STATE OF COLORADO
SECTION 1332 STATE INNOVATION WAIVER ADDENDUM
RISK ADJUSTMENT AND REINSURANCE INTERACTION

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Section 1: Introduction

In May 2019, the State of Colorado submitted a 1332 state innovation waiver application to the United States Department of Health and Human Services (HHS). In the submission, Colorado requested to waive Section 1312(c)(1) of the Affordable Care Act ("ACA") for a period of two years, beginning January 2020, to implement a state reinsurance program. The State of Colorado retained Lewis & Ellis, Inc (L&E). to analyze the potential effects of a state-based reinsurance program on the 2020 non-group Affordable Care Act (ACA) marketplace and to provide the actuarial and economic analysis to support the application.

The waiver would allow Colorado carriers to include expected state reinsurance payments when establishing their marketwide index rate, which will decrease premiums and federal payment of advance premium tax credits ("APTCs"). The waiver will not affect any other ACA provisions and does not adversely impact any of the guardrails detailed in Section 1332.

The report estimates that the state reinsurance program would reduce average premiums by approximately 16% in 2020 from what they would be absent the waiver. This premium reduction is projected to increase enrollment in the individual market by 2.9% in 2020 and will result in a federal savings of $162.8 million. The waiver application requested that this savings be applied as pass-through funding which would help fund the reinsurance program.

2020 Impact of Waiver on Premium, Enrollment and Federal Deficit

	Non-Group ACA Premium Impact	Non-Group ACA Enrollment	Federal Savings (with 5% margin)
Effect of Reinsurance	-16%	+2.9%	$162.8 Million

In 2018, HHS granted states flexibility to apply for an adjustment to the risk adjustment methodology to best meet their own needs, especially if unique market circumstances produce a misalignment between risk adjustment transfers and actuarial risk. This adjustment has also been referred to as a "dampening" factor, since it "dampens" the double-payments that could occur from risk reimbursement overlap. If applied for in 2018, this flexibility would take effect for the 2020 benefit year. By these rules, Colorado is unable to apply for an adjustment for the 2020 year, but could apply for an adjustment for plan year 2021 and later.

Another method to reduce the overlap of risk reimbursement is to alter reinsurance payments from the Colorado state-reinsurance program. The state would determine a "dampening" factor for the risk adjustment transfer dollars, but then, instead, reduce the reinsurance payments by an equivalent amount. Colorado has the authority to make this alteration to payments. Changing these payments could reduce potential overlap between reinsurance and risk adjustment payments, and reduce the unusual incentives that could arise if carriers are achieving better financial success with high risk individuals. Given the potential for overlap, Colorado requested that L&E perform an analysis of the individual market reinsurance and risk adjustment payouts, and determine an adjustment, if needed.

Section 2: Summary and Results

L&E has determined that no adjustment is needed; no reduction in transfers is required for the 2020 plan year.

L&E reviewed Maryland's 1332 waiver application and the methodology used to determine if there is overlap between risk adjustment and reinsurance. We find the methodology reasonable and have utilized a similar method for this analysis.

The methodology calculates each member's reinsurance receivable, if applicable, and the portion of the risk transfer or payment attributable to that member. Then, by annual paid claims levels, the members are split into quartiles, with additional buckets for members with zero claims, and members with claims above $30,000 (the CO 2020 proposed reinsurance threshold). We then review anticipated loss ratios for these segments to determine if adding reinsurance leads to underwriting gains for the less healthy population. The methodology assumes that if claims to premium loss ratios are below 80% there would be underwriting gains for that segment of members, and if the loss ratios are above 80%, there would be underwriting losses for that segment of members.

L&E determines loss ratio as:

$$Loss\ Ratio = \frac{Claims - (Reinsurance + Risk\ Adjustment)}{Premium}$$

As described above, six different claims categories were developed for the purpose of this analysis. These are listed below:

1. Member with claims above $30,000 – Members eligible for reinsurance payments under the 2020 proposed Colorado reinsurance parameters.

Quartile Categories - Four quartiles were created based on a member's carrier paid amount if the member had incurred claims and had less than $30,000 total projected paid claims in 2020. These categories were determined such that each segment had roughly the same experience member months in 2017 (roughly 18% each).

