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**Actuarial Report to the  
Colorado High-Risk Health  
Care Coverage Task Force**

**Final Report**

Prepared for:  
**Colorado Division of Insurance**

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### APPENDIX A: HISTORICAL COLORADO SILVER PLAN RATES

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## I. EXECUTIVE SUMMARY

The Colorado Division of Insurance (Division) has engaged Milliman to evaluate certain aspects of a claims-based reinsurance program for the individual health insurance market for the potential submission of a Section 1332 State Innovation Waiver (Section 1332 waiver). Key components of the requested analysis include:

- Reinsurance program parameters,
- Impact to premiums in the individual market; and
- Estimated state-based costs and available Federal funding for the reinsurance program.

This final report details our evaluation of these aspects of the program based on proprietary insurer enrollment and claims data, member-level enrollment information Connect for Health Colorado (Exchange), and publicly available information. This report replaces estimated enrollment, premium, and reinsurance values provided in our preliminary report submitted to the Division on September 25, 2017. This report should be read in its entirety and in conjunction with our preliminary report, which identifies key actuarial considerations related to the funding and design of state-based reinsurance programs.<sup>1</sup>

As we note in our preliminary report, high premium rate increases have challenged the individual ACA market. Premium rates for non-subsidized consumers have effectively doubled for the same set of benefits<sup>2</sup> from 2016 to 2018, resulting in these consumers absorbing the full impact of rate increases, electing to become uninsured, or gaining health insurance through alternative means (such as switching jobs to gain access to employer-based coverage). Emerging data from 2017 documents the downward trend in enrollment among consumers purchasing ACA-compliant coverage outside the Exchange. A state-funded reinsurance program, by reducing insurers' claims expenses, is estimated to result in lower premium rates and greater enrollment among consumers not qualifying for Advanced Premium Tax Credits (APTC) relative to a reinsurance program not being implemented.

The increased enrollment resulting from a reinsurance program is expected to have an additional "halo effect" on the individual market risk pool. Additional enrollment is expected to primarily occur from non-subsidized individuals who previously were uninsured and are healthier than the current ACA risk pool. These newly enrolling members are expected to reduce per member costs in the ACA risk pool, putting downward pressure on premium rates. The magnitude of the halo effect is directly correlated with the total funding amount directed towards the reinsurance program.

A consequence of lower premium rates is lower federal expenditures on Advanced Premium Tax Credits (APTC), also referred to as premium subsidies, which could justify federal pass-through funding available under an ACA 1332 waiver. The amount of pass-through funding will vary based on the total size of the reinsurance fund, morbidity changes in the risk pool, and the ratio of aggregate APTC relative to total ACA-compliant premium. In general, pass-through funding as a percent of total reinsurance program costs will decrease as the percentage of APTC revenue relative to total ACA premium decreases. This could result from more non-subsidized individuals purchasing ACA-compliant individual market coverage as the reinsurance program brings rate relief to both subsidized and non-subsidized enrollees in the market.

Table 1 summarizes our modeling of 2019 estimated claims, enrollment and morbidity impacts from a reinsurance program of varying magnitudes. Other key outcomes of our modeling include the Federal pass-through funding as a percentage of total reinsurance funds and estimated state-based funding.

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<sup>1</sup> The preliminary report is contained in "A Report Regarding SB17:300: Colorado High-Risk Health Coverage Study", published October 2, 2017 (page 50).

<sup>2</sup> Essential Health Benefits did change in 2017, increasing benefits and rates ~1.0%.

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**Table 1**  
**Colorado Division of Insurance**  
**Reinsurance Impacts on Claims, ACA Enrollment, Morbidity and Federal Pass-through Funding**  
**Estimated Calendar Year 2019 Values**

|   | <b>5% Claims<br/>Impact</b> | <b>10% Claims<br/>Impact</b> | <b>15% Claims<br/>Impact</b> | <b>20% Claims<br/>Impact</b> | <b>25% Claims<br/>Impact</b> |
|---|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Enrollment Increase<br>(Relative To 226,000<br>Baseline)              | 2,500                       | 5,300                        | 8,500                        | 12,300                       | 17,000                       |
| Enrollment Change<br>(Relative To Baseline)                           | 1.1%                        | 2.3%                         | 3.8%                         | 5.4%                         | 7.5%                         |
| Morbidity Reduction<br>(Relative to Baseline)                         | -0.3%                       | -0.6%                        | -1.0%                        | -1.5%                        | -2.0%                        |
| Gross Reinsurance Program<br>Cost (\$ millions)                       | \$70                        | \$140                        | \$201                        | \$282                        | \$346                        |
| Estimated Federal Pass<br>Through Funding as % of<br>Reinsurance Fund | 51%                         | 50%                          | 50%                          | 49%                          | 48%                          |
| Net State-Based<br>Reinsurance Program Cost<br>(\$ millions)          | \$34                        | \$70                         | \$101                        | \$144                        | \$178                        |

As shown in Table 1, the estimated enrollment increases resulting from a reinsurance program range from 2,500 (5% claims impact) to 17,000 (25% claims impact). For perspective, the reinsurance scenario with a 25% claims impact is estimated to result in 2019 total ACA-compliant enrollment of 243,000, approximately 5,000 less than estimated values for 2017. With the successive significant premium rate increases that impacted the market in both 2017 and 2018, we estimate 2019 market premiums under the 25% claims impact scenario will still be at levels higher than 2017.

The size of the reinsurance fund associated with the scenarios varies from \$70 million (5% claims impact) to over \$346 million (25% claims impact). Federal pass-through funding generated from a reduction in APTC cost is estimated to fund approximately 50% of the reinsurance program, with state-based funding requirements of \$34 million (5% claims impact) to \$178 million (25% claims impact). Additionally, to the extent healthcare costs continue to rise, it is likely the total funding of the reinsurance program will need to grow to achieve similar claim cost impacts.

To the extent state-based funding for the reinsurance program is generated through an assessment of commercial group insurance, the necessary assessment on a per member per month (PMPM) basis would vary significantly based on whether it is applied to only fully-insured coverage, or both fully-insured and self-funded coverage. Table 2 summarizes our modeling of calendar year 2019 commercial group PMPM charge needed to generate the state-based share of a reinsurance program's cost.

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**Table 2**  
**Colorado Division of Insurance**  
**Reinsurance Impacts on Group Contributions PMPM**  
**Estimated Calendar Year 2019 Values**

|   | <b>5%</b><br><b>Claims</b><br><b>Impact</b> | <b>10%</b><br><b>Claims</b><br><b>Impact</b> | <b>15%</b><br><b>Claims</b><br><b>Impact</b> | <b>20%</b><br><b>Claims</b><br><b>Impact</b> | <b>25%</b><br><b>Claims</b><br><b>Impact</b> |
|---|---|--|--|--|--|
| Total Group PMPM (with Self-Insured, No Individual)               | \$1.01                                      | \$2.05                                       | \$2.98                                       | \$4.24                                       | \$5.25                                       |
| Fully Insured Group PMPM (w/o Self-Insured, No Individual)        | \$2.95                                      | \$6.02                                       | \$8.73                                       | \$12.43                                      | \$15.41                                      |
| Total Commercial PMPM (with Self-Insured & Individual)            | \$0.93                                      | \$1.89                                       | \$2.73                                       | \$3.89                                       | \$4.81                                       |
| Fully Insured Commercial PMPM (w/o Self-Insured, with Individual) | \$2.36                                      | \$4.80                                       | \$6.94                                       | \$9.85                                       | \$12.16                                      |

For example, under the 25% claims impact scenario, the necessary assessment is \$5.25 PMPM if both fully-insured and self-funded group coverages are assessed, but increases to \$15.41 PMPM if state-based funding is only derived from fully insured lives. Similar scenarios for including or excluding individual business in the assessment-base are also shown but are less impactful.<sup>3</sup>

If the State determines it would like to implement a state-based reinsurance program, it must first determine the total funding for the reinsurance program from state-based and federal pass-through sources. Next, parameters for the reinsurance program must be chosen. There are numerous combinations of reinsurance program parameters that can be chosen to achieve the same estimated market impact.

For each of the five claims impact scenarios, Table 3 and Appendix B summarize potential combinations of state-wide reinsurance parameters. Appendix C summarizes results with the rural areas (Rating Areas 8 and 9) attachment points set to produce an impact on claims approximately twice that of the non-rural areas (Rating Areas 1 through 7).

Calendar year 2019 estimates are based on current available enrollment, claims, and premium information, developed from CY 2016 insurer claims data and enrollment. It is very likely these parameters would be adjusted based on CY 2017 insurer claims data as it becomes available.

<sup>3</sup> Although we include scenarios that include the individual market in the assessment base, all claims impacts scenarios assume the market is not assessed. Claims impacts due to reinsurance are estimated to be reduced ~1% if the individual market is included in the assessment.

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**Table 3**  
**Colorado Division of Insurance**  
**Reinsurance Parameters Combinations**  
**Estimated Calendar Year 2019 Values**

| Scenario # | Claims Impact | Attachment Point | Coinsurance | Cap         | Maximum Reinsurance Payment Per Member |
|------------|---------------|------------------|-------------|-------------|--|
| 1          | 5%            | \$130,000        | 50%         | \$300,000   | \$85,000                               |
| 2          |               | \$170,000        | 80%         | \$300,000   | \$104,000                              |
| 3          |               | \$190,000        | 100%        | \$300,000   | \$110,000                              |
| 4          |               | \$190,000        | 50%         | \$1,000,000 | \$405,000                              |
| 5          |               | \$225,000        | 80%         | \$500,000   | \$220,000                              |
| 6          | 10%           | \$75,000         | 50%         | \$300,000   | \$112,500                              |
| 7          |               | \$115,000        | 80%         | \$300,000   | \$148,000                              |
| 8          |               | \$130,000        | 100%        | \$300,000   | \$170,000                              |
| 9          |               | \$100,000        | 50%         | \$1,000,000 | \$450,000                              |
| 10         |               | \$140,000        | 80%         | \$500,000   | \$288,000                              |
| 11         | 15%           | \$50,000         | 50%         | \$300,000   | \$125,000                              |
| 12         |               | \$80,000         | 80%         | \$300,000   | \$176,000                              |
| 13         |               | \$100,000        | 100%        | \$300,000   | \$200,000                              |
| 14         |               | \$65,000         | 50%         | \$1,000,000 | \$467,500                              |
| 15         |               | \$100,000        | 80%         | \$500,000   | \$320,000                              |
| 16         | 20%           | \$30,000         | 50%         | \$300,000   | \$135,000                              |
| 17         |               | \$60,000         | 80%         | \$300,000   | \$192,000                              |
| 18         |               | \$75,000         | 100%        | \$300,000   | \$225,000                              |
| 19         |               | \$40,000         | 50%         | \$1,000,000 | \$480,000                              |
| 20         |               | \$70,000         | 80%         | \$500,000   | \$344,000                              |
| 21         | 25%           | \$20,000         | 50%         | \$300,000   | \$140,000                              |
| 22         |               | \$45,000         | 80%         | \$300,000   | \$204,000                              |
| 23         |               | \$60,000         | 100%        | \$300,000   | \$240,000                              |
| 24         |               | \$25,000         | 50%         | \$1,000,000 | \$487,500                              |
| 25         |               | \$55,000         | 80%         | \$500,000   | \$356,000                              |

Maintaining insurers' incentives to manage claims expense, even if it is subject to reinsurance payments, should be a key consideration in the final selection of reinsurance program parameters. Reinsurance parameters with less than 100% coinsurance reimburse insurers only for a portion of costs between the attachment point and cap, maintaining a financial incentive for insurers to manage costs regardless of the claim amount.

