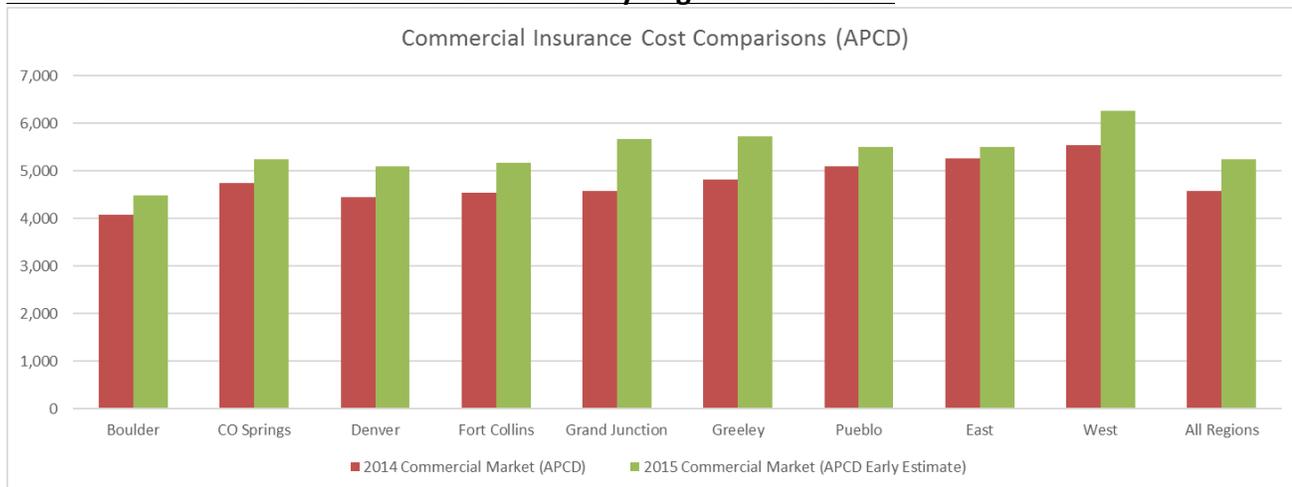


Exhibit 2.9 shows the cost of each area in the commercial markets for 2014 and 2015. The ACA metallic market and the commercial market are, in general, lower cost in Boulder, Colorado Springs, Denver and Fort Collins. This chart cannot be directly compared to the one above, since it includes all ages and all markets, but it provides a general understanding of average cost in each area.

Concern 3: The Cost Commission is also concerned with understanding the services the low income population is utilizing compared to the general population and what, if any, inferences can be made based on those observations. Concern 3 key findings are noted below:

1. Allowed health care cost for the Medicaid adult expansion population in state FY 2014-15 is \$413 monthly per capita as compared to 2015 \$436 pmpm for the general commercially insured population (commercially insured population data derived from APCD). This is attributed mainly to Outpatient Cost per Services that are lower for Medicaid compared to the commercial population. (Exhibits 4.4 and 4.6)
2. Utilization of services are generally lower for CICP populations as compared to the commercially insured population.
3. Costs per service for CICP outpatient are higher than Medicaid expansion population. This may be due to severity of services for CICP eligibles or differences in reimbursement formulas. (Exhibits 4.2 and 4.5)

Section 3: Low Income Population and Sources of Health Care

Source Note: We relied on sources noted in Appendix 1 of this report. The sources are labeled by Source Number, Source Abbreviation and Source Description. Throughout this document, we will reference these sources. The source abbreviation will be used when referenced in this document. For example, Source 1 is the Colorado Department of Health Care Policy & Financing (HCPF), Medically Indigent and Colorado Indigent Care Program (CICP) Fiscal Year 2015-15 Annual Report. This Source will be abbreviated and referenced as S1-CICP.

Estimated populations by federal poverty level (FPL) are illustrated below in Exhibit 3.1. The calculation of population estimates is described in detail in Appendix 3 and is derived from United States Census Bureau data. As the table illustrates, approximately 41% of the Colorado population is above the 400% FPL. A 2015 estimation was made in order to compare to other data points that tie to 2015 as noted in the report. The 2015 estimation is split into categories that are relevant to this report.

FPL categories and relevance:

1. Less than or equal to 133% - the threshold for most adult Medicaid eligibility
2. 133% - 250% FPL – The threshold to qualify for both ACA insurance affordability options (APTC, CSR and CHP+).
3. 250% - 400% FPL - The threshold to qualify for APTC only
4. 400%+ FPL – Not eligible for Medicaid or ACA affordability options

Exhibit 3.1: Estimated Colorado Population by Federal Poverty Level

Description	Poverty Level				
	Under 100% FPL	100%-199% FPL	200%-399% FPL	400+% FPL	All
2014 Population (S10-KFF)	662,700	923,200	1,565,500	2,226,000	5,377,400
Distribution	12.3%	17.2%	29.1%	41.4%	100.0%
Description	Poverty Level				
	Under 133% FPL	133%-250% FPL	250%-400% FPL	400%+ FPL	All
Note	Medicaid Eligible (Most Adults)	APTC, CSR and CHP+ Eligible	APTC Eligible		
2015 Population (L&E estimation / S8-Statistical Atlas)	1,040,397	1,040,410	1,109,543	2,266,224	5,456,574
Distribution	19.1%	19.1%	20.3%	41.5%	100.0%

Estimated uninsured population is illustrated in Exhibit 3.2. The overall uninsured rate using S3-CHI is 6.7% and the expected uninsured count is 353,000 (see S3-CHI). The estimated uninsured count using L&E estimation with S8 is 298,972. There will be estimation errors and sampling errors within both calculations

and determining the exact number is not possible at this point in time. We compare the estimations for reasonableness and note that both values should be considered in decision making.

Exhibit 3.2: Estimated Uninsured Colorado Population by Federal Poverty Level

Description	Poverty Level				
	Under 100% FPL	100%-199% FPL	200%-399% FPL	400+% FPL	All
Poverty Level					
2015 Uninsured Rate (S3-CHI)	10.6%	7.8%	5.3%	3.0%	6.7%
2015 Uninsured Population Estimate	70,246	72,010	82,972	66,780	292,007
Description	Poverty Level				
	Under 133% FPL	133%-250% FPL	250%-400% FPL	400%+ FPL	All
Poverty Level					
2015 Uninsured Rate (Interpolated from above rate)	9.7%	6.8%	5.3%	3.0%	5.5%
2015 Uninsured Population Estimate	101,108	71,072	58,806	67,987	298,972

Uninsured Population Estimation Note: The 2015 uninsured population estimate in exhibit 3.2 represents the 2015 uninsured percentage rate from exhibit 3.2 applied to the 2015 population from exhibit 3.1 (by FPL category). The overall uninsured rate varies between sources (6.7% and 5.5%). A reasonable portion of the variation is due to the variation in overall population estimates between the two base sources (L&E estimation plus S8-Statistical Atlas and S3-CHI). It should be noted that both sources use estimation methods and have sampling error and therefore determining exact figures is not possible. The data is assumed to include undocumented workers who are generally uninsured. Our goal is to use data sets with required detail to perform certain estimations (in this example S3 blended with S8 = 5.5% uninsured rate) and compare to other estimations (in this example S3 = 6.7% uninsured rate). The comparison is made to insure variance is within reason and also to illustrate these are not exact figures, but they can be used in decision making.

Exhibit 3.3 below estimates the portion of the population that falls into various segments by FPL level and by insurance type.

Exhibit 3.3: Estimated Colorado Distribution by Insurance Type and Federal Poverty Level

Description (S10-KFF)	2014 Portion of total population by insurance type (S10-KFF)					2015 (S3-CHI)
	Under 100% FPL	100%-199% FPL	200%-399% FPL	400+% FPL	All	
Poverty Level					All	All
Non-elderly Uninsured	2.8%	3.1%	3.4%	1.7%	11.0%	6.7%
Non-elderly Employer Coverage	1.0%	2.9%	14.2%	26.4%	44.6%	50.9%
Medicaid, CHP+	5.0%	6.6%	4.3%	2.5%	18.4%	21.3%
Non-elderly Individual and other	2.2%	1.4%	2.8%	5.3%	11.6%	8.2%
Medicare	1.3%	3.1%	4.4%	5.5%	14.4%	12.9%
Total	12.3%	17.2%	29.1%	41.4%	100.0%	100.0%

As noted above, there will be variances between estimations due to sampling and estimation errors. Some of the changes between the overall 2014 and 2015 percentages in Exhibit 3.3 are due to sampling and estimation errors while others are due to known occurrences in the market place. For example, we know that Medicaid expansion had a significant impact on the Medicaid population which had enrollment of 724,724, 1,068,332 and 1,247,541 for July 2013, July 2014 and July 2015 respectively (S11-HCPF). In addition, the 2014 segments may not tie exactly, for example, the 2014 “Non-elderly individual and other” category includes elderly employer coverage whereas this population is included in the employer coverage for 2015.

Exhibit 3.4 illustrates another viewpoint of the Colorado population by estimating the uninsured, undocumented workers and the underinsured using US Census Bureau 2015 estimates (S8-Statistical Atlas); L&E calculation of expected average insured out of pocket cost, based on 2016 individual premiums; and underinsured statistics in S3-CHI. Using CHI’s definition of underinsured, we calculated, based on average total costs and expected distribution of bronze and silver plans, whether a person’s costs for area and FPL would exceed the 10% of income threshold (or 5% when under 200% FPL).

The percentages are similar, but not identical to Exhibit 3.3. Once again, we remind the reader that estimates are not exact, estimates include sampling error; however, we review the results of many sources and compare for reasonableness. Here we see the estimates in Exhibit 3.4 align well with Exhibits 3.2 and 3.3. We illustrate the documented only as the undocumented population is not eligible for Medicaid, CICIP, APTC or CSR.

Exhibit 3.4: Estimate Colorado Distribution by Insurance Type and Insurance Status

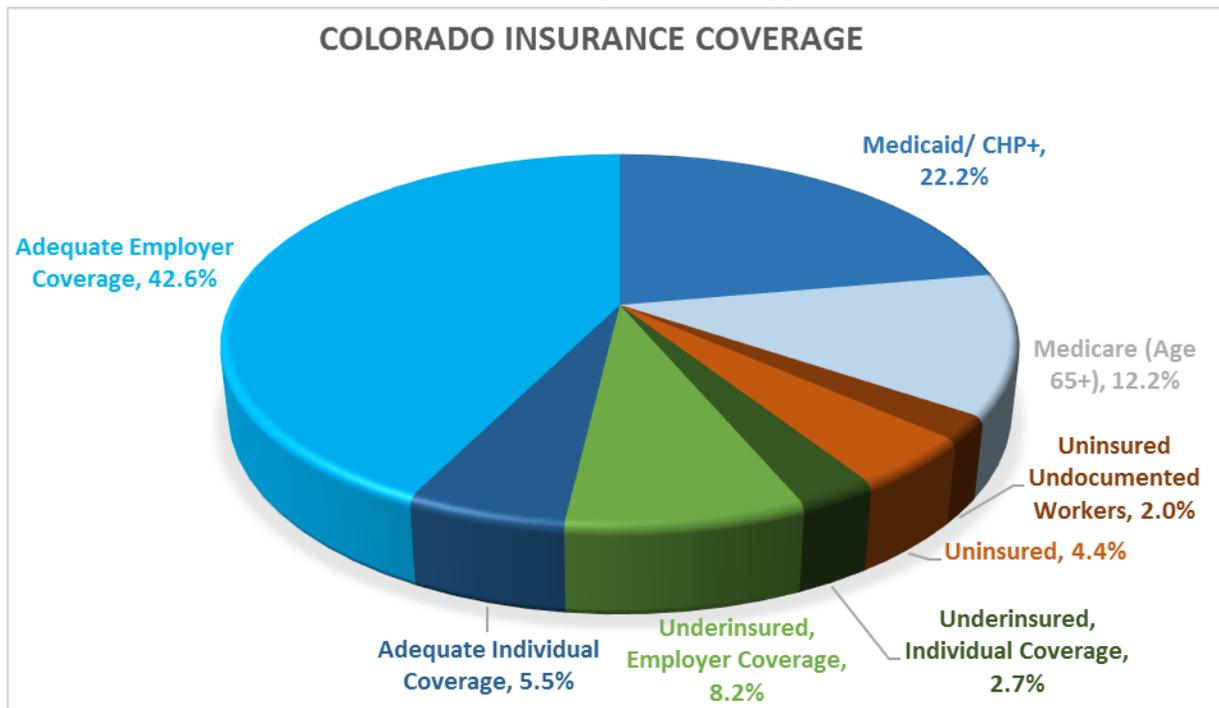


Exhibit 3.5 illustrates key population segments that are relevant to understanding the low income population and points to areas where assistance in health care access and /or health care cost may be needed.

Exhibit 3.5: Colorado Population Comparisons by Type of Insurance

Population Comparisons	Count	Distribution
Total Uninsured	349,220	6.4%
Uninsured, Undocumented	109,131	2.0%
Uninsured, Documented, Under 133%	59,281	1.1%
Uninsured, Documented, 133%-250%	41,671	0.8%
Uninsured, Documented, 250%-400%	34,479	0.6%
Uninsured, Documented, Above 400%	104,658	1.9%
Underinsured	294,654	10.9%
Underinsured, Individual Coverage	147,327	2.7%
Underinsured, Employer Coverage	447,439	8.2%
Colorado 2015 (US Census Bureau)	5,456,574	100%

CICP unduplicated count is a definition used by CICP. This represents count of unique social security numbers by provider. This count is done at the provider level; therefore, a member that receives care from multiple providers is counted multiple times. The CICP unduplicated count for services between July

2014 and June 2015 is 58,224 (S1). We reviewed our internal data for a standard commercial insured population and determined ranges of multiple providers per individual. We also considered that the CICIP population has less choice of providers and services compared to a standard commercially insured plan. We developed an estimate of the expected number of unique CICIP clients, using this data. Due to the uncertainty of the actual multiple providers, the range of expected unique CICIP clients is large, 20,000-45,000. For the remainder of this report, we use 45,000 as a point estimate.