2. 1st Quartile. Members with total claim between $1,670.00 and $30,000.00
3. 2nd Quartile. Members with total claims between $607.00 and $1,670.00
4. 3rd Quartile. Members with total claims between $265.01 and $607.00
5. 4th Quartile. Members with total claims between $0.01 and $265.00

6. No Carrier Paid Claims. The members in this category have no carrier paid claims claims attributed to them.

L&E relied on claims and enrollment data submitted by Colorado carriers in conjunction with 2020 rate filings. Carriers submitted 2017 EDGE data which L&E trended to 2020 and applied the 2020 Risk Adjustment formula to the data to determine risk transfers. In addition, reinsurance was determined after trending claims to 2020. The results are illustrated below.

Claims Category	Member Month Distribution	Loss Ratio w/o Risk Adjustment w/o Reinsurance	Loss Ratio w/ Risk Adjustment w/o Reinsurance	Loss Ratio w/ Risk Adjustment w/ Reinsurance	Expected Risk Adjustment	Expected Reinsurance
Claims > $30,000	4%	1128.8%	559.5%	374.9%	$347.3 M	$271.5 M
Claims between $1,670 and $30,000	18%	98.6%	50.3%	73.6%	$121.5 M	$0.0 M
Claims between $607 and $1,670	18%	15.2%	53.1%	56.5%	-$84.7 M	$0.0 M
Claims between $265 and $607	18%	7.3%	56.3%	58.0%	-$99.3 M	$0.0 M
Claims between $0.01 and $265	18%	2.7%	59.4%	60.2%	-$109.8 M	$0.0 M
No Carrier Paid Claims	24%	0.0%	67.9%	67.6%	-$175.0 M	$0.0 M
Total	100%	83.1%	83.1%	79.3%	$.0 M	$271.5 M
RA Receivable (less healthy)	22%	298.2%	149.0%	131.4%	$468.8 M	$271.5 M
No Claims + RA payable (more healthy)	78%	6.2%	59.6%	60.9%	-$468.8 M	$0.0 M

As the chart illustrates, the initial loss ratio without risk adjustment or reinsurance appears as expected. Members with zero claims have a 0% loss ratio. All but the top two buckets of members are profitable for the insurance companies. The members who are expected to receive reinsurance and risk adjustment are realizing a 1128.8% loss ratio without these risk transfer mechanisms. On average, the total individual block is realizing an 83.1% loss ratio. Split into the categories of “less healthy” and “more healthy” the aggregated loss ratios are 298.2% and 6.2% respectively.

With risk adjustment, the middle column of loss ratios in the chart above, the most expensive claimants are benefiting the most, cutting their loss ratio down to 559.5%. The 1st quartile, members with claims between $1670 and $30,000 are also benefiting from the risk adjustment mechanisms. All other buckets see an increase, as they are healthy enough to pay into risk adjustment. The “less healthy” and “more healthy” categories see a shift to 149% and 59.6% respectively.

With reinsurance, the members with claims above $30,000 reduce their loss ratio further from 559% to 375%. The loss ratios for other buckets increase; they do not receive claims reimbursement, and their premium is reduced due to the reinsurance program. The “less healthy” and “more healthy” categories see a shift to 131.4% and 60.9% respectively.

Loss ratios for members who benefit from both risk adjustment and reinsurance are still well above 80%. Given these results we do not see a need for an adjustment to Risk Adjustment Transfers. It should be noted that the expected risk adjustments illustrated in the chart above was determined based on the average marketwide premium with reinsurance. Also, note that the total loss ratio drops from 83% without reinsurance to 79% with reinsurance as claims cost are lowered by a slightly higher percentage than premiums.

L&E considered other methods for measuring overlap between risk adjustment and reinsurance. We determined that any number of methods may show loss ratios below 80% for high risk members, depending on how members are bucketed (either by smaller groupings, by risk scores, or by any number of factors). The method chosen for this analysis was selected because it has been used in other states, has been acceptable in a 1332 Waiver, and has more actuarial peer review than any new method that could be developed. This method was also selected because it clearly highlights the cohort of members, in total, who receive both risk adjustment and reinsurance benefits. All other methods split up this cohort, and show a subset who are achieving gains. This was not our aim, but to determine in total, whether gains were being achieved by this cohort.

Section 3: Data and Methodology

The following steps were taken to estimate the interaction of risk adjustment and reinsurance.

2017 carrier information was submitted in the form of 2017 EDGE server files. L&E utilized enrollment files, medical claims files, and pharmacy claims files. L&E reviewed each member in the EDGE files and determined their 2017 total claims, diagnoses, procedures and national drug codes. In addition, we compiled the member's age, gender, duration, plan metal level and plan CSR indicator for use in the risk adjustment model. The data was run through a 2020 HHS-HCC Risk Adjustment Model (from the 2020 Notice of Benefit and Payment Parameters). This update was done to reduce the impact of numerous underlying changes between the 2017 and 2020 model that have occurred.