Our estimates in this report are subject to a number of different impacts that could make actual results deviate from those shown in this report. Legislation that could be proposed by Congress could drastically affect funding available under a Section 1332 waiver. Even without the impact of proposed legislation, our report and conclusions assume the Federal government will continue payments for any pass-through funding under Section 1332 of the ACA. This analysis assumes the Trump administration's decision to not fund cost-sharing reduction (CSR) advance funding or settlements, effective October 2017, will continue indefinitely, and that premium rates in Colorado will continue to reflect carrier pricing under this new policy, which is the impact of unfunded CSRs will be spread to all plans, on- and off-Exchange, except for Catastrophic plans.

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## II. INTRODUCTION

Milliman was engaged by the Division to evaluate a claims-based reinsurance program under a Section 1332 waiver and to assist the Division with its potential application by performing the actuarial and financial modeling required for Federal government approval. This report is our final report based on detailed calendar year 2016 claims data from the Colorado individual ACA market, as well as updates to various premium and enrollment figures from both public sources and from carriers operating in the Colorado individual market through September 2017.

The primary objectives of this report are to:

- Present reinsurance parameters on a uniform state-wide basis as well as by rural and non-rural areas.
- Estimate impacts on individual market premiums and estimates for funding needed, prior to Federal pass-through funds being applied for multiple scenarios.
- Discuss enrollment and morbidity impacts to Colorado's individual ACA compliant market from the various reinsurance scenarios presented.
- Estimate Federal pass-through funding under a Section 1332 waiver, both on a dollar basis and as a percentage of the total funding for the reinsurance program.
- Present commercial group PMPM charges as a funding source should the State of Colorado elect to use that mechanism for some or all of the state-based funding of the reinsurance program.

We examine twenty-five different reinsurance scenarios consisting of five different market claims impact scenarios and five reinsurance parameter combinations for each claim impact scenario. The five claim impact scenarios are those that reduce overall Individual market claims by 5%, 10%, 15%, 20%, and 25% in future years relative to the status quo. The parameter scenarios for each claim impact scenario use 50%, 80%, and 100% coinsurance levels and three different caps (\$300k, \$500k, and \$1 million), with the attachment point serving as the balancing lever to produce the targeted claims cost impact.

We refer to the Connect for Health Colorado Marketplace as the Exchange throughout this report. We also refer to Advanced Premium Tax Credits under the ACA as premium subsidies. APTC eligible enrollees are also referred to as subsidy-eligible.

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### III. COLORADO COMMERCIAL MARKETS UPDATED FINANCIAL INFORMATION

In our preliminary report, we provided background information on Colorado's commercial market. In this report, we use updated data from the Exchange, carrier-submitted data, and EDGE data to update our estimated enrollment figures for the individual market through 2018. Previous commercial group enrollment estimates do not change (2016 and prior).

We also extend our projections for the individual and group markets into 2019 to serve as a baseline for modeling the impacts of various levels of reinsurance funding for the coverage year.<sup>4</sup> Table 4 details these updated projections for 2014 through 2019. For consistency, we retain the descriptions of each of the individual market segments from our preliminary report.

- On-Exchange ACA, Advance Premium Tax Credit (APTC) Eligible: Consumers purchasing coverage through the Exchange and receiving an APTC. The majority of these consumers have income less than 250% of the federal poverty level (FPL) and also receive CSR subsidies.<sup>5</sup>
- On-Exchange ACA, Non-APTC Eligible: Consumers purchasing coverage through the Exchange and not receiving an APTC. These consumers are likely to have income approaching or above 400% FPL.
- Off-Exchange ACA: Consumers purchasing ACA-compliant coverage outside of the Exchange. Premium assistance is not available outside of the Exchange.
- Non-ACA: Consumers with grandfathered or transitional coverage that is not in compliance with ACA requirements.<sup>6</sup>

| <b>Table 4</b>   |              |              |              |                  |                  |                           |
|--|--------------|--------------|--------------|------------------|------------------|---------------------------|
| <b>Colorado Division of Insurance</b>                                    |              |              |              |                  |                  |                           |
| <b>Health Insurance Market Enrollment 2014 through 2019 (in 1,000's)</b> |              |              |              |                  |                  |                           |
| <b>Market Segment</b>  | <b>2014</b>  | <b>2015</b>  | <b>2016</b>  | <b>Est. 2017</b> | <b>Est. 2018</b> | <b>Est. 2019 Baseline</b> |
| 1. Individual <u>On-Exchange</u> ACA                                     | 80           | 102          | 140          | 145              | 151              | 152                       |
| 1.a. Individual APTC Eligible  | 56           | 65           | 89           | 94               | 99               | 102                       |
| 1.b. Individual Non-APTC Eligible  | 24           | 37           | 51           | 51               | 52               | 50                        |
| 2. Individual <u>Off-Exchange</u> ACA                                    | 60           | 112          | 135          | 103              | 78               | 74                        |
| 3. Individual ACA  | 140          | 214          | 275          | 248              | 229              | 226                       |
| 4. Individual Non-ACA (Trans. and GF'd)                                  | 171          | 105          | 27           | 22               | 18               | 15                        |
| <b>5. Total Individual</b>   | <b>311</b>   | <b>319</b>   | <b>302</b>   | <b>270</b>       | <b>247</b>       | <b>241</b>                |
| <b>6. Insured Group</b>  | <b>908</b>   | <b>906</b>   | <b>921</b>   | <b>935</b>       | <b>949</b>       | <b>963</b>                |
| <b>7. Self-Funded</b>  | <b>1,692</b> | <b>1,764</b> | <b>1,803</b> | <b>1,824</b>     | <b>1,845</b>     | <b>1,866</b>              |
| <b>8. Commercial Total</b>   | <b>2,911</b> | <b>2,989</b> | <b>3,026</b> | <b>3,029</b>     | <b>3,041</b>     | <b>3,070</b>              |
| <b>9. Commercial Total (w/o Self-Funded)</b>                             | <b>1,219</b> | <b>1,226</b> | <b>1,224</b> | <b>1,206</b>     | <b>1,197</b>     | <b>1,205</b>              |

Sources: 2014-2016 figures from CMS and ASPE reports, census survey data, commercial MLR filings and NAIC Supplemental Health Care Exhibits. Group and Self-Funded segment values for 2017 through 2019 have been estimated based on historical trends. For Exchange and off-Exchange enrollment data, we use EDGE data, as well as carrier-reported data provided by the Division. Values are rounded to the nearest thousand.

<sup>4</sup> In our preliminary report, CY 2018 was used as the baseline for estimating the impact of a 1332 waiver implementation.

<sup>5</sup> Dollar amounts associated with the 2017 federal poverty level: <https://aspe.hhs.gov/poverty-guidelines>.

<sup>6</sup> See <https://www.colorado.gov/pacific/dora/Non-ACA-Health-Insurance-Plans-Phase-Out> for additional description of grandfathered and transitional plans.

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The most significant change from the preliminary enrollment estimates is the decrease in individual off-Exchange enrollment (Line 2). The impact of the large rate increases from 2016 through 2018 (see Appendix A) and resulting lapsation in this segment was greater than originally estimated, underscoring the perceived unaffordability of coverage in this segment. That restatement is summarized in Table 5 below.

| <b>Table 5</b>                        |             |             |             |                  |                  |                           |
|---------------------------------------|-------------|-------------|-------------|------------------|------------------|---------------------------|
| <b>Colorado Division of Insurance</b> |             |             |             |                  |                  |                           |
| <b>Restatement in Enrollment</b>      |             |             |             |                  |                  |                           |
| <b>Market Segment</b>                 | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>Est. 2017</b> | <b>Est. 2018</b> | <b>Est. 2019 Baseline</b> |
| Line 2 (Preliminary Report)           |             |             |             |                  |                  |                           |
| Individual Off-Exchange ACA           | 60          | 112         | 141         | 115              | 95               | NA                        |
| Line 2 (Restated)                     |             |             |             |                  |                  |                           |
| Individual Off-Exchange ACA           | 60          | 112         | 135         | 103              | 78               | 74                        |

Updated premium PMPM figures are shown in Table 6. Premium estimates for 2018 are revised to reflect final rates approved and implemented by Colorado carriers, which increase as a result of CSR payments not being funded.<sup>7</sup> Premium subsidies (Line 1.a) increase for those eligible, keeping the net premium the same as previous estimates. The individual market's 2019 premiums are projected using a 7% trend that accounts for cost, utilization, morbidity increases and plan mix changes. The 2019 premium net of APTC premium subsidies is projected to be 2% higher than 2018 to account for indexing of the Federal Poverty Level (FPL) and APTC percentages. The group market's 2019 premiums are projected using a 6% net trend (after benefit reductions etc.).

| <b>Table 6</b>  |              |              |              |                  |                  |                           |
|---|--------------|--------------|--------------|------------------|------------------|---------------------------|
| <b>Colorado Division of Insurance</b>                         |              |              |              |                  |                  |                           |
| <b>Health Insurance Market PMPM Premium 2014 through 2019</b> |              |              |              |                  |                  |                           |
| <b>Market Segment</b>   | <b>2014</b>  | <b>2015</b>  | <b>2016</b>  | <b>Est. 2017</b> | <b>Est. 2018</b> | <b>Est. 2019 Baseline</b> |
| 1. Individual On APTC Eligible - Gross                        | \$400        | \$391        | \$441        | \$502            | \$653            | \$698                     |
| 1.a less APTC Premium Subsidy                                 | \$272        | \$234        | \$307        | \$369            | \$517            | \$560                     |
| 1.b Individual On APTC Eligible - Net                         | \$128        | \$157        | \$134        | \$133            | \$136            | \$138                     |
| 2. Individual Off & On Non-APTC Eligible                      | \$316        | \$304        | \$335        | \$389            | \$506            | \$541                     |
| 3. Individual ACA Compliant                                   | \$350        | \$330        | \$368        | \$428            | \$569            | \$612                     |
| 4. Individual Non-ACA Compliant                               | \$252        | \$267        | \$271        | \$282            | \$293            | \$320                     |
| <b>5. Total Individual</b>                                    | <b>\$296</b> | <b>\$309</b> | <b>\$359</b> | <b>\$415</b>     | <b>\$549</b>     | <b>\$594</b>              |
| <b>6. Insured Group</b>                                       | <b>\$423</b> | <b>\$439</b> | <b>\$437</b> | <b>\$448</b>     | <b>\$475</b>     | <b>\$503</b>              |
| <b>7. Self-Funded</b>   | <b>\$431</b> | <b>\$446</b> | <b>\$450</b> | <b>\$460</b>     | <b>\$488</b>     | <b>\$517</b>              |
| <b>8. Commercial Total</b>                                    | <b>\$414</b> | <b>\$430</b> | <b>\$437</b> | <b>\$453</b>     | <b>\$471</b>     | <b>\$519</b>              |
| <b>9. Commercial Total (w/o Self-Funded)</b>                  | <b>\$371</b> | <b>\$383</b> | <b>\$418</b> | <b>\$441</b>     | <b>\$489</b>     | <b>\$522</b>              |

*Notes:*

- Lines 1 & 2 contains impact of plan mix changes. 32.7% 2018 rate increase for continuing plans, per the Division was reduced 2.7% to account for this effect.
- Line 4. Includes grandfathered and transitional plans in 2014 and 2015. 2016 - 2019 includes only grandfathered coverage.
- Values rounded to the nearest dollar.
- Sources identical to Table 3.
- 2018 & 2019 premium estimates assume a portion of consumers will shift to less expensive plans, resulting in an average premium rate change less than the approved average for the market.