Section 3 Key Observations

- Approximately **1.9%** of the population is uninsured, under 250% FPL and eligible for Medicaid/CHP+, CICIP assistance, or ACA Advanced Premium Tax Credits (APTC) and Cost Sharing Reduction (CSR) plans. This reflects roughly 1/3 of the total uninsured population.
- Approximately **0.6%** of the population is uninsured and eligible for only APTC (250-400% FPL)
- Approximately **2.7%** of the population is covered under individual insurance and is underinsured. Approximately 8.3% of the population is covered under individual insurance. This means 33% of individual insurance members are underinsured.
- Approximately **8.2%** of the population is covered under group insurance and is underinsured. Approximately 50.9% of the population is covered under group insurance. This means 16.2% of group insurance members are underinsured.
- Adding the first four bullet points, approximately **13.4%**, or 731,000 Coloradans may need assistance in acquiring and/or paying for health insurance.
- Approximately 20,000-45,000 of the 731,000 Coloradans noted above received CICIP care in fiscal year 2014. This number is approximately 50%-100% of the documented 133%-250% FPL population and 20%-40% of the documented under 250% population. We make both of these comparisons because CICIP has served individuals under 250%, the majority of which are between 133% and 250%, as those under 133% are Medicaid eligible.

The appendix provides population information by DOI rating region and by county that may be beneficial to the reader.

For comparison purposes, we will illustrate some data by DOI rating regions. Exhibit 3.6 lists those regions.

Exhibit 3.6: Division of Insurance Rating Regions

ACA Rating Region	Counties
1 - Boulder	Boulder
2 - Colorado Springs	El Paso, Teller
3 - Denver	Adams, Arapahoe, Broomfield, Clear Creek, Denver, Douglas, Elbert, Gilpin, Jefferson, Park
4 - Fort Collins	Larimer
5 - Grand Junction	Mesa
6 - Greeley	Weld
7 - Pueblo	Pueblo
8 - East	Alamosa, Baca, Bent, Chaffee, Cheyenne, Conejos, Costilla, Crowley, Custer, Fremont, Huerfano, Kiowa, Kit Carson, Las Animas, Lincoln, Logan, Mineral, Morgan, Otero, Phillips, Prowers, Rio Grande, Saguache, Sedgwick, Washington, Yuma
9 - West	Archuleta, Delta, Dolores, Eagle, Garfield, Grand, Gunnison, Hinsdale, Jackson, Lake, La Plata, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel, Summit

Section 4: Low Income Population and Health Care Cost

Some definitions are introduced here in order to understand this section:

1. **Premium:** The amount paid by an insured for a health insurance plan. This amount is typically paid to an insurance carrier.
2. **Out of Pocket Cost or Cost Sharing:** The amount paid by an insured for health care cost in the form of deductibles, copays and/or coinsurance. This amount is typically paid to the health care provider at the time of service or billed after the service.
3. **Billed Charges or Charges:** The amount a provider charges for health care services. This amount is often negotiated downward through contractual arrangements or with payers such as insurance companies or public programs (Medicare, Medicaid, CICIP, etc.).
4. **Allowed Cost or Total Cost:** The amount paid to a health care provider for health care services. This is the combination of payments made by an insurance company and/or public program plus any out of pocket cost paid by the insured.
5. **Commercially Insured or APCD population.** These are insureds that purchase private major medical and pharmacy insurance from an insurance carrier. This includes those eligible for APTC and CSR that purchase insurance on the exchange. In general, when we reference APCD data, we are referencing the entire commercially insured population unless otherwise noted.

Estimated costs from three different sources (CICIP, Medicaid, and the commercial population) are presented in this section. We will report premium, cost sharing, claim costs, and use for each of these populations. In addition to the information in this section, section 5 will report estimated costs by area. The Cost Commission is interested in how the lower income populations consume health care, and this section will identify some key findings.

CICP, Cost of Care

Estimated cost of care for the CICIP population was developed from CICIP expenditures by provider type, and unduplicated member counts. Results are presented by the CICIP membership estimate of 45,000 members.

Exhibit 4.1: Per Member Per Month (PMPM) Allowed Cost for CICIP Members

	<i># Unduplicated Patients</i>	<i>Total Payment</i>	<i>Total Payment per Unduplicated Patient</i>	<i>Cost per Unduplicated per Month</i>
Clinics	25,191	\$6,059,760	\$241	\$20
Hospitals	33,033	\$194,901,543	\$5,900	\$492
Total	58,224	\$200,961,303	\$3,452	\$288
Total-High Estimate	45,000	\$200,961,303	\$4,466	\$372

It is important to note that, with the Medicaid expansion, CICIP unduplicated members have dropped significantly. FY 2013-14 saw an unduplicated client count of 160,196, compared to the FY 2014-15 unduplicated count of 58,224. With this shift, we have seen the payments for CICIP hospitals decrease

while payments for Medicaid hospitals have increased significantly. We expect this shifting to continue as the low income population becomes more aware of their options.

Exhibit 4.2 lists the average charges, per visit or admit, and then relates those charges to estimated average cost sharing and payments for each service. Cost sharing for clinics was calculated directly. Cost sharing for hospitals was determined by using Inpatient and Outpatient clinic copays and applying to the visits by FPL table, which was provided by the CICIP. The copayments by FPL and service type are provided in Exhibit 4.3.

Exhibit 4.2: Billed Charges, Cost Sharing and Allowed Cost per Service for CICIP

<i>Average Costs per Service</i>	<i>Charges</i>	<i>Pay Rate¹</i>	<i>CICIP Payments</i>	<i>Cost Sharing</i>	<i>Third Party Payment²</i>	<i>Total Allowed</i>
CICIP Clinics	\$168	53.1%	\$89	\$28	\$8	\$125
CICIP Hospitals- Inpatient	\$50,178	34.0%	\$17,067	\$371		
CICIP Hospitals- Outpatient	\$2,419	34.0%	\$823	\$25		
CICIP Hospitals- Combined	\$4,587	34.0%	\$1,560	\$100	\$876	\$2,536

¹ Paid Reimbursement, compared to Charged Amount

² Unable to reliably split third party payments into Inpatient and Outpatient. Values shown are combined Third Party Payments

Exhibit 4.3: Cost Sharing CICIP Clients

CICIP Rating	Percent of Federal Poverty Level	Inpatient Facility & Ambulatory Surgery	Inpatient & Emergency Room Physician	Outpatient Clinic	Hospital Emergency Room, Specialty Outpatient Clinic & Emergency Transportation	Prescription Laboratory, Radiology & Imaging
**Z	40%	\$0	\$0	\$0	\$0	\$0
*N	40%	\$15	\$7	\$7	\$15	\$5
A	62%	\$65	\$35	\$15	\$25	\$10
B	81%	\$105	\$55	\$15	\$25	\$10
C	100%	\$155	\$80	\$20	\$30	\$15
D	117%	\$220	\$110	\$20	\$30	\$15
E	133%	\$300	\$150	\$25	\$35	\$20
F	159%	\$390	\$195	\$25	\$35	\$20
G	185%	\$535	\$270	\$35	\$45	\$30
H	200%	\$600	\$300	\$35	\$45	\$30
I	250%	\$630	\$315	\$40	\$50	\$35

*CICIP N Rating applies to CICIP clients with incomes up to 40% FPL who are not homeless.

**CICIP Z Rating applies to CICIP clients with incomes up to 40% FPL who are homeless.

This copayment schedule has been in use for many years. When compared to the cost-sharing reductions in Exhibit 4.8, updates to this fee schedule may be required to align overall out of pocket costs with that available in the in ACA commercial market.

Observation of Exhibit 1.1 and 4.1 illustrates that CICP member cost will be lower compared to ACA members (insureds) for low utilizers, due to CICP members not required to pay premium. This may not be true for higher utilizers. It is important to note that CICP members’ out of pocket costs are capped at 10% of their annual income, which may be comparable to higher FPL members’ out of pocket costs under ACA provisions.

Medicaid Adult Expansion Population, Cost of Care

Estimated cost of care for the Medicaid adult expansion population was developed from Medicaid adult expansion expenditures and utilization data by county (S12-HCPF).

Exhibit 4.4: 2015 Per Member Per Month (PMPM) Allowed Cost for Colorado Expansion Medicaid by Provider Type

	Inpatient	Outpatient	Emergency Room
Total PMPM	\$106.91	\$72.32	\$23.28
<i>Percent of Cost</i>	<i>35%</i>	<i>24%</i>	<i>8%</i>

When PMPM cost is split by provider type, we see a greater percentage of total dollars spent on inpatient services than any other provider type. Professional and Pharmacy PMPMs were excluded since exclusions have been made to group services by category and costs may not tie to the commercial population. The total allowed health care cost for the Medicaid adult expansion population including professional and pharmacy services in FY 2014-15 is \$413 monthly per capita (S13-HCPF). This is comparable to \$436 PMPM in 2015 for the general commercially insured population (commercially insured population data derived from APCD – see Exhibit 4.6 below).

Exhibit 4.5: 2015 Medicaid Cost per service for Colorado Medicaid by Provider Type

	Inpatient	Outpatient	Emergency Room
Total Cost per Service	\$17,716.85	\$347.28	\$352.90

When comparing the above Medicaid costs per service to CICP costs per service, we see similarities in the total inpatient unit service costs (\$17,067+\$371+unknown third party payments from Exhibit 4.2 vs \$17,717 from above). The outpatient costs per service are very different. More research is needed to determine the drivers of these differences.

All Payer Claims Database Costs

L&E utilized the Colorado All Payers Claims Database (APCD) administered by the Center for Improving Value in Health Care (CIVHC) for this report. The APCD is a collection of all major commercial health insurance company claims and eligibility data. Insurance carriers submit data in a standard format. L&E has extensive experience working with the APCD. The L&E APCD data consists of approximately 14 data tables provided by CIVHC. These tables consist of over 400 million records including medical claims,

pharmacy claims, eligibility and provider information. L&E builds models from this data and interprets the data in an actuarial manner that is consistent with how insurance premiums are calculated.

Exhibit 4.6: 2015 Per Member Per Month Allowed Claims

	Inpatient	Outpatient	Professional	Rx	Emergency Room	Total
All Payer Claims Database	\$83	\$69	\$144	\$108	\$32	\$436

Comparing these PMPMs in Exhibit 4.6 to Medicaid and CICIP PMPMs, we see higher PMPM for the commercial population. More analysis is needed to understand the differences.

The ACA and Advanced Premium Tax Credits (APTC)

The ACA created APTC to assist those with low to moderate income in affording health care. These credits are immediately available upon enrollment so individuals and families do not have to wait until they file taxes to receive this benefit. In order to receive this benefit, individuals must be U.S. citizens or lawfully present in the U.S. APTC is available to insureds purchasing a bronze, silver, gold or platinum plan on the Colorado exchange C4HCO with income ranging between 133%-400% FPL. The APTC is determined by the formula:

$$\text{Advanced Premium Tax Credit} = \text{Cost of Second Lowest Silver Plan Available} - \text{Proportion of Income an individual or family is expected to pay}$$

What the individual or family is expected to pay is a sliding scale. The scale increases from approximately 3% of income at 133% FPL to 9.7% of income at 400% FPL (2016 values). Exhibit 4.10 illustrates the APTC amounts for ACA Advance Premium Tax Credit (APTC or subsidy). This illustration shows the APTC, which is a fixed amount, and shows what the insured will pay if they choose the second lowest cost silver plan. The insured member may pay more or less based on what plan they actually choose. If a member chooses a more expensive plan, this will translate into a higher premium for that member. The subsidy may be \$0 at the higher FPL levels. The insured premium calculation is illustrated below:

$$\text{Member (Insured) Premium} = \text{Greater of } \$0 \text{ or } \text{Cost of Plan Chosen by insured} - \text{APTC (subsidy)}$$

Exhibit 4.7: ACA Subsidy Exhibit by DOI Rating Region

2016 ACA Annual Premium Allocation - Member Versus Subsidy (APTC), 40 year old individual

Rating Area	Rating Area	2 nd Lowest Silver Premium	150% FPL		200% FPL		250% FPL		300% FPL		350% FPL	
			Member	Subsidy								
Rating Area 1	Boulder	\$3,372	\$720	\$2,652	\$1,512	\$1,860	\$2,412	\$960	\$3,372	\$0	\$3,372	\$0
Rating Area 2	CO Springs	3,108	720	2,400	1,512	1,608	2,412	708	3,108	0	3,108	0
Rating Area 3	Denver	3,336	720	2,616	1,512	1,824	2,412	924	3,336	0	3,336	0
Rating Area 4	Fort Collins	3,540	720	2,820	1,512	2,028	2,412	1,128	3,408	120	3,540	0
Rating Area 5	Grand Junction	4,476	720	3,756	1,512	2,964	2,412	2,076	3,408	1,068	3,984	492
Rating Area 6	Greeley	3,540	720	2,820	1,512	2,028	2,412	1,128	3,408	120	3,540	0
Rating Area 7	Pueblo	3,912	720	3,192	1,512	2,400	2,412	1,512	3,408	504	3,912	0
Rating Area 8	East	3,744	720	3,024	1,512	2,232	2,412	1,332	3,408	336	3,744	0
Rating Area 9	West	5,352	720	4,632	1,512	3,852	2,412	2,952	3,408	1,944	3,984	1,380

Note: Premium tax credit formula: Subsidy = (Second lowest silver premium) – (Member premium)

Member Premium is a formulaic percent of income, based on federal poverty level

Exhibit 4.8 illustrates different cost scenarios for various members at varying FPL levels for bronze and silver plans. The premiums illustrated are for a 40 year old. The DOI provided a range of premiums by area and carrier (S4-CO DOI) and L&E chose premiums from this range at the lower level. L&E approximated out of pocket cost using an actuarial approximation assuming an 80% loss ratio combined with the metal level actuarial value. These charts are again illustrated by DOI rating region in the next section. Exhibit 4.8 is a weighted average of the cost by each region based on where exchange membership is located in 2015. Based on Colorado 2017 rate filings (S4-CO DOI), close to 90% of individual membership is expected to be on bronze and silver plans, therefore we have limited our illustration to bronze and silver plans.