Risk scores were calculated for each member, marketwide statistics were recalculated, and a final risk transfer amount was determined for each member. The 2020 risk transfer methodology utilized 2020 risk weights, 2020 age/gender factors, 14% reduction in expected revenue to account for administrative expenses and the removal of 60% of claims over $1,000,000 for the risk adjustment high risk pool.[1]

Each member's 2017 Carrier paid claims were trended to 2020 using information in the rate filings supplied by The Colorado Division of Insurance. The claims trend required to reach 2020 levels was an annual paid trend of 9.2%. This was determined using experience data from 2017 and expected claim levels from the 2020 URRT rate filings. 2020 Premium was estimated for each carrier assuming the marketwide average admin expense of $100 pmpm. The resulting loss ratio is 83% without reinsurance and 79% with reinsurance.

To determine reinsurance, L&E used the 2020 reinsurance parameters noted below, applied to a member's annual paid claims.

	Tier 1			Tier 2				Tier 3	
	Area 1	*Area 2*	*Area 3*	*Area 4*	*Area 6*	*Area 7*	*Area 8*	*Area 5*	*Area 9*
Attachment Point	$30,000			$30,000				$30,000	
Cap	$400,000			$400,000				$400,000	
Coinsurance	45%			50%				85%	

Not all carriers submitted their complete EDGE server claims files. In total, claims from 65% of enrollees were submitted and validated with 2017 experience. L&E relied on 2020 rate filings to determine appropriate trends and modeling of the 2020 plan year. We determined loss ratios with and without reinsurance for both the 65% of 2017 data and by modeling the 2020 population. The 2020 population was modeled by projecting similar risk cohorts from the 2017 EDGE files so that 2020 estimations aligned well with 2020 rate filings. In particular, the majority of missing carriers expect a risk adjustment payable which averages $41.35 pmpm in 2020 filings. We estimated the missing population by duplicating 2017 carriers with 2020 risk adjustment payables, which averages $44.73.

[1] https://www.federalregister.gov/documents/2019/04/25/2019-08017/patient-protection-and-affordable-care-act-hhs-notice-of-benefit-and-payment-parameters-for-2020, page 17,467

The table below illustrates per member per month cost and loss ratios both before and after reinsurance for the estimated 2020 populations. Note that risk transfers reduce with reinsurance due to the lowering of the statewide premium due to reinsurance.

Category	Member Months	Revenue w/o reinsurance	Risk Adjustment w/o Reinsurance	Loss Ratio After Risk Adjustment	Revenue with Reinsurance	Projected Claims	Risk Adjustment	Reinsurance	Loss Ratio After Risk Adjustment and Reinsurance
Claims > $30,000	96,786	$770.10	$4,384.18	559.5%	$613.52	$8,692.87	$3,588.11	$2,804.97	374.9%
Claims between $1,670 and $30,000	450,465	$688.57	$332.33	50.3%	$555.60	$678.67	$269.75	$0.00	73.6%
Claims between $607 and $1,670	450,821	$607.44	-$229.94	53.1%	$496.24	$92.60	-$187.95	$0.00	56.5%
Claims between $265 and $607	451,710	$549.24	-$269.19	56.3%	$448.56	$40.11	-$219.90	$0.00	58.0%
Claims between $0.01 and $265	449,884	$527.25	-$298.75	59.4%	$429.49	$14.50	-$243.96	$0.00	60.2%
No Carrier Paid Claims	606,419	$520.78	-$353.50	67.9%	$427.06	$0.00	-$288.53	$0.00	67.6%
Total	2,506,085	$582.45	$0.00	83.1%	$474.12	$484.20	$0.00	$108.33	79.3%
RA Receivable (less healthy)	547,251	$702.99	$1,048.93	149.0%	$565.84	$2,096.05	$856.63	$496.08	131.4%
No Claims + RA payable (more healthy)	1,958,834	$548.77	-$293.05	59.6%	$448.50	$33.89	-$239.32	$0.00	60.9%

We also ran the data for the 65% only population as a sensitivity test. Those results are below. Note that the less healthy population still does not have gains with a loss ratio of 113.7%