<sup>7</sup><https://drive.google.com/file/d/0BwquXutc4vbpVHFWTTN1THRvYms/view>, see Slide 2.

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## IV. MODELING METHODOLOGIES, ASSUMPTIONS, AND RESULTS

The updated enrollment and premium figures, as well as detailed enrollment and claims data from 2016 EDGE submissions, serve as the foundation for our modeling of reinsurance parameters and the resulting premium rate impacts.

In order to estimate the premium reduction in 2019 resulting from various funding levels of state-based reinsurance programs, we create a projection model incorporating Colorado 2016 individual market claims experience and enrollment. Our baseline scenario projects 2019 claims expense and market enrollment assuming no reinsurance. Below we discuss the methodology for projecting claims, enrollment, reinsurance, and morbidity levels in the individual market under the baseline and alternate reinsurance program scenarios.

### CLAIMS ESTIMATES

We split 2016 enrollees into 54 cohorts, based on six age groupings, three claim level groupings (over \$7,000 paid claims, under \$7,000 paid claims without a Hierarchical Condition Category (HCC), and under \$7,000 paid claims with an HCC), and the three market segments (on-Exchange ACA APTC Eligible, on-Exchange ACA Non-APTC Eligible, and off-Exchange ACA). At this level of refinement, we model variations in lapse rates due to premium rate changes and the response by cohorts with differing perceived healthcare needs. For purposes of the calculation of the Federal pass-through funding later in the process, we further split the on-Exchange ACA, APTC Eligible cohort between persons with and without a CSR subsidy.

We trend 2016 claims to 2019 based on the carrier-specific filed 2017 and 2018 trend assumptions, network adjustment factors, when available, and an assumed 8% 2019 claim trend.

### ENROLLMENT ESTIMATES

We use detailed enrollment data from the Exchange and carrier submitted data to revise enrollment estimates for 2017 and 2018 and project baseline enrollment into 2019. We use observed enrollment changes from 2016 to 2017 and corresponding premium rate increases to establish enrollment estimates for 2018 and 2019. Typically, multiple years of data would be used to establish credibility and a more reliable trend. However, in 2016, all of the transitional, non-ACA compliant business moved into the ACA-compliant market place, creating a disruptive, one-time event. Moreover, large changes in premium rates at different points in time have markedly altered the enrollment patterns. Thus, the enrollment patterns from 2015 to 2016 are not conducive to simple trending for projecting future periods.

Using the above data and recognizing the rate increases in 2017 and 2018 (20% and 32.7% respectively) will likely produce similar levels of lapse, we assume the 2017 to 2018 enrollment change (on a percentage basis) would be the same as the observed 2016 to 2017 enrollment change. For example, we assume the 2018 off-Exchange ACA enrollment decreased 24% relative to the 2017 enrollment estimate, the same decrease we observe from 2016 to 2017. For 2018 to 2019, we assume the enrollment change would only be a 5% decrease, about 25% of the magnitude of the 2016 to 2017 off-Exchange ACA enrollment change. This dampening of the 2018 to 2019 enrollment change is due to an anticipated stable environment in 2019, as reflected by our assumed 7% 2019 rate increase, (much smaller than the 20% and 30% in 2017 and 2018, respectively). Enrollment adjustments are developed by age group and gender within each market segment, rather than a single assumption for each market segment.

Table 7 summarizes our 2016 to 2019 estimated enrollment changes for the three market segments based on this methodology.

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**Table 7**  
**Colorado Division of Insurance**  
**2016 to 2019 Enrollment Change by Market Segment**

|                      | 2016    | 2017    | 2018    | Baseline<br>2019 |
|----------------------|---------|---------|---------|------------------|
| Off-Exchange         | 135,000 | 103,000 | 78,000  | 74,000           |
| Annual Change        |         | -23.7%  | -24.3%  | -5.1%            |
| On-Exchange– No APTC | 51,000  | 51,000  | 52,000  | 50,000           |
| Annual Change        |         | 0%      | 2.0%    | -4.0%            |
| On- Exchange – APTC  | 89,000  | 94,000  | 99,000  | 102,000          |
| Annual Change        |         | 5.6%    | 5.3%    | 3.0%             |
| Total                | 275,000 | 248,000 | 229,000 | 226,000          |
| Annual Change        |         | -9.8%   | -7.7%   | -1.3             |

Based on observed enrollment changes between 2016 and 2017, we do not observe declines in on-Exchange enrollment. It is possible that a portion of the decline that occurred in the off-Exchange segment was driven by individuals in that market segment electing to purchase coverage on the Exchange in 2017. From available data that we received, we could not track an individual person from year to year, preventing us from confirming whether this enrollment behavior was occurring. Future enrollment change relativities between these two populations may diverge from the observed 2016 to 2017 changes.

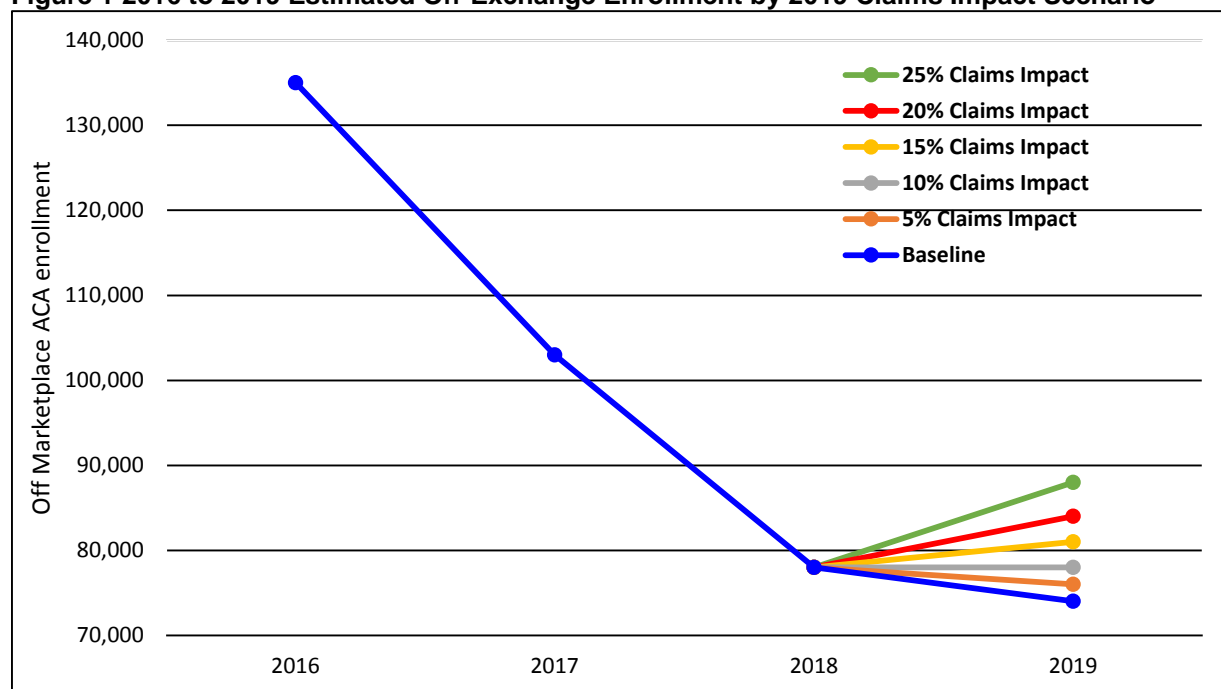
### ENROLLMENT ELASTICITY

To establish overall enrollment levels in each of the five claim impact scenarios, we look at historical enrollment in the ACA individual market and average rate level. We set 2017 to a premium rate level of 1.00 and then apply 2018 and 2019 premium rate increases to calculate the relative 2018 and baseline 2019 premium rate levels. We then calculate the approximate premium rate level for each of the reinsurance scenarios by adjusting the 2019 baseline by the claims impact for each scenario. That is, we assume premiums are reduced by the same percent as claims are reduced for each claim impact scenario. By comparing the resulting relative rate levels to 2017, 2018, and baseline 2019, we estimate enrollment targets for each claim impact scenario that are reasonable and consistent with experience.

Figure 1 shows 2016 to 2019 off-Exchange enrollment under each claims impact scenario. The 2019 Off-Exchange enrollment is roughly the same as the 2018 off-Exchange enrollment under the 10% claims reduction scenario. That is because under this scenario, 2019 premium rates are about the same as 2018 premium rates, since the 10% claims reduction roughly offsets the assumed 9% gross (prior to plan mix impacts) premium rate increase in 2019.

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**Figure 1 2016 to 2019 Estimated Off-Exchange Enrollment by 2019 Claims Impact Scenario**



**REINSURANCE SCENARIOS**

We test a variety of reinsurance scenarios to estimate claim cost reduction and associated enrollment change resulting from a state-based reinsurance program. Each reinsurance scenario includes:

- An attachment point, above which reinsurance begins to pay out,
- The coinsurance amount, which is the percentage of claims above the attachment point that reinsurance pays, and
- The cap, the reinsurance program payment amount above which reinsurance no longer applies.

Using our 2019 baseline scenario, we calculate the reinsurance paid on each enrollee’s projected 2019 claims. Table 8 illustrates some sample reinsurance calculations for an enrollee with a \$200,000 claim.

**Table 8  
Colorado Division of Insurance  
Sample Reinsurance Calculations**

| Claim     | Reinsurance Parameters |             |           | Reinsurance Amount |
|-----------|------------------------|-------------|-----------|--------------------|
|           | Attachment             | Coinsurance | Cap       |                    |
| \$200,000 | \$50,000               | 100%        | \$250,000 | \$150,000          |
| \$200,000 | \$50,000               | 100%        | \$150,000 | \$100,000          |
| \$200,000 | \$50,000               | 80%         | \$250,000 | \$120,000          |
| \$200,000 | \$100,000              | 80%         | \$250,000 | \$80,000           |
| \$200,000 | \$250,000              | 100%        | \$500,000 | \$0                |

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We target reinsurance parameters resulting in claims reductions of 5%, 10%, 15%, 20%, and 25%. For each of these five claims reduction targets, we develop the attachment points necessary to hit the target claims reductions when combined with the following coinsurance and caps:

- 50% coinsurance up to \$300,000
- 80% coinsurance up to \$300,000
- 100% coinsurance up to \$300,000
- 50% coinsurance up to \$1,000,000
- 80% coinsurance up to \$500,000

Although these 25 reinsurance scenarios cover a wide range of possible reinsurance parameters and results, we do not imply these encompass all possible scenarios. Appendix B details all of the state-wide parameter combinations that we modeled.