Exhibit 4.8 Highlights:

- Annual premiums for a bronze plan after APTC may be significantly lower than a silver plan after APTC for an individual at 150% FPL.
- However, annual premiums + member out of pocket (OOP) cost may be higher for a bronze plan versus silver plan for an individual at 150% FPL
- Expected annual premium + OOP for those utilizing APTC and CSR when available are:

FPL	150%	200%	250%	300%	400%+
Bronze	\$1,934	\$2,709	\$3,609	\$4,540	\$4,811
Silver	\$1,065	\$2,152	\$3,644	\$4,703	\$4,973

- Per S9, there are 14,600 enrollees on the exchange that are eligible for CSR but are not on silver plans. Most of these enrollees are on bronze plans. Many of these members can actually lower their expected cost on average by enrolling in CSR eligible plans.

Exhibit 4.8: Annual Member Cost for typical 2016 ACA plans, 40 year old

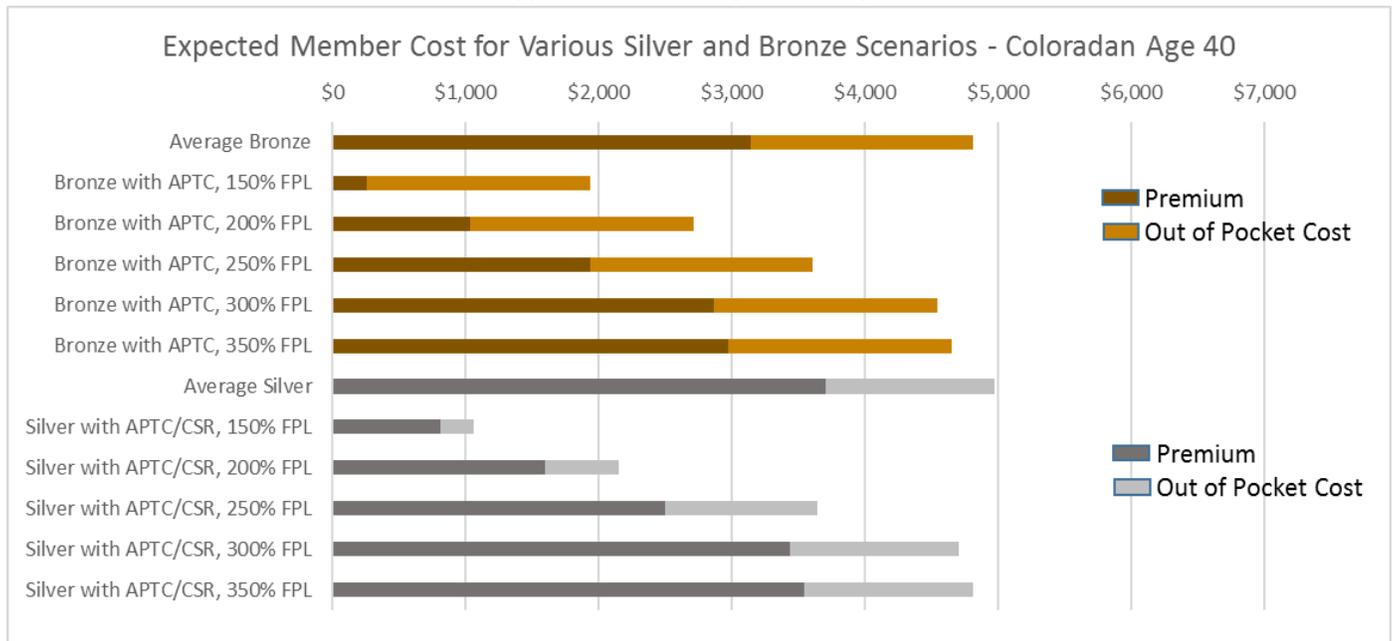


Exhibit 4.9: Annual Member Cost by Area for typical 2016 ACA plans, 40 year old

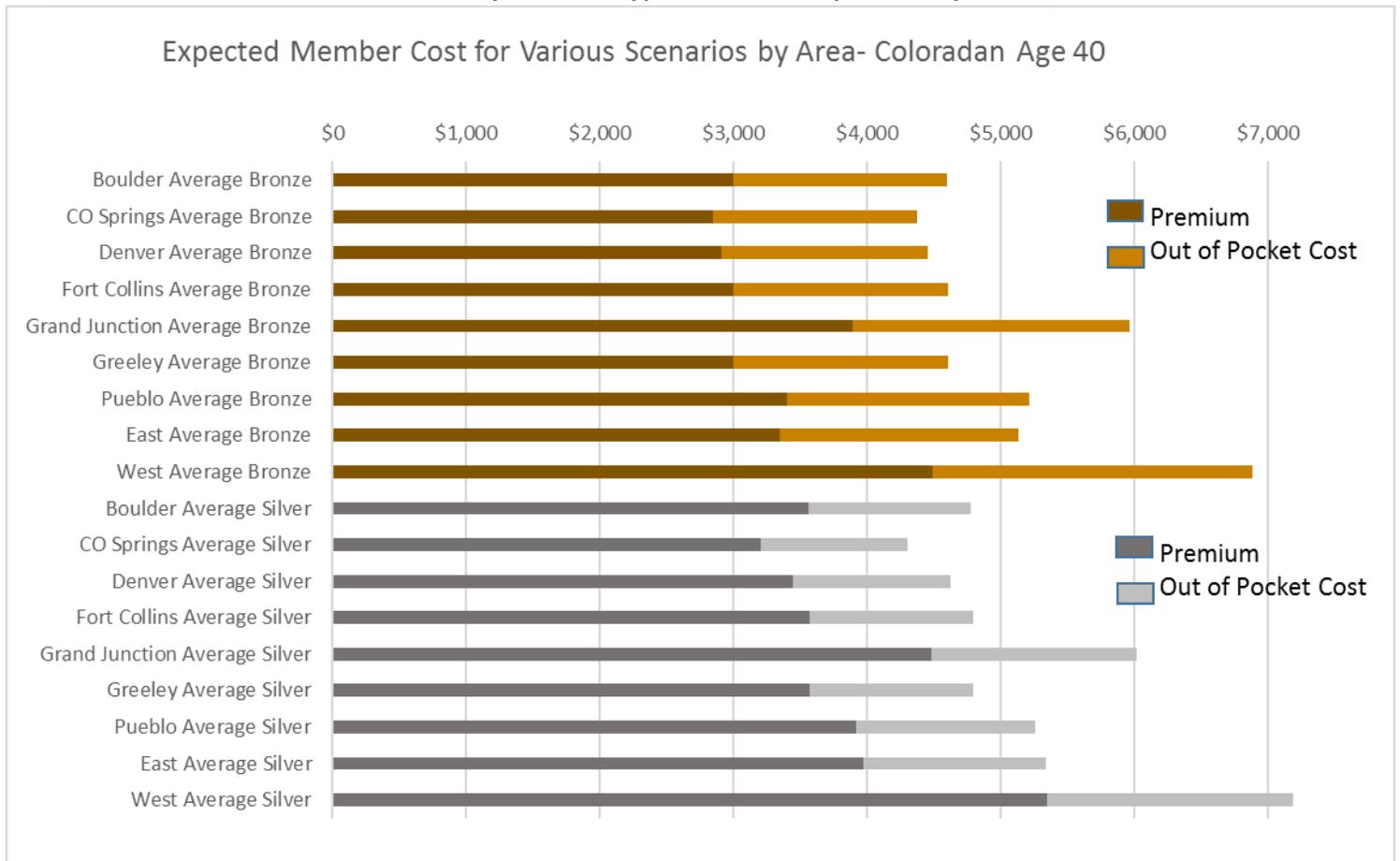


Exhibit 4.10 illustrates common plan designs that will be offered on the 2017 C4HCO. It is important to note that many of the exchange plans have high deductibles. A member could very easily become underinsured in the individual marketplace, especially without the tax credits and cost sharing reductions. Consumer education is important to make sure these features are known to the people who may benefit from them.

Exhibit 4.10: Cost Sharing Features, 2017 ACA plans with high expected membership

Metallic Level	Type	Plan Design, Cost Sharing Features				Carrier
		Rx- Generic/ Preferred Brand/ Non-Preferred Brand/ Specialty	Deductible	Coinsurance	Max Out of Pocket	
Bronze	Standard	\$8/40%/50%/40%	\$6,400	40%	\$7,150	Cigna
Silver	Standard	\$8/\$60/50%/40%	\$3,500	25%	\$7,150	Cigna
Silver	CSR 73% (201-250% FPL)	\$8/\$60/50%/40%	\$2,750	20%	\$5,700	Cigna
Silver	CSR 87% (151-200% FPL)	\$5/\$50/50%/40%	\$800	10%	\$2,350	Cigna
Silver	CSR 94% (up to 150% FPL)	\$5/\$30/50%/40%	\$75	5%	\$2,200	Cigna
Silver	Standard	\$8/\$60/50%/40%	\$2,500	40%	\$7,150	Cigna
Silver	CSR 73% (201-250% FPL)	\$8/\$60/50%/40%	\$2,400	30%	\$5,700	Cigna
Silver	CSR 87% (151-200% FPL)	\$5/\$50/50%/40%	\$800	10%	\$2,350	Cigna
Silver	CSR 94% (up to 150% FPL)	\$5/\$30/50%/40%	\$25	5%	\$2,200	Cigna
Bronze	Standard	40%	\$5,000	40%	\$7,150	HMO CO
Silver	Standard	\$10/\$40/\$80/\$500	\$1,300	35%	\$7,150	HMO CO
Silver	CSR 73% (201-250% FPL)	\$10/\$40/\$80/\$500	\$1,250	35%	\$5,700	HMO CO
Silver	CSR 87% (151-200% FPL)	\$5/\$30/\$80/\$500	\$700	35%	\$1,500	HMO CO
Silver	CSR 94% (up to 150% FPL)	\$5/\$25/\$60/\$250	\$150	35%	\$600	HMO CO
Bronze	Standard	\$20/30%	\$5,500	30%	\$6,550	Kaiser
Silver	Standard	\$15/\$55/30%	\$2,000	30%	\$7,150	Kaiser
Silver	CSR 73% (201-250% FPL)	\$15/\$55/30%	\$1,800	30%	\$5,700	Kaiser
Silver	CSR 87% (151-200% FPL)	\$15/\$55/30%	\$0	30%	\$2,350	Kaiser
Silver	CSR 94% (up to 150% FPL)	\$5/\$10/20%	\$0	20%	\$2,250	Kaiser

Section 5: Low Income Population and Health Care Cost by County

All Payer Claims Database Cost of Care, by County

Exhibit 5.1: Per Member per Year Costs Compared to Individual Silver Premium + OOP Costs

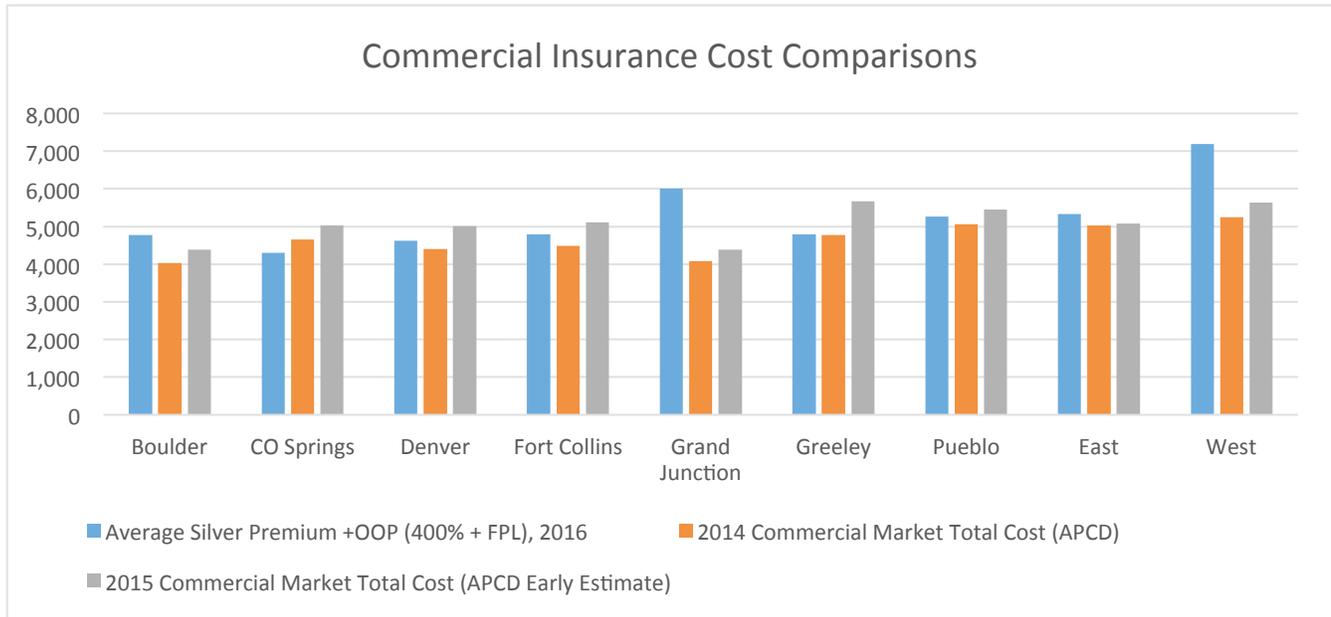


Exhibit 5.1 shows per member per year allowed costs by rating region. We can also observe the cost increases that span the whole state from 2014 (orange bar) to 2015 (gray bar). These costs seem to be driven by increasing per service costs since, in most cases, the utilization change from 2014 to 2015 is flat. 2015 numbers are not finalized as they only represent unit costs through May 2015, projected for a full year.

