State of Colorado
Department of Labor and Employment
Actuarial Study of the Solvency of the Proposed
Colorado Family and Medical Leave
Insurance Program

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Date: December 9, 2019

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December 9, 2019

Jeff Fitzgerald
Director, Division of Unemployment Insurance
Colorado Department of Labor and Employment
251 E. 12th Ave.
Denver, CO 80203

Dear Mr. Fitzgerald:

We are pleased to submit to you our final report on the Actuarial Study of the Solvency of the Proposed Colorado and Medical Leave Insurance Program.

We very much appreciate the cooperation and courtesies extended to us during the course of this engagement. Please do not hesitate to contact us if you have any question about the report.

Thank you for the opportunity to work with you on this project.

Sincerely,

Aguedo M. Ingco, FCAS, MAAA, CPCU, ARM
President

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Section I
Executive Summary

State of Colorado Department of Labor and Employment

Actuarial Study of the Solvency of the Proposed Colorado Family and Medical Leave Insurance Program

Purpose

The Colorado Department of Labor and Employment (CDLE) engaged the services of AMI Risk Consultants, Inc (AMI) to conduct an actuarial study of the short term and long-term **solvency** of the proposed family and medical leave insurance program based on the initial recommendations of the Paid Family and Medical Leave Implementation Task Force (Task Force).

In conducting our analysis, AMI utilized, to the extent possible, **information from other states' existing family and medical leave programs** (New York, New Jersey, California, Hawaii, Rhode Island, Massachusetts, Washington D.C., Washington State, Connecticut and Oregon).

This study was conducted with the following presumed timeline:

- A Family and Medical Leave Program is **established** no later than July 1, 2020;
- **Education and outreach** for the Program begins no later than January 1, 2022;
- A **funding stream** is established no later than January 1, 2023;
- **Benefit payments** begin no later than January 1, 2024.

| **Conclusion** | The table below shows the recommended premium rates to achieve solvency and the projected Fund balance at the end of each year based on the corresponding premium rates. |

The premium rates were calculated to achieve a level of solvency over 10 years that is equivalent to a 75% confidence level. With the addition of reserves accumulated in 2023 from premiums collected without paying claims, however, the confidence level of the projected Fund Balance is raised to 87%. This is in the assumption that the 2023 premiums collected will be distributed uniformly across 10 years.

Recommended Premium Rates and Projected Fund Balance
2024-2033

Low Benefit Model

Year	Premium Rate	Fund Balance ($MM's)
2024	0.0071	1,215
2025	0.0073	1,431
2026	0.0075	1,664
2027	0.0076	1,917
2028	0.0078	2,189
2029	0.0080	2,484
2030	0.0082	2,802
2031	0.0083	3,146
2032	0.0085	3,518
2033	0.0087	3,920

High Benefit Model

Year	Premium Rate	Fund Balance ($MM's)
2024	0.0118	2,454
2025	0.0121	2,887
2026	0.0123	3,356
2027	0.0126	3,863
2028	0.0129	4,410
2029	0.0132	5,002
2030	0.0135	5,642
2031	0.0139	6,334
2032	0.0142	7,082
2033	0.0145	7,890

Based on the parameters set forth in the Task Force Recommendations, as described on Appendix A, AMI provided the various estimates requested by the CDLE.

There are two possible benefit levels set forth by the Task Force. Separate sets of exhibits are attached corresponding to the two models:

- Low Benefits Model (LBM)
- High Benefits Model (HBM)

Conclusion (continued)