Because a state-based reinsurance program will lower 2019 carrier-paid claims per member, carriers are expected to price their 2019 premiums at a lower level than under the baseline scenario (i.e., without reinsurance). The lower premium rates are expected to result in increased enrollment from persons not qualifying for premium subsidies (primarily households with income above 400% of the federal poverty level), compared to the baseline scenario. We do not anticipate enrollment changes for those receiving an APTC, as their out-of-pocket premium requirement is unlikely to change materially due to the implementation of a reinsurance program. Table 9 provides our estimated enrollment under each reinsurance scenario, reflecting the incremental enrollment relative to the baseline attributable to the effect of a state-based reinsurance program.

The carrier-paid claims we use in our reinsurance modeling assumes that CSR plans will pay claims at the benefit level of the CSR plan itself, and not the underlying Silver plan. For example, in the case of a 94% Silver CSR plan, our reinsurance modeling assumes paid claims will be at the 94% level and not the ~70% level.

**Table 9**  
**Colorado Division of Insurance**  
**Impact of Reinsurance on 2019 ACA-Compliant Individual Market Enrollment**

| Claim Reduction | Off-Exchange |         | On-Exchange No APTC |         | On-Exchange APTC |         | Total      |         |
|-----------------|--------------|---------|---------------------|---------|------------------|---------|------------|---------|
|                 | Enrollment   | Change* | Enrollment          | Change* | Enrollment       | Change* | Enrollment | Change* |
| Baseline        | 74,000       |         | 50,000              |         | 102,000          |         | 226,000    |         |
| 5%              | 76,000       | 3.8%    | 50,000              | 0.8%    | 102,000          | 0.0%    | 228,000    | 1.1%    |
| 10%             | 78,000       | 5.9%    | 51,000              | 1.8%    | 102,000          | 0.0%    | 231,000    | 2.3%    |
| 15%             | 81,000       | 9.5%    | 51,000              | 2.9%    | 102,000          | 0.0%    | 234,000    | 3.8%    |
| 20%             | 84,000       | 13.8%   | 52,000              | 4.2%    | 102,000          | 0.0%    | 238,000    | 5.4%    |
| 25%             | 88,000       | 19.1%   | 53,000              | 5.8%    | 102,000          | 0.0%    | 243,000    | 7.5%    |

\* - enrollment changes are based on unrounded enrollment figures.

## MORBIDITY

When projecting the effect of rate increases on 2019 enrollment for the baseline scenario, we do not apply a single enrollment decrement to all enrollees uniformly. In the case of subsidized individuals, we assume they will continue their coverage regardless of health status, rate level, or magnitude of rate increase (as out-of-pocket premium rates are unlikely to change materially due to the availability of the APTC). In the case of unsubsidized individuals, off-Exchange and On-Exchange non-APTC, we assume enrollees with high claim cost are more likely to continue their coverage compared to low claim cost members. Members with high claims costs are more likely to receive benefits (through carrier-paid claims expenses) higher than the premiums they pay. Conversely, members with zero claims or low claim costs may perceive less value from an insurance policy.

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We anticipate lower prices under reinsurance scenarios will lead to increases in take-up rates from uninsured individuals. We assume the uninsured entering the market are healthier on average than the baseline 2019 ACA pool. Thus, we project healthy, lower claim cost enrollees will increase as a percentage of the ACA risk pool in higher reinsurance (lower premium rate) scenarios. Table 10 shows the enrollment split by low and high dollar claimants.

| Table 10<br>Colorado Division of Insurance<br>Impact of Reinsurance on 2019 Enrollment By Claim Level |                     |         |                      |         |            |         |                                |
|---|---------------------|---------|----------------------|---------|------------|---------|--------------------------------|
|   | Low Claim Enrollees |         | High Claim Enrollees |         | Total      |         | High Claim Enrollee % of Total |
|   | Enrollment          | Change* | Enrollment           | Change* | Enrollment | Change* |                                |
| Baseline  | 193,000             |         | 33,000               |         | 226,000    |         | 14.4%                          |
| 5%  | 196,000             | 1.1%    | 33,000               | 0.8%    | 228,000    | 1.1%    | 14.3%                          |
| 10%   | 198,000             | 2.4%    | 33,000               | 1.7%    | 231,000    | 2.3%    | 14.3%                          |
| 15%   | 201,000             | 3.9%    | 33,000               | 2.7%    | 234,000    | 3.8%    | 14.2%                          |
| 20%   | 204,000             | 5.7%    | 34,000               | 4.0%    | 238,000    | 5.4%    | 14.2%                          |
| 25%   | 209,000             | 7.9%    | 34,000               | 5.5%    | 243,000    | 7.5%    | 14.1%                          |

\* - enrollment changes are based on unrounded enrollment figures.

Because high claim cost enrollees make up a smaller portion of the total enrollment as reinsurance increases, the overall claims PMPM decreases. Table 11 summarizes how this enrollee mix by health status improves the morbidity of the overall ACA pool, with larger improvements for larger reinsurance scenarios.

| Table 11<br>Colorado Division of Insurance<br>Impact of Enrollment Mix on Paid Claims PMPM Prior to Reinsurance (Calendar Year 2019) |                     |                      |                                |                        |                            |
|--|---------------------|----------------------|--------------------------------|------------------------|----------------------------|
|  | Paid Claims PMPM    |                      | High Claim Enrollee % of Total | Total Paid Claims PMPM | Change in Paid Claims PMPM |
|  | Low Claim Enrollees | High Claim Enrollees |                                |                        |                            |
| Baseline   | \$56                | \$3,089              | 14.4%                          | \$492                  |                            |
| 5%   | \$56                | \$3,089              | 14.3%                          | \$490                  | -0.3%                      |
| 10%  | \$56                | \$3,089              | 14.3%                          | \$489                  | -0.6%                      |
| 15%  | \$56                | \$3,089              | 14.2%                          | \$487                  | -1.0%                      |
| 20%  | \$56                | \$3,089              | 14.2%                          | \$485                  | -1.5%                      |
| 25%  | \$56                | \$3,089              | 14.1%                          | \$482                  | -2.0%                      |

## REINSURANCE PARAMETERS BY RATING AREA

We provide alternative reinsurance scenarios in which rural areas (rating areas 8 and 9) receive more claims reduction than non-rural areas (rating areas 1 through 7). Our review of the 2016 claims experience shows there is sufficient credibility when split into rural and non-rural areas. We develop rural and non-rural attachment points for each of the 25 reinsurance scenarios, such that the rural area percentage claims reduction is twice the claims reduction (on a percentage basis) relative to non-rural areas. However, overall claims are still reduced 5%, 10%, 15%, 20%, and 25% in aggregate.

Table 12 summarizes the reinsurance parameters and claims reduction by rural and non-rural rating areas for the 80% coinsurance / \$500,000 cap reinsurance scenario. Appendix C shows the rural / non-rural breakdown for all 25 reinsurance parameter scenarios.

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**Table 12**  
**Colorado Division of Insurance**  
**2019 Reinsurance Claim Reduction Impact Scenarios**  
**80% Coinsurance / \$500,000 Cap Scenario By Rural / Non-Rural Area**

| Claims Impact | Rural      |           | Non-Rural  |           | Total      |           |
|---------------|------------|-----------|------------|-----------|------------|-----------|
|               | Attachment | Reduction | Attachment | Reduction | Attachment | Reduction |
| 5%            | \$175,000  | -8%       | \$250,000  | -4%       | \$225,000  | -5%       |
| 10%           | \$100,000  | -16%      | \$165,000  | -8%       | \$140,000  | -10%      |
| 15%           | \$60,000   | -25%      | \$115,000  | -12%      | \$100,000  | -15%      |
| 20%           | \$40,000   | -33%      | \$85,000   | -17%      | \$70,000   | -20%      |
| 25%           | \$25,000   | -42%      | \$65,000   | -21%      | \$55,000   | -25%      |

We do not re-project enrollment by rating area because of the varying degree of claims impact from the reinsurance program and corresponding premiums. Different reinsurance parameters by rating area may result in variation in observed premium rate reductions resulting from the program. Additionally, rating areas with the largest premium rate reductions are more likely to see greater enrollment increases (relative to the baseline), compared to rating areas with less significant reductions.

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## V. REINSURANCE PROGRAM FUNDING: FEDERAL PASS-THROUGH FUNDS AND GROUP MPPM CHARGES

### FEDERAL PASS-THROUGH FUNDING

Under a Section 1332 waiver, states are entitled to federal pass-through funding resulting from the net savings generated by the waiver. This funding will cover a portion of the total cost of the reinsurance program, leaving the remaining costs to be funded from a state-based source.

At a high level, discounting other offsets, the amount of pass-through funding under a reinsurance program waiver will be the difference in aggregate APTC expenditures with and without the waiver. (There are other smaller offsets that, for purposes of this report, we ignore as immaterial. However, for the actual waiver application and demonstration, these offsets will be taken into account.) As documented in our preliminary report, the proportion of funding for a state-based reinsurance program derived from Federal pass-through funding is highly dependent on the proportion of individual market enrollees receiving an APTC. For example, if 100% of individual market enrollees receive an APTC and do not experience any change in net premium resulting from the reinsurance program, the reinsurance program may be nearly fully funded by the Federal government (as all the premium rates savings would be realized by the federal government in lower APTC amounts). Conversely, if 0% of the individual market are APTC enrollees, no Federal pass-through funding would be available, as all the reinsurance program savings would be directly realized by consumers.

Since each of the five claims impact reinsurance scenarios generates different proportions of non-subsidy eligible enrollees relative to the total market enrollment, each scenario correspondingly generates a different level of estimated Federal pass-through funding as percentage of reinsurance program costs.

Note that the number of subsidized enrollees does not vary by scenario. As we noted previously, the majority of subsidized enrollees' net premiums do not change in response to the lower gross premiums generated by a reinsurance program. Accordingly, we assume no change in enrollment for this segment under each reinsurance scenario. However, the number of non-subsidized enrollees changes as that segment of the market responds to lower gross premiums brought about by the reinsurance program. These enrollment changes are illustrated for the 25% claims impact scenario in Table 13 below.

|                                | <b>Subsidy Eligible</b> | <b>Non-Subsidy Eligible</b> | <b>Total</b> |
|--------------------------------|-------------------------|-----------------------------|--------------|
| Baseline Enrollment            | 102,000                 | 124,000                     | 226,000      |
| 25% Impact Scenario Enrollment | 102,000                 | 141,000                     | 243,000      |
| Baseline % of Total Enrollment | 45%                     | 55%                         | 100%         |
| 25% Impact Scenario %'s        | 42%                     | 58%                         | 100%         |

The above table illustrates the impact of the reinsurance fund on enrollment mix and ultimately federal pass-through funding percentages. The state-based reinsurance program reduces premium rates, in this example roughly 25%, resulting in an increase in non-subsidized enrollment, from 124,000 to 141,000. Subsidized enrollment does not change, thereby reducing the proportion of the ACA block that is subsidized.

This lower proportion of subsidized enrollment will drive lower Federal pass-through funding as percentage of total reinsurance costs, even though absolute dollars of pass-through funding increases in the higher-funded reinsurance scenarios. Table 14 illustrates this relationship between non-subsidy eligible enrollment, pass through funding as a percentage of reinsurance costs and absolute pass-through dollars.