The blue bar, Silver premium + Out of Pocket Costs for 2016, includes claim costs, carrier administration, 3Rs adjustments, etc. so it is not perfectly comparable to the yearly costs. They also represent premium for a very small portion of the population (5.1% silver exchange plans in 2014 and 7.6% silver exchanges plans in 2015). The APCD includes individual, small group, and large group populations with metallic and non-metallic plans of all varieties, which makes it very difficult to compare premium to the entire dataset without some difficulty.

However, it is important to note that, generally, the premiums seem to align with costs in that area. Boulder, Colorado Springs, Denver and Fort Collins are lower than average cost areas, and the premiums are also lower than average. Pueblo, East and West regions have higher than average costs and higher premiums reflect these costs. Areas where the premiums do not seem to align, like Grand Junction or Greeley, may have large differences in population morbidity between exchange plan members and everybody else. Conversely, there may simply not be enough members for a credible estimate.

Exhibit 5.2: Relative Cost of Care by Rating Region and Service Type

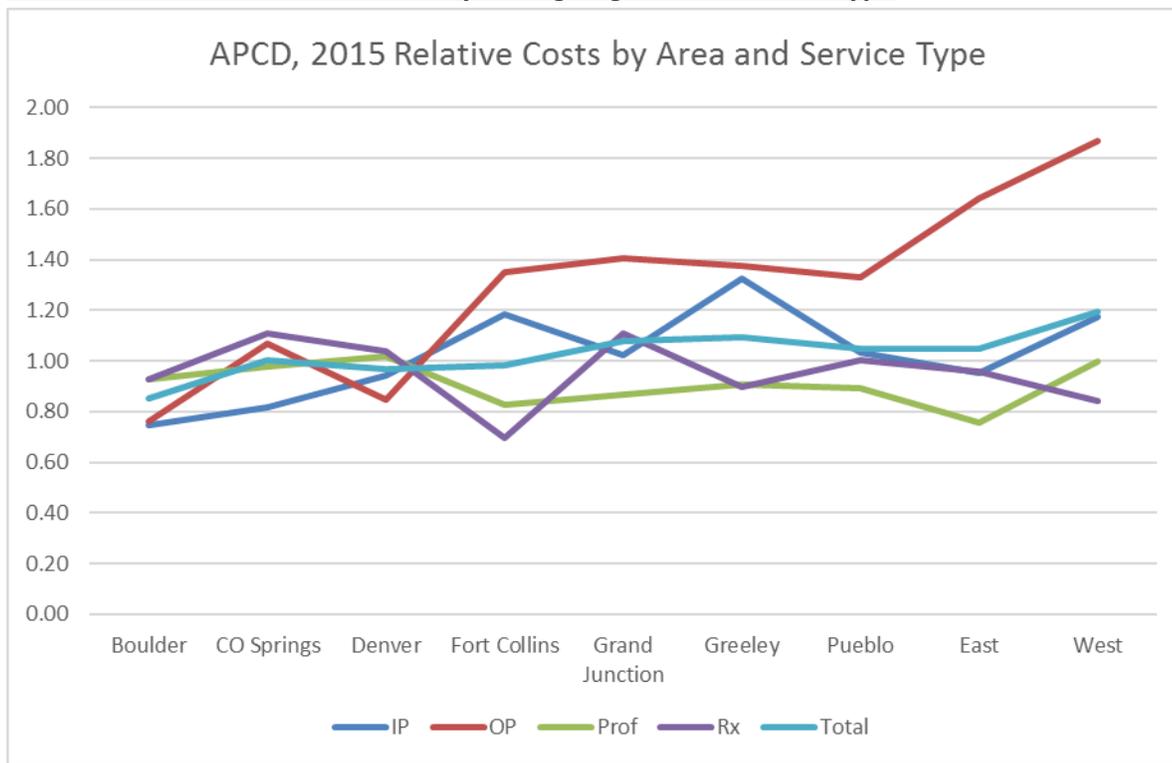
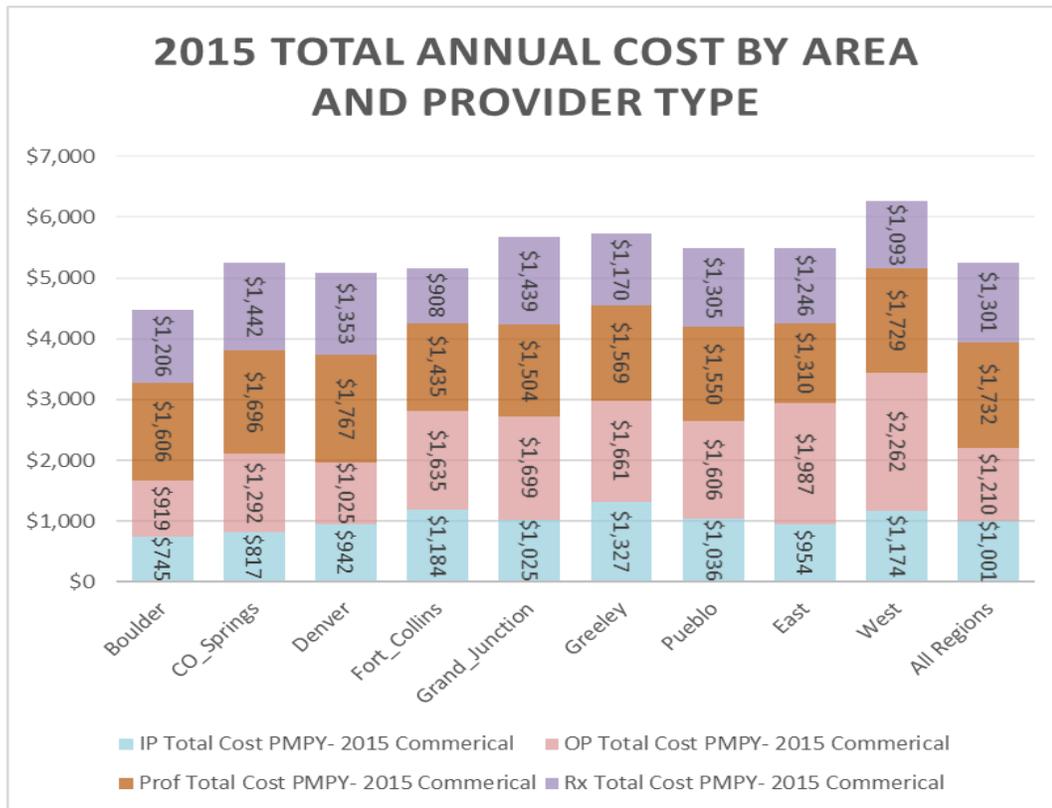


Exhibit 5.2 shows us how each area’s service type costs align with the state average. For example, we can see that Boulder’s outpatient costs are around 0.75, which means their outpatient costs are 25% percent lower than the statewide average for outpatient costs. West’s outpatient costs are at 1.85, so 85% higher than the statewide average outpatient costs. West’s outpatient costs are more than double the outpatient costs seen in Denver and Boulder rating regions. This data reflects commercial allowed costs for care.

Exhibit 5.3 shows cost per region in annual dollars, split out by provider type. This information can identify differences in cost between areas, and is the first step towards identifying what might be driving cost in each area.

Exhibit 5.3: Comparison of ACA Member Cost by Region and Provider Type



Below, in Exhibit 5.4, we see a metallic plan premium comparison chart, by rating region. Again, this shows the relative cost of each region, and the high-level annual premium a member might pay.

Exhibit 5.4: Comparison of ACA Member Cost by Region, FPL and Metal Level

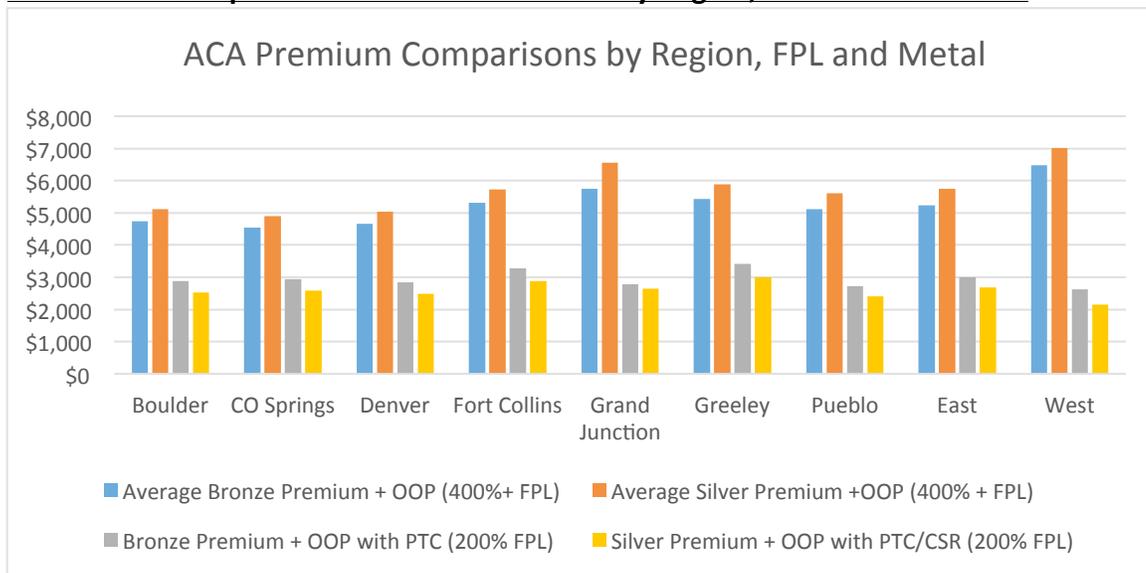


Exhibit 5.5: Commercial Use per 1,000 Members for APCD, by Area and Provider Type