Category	Member Months	Revenue w/o reinsurance	Risk Adjustment w/o Reinsurance	Loss Ratio After Risk Adjustment	Revenue with Reinsurance	Projected Claims	Risk Adjustment	Reinsurance	Loss Ratio After Risk Adjustment and Reinsurance
Claims > $30,000	64,512	$792.12	$4,805.04	522.1%	$683.94	$8,941.01	$3,993.55	$2,746.69	321.8%
Claims between $1,670 and $30,000	331,952	$665.01	$347.16	46.1%	$567.56	$653.69	$284.94	$0.00	65.0%
Claims between $607 and $1,670	332,598	$570.81	-$205.91	53.9%	$480.29	$101.52	-$170.28	$0.00	56.6%
Claims between $265 and $607	337,833	$525.82	-$257.34	57.7%	$433.87	$46.14	-$212.88	$0.00	59.7%
Claims between $0.01 and $265	337,144	$530.01	-$295.10	58.8%	$433.42	$16.53	-$243.56	$0.00	60.0%
No Paid Claims	492,702	$488.36	-$345.67	70.8%	$398.86	$0.00	-$287.30	$0.00	72.0%
Total	1,896,741	$558.14	$0.00	80.2%	$464.74	$447.46	$0.00	$93.42	76.2%
RA Receivable (less healthy)	396,464	$685.69	$1,010.49	144.6%	$586.50	$2,002.20	$888.40	$446.94	113.7%
No Claims + RA payable (more healthy)	1,500,278	$524.43	-$285.75	61.5%	$432.56	$36.61	-$234.77	$0.00	62.7%

L&E did have to make high level assumptions estimating the 2020 population from a portion of the 2017 EDGE data. However, we firmly believe that actual results would not yield a need for a dampening factor to lower risk adjustment as it would take extreme variance from our projection to lower the less healthy population loss ratio down to 80%.

Section 4: Disclosures and Limitations

4.1 Intended Users, Scope, and Purpose

This information has been prepared for the Colorado Division of Insurance (DOI) within the Department of Regulatory Agencies (DORA), and the State of Colorado to support their 1332 Waiver Application. Lewis & Ellis, Inc. (L&E) understands that the report will be made public. The report should be reviewed in its entirety by qualified individuals. Parties reviewing this information should retain their own actuarial experts when interpreting results. It should not be used for any other purpose.

4.2 Qualifications

Andrea Huckaba Rome and Mike Brown are the actuaries responsible for this communication. They are Fellows of the Society of Actuaries (FSA) and Members of the American Academy of Actuaries (MAAA) in good standing. They meet the Qualification Standards required to issue this report.

4.3 Risk/Uncertainty

The assumptions and results outlined in this report are inherently uncertain. Every effort was made, through scenario and sensitivity testing to review areas of uncertainty, including enrollment assumptions, change in medical costs over time, and the relative risk of carrier populations based on current data. Actual results may vary, and L&E does not guarantee that predicted results will be realized. Any review or application of this report should be done with care by qualified professionals.

4.4 Conflicts of Interest

The responsible actuaries listed above are financially independent and free from conflict related to this report and the supporting analysis performed for this study.

4.5 Data Reliance

L&E relied upon data provided by the Colorado Division of Insurance and the non-group ACA market carriers in Colorado. To the extent that information provided is inaccurate or incomplete, the analysis could be materially impacted. We will note yet again that several carriers did not provide the appropriate EDGE data files, and we only had 65% of total claims that were appropriate to use for this analysis. We made every effort to match the relative risk of the missing members in the marketwide population, as we detail in our methodology, Section 3. As noted, we believe that the results are reflective of the market, and our conclusions are valid. Other key assumptions are outlined in the methodology section.

4.6 Dates Applicable

This report was prepared in July 2019 and determines if there is a need to lower risk adjustment due to an overlap in risk adjustment and reinsurance in the ACA non-group marketplace for calendar year 2020. This report is an addendum to be filed in conjunction with the 1332 Waiver Colorado reinsurance program application. The report predicts there is no need to lower risk adjustment due to overlap with reinsurance. These findings should not be extrapolated or applied to any other period of time.

4.7 Subsequent Events

This report and the analysis provided herein are based on conditions specific to the ACA non-group marketplace in Colorado, as of July 2019. The report assumes no uncertain and potential future changes to the Affordable Care Act or the healthcare marketplace that could materially impact results. There are several future developments that could materially change these results including court rulings, new regulations, additional allowed ACA exemptions, or a material change to the healthcare markets in general. In addition, any changes made to the parameters or structure of the reinsurance program could have a material impact on the outcomes outlined above. These subsequent events are not included in this report and should be carefully considered by qualified experts before applying the findings contained within this report.

4.8 Contents of Report

This document is an addendum on the interaction of dual risk programs. This document is meant to supplement the State of 1332 Waiver application for 2020. It should be viewed in the context of that application, including the actuarial and economic report.