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**Table 14**  
**Colorado Division of Insurance**  
**Calculation of Total Funds Needed, Premium Impacts, and Federal Pass-Through Funding**

| Line # | Calculation               | 2019<br>Baseline  | 5%<br>Impact | 10%<br>Impact | 15%<br>Impact  | 20%<br>Impact  | 25%<br>Impact  |                |
|--------|---------------------------|---|--------------|---------------|----------------|----------------|----------------|----------------|
| (1)    | Membership APTC           | 101,949   | 101,949      | 101,949       | 101,949        | 101,949        | 101,949        |                |
| (2)    | Membership Non-APTC       | 124,051   | 126,533      | 129,323       | 132,528        | 136,328        | 141,071        |                |
| (3)    | =(1) + (2)                | 226,000   | 228,482      | 231,272       | 234,477        | 238,277        | 243,020        |                |
| (4)    | =(7) + Baseline (10)      | Gross Premium PMPM APTC   | \$698.28     | \$666.08      | \$635.02       | \$608.07       | \$573.66       | \$547.20       |
| (5)    | =(8) + Baseline (11)      | Gross Premium PMPM Non-APTC   | \$541.46     | \$519.66      | \$497.75       | \$479.02       | \$454.76       | \$436.50       |
| (6)    | =weighted average         | Gross Premium PMPM ACA  | \$612.20     | \$584.99      | \$558.26       | \$535.13       | \$505.63       | \$482.94       |
| (7)    | =(1+(14)) * Baseline (7)  | Claims PMPM APTC (see Note 7)   | \$560.96     | \$528.76      | \$497.70       | \$470.75       | \$436.33       | \$409.88       |
| (8)    | =(1+(14)) * Baseline (8)  | Claims PMPM Non-APTC (see Note 7)                                       | \$434.98     | \$413.17      | \$391.27       | \$372.54       | \$348.28       | \$330.02       |
| (9)    | =weighted average         | Claims PMPM ACA   | \$491.81     | \$464.75      | \$438.18       | \$415.24       | \$385.96       | \$363.53       |
| (10)   | =(4) - (7)                | Non-Benefit Expense PMPM APTC   | \$137.32     |               |                |                |                |                |
| (11)   | =(5) - (8)                | Non-Benefit Expense PMPM  | \$106.48     |               |                |                |                |                |
| (12)   |                           | % Composite Claims Reinsurance Impact                                   |              | -5.2%         | -10.3%         | -14.7%         | -20.4%         | -24.6%         |
| (13)   |                           | % Composite Claims Morbidity Impact                                     |              | -0.3%         | -0.6%          | -1.0%          | -1.5%          | -2.0%          |
| (14)   |                           | % Composite Claims Total Impact   |              | -5.5%         | -10.9%         | -15.6%         | -21.5%         | -26.1%         |
| (15)   | =(12) * (Baseline 9+(16)) | Reinsurance Impact on Claims PMPM Morbidity & Mix Impact on Claims PMPM |              | \$(25.55)     | \$(50.45)      | \$(71.55)      | \$(98.70)      | \$(118.56)     |
| (16)   | =(13) * Baseline (9)      |   |              | (\$1.51)      | (\$3.17)       | (\$5.02)       | (\$7.16)       | (\$9.72)       |
| (17)   | =(14) * Baseline (9)      | Total Impact on Claims PMPM   |              | \$(27.06)     | \$(53.62)      | \$(76.57)      | \$(105.85)     | \$(128.29)     |
| (18)   | =(15) * (3) * 12          | <b>Reinsurance Costs (\$ millions)</b>                                  |              | <b>(\$70)</b> | <b>(\$140)</b> | <b>(\$201)</b> | <b>(\$282)</b> | <b>(\$346)</b> |
| (19)   | =(16) * (3) * 12          | Morbidity & Mix Impact on Claims Total (\$ millions)                    |              | (\$4)         | (\$9)          | (\$14)         | (\$20)         | (\$28)         |
| (20)   | =(18) + (19)              | Total Claims Impact (\$ millions)                                       |              | (\$74)        | (\$149)        | (\$215)        | (\$303)        | (\$374)        |
| (21)   | =(6) / Baseline (6)       | Total % of Premium Impact   |              | -4.4%         | -8.8%          | -12.6%         | -17.4%         | -21.1%         |
| (22)   | = Baseline (4)            | Gross Premium PMPM APTC   | \$698.28     |               |                |                |                |                |
| (23)   | Table 6                   | Net Premium PMPM APTC   | \$138.37     |               |                |                |                |                |
| (24)   | =(22) - (23)              | Pre-Reinsurance PMPM APTC   | \$559.91     |               |                |                |                |                |
| (25)   | = (4)                     | Gross Premium After Reinsurance PMPM APTC                               | \$698.28     | \$666.08      | \$635.02       | \$608.07       | \$573.66       | \$547.20       |
| (26)   | Table 6                   | Net Premium PMPM APTC   | \$138.37     | \$138.37      | \$138.37       | \$138.37       | \$138.37       | \$138.37       |
| (27)   | =(25) - (26)              | Post-Reinsurance PMPM APTC  | \$559.91     | \$527.71      | \$496.65       | \$469.70       | \$435.28       | \$408.83       |
| (28)   | =(27) - Baseline (24)     | Pass-Through Funding PMPM Change from Baseline APTC                     |              | (\$32.20)     | (\$63.26)      | (\$90.21)      | (\$124.63)     | (\$151.08)     |
| (29)   | =(1)                      | Membership APTC   | 101,949      | 101,949       | 101,949        | 101,949        | 101,949        | 101,949        |
| (30)   | =(29) * (28) * 12         | Total Pass-Through Funding (\$ millions)                                |              | (\$39)        | (\$77)         | (\$110)        | (\$152)        | (\$185)        |
| (31)   | =(30) / (18)              | Total Pass-Through Funding as % of Reinsurance Fund                     |              | 56.2%         | 55.3%          | 54.8%          | 54.0%          | 53.5%          |
| (32)   |                           | Margin for Other Cash flows & market size etc.                          |              | -5.0%         | -5.0%          | -5.0%          | -5.0%          | -5.0%          |
| (33)   | =(31)+(32)                | <b>Final Federal Pass-Through %</b>                                     |              | <b>51.2%</b>  | <b>50.3%</b>   | <b>49.8%</b>   | <b>49.0%</b>   | <b>48.5%</b>   |
| (34)   | =(33)*(18)                | <b>Final Pass-Through Funding (\$ millions)</b>                         |              | <b>(\$36)</b> | <b>(\$70)</b>  | <b>(\$100)</b> | <b>(\$138)</b> | <b>(\$168)</b> |

Line 10 - Non-benefit expense estimate assumes an 80.3% individual market medical loss ratio (not adjusted for quality improvement expenses or fees and taxes). Aggregate non-benefit expenses are assumed to not change as a result of the reinsurance program.

Line 26 - We assume the average net premium paid by APTC enrollees does not vary as a result of the reinsurance program. This is due to APTC members having their out-of-pocket premiums capped through the ACA's premium assistance structure. Small changes may occur as a result of APTC enrollment changes discussed below.

Line 29 - Our modeling assumes no changes in APTC enrollment. Theoretically, the reinsurance program may slightly reduce the number of APTC enrollees. Because of premium rate reductions resulting from the reinsurance program, young adults may have a greater likelihood of being able to purchase the second-lowest cost silver plan for less than the maximum amount under the ACA premium subsidy structure.

Line 15 - Numbers used to estimate pass through funding correspond to 50% with a \$300,000 cap (First table in Appendix B).

Total claims impacts of reinsurance differ between non-APTC eligible and APTC eligible. Factors used composite to Line 14.

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Our final estimate of pass-through funding includes a margin of 5% to account for the following:

- 1) Margin will increase the likelihood that any assessment charges made to commercial membership (discussed below) will be adequate to fund the reinsurance program;
- 2) There is uncertainty around the size and the mix of enrollment resulting from any particular reinsurance scenario;
- 3) Several other smaller offsets in the pass-through calculation are not accounted for in this calculation; and,
- 4) Other uncertainty around actual cost trends and premium increases implemented in 2019.

### ASSESSMENT PMPM ESTIMATES

In our preliminary report, we detail Colorado’s relative position to other States with regard to funding the non-federal net costs (after federal pass-through funds are applied) by either general revenues or a charge / assessment on commercial group membership. To the extent state-based funding for the reinsurance program is generated through an assessment of commercial health insurance markets, the necessary assessment on a PMPM basis would vary significantly based on whether it applied to self-funded coverage. The charge would vary also if it included individual coverage, but to a far lesser degree. Table 15 summarizes our modeling of calendar year 2019 commercial group PMPM charge needed to generate the state-based share of a reinsurance program’s cost.

| <b>Table 15</b>   |                             |                              |                              |                              |                              |
|---|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>Colorado Division of Insurance</b>                             |                             |                              |                              |                              |                              |
| <b>Reinsurance Impacts on Group Contributions PMPM</b>            |                             |                              |                              |                              |                              |
| <b>Estimated Calendar Year 2019 Values</b>                        |                             |                              |                              |                              |                              |
|   | <b>5% Claims<br/>Impact</b> | <b>10% Claims<br/>Impact</b> | <b>15% Claims<br/>Impact</b> | <b>20% Claims<br/>Impact</b> | <b>25% Claims<br/>Impact</b> |
| Total Group PMPM (with Self-Insured, No Individual)               | \$1.01                      | \$2.05                       | \$2.98                       | \$4.24                       | \$5.25                       |
| Fully Insured Group PMPM (w/o Self-Insured, No Individual)        | \$2.95                      | \$6.02                       | \$8.73                       | \$12.43                      | \$15.41                      |
| Total Commercial PMPM (with Self-Insured & Individual)            | \$0.93                      | \$1.89                       | \$2.73                       | \$3.89                       | \$4.81                       |
| Fully Insured Commercial PMPM (w/o Self-Insured, with Individual) | \$2.36                      | \$4.80                       | \$6.94                       | \$9.85                       | \$12.16                      |

Individual ACA, transitional/grandfathered, fully insured group, and self-funded group membership can be found in Table 4. Similar to the Federal Transitional Reinsurance program, we do not anticipate short-term medical, student health, Medicare Supplement, and other types of limited benefit or fixed indemnity plans, whether individual or group, being assessed reinsurance contributions.

For example, under the 25% claims impact scenario, the necessary assessment is \$5.25 if both fully-insured group and self-funded group coverage are assessed, but increases to \$15.41 PMPM if state-based funding is only derived from fully insured lives (excluding the individual market). If state-based funding came from other sources, such as general state tax revenues, then the assessment on group health insurance policies could be lower.

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Our preliminary report discusses the relative merits of including the individual business as part of this charge. The impact of including individual market in the assessment base is significant if self-insured group business is excluded. In the 25% claim impact scenario, it reduces the charge by over \$3.00 PMPM, from \$15.41 to \$12.16.

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## VI. METHODOLOGIES AND DATA RELIANCE

In preparing this report, we rely on data, information, and assumptions provided by DORA along with public data sources. Data sources utilized in our analysis include, but are not limited to, the following:

- Health plan financial information downloaded from S&P Global Market Intelligence,
- Health insurer rate review information available on <https://ratereview.healthcare.gov/>,
- Insurer rate filing information,
- 2014 through 2015 Medical Loss Ratio Reporting Form data,
- Historical Medical Expenditure Panel Survey data,
- HHS Exchange Open Enrollment reports,
- Reports released by the Federal government related to premium stabilization programs, APTC amounts, and effectuated Exchange coverage,
- Connect for Health Colorado Dashboard reports,
- 2016 EDGE submission data from Colorado individual market carriers,
- 2016 through 2018 premium rates,
- Detailed off-Exchange enrollment data from Colorado individual market carriers, and
- 2017 and 2018 Rate filings from Colorado individual market carriers.