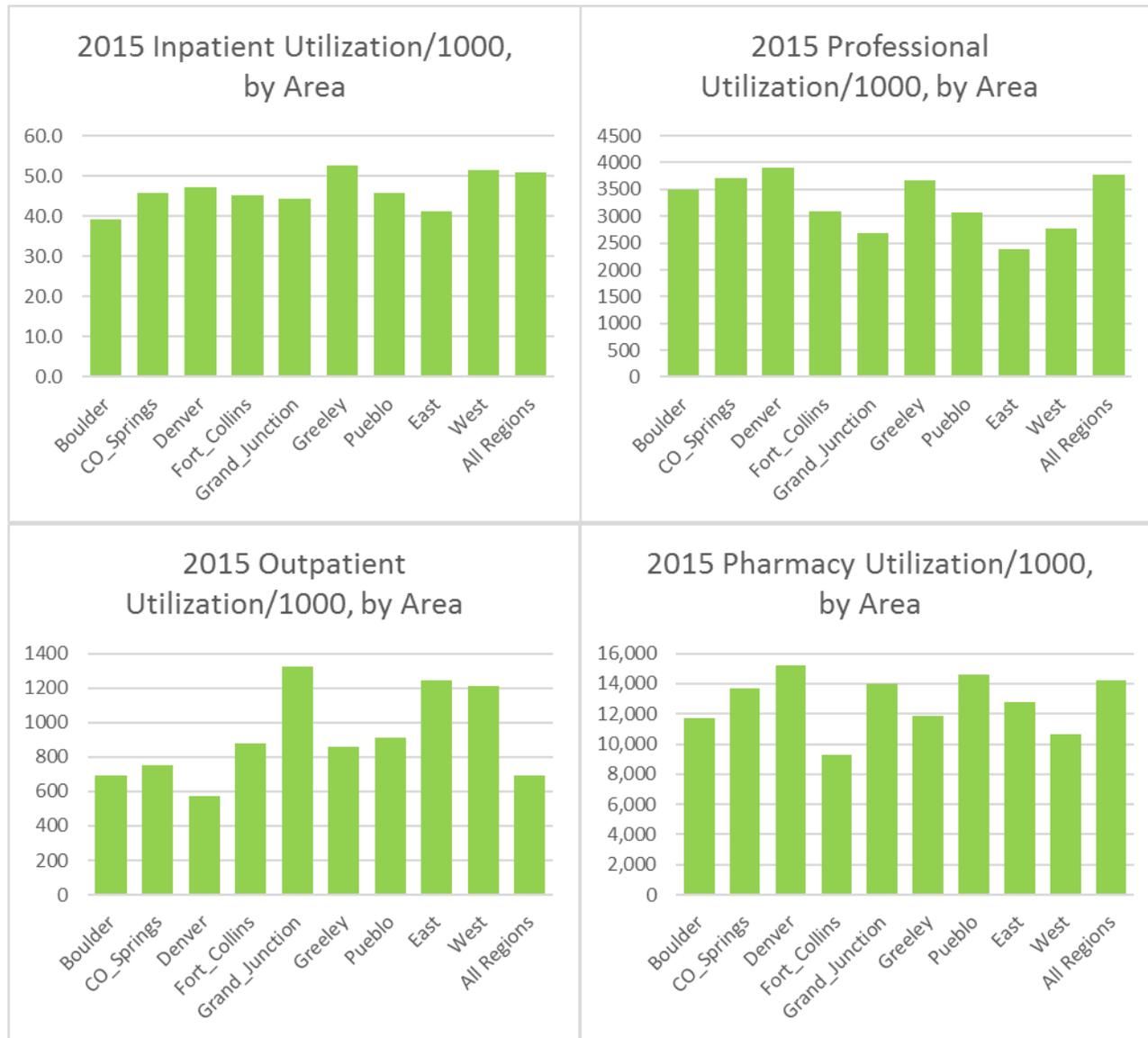
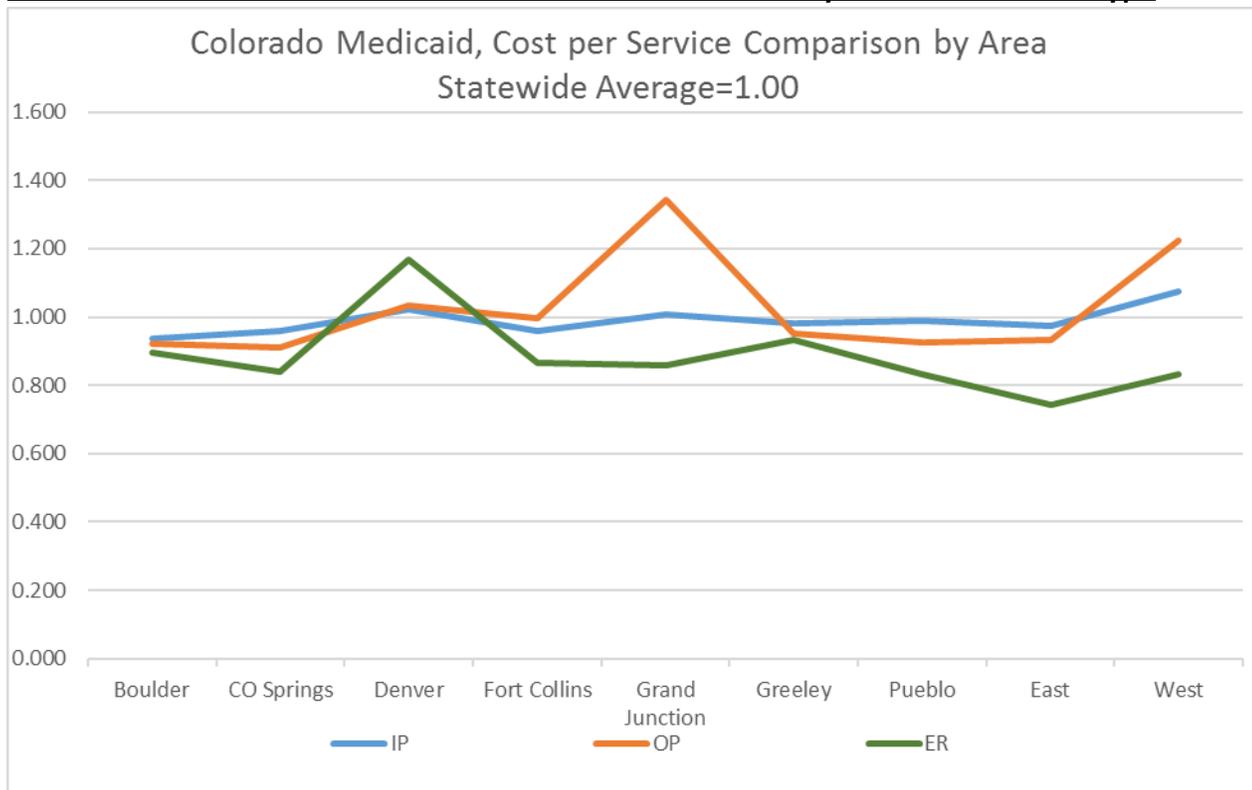


Exhibit 5.5 shows the differences in utilization per 1000 by rating region. There seems to be the widest variation in use for outpatient and professional services.

Exhibit 5.7: Relative Cost Per Service for Colorado Medicaid by Area and Provider Type



The above graph shows the variation in provider cost by area and provider type for Medicaid expansion adults. Inpatient costs are fairly level across all areas. More variation in cost per service is present for Outpatient and Emergency room services.

This graph can be compared to the commercial APCD population in Exhibit 5.2 to see what similarities arise in cost per service. For example, the West rating region shows higher than average costs per service for inpatient and outpatient services, in both Exhibit 5.2 and Exhibit 5.7. However, we see relatively higher inpatient costs in the commercial population in the West.

Emergency Room Cost and Use Study

The use of an emergency room is a significant benchmark for any health study exploring the costs of lower income populations. Above average emergency room usage can signal a lack of knowledge about other options, insufficient insurance coverage, or inadequate access to other providers.

Exhibit 5.8 shows the number of CICIP providers with emergency room and/or emergency transport services. Keep in mind the varying populations and landmass of each rating area when interpreting these figures.

Exhibit 5.8: CICIP Providers with Emergency Room Services, by Area

Rating Areas	Boulder	CO Springs	Denver	Fort Collins	Grand Junction	Greeley	Pueblo	East	West	Colorado
ER Providers	2	6	8	5	5	4	2	35	26	93

Section 6: CICIP Clients and Access to Affordable Care

Summary of Gaps

When considering access to care for the Colorado Indigent Care Program (CICP), the two dimensions considered were number of providers by population and variety of service types available. We will review the results and identify gaps in care. Gaps in care were identified based on a mismatch between available providers/services and eligible population. Some of the key findings are:

- Counties with high use but low provider counts indicate a possible need for more CICP eligible providers in that area.
- High use, low provider counties may indicate that members are traveling to get care. The CICP may want to consider whether members are traveling a reasonable distance.
- Counties with low use and low provider counts indicate a possible underserved population.
- Counties with low use and high provider counts indicate a possible education gap, or that members are utilizing other safety nets instead of CICP.
- Some areas have low use if there is a mismatch between types of services available and services needed by the population.

Exhibit 6.1: Counties with high utilization and low provider count

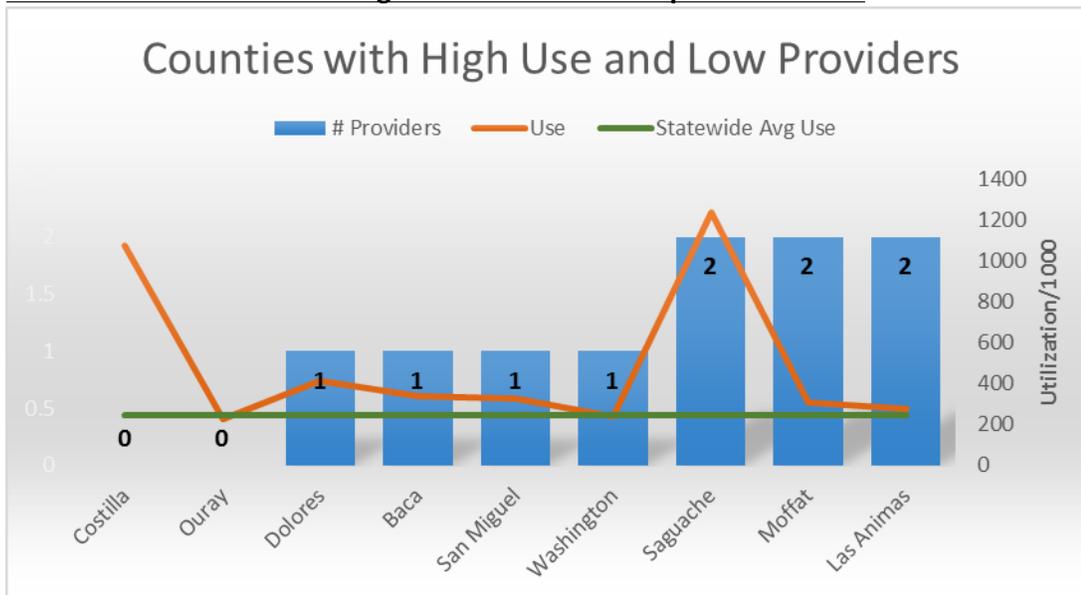


Exhibit 6.1 is one indication of gaps in coverage. If a county has high use (above the statewide average), but low providers, this may be an opportunity to determine if the county needs more CICP eligible

providers. It may be possible that the high utilization is attributable to members visiting providers in other counties. If so, it may be necessary to determine if they are traveling a reasonable distance for care.

Exhibit 6.2: Counties with low utilization and low provider count

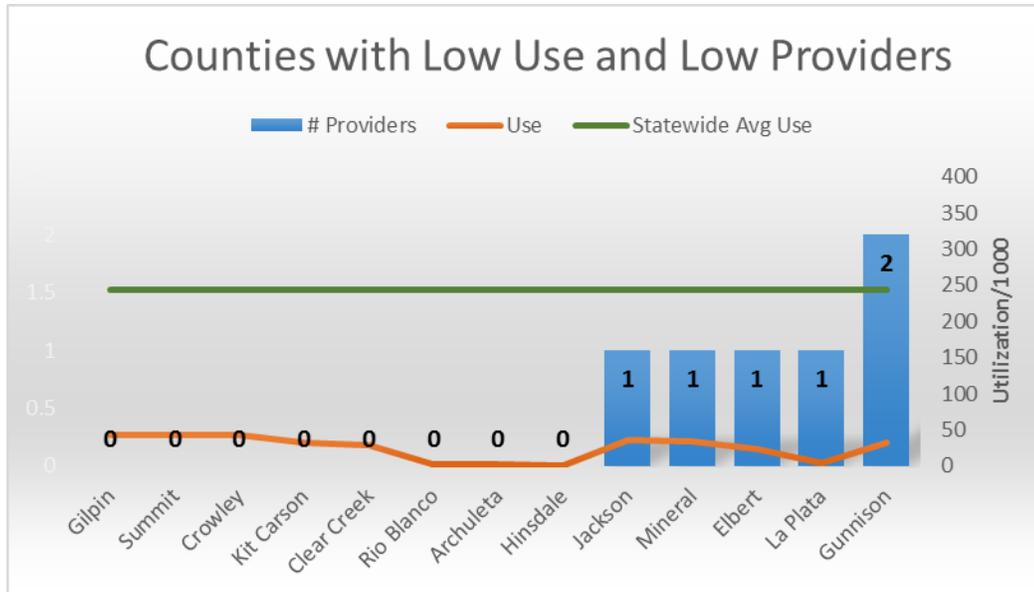
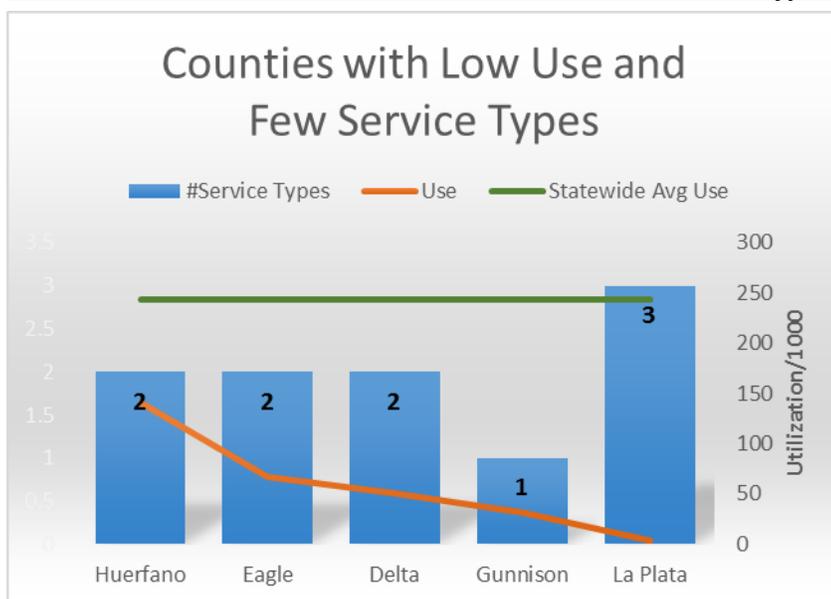


Exhibit 6.2 indicates another gap in coverage. Areas where utilization is far below statewide averages and providers are not available indicates that a population is not benefiting from CICP services. They may be using other safety net providers or they may not have options available to them. More investigation may be needed to determine if these areas are truly underserved, or simply underrepresented in the CICP data but are receiving sufficient assistance from other programs.

Exhibit 6.3: Counties with low utilization and low service type count

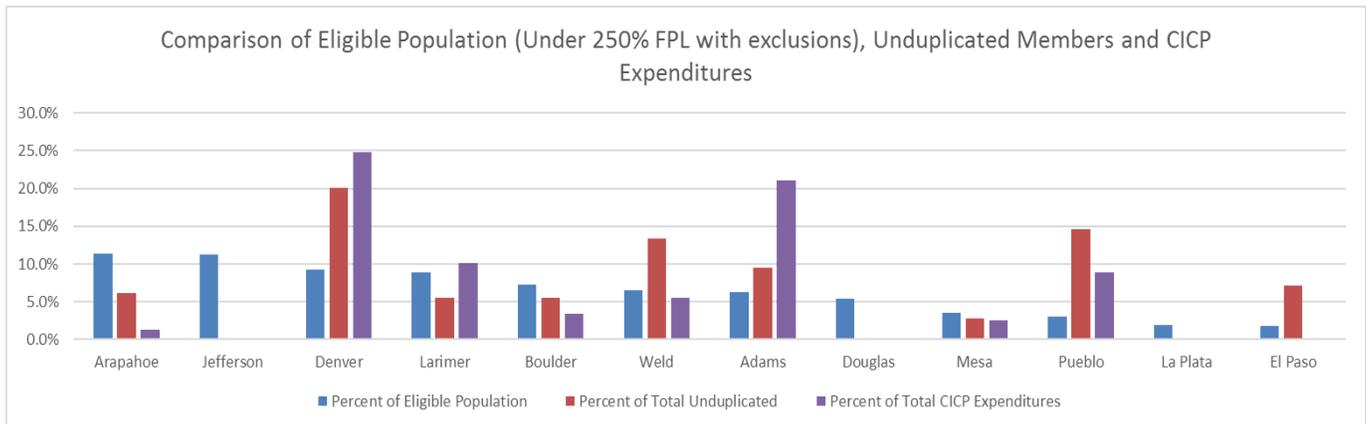


The Exhibit 6.5 map shows utilization consistent with Exhibit 6.4. The blue numbers indicate the number of unique service types in that county, out of 14. For a list of service types, see the methodology section in this same subsection above. Eligible population by county is provided as a reference.

Again, gaps can be identified by looking at utilization and the variety of providers available. For example, in Douglas County, use is low but they have a significant number of providers (6 providers-from Exhibit 6.4) and 10 out of 14 service categories. Therefore, we can infer that low utilization in Douglas is not due to a lack of providers. It may be due to a healthier population or an education gap when it comes to seeking care.

On the other end of the spectrum, we see that Gunnison County has 2 CICP providers, but only 1 service type available. We can infer that the 3,699 eligible residents of Gunnison are traveling to one of the nearby counties with more options available, using other available safety net providers, or choosing to forego care.

Exhibit 6.7: Identification of Gaps by Comparing to Unduplicated and Eligible populations



We can also identify gaps by looking at the percent of CICP expenditures (purple bars) as they relate to the eligible population (Under 250% FPL, excluded undocumented and Medicaid population, blue bars) and Unduplicated CICP populations (red bars). We have only shown the 12 counties with the highest percentage of eligible population.

For example, Arapahoe county has over 10% of the total statewide eligible population, and 6% of unduplicated members. However, less than 2% of CICP’s total expenditures go to Arapahoe County. This is a very basic method for identifying potential gaps, and more investigation will be needed to determine if a true gap in care exists.

Methodology

We used CICP’s annual report (S1-CICP), which provides utilization by the CICP population by county, and the US Census Bureau’s population income data by county (S8-Statistical Atlas). With this combined data, we developed:

- Number of CICP providers by county
- Number of CICP service types covered per county, out of 14 selected services. These are:
 1. Primary care
 2. Emergency care
 3. Emergency transport
 4. Urgent care
 5. Inpatient
 6. Outpatient
 7. Physician
 8. Specialty care
 9. After hours care
 10. Laboratory
 11. Radiology
 12. Pharmacy

13. Children's Services

14. Behavioral Health

- Utilization by county, per 1000 eligible members. Eligible members are L&E estimates based on US Census Bureau 2015 estimates, 250% FPL and below, removing Medicaid and undocumented worker populations. Utilization is based on number of visits and/or number of hospital admits.
- Access Score by county. The access score was developed by assigning 0 to 5 points depending on the availability of facilities per 1000 and the number of different service types. For example, Adams County covers 13 out of 14 of the above service types, so they will receive 5 points in that category. Adams county has 1 CICP primary care provider for every 4,200 eligible members, so they receive 3 points in this category. There are 12 categories (some of the service types were combined) for a maximum total of 60 points. On the Exhibit 6.6 map, these points are presented as plus signs. See the provided legend for details.

Maps – we have provided three maps in order to understand how population relates to provider count (Exhibit 6.4), number of services (Exhibit 6.5) and overall access score (Exhibit 6.6).

Appendix 1: Data and Information Sources

Source 1 (S1-CICP): Colorado Department of Health Care Policy & Financing (HCPF), Medically Indigent and Colorado Indigent Care Program Fiscal Year 2015-15 Annual Report

Source 2 (S2-APCD): Colorado All Payers Claims Data Base (APCD) administered by the Center for Improving Value in Health Care (CIVHC), www.civhc.org/All-Payer-Claims-Database/APCD-History.aspx/

Source 3 (S3-CHI): Colorado Health Institute Data, www.coloradohealthinstitute.org/data-repository/county

Source 4 (S4-CO DOI): Colorado Department of Insurance, 2017 Rate Filings

Source 5 (S5-CO DOI): Colorado Department of Insurance, Summary reports developed for this study

Source 6 (S6-CO DOI): Colorado Department of Insurance, Online Reports, <https://www.colorado.gov/pacific/dora/node/100241>

Source 7 (S7-USDA): United States Department of Agriculture, Economic Research Service, <http://www.ers.usda.gov/data-products/county-level-data-sets/poverty.aspx>

Source 8 (S8-Statistical Atlas): Statistical Atlas, State Overview, Colorado, Source data from US Census Bureau, <http://statisticalatlas.com/state/Colorado/Overview>

Source 9 (S9-Wakely Study): Wakely Consulting Group, Consumer Impact Analysis, Colorado Individual Exchange Renewals, October 2015

Source 10 (S10-KFF): Kaiser Family Foundation estimates based on the Census Bureau's March 2015 Current Population Survey, <http://kff.org/other/state-indicator/distribution-by-fpl/>

Source 11 (S11-HCPF): Colorado Department of Health Care Policy & Financing, Fiscal Year 2015-2016 Report, <https://www.colorado.gov/pacific/hcpf/premiums-expenditures-and-caseload-reports>

Source 12 (S12-HCPF): CY 2015 MAGI Adult & PCR Utilization & Expenditure by County_blinded, Provided by Nancy Dolson and HCPF on June 16, 2016.

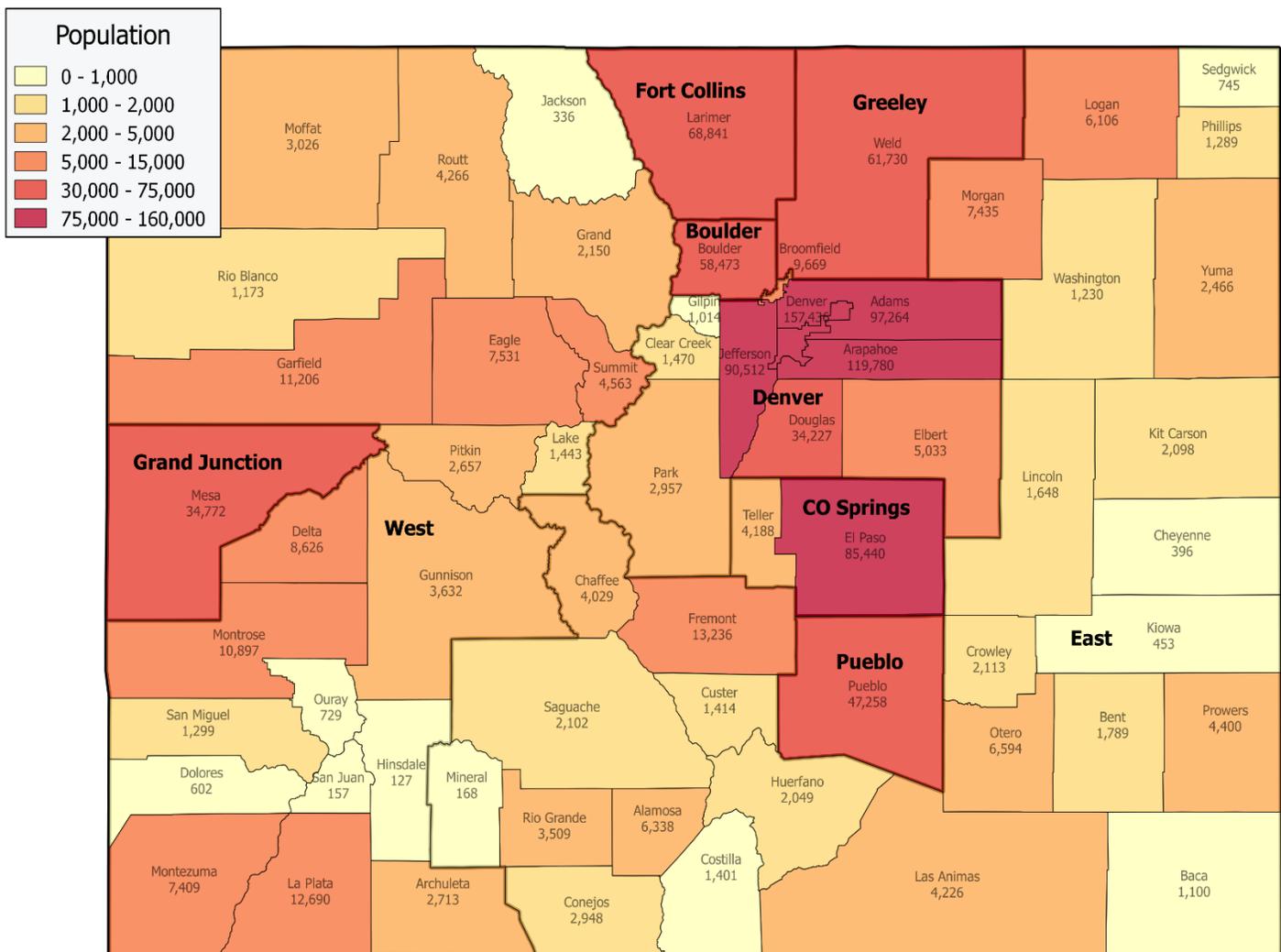
Source 13 (S13-HCPF): FY 2015-16 Supplemental Requests and FY 2016-17 Budget Amendments, Exhibits B and Q, <https://www.colorado.gov/pacific/hcpf/fy-2015-16-supplemental-requests-and-fy-2016-17-budget-amendments-informational-only-caseload-and>

Appendix 2: Data Tables

The estimated population for Coloradans below 133% FPL is 1,040,397. The distribution is illustrated by county. For comparison purposes, the state is split into the current 9 DOI rating regions, illustrated with bold letters and borders. This population represents the majority of adult members that are eligible for Medicaid.

Medicaid eligible and Undocumented workers have not been removed from these estimates.

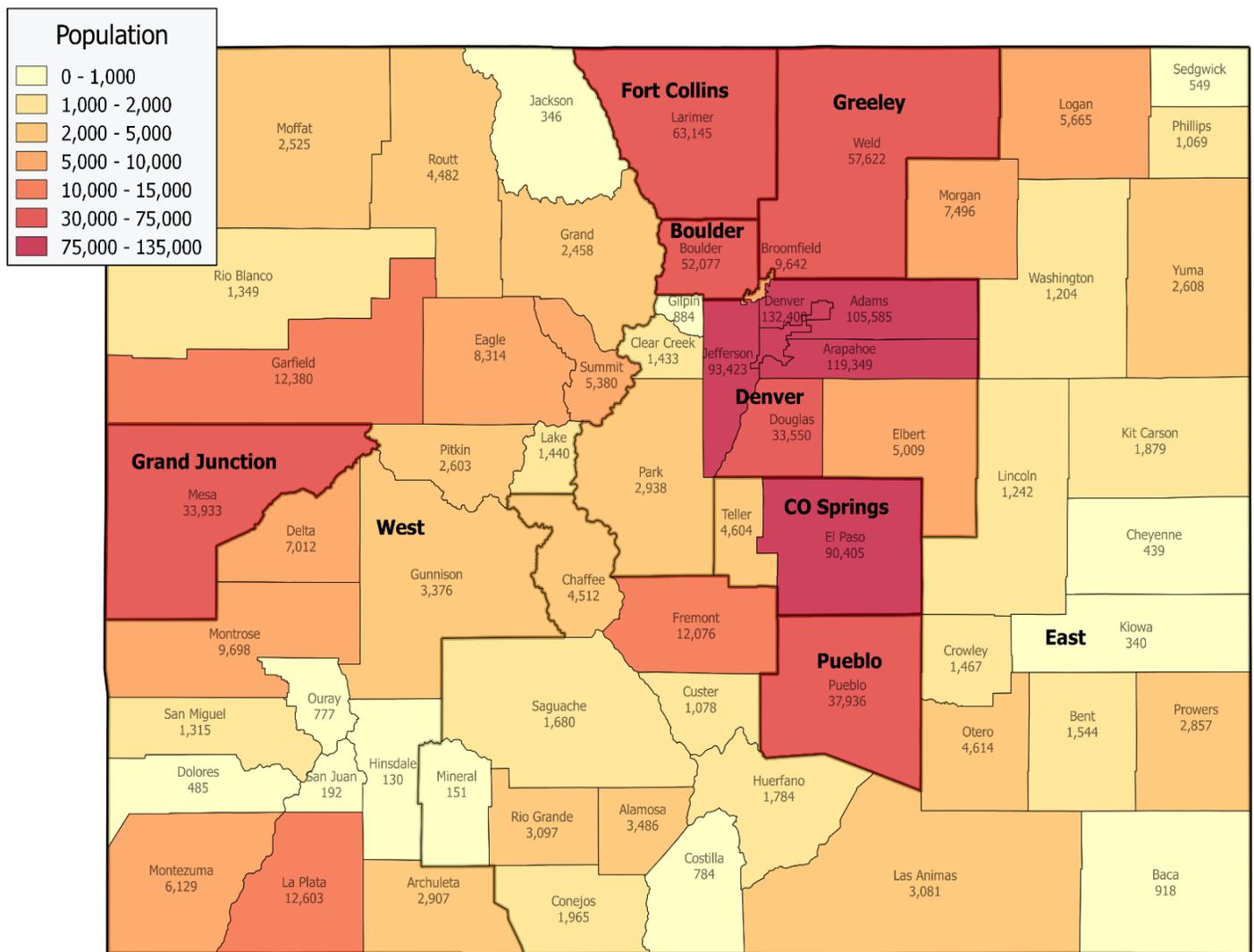
Estimated 2015 population heat map, below 133% FPL