We do not audit this data and other information. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete. We perform a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible they would be uncovered by a detailed, systematic review, and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review is beyond the scope of the assignment.

It should be noted there is significant uncertainty surrounding future enrollment and premiums in health insurance programs, particularly the individual market. Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. It is certain that actual experience will not conform exactly to the all of the assumptions used in this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience. Key assumptions in this analysis that could drive material differences in results include but are not limited to:

- Medical unit cost and utilization trends
- 2019 Rate increases implemented by carriers
- Consumer elasticity to rate increases
- Carrier market participation changes
- Whether assessments are charged to the individual market as a source of state-based funding
- Future Federal health reform law, including the administration's policy of not funding CSRs

*Federal pass-through funding will be based on actual premiums filed by insurers offering coverage in Colorado's non-group market and final funding amounts may differ significantly from the estimates provided in this report.*

The actuarial analyses presented in this report solely reflects the estimated incremental impacts from a potential state-based reinsurance program in the State of Colorado. Other state or Federal policy changes may impact actual amounts presented in this report.

We specifically note that our projections of enrollment and premium rates in the individual market assumes no Federal funding of cost sharing reduction (CSR) subsidies in 2018 and 2019. We also assume the individual mandate is enforced in a manner similar to the 2014 through 2017 time period. To the extent judicial, legislative, or regulatory changes are made to the ACA, the values presented in this report may be impacted by a significant degree.

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## VII. LIMITATIONS AND QUALIFICATION STATEMENT

The services provided for this report were performed under the contract between Milliman and the Department of Regulatory Agencies (Department) dated September 8, 2017.

The information contained in this report has been prepared for the Department and their consultants and advisors to provide data and information related to the potential development of a state-based reinsurance program under a Section 1332 waiver. The data and information presented may not be appropriate for any other purpose.

It is our understanding that the information contained in this reported will be released publicly. Any distribution of the information should be in its entirety. Any user of the data must possess a certain level of expertise in actuarial science and healthcare modeling so as not to misinterpret the information presented.

Milliman makes no representations or warranties regarding the contents of this report to third parties. Likewise, third parties are instructed that they are to place no reliance upon this report prepared for the Department by Milliman that would result in the creation of any duty or liability under any theory of law by Milliman or its employees to third parties. Other parties receiving this report must rely upon their own experts in drawing conclusions about the premium rates, insurance market population estimates, trend rates, and other assumptions.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The authors of this report are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses contained herein.

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## APPENDIX A

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**Actuarial Report to the Colorado High-Risk Health Care Coverage Task Force**  
Final Report

November 22, 2017

**Appendix A: Exhibit 1  
Colorado Division of Insurance  
Colorado Second Lowest Silver Plan Rates and Annual Change: 2014 through 2018**

| <b>Rating</b>  |                | <b>2014</b>     | <b>2015</b>     | <b>2016</b>     | <b>2017</b>     | <b>Est.<br/>2018</b> | <b>Annualized<br/>Increase<br/>2015-2018</b> | <b>Cumulative<br/>Increase<br/>2015-2018</b> |
|----------------|----------------|-----------------|-----------------|-----------------|-----------------|----------------------|--|--|
| Area 1         | Premium        | \$197.60        | \$161.30        | \$219.57        | \$247.07        | \$310.90             | 24%  | 93%  |
|                | Change         |                 | -18.4%          | 36.1%           | 12.5%           | 25.8%                |  |  |
| Area 2         | Premium        | \$189.49        | \$152.13        | \$202.99        | \$240.52        | \$302.75             | 26%  | 99%  |
|                | Change         |                 | -19.7%          | 33.4%           | 18.5%           | 25.9%                |  |  |
| Area 3         | Premium        | \$191.83        | \$161.65        | \$189.71        | \$238.75        | \$282.95             | 21%  | 75%  |
|                | Change         |                 | -15.7%          | 17.4%           | 25.8%           | 18.5%                |  |  |
| Area 4         | Premium        | \$187.72        | \$175.93        | \$230.55        | \$282.73        | \$341.98             | 25%  | 94%  |
|                | Change         |                 | -6.3%           | 31.0%           | 22.6%           | 21.0%                |  |  |
| Area 5         | Premium        | \$228.81        | \$229.23        | \$291.96        | \$388.93        | \$445.07             | 25%  | 94%  |
|                | Change         |                 | 0.2%            | 27.4%           | 33.2%           | 14.4%                |  |  |
| Area 6         | Premium        | \$187.72        | \$176.76        | \$230.55        | \$282.73        | \$341.98             | 25%  | 93%  |
|                | Change         |                 | -5.8%           | 30.4%           | 22.6%           | 21.0%                |  |  |
| Area 7         | Premium        | \$237.12        | \$220.08        | \$255.17        | \$289.01        | \$331.05             | 15%  | 50%  |
|                | Change         |                 | -7.2%           | 15.9%           | 13.3%           | 14.5%                |  |  |
| Area 8         | Premium        | \$230.20        | \$162.79        | \$214.48        | \$289.01        | \$331.05             | 27%  | 103%   |
|                | Change         |                 | -29.3%          | 31.8%           | 34.7%           | 14.5%                |  |  |
| Area 9         | Premium        | \$187.72        | \$195.00        | \$271.06        | \$321.12        | \$404.16             | 27%  | 107%   |
|                | Change         |                 | 3.9%            | 39.0%           | 18.5%           | 25.9%                |  |  |
| <b>Average</b> | <b>Premium</b> | <b>\$204.25</b> | <b>\$181.65</b> | <b>\$234.00</b> | <b>\$286.65</b> | <b>\$343.54</b>      | <b>24%</b>                                   | <b>89%</b>                                   |
|                | <b>Change</b>  |                 | <b>-11%</b>     | <b>29%</b>      | <b>22%</b>      | <b>20%</b>           |  |  |

Sources: 2014-2017 rates are from Colorado State Exchange at <http://connectforhealthco.com/>. 2018 rates are from rate filings obtained from the Colorado Division of Insurance.

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## APPENDIX B

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**Actuarial Report to the Colorado High-Risk Health Care Coverage Task Force**  
Final Report

November 22, 2017



**Appendix B: Exhibit 1  
Colorado Division of Insurance  
Summary of Reinsurance Scenarios  
50% State Coinsurance / \$300,000 Cap**

|   | <b>Baseline</b> | <b>5%<br/>Claims<br/>Impact</b> | <b>10%<br/>Claims<br/>Impact</b> | <b>15%<br/>Claims<br/>Impact</b> | <b>20%<br/>Claims<br/>Impact</b> | <b>25%<br/>Claims<br/>Impact</b> |
|---|-----------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Attachment Point                          | NA              | \$130,000                       | \$75,000                         | \$50,000                         | \$30,000                         | \$20,000                         |
| State Coinsurance                         | NA              | 50%                             | 50%                              | 50%                              | 50%                              | 50%                              |
| Reinsurance Cap                           | NA              | \$300,000                       | \$300,000                        | \$300,000                        | \$300,000                        | \$300,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$85,000                        | \$112,500                        | \$125,000                        | \$135,000                        | \$140,000                        |
| Off-Exchange                              | 74,037          | 76,097                          | 78,413                           | 81,072                           | 84,226                           | 88,163                           |
| On-Exchange APTC                          | 101,949         | 101,949                         | 101,949                          | 101,949                          | 101,949                          | 101,949                          |
| On-Exchange non-APTC                      | 50,014          | 50,436                          | 50,910                           | 51,455                           | 52,102                           | 52,908                           |
| Total Enrollment                          | 226,000         | 228,482                         | 231,272                          | 234,477                          | 238,277                          | 243,020                          |
| Morbidity Improvement %                   | NA              | -0.3%                           | -0.6%                            | -1.0%                            | -1.5%                            | -2.0%                            |
| Reinsurance %                             | NA              | -5.2%                           | -10.3%                           | -14.7%                           | -20.4%                           | -24.6%                           |
| Morbidity Improvement<br>PMPM             | NA              | -\$1.51                         | -\$3.17                          | -\$5.03                          | -\$7.16                          | -\$9.72                          |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$491.81        | \$490.30                        | \$488.64                         | \$486.78                         | \$484.65                         | \$482.09                         |
| Reinsurance PMPM                          | NA              | -\$25.55                        | -\$50.45                         | -\$71.55                         | -\$98.70                         | -\$118.56                        |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$464.75                        | \$438.19                         | \$415.23                         | \$385.95                         | \$363.53                         |

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**Appendix B: Exhibit 2**  
**Colorado Division of Insurance**  
**Summary of Reinsurance Scenarios**  
**80% State Coinsurance / \$300,000 Cap**

|   | <b>Baseline</b> | <b>5%<br/>Claims<br/>Impact</b> | <b>10%<br/>Claims<br/>Impact</b> | <b>15%<br/>Claims<br/>Impact</b> | <b>20%<br/>Claims<br/>Impact</b> | <b>25%<br/>Claims<br/>Impact</b> |
|---|-----------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Attachment Point                          | NA              | \$170,000                       | \$115,000                        | \$80,000                         | \$60,000                         | \$45,000                         |
| State Coinsurance                         | NA              | 80%                             | 80%                              | 80%                              | 80%                              | 80%                              |
| Reinsurance Cap                           | NA              | \$300,000                       | \$300,000                        | \$300,000                        | \$300,000                        | \$300,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$104,000                       | \$148,000                        | \$176,000                        | \$192,000                        | \$204,000                        |
| Off-Exchange                              | 74,037          | 76,097                          | 78,413                           | 81,072                           | 84,226                           | 88,163                           |
| On-Exchange APTC                          | 101,949         | 101,949                         | 101,949                          | 101,949                          | 101,949                          | 101,949                          |
| On-Exchange non-APTC                      | 50,014          | 50,436                          | 50,910                           | 51,455                           | 52,102                           | 52,908                           |
| Total Enrollment                          | 226,000         | 228,482                         | 231,272                          | 234,477                          | 238,277                          | 243,020                          |
| Morbidity Improvement %                   | NA              | -0.3%                           | -0.6%                            | -1.0%                            | -1.5%                            | -2.0%                            |
| Reinsurance %                             | NA              | -5.1%                           | -10.0%                           | -15.4%                           | -20.3%                           | -25.4%                           |
| Morbidity Improvement<br>PMPM             | NA              | -\$1.51                         | -\$3.17                          | -\$5.03                          | -\$7.16                          | -\$9.72                          |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$491.81        | \$490.30                        | \$488.64                         | \$486.78                         | \$484.65                         | \$482.09                         |
| Reinsurance PMPM                          | NA              | -\$25.01                        | -\$48.71                         | -\$75.19                         | -\$98.47                         | -\$122.25                        |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$465.29                        | \$439.93                         | \$411.59                         | \$386.18                         | \$359.84                         |