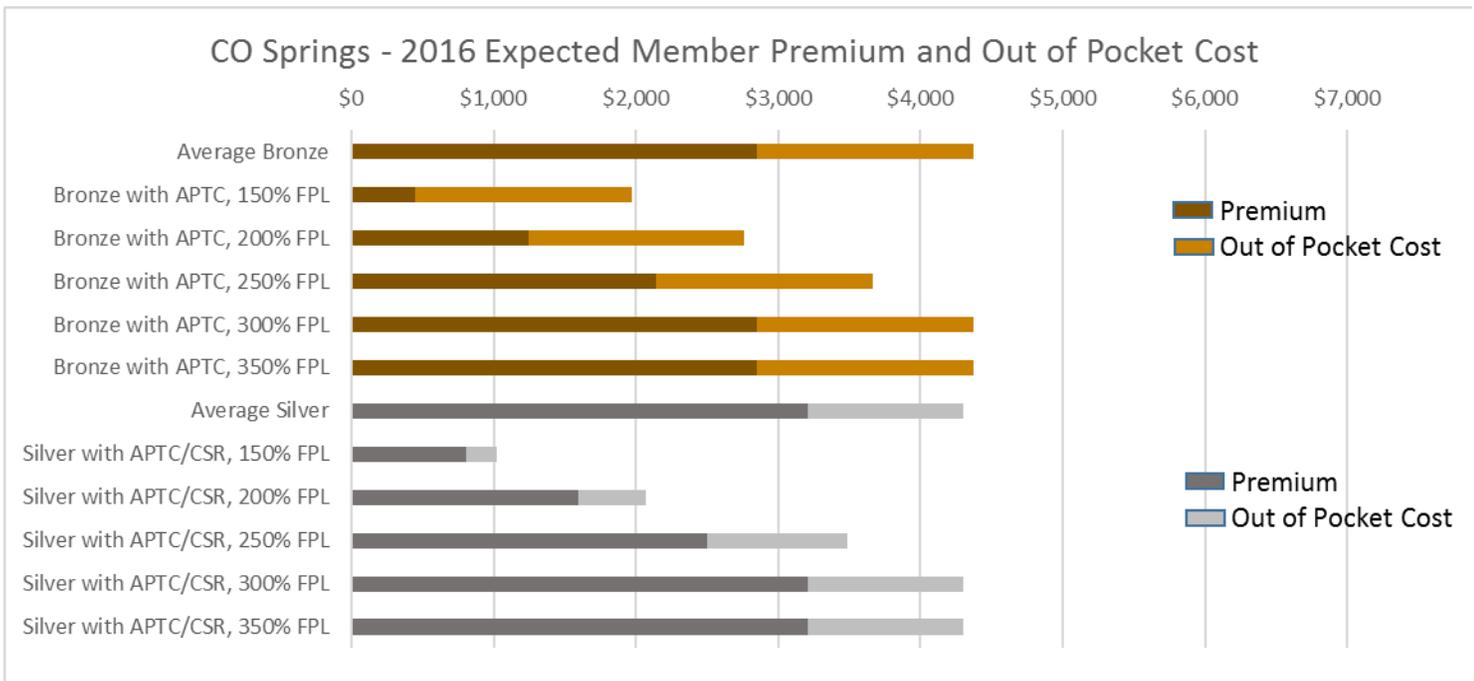
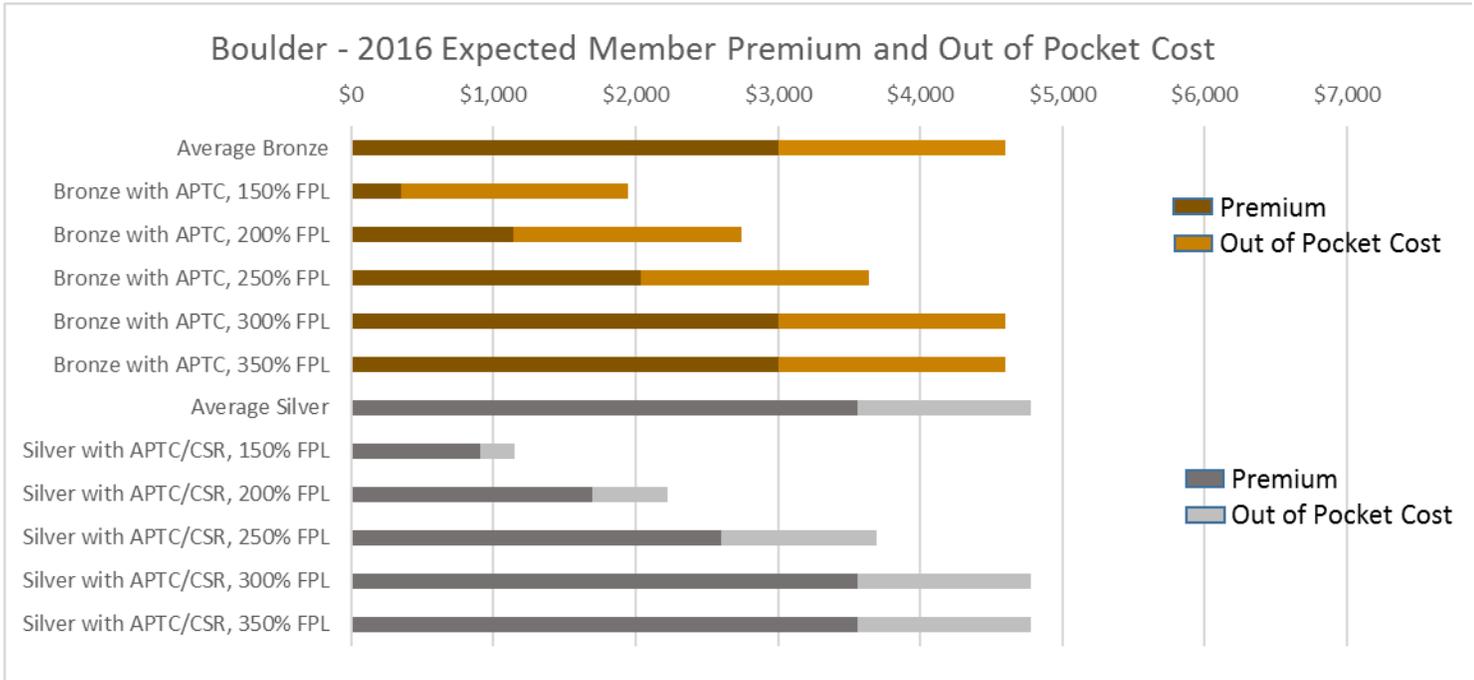
The estimated population for Coloradans between 133% and 250% FPL is 1,040,410. The distribution is illustrated by county. These members are eligible for the ACA APTC, CSR and CHP+ affordability options.

Medicaid eligible and Undocumented workers have not been removed from these estimates.

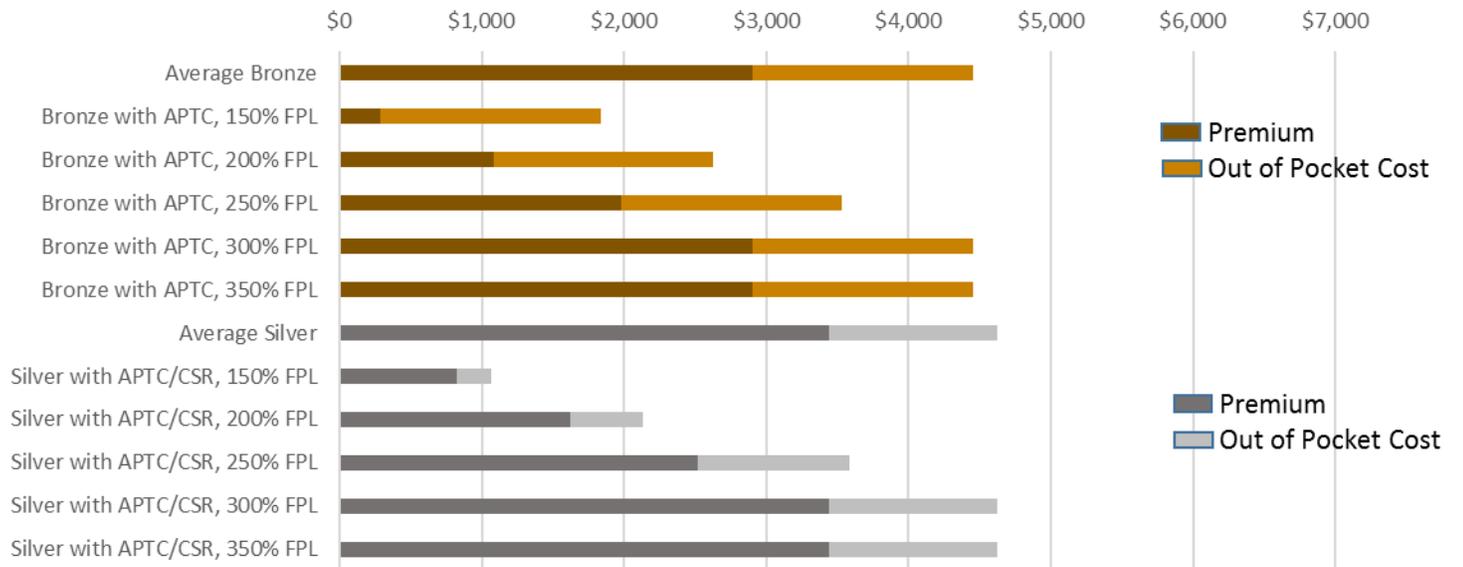
Estimated 2015 population heat map, 133%-250% FPL



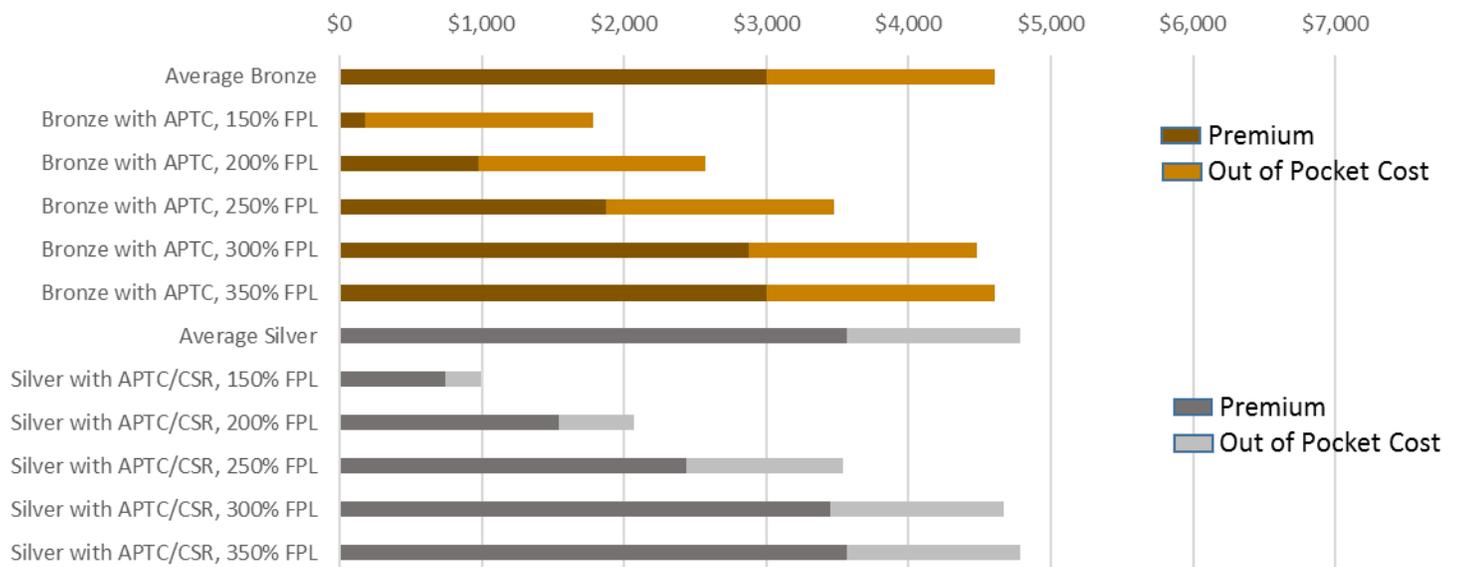
Annual Member Premium and Cost Share Estimates By Region- 2016 ACA Plans, Individual Market



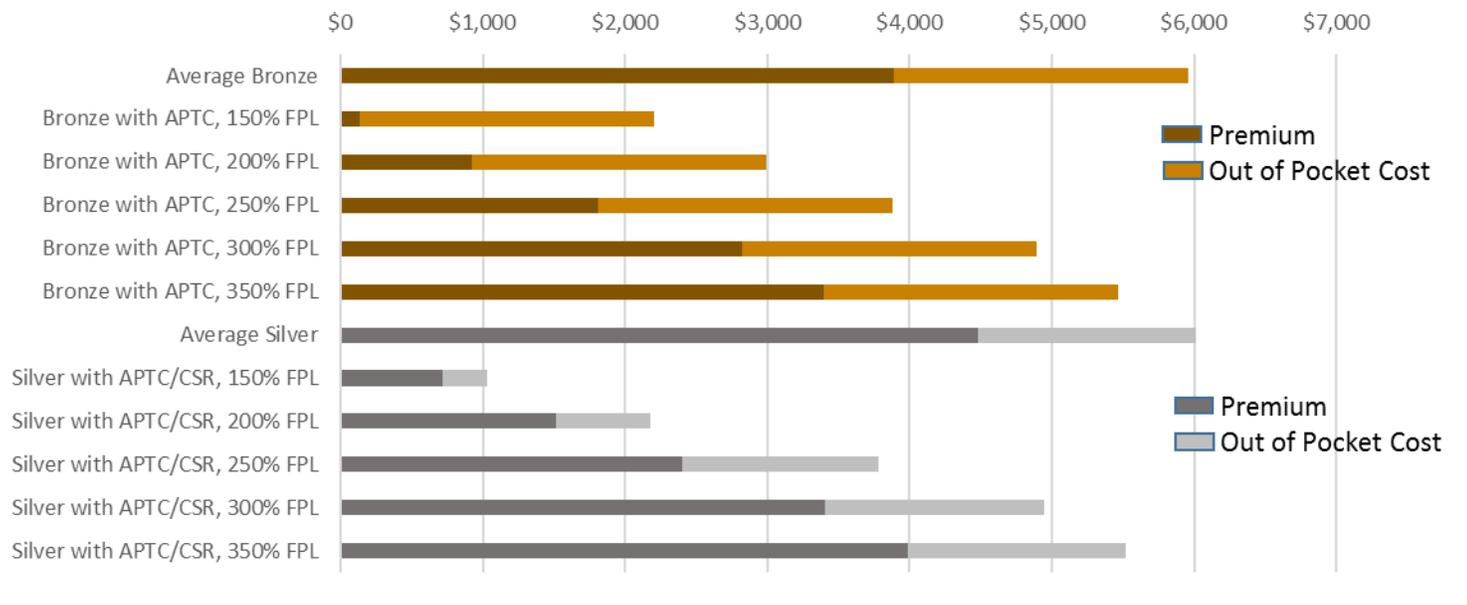
Denver - 2016 Expected Member Premium and Out of Pocket Cost



Fort Collins - 2016 Expected Member Premium and Out of Pocket Cost



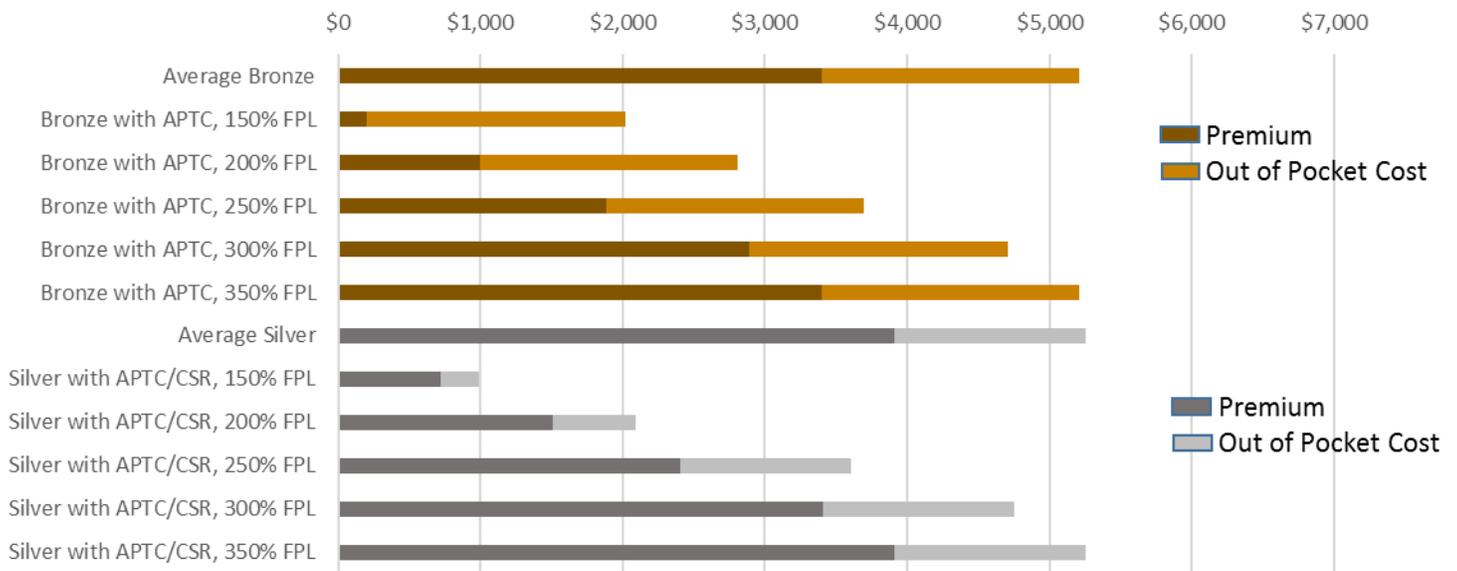
Grand Junction - 2016 Expected Member Premium and Out of Pocket Cost



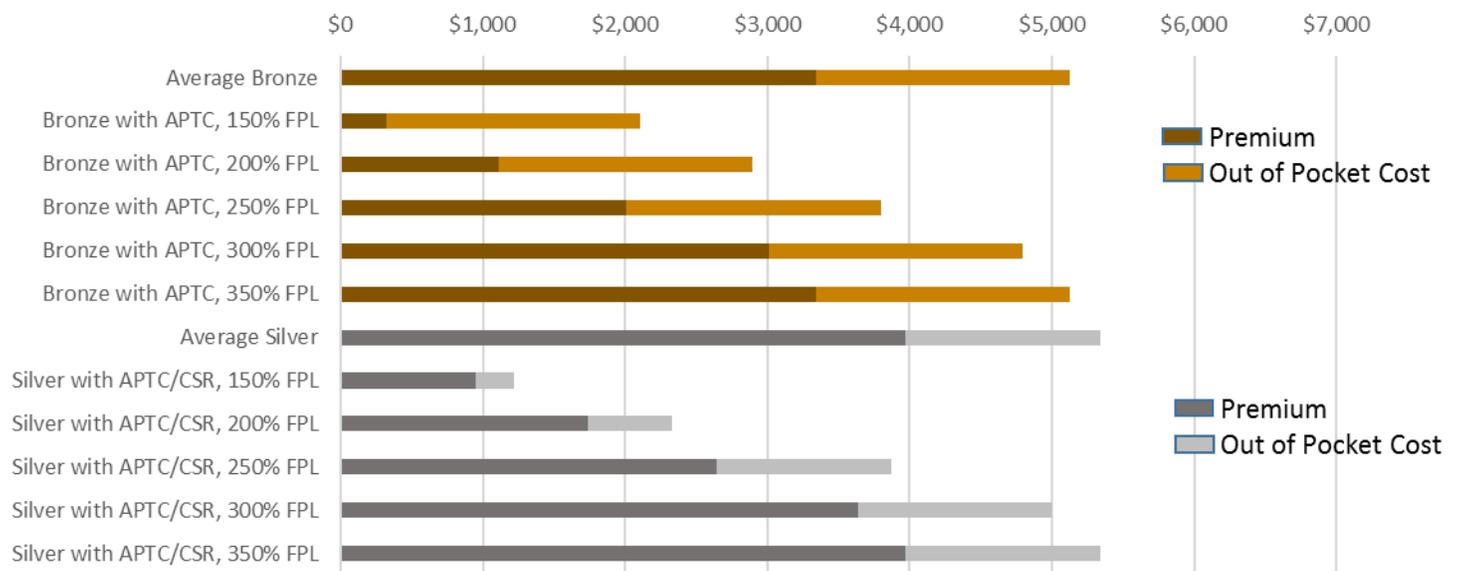
Greeley - 2016 Expected Member Premium and Out of Pocket Cost

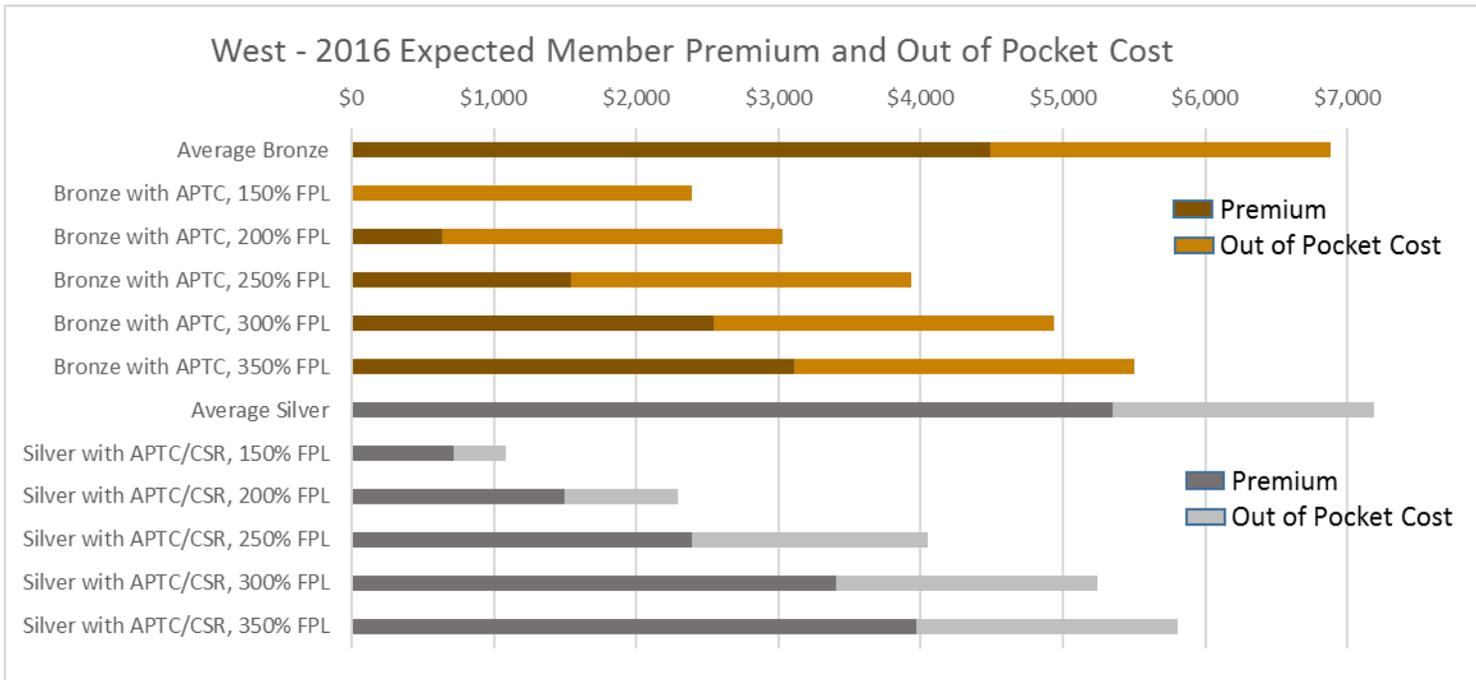


Pueblo - 2016 Expected Member Premium and Out of Pocket Cost



East - 2016 Expected Member Premium and Out of Pocket Cost





Appendix 3: Population Estimate Methodology

L&E employed the following methodology to estimate population by income:

1. Gathered the US Census Bureau's income distribution by percentile, by county.
2. Calculated the percent of the population below 400%, 300%, 250%, 200% and 133% of the federal poverty level (FPL), using the US Census Bureau data about household size and income data from step 1.
3. Applied the US Census Bureau 2015 population estimates by Colorado county to each FPL range's percent of the population, calculated above.
4. For calculating the under 65 population, used US Census Bureau percent under 65 by county, and reduced each county's FPL buckets proportionally.
5. For calculating undocumented workers, used US Census Bureau percent of foreign-born non-citizens (314,812) by county, and CHI's assertion of 112,000 undocumented workers. Assumed 1/3 of the foreign-born non-citizens were undocumented for each county, based on this total ratio.
6. For calculating uninsured, used CHI's distribution of uninsured percent by statistical region and CHI's distribution of the uninsured by FPL (S3-CHI). Based on these two dimensions, calculated the percent of uninsured population across both FPL and county, assuming uniformity within ranges. These estimates were applied to our 2015 US Census Bureau population estimates by county.
7. For calculating underinsured, 2016 premium data for a 40-year-old was used (S6-CO DOI). From this data we calculated average bronze and silver premium, cost sharing, cost sharing reductions (CSR), and advanced premium tax credits (APTC) for various FPL levels. If an FPL was eligible for CSR or APTC, we assumed they had those reductions to costs.

Using CHI's definition of underinsured (S3-CHI), we calculated, based on average total costs and expected distribution of bronze and silver plans, whether a person's costs for area and FPL would exceed the 10% of income threshold (5% for <200% FPL).

This percentage of underinsured was applied to individual members, as identified by CHI and applied to 2015 US Census Bureau estimates. Employer coverage members were assumed to have CHI's designated percentage of underinsured.