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**Appendix B: Exhibit 3  
Colorado Division of Insurance  
Summary of Reinsurance Scenarios  
100% State Coinsurance / \$300,000 Cap**

|   | <b>Baseline</b> | <b>5%<br/>Claims<br/>Impact</b> | <b>10%<br/>Claims<br/>Impact</b> | <b>15%<br/>Claims<br/>Impact</b> | <b>20%<br/>Claims<br/>Impact</b> | <b>25%<br/>Claims<br/>Impact</b> |
|---|-----------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Attachment Point                          | NA              | \$190,000                       | \$130,000                        | \$100,000                        | \$75,000                         | \$60,000                         |
| State Coinsurance                         | NA              | 100%                            | 100%                             | 100%                             | 100%                             | 100%                             |
| Reinsurance Cap                           | NA              | \$300,000                       | \$300,000                        | \$300,000                        | \$300,000                        | \$300,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$110,000                       | \$170,000                        | \$200,000                        | \$225,000                        | \$240,000                        |
| Off-Exchange                              | 74,037          | 76,097                          | 78,413                           | 81,072                           | 84,226                           | 88,163                           |
| On-Exchange APTC                          | 101,949         | 101,949                         | 101,949                          | 101,949                          | 101,949                          | 101,949                          |
| On-Exchange non-APTC                      | 50,014          | 50,436                          | 50,910                           | 51,455                           | 52,102                           | 52,908                           |
| Total Enrollment                          | 226,000         | 228,482                         | 231,272                          | 234,477                          | 238,277                          | 243,020                          |
| Morbidity Improvement %                   | NA              | -0.3%                           | -0.6%                            | -1.0%                            | -1.5%                            | -2.0%                            |
| Reinsurance %                             | NA              | -4.9%                           | -10.4%                           | -14.9%                           | -20.6%                           | -25.4%                           |
| Morbidity Improvement<br>PMPM             | NA              | -\$1.51                         | -\$3.17                          | -\$5.03                          | -\$7.16                          | -\$9.72                          |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$491.81        | \$490.30                        | \$488.64                         | \$486.78                         | \$484.65                         | \$482.09                         |
| Reinsurance PMPM                          | NA              | -\$23.89                        | -\$50.90                         | -\$72.70                         | -\$100.00                        | -\$122.36                        |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$466.41                        | \$437.74                         | \$414.08                         | \$384.65                         | \$359.73                         |

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**Appendix B: Exhibit 4  
Colorado Division of Insurance  
Summary of Reinsurance Scenarios  
80% State Coinsurance / \$500,000 Cap**

|   | <b>Baseline</b> | <b>5%<br/>Claims<br/>Impact</b> | <b>10%<br/>Claims<br/>Impact</b> | <b>15%<br/>Claims<br/>Impact</b> | <b>20%<br/>Claims<br/>Impact</b> | <b>25%<br/>Claims<br/>Impact</b> |
|---|-----------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Attachment Point                          | NA              | \$225,000                       | \$140,000                        | \$100,000                        | \$70,000                         | \$55,000                         |
| State Coinsurance                         | NA              | 80%                             | 80%                              | 80%                              | 80%                              | 80%                              |
| Reinsurance Cap                           | NA              | \$500,000                       | \$500,000                        | \$500,000                        | \$500,000                        | \$500,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$220,000                       | \$288,000                        | \$320,000                        | \$344,000                        | \$356,000                        |
| Off-Exchange                              | 74,037          | 76,097                          | 78,413                           | 81,072                           | 84,226                           | 88,163                           |
| On-Exchange APTC                          | 101,949         | 101,949                         | 101,949                          | 101,949                          | 101,949                          | 101,949                          |
| On-Exchange non-APTC                      | 50,014          | 50,436                          | 50,910                           | 51,455                           | 52,102                           | 52,908                           |
| Total Enrollment                          | 226,000         | 228,482                         | 231,272                          | 234,477                          | 238,277                          | 243,020                          |
| Morbidity Improvement %                   | NA              | -0.3%                           | -0.6%                            | -1.0%                            | -1.5%                            | -2.0%                            |
| Reinsurance %                             | NA              | -5.0%                           | -10.1%                           | -14.7%                           | -20.4%                           | -24.6%                           |
| Morbidity Improvement<br>PMPM             | NA              | -\$1.51                         | -\$3.17                          | -\$5.03                          | -\$7.16                          | -\$9.72                          |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$491.81        | \$490.30                        | \$488.64                         | \$486.78                         | \$484.65                         | \$482.09                         |
| Reinsurance PMPM                          | NA              | -\$24.57                        | -\$49.59                         | -\$71.56                         | -\$98.99                         | -\$118.44                        |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$465.73                        | \$439.05                         | \$415.22                         | \$385.66                         | \$363.65                         |

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**Appendix B: Exhibit 5  
Colorado Division of Insurance  
Summary of Reinsurance Scenarios  
50% State Coinsurance / \$1,000,000 Cap**

|  | <b>Baseline</b> | <b>5% Claims Impact</b> | <b>10% Claims Impact</b> | <b>15% Claims Impact</b> | <b>20% Claims Impact</b> | <b>25% Claims Impact</b> |
|--|-----------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Attachment Point                       | NA              | \$190,000               | \$100,000                | \$65,000                 | \$40,000                 | \$25,000                 |
| State Coinsurance                      | NA              | 50%                     | 50%                      | 50%                      | 50%                      | 50%                      |
| Reinsurance Cap                        | NA              | \$1,000,000             | \$1,000,000              | \$1,000,000              | \$1,000,000              | \$1,000,000              |
| Maximum Reinsurance Payment per Member | NA              | \$405,000               | \$450,000                | \$467,500                | \$480,000                | \$487,500                |
| Off-Exchange                           | 74,037          | 76,097                  | 78,413                   | 81,072                   | 84,226                   | 88,163                   |
| On-Exchange APTC                       | 101,949         | 101,949                 | 101,949                  | 101,949                  | 101,949                  | 101,949                  |
| On-Exchange non-APTC                   | 50,014          | 50,436                  | 50,910                   | 51,455                   | 52,102                   | 52,908                   |
| Total Enrollment                       | 226,000         | 228,482                 | 231,272                  | 234,477                  | 238,277                  | 243,020                  |
| Morbidity Improvement %                | NA              | -0.3%                   | -0.7%                    | -1.1%                    | -1.5%                    | -2.0%                    |
| Reinsurance %                          | NA              | -5.1%                   | -10.2%                   | -14.6%                   | -19.9%                   | -25.0%                   |
| Morbidity Improvement PMPM             | NA              | -\$1.51                 | -\$3.17                  | -\$5.03                  | -\$7.16                  | -\$9.72                  |
| Paid Claims PMPM Pre-Reinsurance       | \$491.81        | \$490.30                | \$488.64                 | \$486.78                 | \$484.65                 | \$482.09                 |
| Reinsurance PMPM                       | NA              | -\$23.89                | -\$50.90                 | -\$72.70                 | -\$100.00                | -\$122.36                |
| Paid Claims PMPM Post-Reinsurance      | NA              | \$466.41                | \$437.74                 | \$414.09                 | \$384.65                 | \$359.72                 |

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## APPENDIX C

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**Actuarial Report to the Colorado High-Risk Health Care Coverage Task Force**  
Final Report

November 22, 2017

**Appendix C: Exhibit 1  
Colorado Division of Insurance  
Summary of Reinsurance Scenarios  
50% State Coinsurance / \$300,000 Cap  
by Rating Region**

|   | Baseline | 5%<br>Claims<br>Impact | 10%<br>Claims<br>Impact | 15%<br>Claims<br>Impact | 20%<br>Claims<br>Impact | 25%<br>Claims<br>Impact |
|---|----------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Non-Rural Area (1 - 7)</b>             |          |                        |                         |                         |                         |                         |
| Attachment Point                          | NA       | \$145,000              | \$90,000                | \$60,000                | \$40,000                | \$27,500                |
| State Coinsurance                         | NA       | 50%                    | 50%                     | 50%                     | 50%                     | 50%                     |
| Reinsurance Cap                           | NA       | \$300,000              | \$300,000               | \$300,000               | \$300,000               | \$300,000               |
| Maximum Reinsurance<br>Payment per Member | NA       | \$77,500               | \$105,000               | \$120,000               | \$130,000               | \$136,250               |
| <b>Rural Area (8 &amp; 9)</b>             |          |                        |                         |                         |                         |                         |
| Attachment Point                          | NA       | \$100,000              | \$50,000                | \$25,000                | \$10,000                | \$3,000                 |
| State Coinsurance                         | NA       | 50%                    | 50%                     | 50%                     | 50%                     | 50%                     |
| Reinsurance Cap                           | NA       | \$300,000              | \$300,000               | \$300,000               | \$300,000               | \$300,000               |
| Maximum Reinsurance<br>Payment per Member | NA       | \$100,000              | \$125,000               | \$137,500               | \$145,000               | \$148,500               |
| <b>Non-Rural Area (1 - 7)</b>             |          |                        |                         |                         |                         |                         |
| Reinsurance %                             | NA       | -4.2%                  | -8.2%                   | -12.3%                  | -16.6%                  | -20.6%                  |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$463.52 | \$462.05               | \$460.43                | \$458.62                | \$456.54                | \$454.05                |
| Reinsurance PMPM                          | NA       | \$19.62                | \$37.85                 | \$56.42                 | \$75.87                 | \$93.60                 |
| Paid Claims PMPM Post-<br>Reinsurance     | NA       | \$442.43               | \$422.58                | \$402.20                | \$380.67                | \$360.45                |
| <b>Rural Area (8 &amp; 9)</b>             |          |                        |                         |                         |                         |                         |
| Reinsurance %                             | NA       | -8.2%                  | -16.3%                  | -24.7%                  | -33.5%                  | -40.5%                  |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$622.13 | \$620.79               | \$619.31                | \$617.65                | \$615.72                | \$613.39                |
| Reinsurance PMPM                          | NA       | \$51.03                | \$101.17                | \$152.75                | \$206.03                | \$248.53                |
| Paid Claims PMPM Post-<br>Reinsurance     | NA       | \$569.76               | \$518.14                | \$464.90                | \$409.69                | \$364.86                |

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**Appendix C: Exhibit 2**  
**Colorado Division of Insurance**  
**Summary of Reinsurance Scenarios**  
**80% State Coinsurance / \$300,000 Cap**  
**by Rating Region**

| <b>Non-Rural Area (1 - 7)</b>             | <b>Baseline</b> | <b>5%<br/>Claims<br/>Impact</b> | <b>10%<br/>Claims<br/>Impact</b> | <b>15%<br/>Claims<br/>Impact</b> | <b>20%<br/>Claims<br/>Impact</b> | <b>25%<br/>Claims<br/>Impact</b> |
|---|-----------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Attachment Point                          | NA              | \$185,000                       | \$130,000                        | \$95,000                         | \$75,000                         | \$57,500                         |
| State Coinsurance                         | NA              | 80%                             | 80%                              | 80%                              | 80%                              | 80%                              |
| Reinsurance Cap                           | NA              | \$300,000                       | \$300,000                        | \$300,000                        | \$300,000                        | \$300,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$92,000                        | \$136,000                        | \$164,000                        | \$180,000                        | \$194,000                        |
| <b>Rural Area (8 &amp; 9)</b>             |                 |                                 |                                  |                                  |                                  |                                  |
| Attachment Point                          | NA              | \$140,000                       | \$85,000                         | \$55,000                         | \$37,500                         | \$22,500                         |
| State Coinsurance                         | NA              | 80%                             | 80%                              | 80%                              | 80%                              | 80%                              |
| Reinsurance Cap                           | NA              | \$300,000                       | \$300,000                        | \$300,000                        | \$300,000                        | \$300,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$128,000                       | \$172,000                        | \$196,000                        | \$210,000                        | \$222,000                        |
| <b>Non-Rural Area (1 - 7)</b>             |                 |                                 |                                  |                                  |                                  |                                  |
| Reinsurance %                             | NA              | -4.1%                           | -8.1%                            | -12.3%                           | -16.0%                           | -20.4%                           |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$463.52        | \$462.05                        | \$460.43                         | \$458.62                         | \$456.54                         | \$454.05                         |
| Reinsurance PMPM                          | NA              | \$18.77                         | \$37.41                          | \$56.60                          | \$73.05                          | \$92.51                          |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$443.28                        | \$423.02                         | \$402.02                         | \$383.49                         | \$361.54                         |
| <b>Rural Area (8 &amp; 9)</b>             |                 |                                 |                                  |                                  |                                  |                                  |
| Reinsurance %                             | NA              | -8.0%                           | -16.0%                           | -24.3%                           | -31.9%                           | -41.4%                           |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$622.13        | \$620.79                        | \$619.31                         | \$617.65                         | \$615.72                         | \$613.39                         |
| Reinsurance PMPM                          | NA              | \$49.82                         | \$98.86                          | \$149.80                         | \$196.11                         | \$254.05                         |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$570.97                        | \$520.45                         | \$467.85                         | \$419.61                         | \$359.34                         |

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**Appendix C: Exhibit 3  
Colorado Division of Insurance  
Summary of Reinsurance Scenarios  
100% State Coinsurance / \$300,000 Cap  
by Rating Region**

|   | <b>Baseline</b> | <b>5%<br/>Claims<br/>Impact</b> | <b>10%<br/>Claims<br/>Impact</b> | <b>15%<br/>Claims<br/>Impact</b> | <b>20%<br/>Claims<br/>Impact</b> | <b>25%<br/>Claims<br/>Impact</b> |
|---|-----------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <b>Non-Rural Area (1 - 7)</b>             |                 |                                 |                                  |                                  |                                  |                                  |
| Attachment Point                          | NA              | \$200,000                       | \$145,000                        | \$115,000                        | \$90,000                         | \$72,500                         |
| State Coinsurance                         | NA              | 100%                            | 100%                             | 100%                             | 100%                             | 100%                             |
| Reinsurance Cap                           | NA              | \$300,000                       | \$300,000                        | \$300,000                        | \$300,000                        | \$300,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$100,000                       | \$155,000                        | \$185,000                        | \$210,000                        | \$227,500                        |
| <b>Rural Area (8 &amp; 9)</b>             |                 |                                 |                                  |                                  |                                  |                                  |
| Attachment Point                          | NA              | \$155,000                       | \$100,000                        | \$70,000                         | \$50,000                         | \$35,000                         |
| State Coinsurance                         | NA              | 100%                            | 100%                             | 100%                             | 100%                             | 100%                             |
| Reinsurance Cap                           | NA              | \$300,000                       | \$300,000                        | \$300,000                        | \$300,000                        | \$300,000                        |
| Maximum Reinsurance<br>Payment per Member | NA              | \$145,000                       | \$200,000                        | \$230,000                        | \$250,000                        | \$265,000                        |
| <b>Non-Rural Area (1 - 7)</b>             |                 |                                 |                                  |                                  |                                  |                                  |
| Reinsurance %                             | NA              | -4.1%                           | -8.5%                            | -12.1%                           | -16.4%                           | -20.7%                           |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$463.52        | \$462.05                        | \$460.43                         | \$458.62                         | \$456.54                         | \$454.05                         |
| Reinsurance PMPM                          | NA              | \$18.91                         | \$39.09                          | \$55.58                          | \$74.99                          | \$93.91                          |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$443.14                        | \$421.34                         | \$403.04                         | \$381.55                         | \$360.14                         |
| <b>Rural Area (8 &amp; 9)</b>             |                 |                                 |                                  |                                  |                                  |                                  |
| Reinsurance %                             | NA              | -8.4%                           | -16.4%                           | -24.5%                           | -32.7%                           | -41.5%                           |
| Paid Claims PMPM Pre-<br>Reinsurance      | \$622.13        | \$620.79                        | \$619.31                         | \$617.65                         | \$615.72                         | \$613.39                         |
| Reinsurance PMPM                          | NA              | \$51.89                         | \$101.79                         | \$151.06                         | \$201.12                         | \$254.68                         |
| Paid Claims PMPM Post-<br>Reinsurance     | NA              | \$568.89                        | \$517.52                         | \$466.59                         | \$414.60                         | \$358.72                         |

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| <b>Appendix C: Exhibit 4<br/>                     Colorado Division of Insurance<br/>                     Summary of Reinsurance Scenarios<br/>                     80% State Coinsurance / \$500,000 Cap<br/>                     by Rating Region</b> |                 |                                 |                                  |                                  |                                  |                                  |
|---|-----------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|   | <b>Baseline</b> | <b>5%<br/>Claims<br/>Impact</b> | <b>10%<br/>Claims<br/>Impact</b> | <b>15%<br/>Claims<br/>Impact</b> | <b>20%<br/>Claims<br/>Impact</b> | <b>25%<br/>Claims<br/>Impact</b> |
| <b>Non-Rural Area (1 - 7)</b>   |                 |                                 |                                  |                                  |                                  |                                  |
| Attachment Point  | NA              | \$250,000                       | \$165,000                        | \$115,000                        | \$85,000                         | \$65,000                         |
| State Coinsurance   | NA              | 80%                             | 80%                              | 80%                              | 80%                              | 80%                              |
| Reinsurance Cap   | NA              | \$500,000                       | \$500,000                        | \$500,000                        | \$500,000                        | \$500,000                        |
| Maximum Reinsurance<br>Payment per Member   | NA              | \$200,000                       | \$268,000                        | \$308,000                        | \$332,000                        | \$348,000                        |
| <b>Rural Area (8 &amp; 9)</b>   |                 |                                 |                                  |                                  |                                  |                                  |
| Attachment Point  | NA              | \$175,000                       | \$100,000                        | \$60,000                         | \$40,000                         | \$25,000                         |
| State Coinsurance   | NA              | 80%                             | 80%                              | 80%                              | 80%                              | 80%                              |
| Reinsurance Cap   | NA              | \$500,000                       | \$500,000                        | \$500,000                        | \$500,000                        | \$500,000                        |
| Maximum Reinsurance<br>Payment per Member   | NA              | \$260,000                       | \$320,000                        | \$352,000                        | \$368,000                        | \$380,000                        |
| <b>Non-Rural Area (1 - 7)</b>   |                 |                                 |                                  |                                  |                                  |                                  |
| Reinsurance %   | NA              | -4.0%                           | -8.0%                            | -12.4%                           | -16.8%                           | -21.1%                           |
| Paid Claims PMPM Pre-<br>Reinsurance  | \$463.52        | \$462.05                        | \$460.43                         | \$458.62                         | \$456.54                         | \$454.05                         |
| Reinsurance PMPM  | NA              | \$18.68                         | \$37.06                          | \$57.06                          | \$76.54                          | \$95.72                          |
| Paid Claims PMPM Post-<br>Reinsurance   | NA              | \$443.37                        | \$423.37                         | \$401.56                         | \$380.00                         | \$358.33                         |
| <b>Rural Area (8 &amp; 9)</b>   |                 |                                 |                                  |                                  |                                  |                                  |
| Reinsurance %   | NA              | -8.0%                           | -15.9%                           | -25.3%                           | -33.3%                           | -42.3%                           |
| Paid Claims PMPM Pre-<br>Reinsurance  | \$622.13        | \$620.79                        | \$619.31                         | \$617.65                         | \$615.72                         | \$613.39                         |
| Reinsurance PMPM  | NA              | \$49.58                         | \$98.63                          | \$156.39                         | \$205.20                         | \$259.59                         |
| Paid Claims PMPM Post-<br>Reinsurance   | NA              | \$571.21                        | \$520.68                         | \$461.26                         | \$410.52                         | \$353.80                         |

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| <b>Appendix C: Exhibit 5<br/>                     Colorado Division of Insurance<br/>                     Summary of Reinsurance Scenarios<br/>                     50% State Coinsurance / \$1,000,000 Cap<br/>                     by Rating Region</b> |                 |                         |                          |                          |                          |                          |
|---|-----------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|   | <b>Baseline</b> | <b>5% Claims Impact</b> | <b>10% Claims Impact</b> | <b>15% Claims Impact</b> | <b>20% Claims Impact</b> | <b>25% Claims Impact</b> |
| <b>Non-Rural Area (1 - 7)</b>   |                 |                         |                          |                          |                          |                          |
| Attachment Point  | NA              | \$225,000               | \$125,000                | \$80,000                 | \$52,500                 | \$35,000                 |
| State Coinsurance   | NA              | 50%                     | 50%                      | 50%                      | 50%                      | 50%                      |
| Reinsurance Cap   | NA              | \$1,000,000             | \$1,000,000              | \$1,000,000              | \$1,000,000              | \$1,000,000              |
| Maximum Reinsurance Payment per Member  | NA              | \$387,500               | \$437,500                | \$460,000                | \$473,750                | \$482,500                |
| <b>Rural Area (8 &amp; 9)</b>   |                 |                         |                          |                          |                          |                          |
| Attachment Point  | NA              | \$130,000               | \$60,000                 | \$32,500                 | \$15,000                 | \$5,000                  |
| State Coinsurance   | NA              | 50%                     | 50%                      | 50%                      | 50%                      | 50%                      |
| Reinsurance Cap   | NA              | \$1,000,000             | \$1,000,000              | \$1,000,000              | \$1,000,000              | \$1,000,000              |
| Maximum Reinsurance Payment per Member  | NA              | \$435,000               | \$470,000                | \$483,750                | \$492,500                | \$497,500                |
| <b>Non-Rural Area (1 - 7)</b>   |                 |                         |                          |                          |                          |                          |
| Reinsurance %   | NA              | -4.1%                   | -8.1%                    | -12.1%                   | -16.4%                   | -20.8%                   |
| Paid Claims PMPM Pre-Reinsurance  | \$463.52        | \$462.05                | \$460.43                 | \$458.62                 | \$456.54                 | \$454.05                 |
| Reinsurance PMPM  | NA              | \$18.96                 | \$37.42                  | \$55.50                  | \$75.06                  | \$94.40                  |
| Paid Claims PMPM Post-Reinsurance   | NA              | \$443.09                | \$423.00                 | \$403.12                 | \$381.48                 | \$359.65                 |
| <b>Rural Area (8 &amp; 9)</b>   |                 |                         |                          |                          |                          |                          |
| Reinsurance %   | NA              | -8.3%                   | -16.7%                   | -24.3%                   | -32.6%                   | -40.6%                   |
| Paid Claims PMPM Pre-Reinsurance  | \$622.13        | \$620.79                | \$619.31                 | \$617.65                 | \$615.72                 | \$613.39                 |
| Reinsurance PMPM  | NA              | \$51.27                 | \$103.35                 | \$149.83                 | \$200.48                 | \$249.27                 |
| Paid Claims PMPM Post-Reinsurance   | NA              | \$569.52                | \$515.96                 | \$467.81                 | \$415.24                 | \$364.13                 |

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