The exhibits are numbered in the same sequence as listed in the Statement of Work specified by the CDLE.
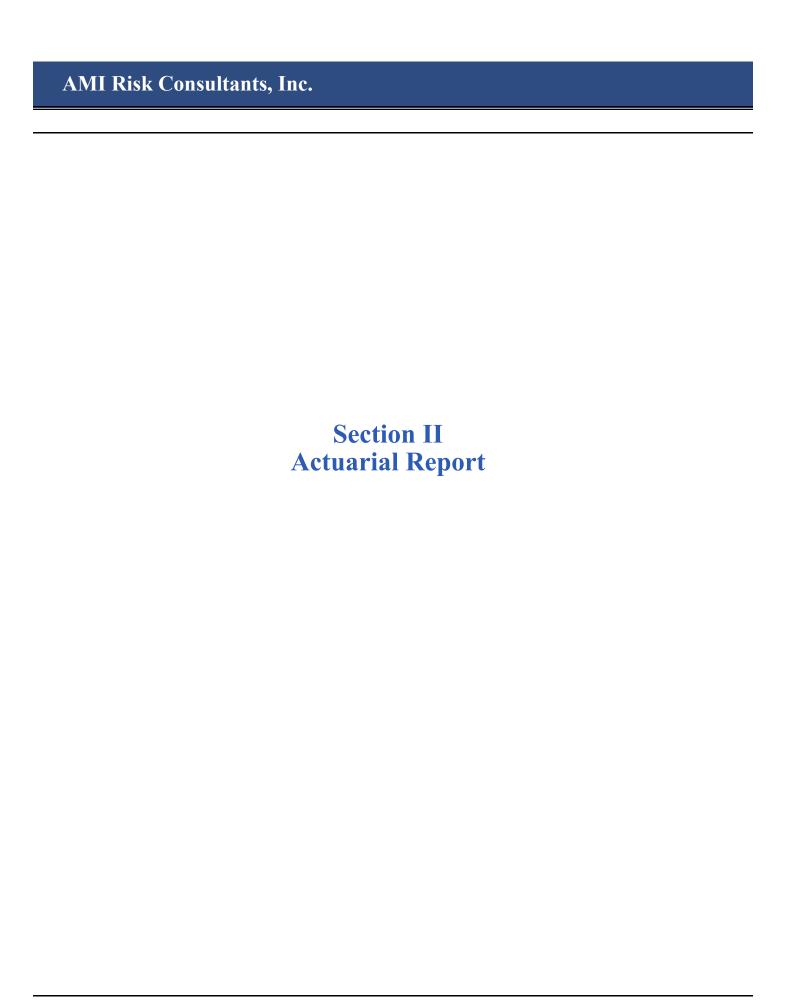
- Summary Exhibit – Presents the summary of calculations as well as the projected Fund balance for ten (10) years.

- Exhibit I - Estimated cost necessary to cover benefit payments, the direct and indirect costs of the operation and administration and as to maintain a cash balance for the following years:

    o One (1) year
    o Two (2) to five (5) years
    o Six (6) to ten (10) years

- Exhibit II - Estimate the annual revenues for the Fund for the next ten (10) fiscal years beginning with January 1, 2023.

- Exhibit III - Estimate the annual expenditures for the Fund for the next ten (10) fiscal years beginning with January 1, 2024.

- Exhibit IV - Estimate the total number of open claims for the Fund, by each fiscal year, as of the end of the next ten fiscal years, beginning with January 1, 2024.

- Exhibit V – Project the rates of utilization by workers (defined as benefits paid out) for qualifying event(s) for each type of leave:

    o Paid Family Leave
    o Paid Medical Leave

- Exhibit VI - Project reserves in the Fund and the adequacy of such reserves, by each fiscal year, as of the end of the next ten (10) fiscal years, beginning with January 1, 2024. Include recommendations on optimal long-term reserve and solvency ratios, accounting for variations in economic trends.

- Exhibit VII – Estimates additional cost to cover benefit payments of 12 weeks of extended bonding period.

Section II
Actuarial Report

| **Actuarial Approach** | In establishing the short-term and long-term solvency as required by the Task Force, we computed the following for 2024-2033: |

1. Ultimate Cost of Benefits

We estimated the ultimate cost of benefits by first multiplying the following for each type of qualifying event: assumed average cost; assumed utilization rate; and projected number of covered workers (Exhibit V, Page 1 of 2). The cost for each type of qualifying event are then summed to get the total ultimate cost of benefits.

a. Average Cost – For each underlying event, the average cost is calculated by multiplying the estimated average weekly benefit by the estimated duration. To distinguish the average weekly benefit and estimated duration by underlying event, a relativity factor was developed for each of these components. For the former, the relativity factor is relative to the state wide average weekly benefit as base. For the latter, the relativity factor is relative to the maximum duration limit (Exhibit V, Page 2 of 2).

b. Utilization Rate – The utilization rates were calculated based on the experience of other States as well as simulation studies performed for Colorado. Utilization rates for Domestic Violence related leave and Organ Donation related leaves were estimated based on the ratio of actual number of cases and the population size. The former is based in US experience while the latter is based on Wyoming and Colorado experience (Exhibit V, Page 1 of 2).

c. Projected Number of Workers – The projected number of workers was calculated by trending the 2018 Colorado number of workers from the 2018 CDLE, Labor Market Information, Quarterly Census of Employment and Wages. The effect of companies establishing and participating in private plans was also considered.

Actuarial Approach (continued)

2. Projected Premium Rate

We estimated the Projected Premium Rate per $1,000 in Wages by taking the Projected Ultimate Losses for 2019, trending it and loading it for expenses and a solvency margin to estimate the Projected Premiums and then dividing it by the Projected Wages (Exhibit II).

The solvency margin is included to raise the level of confidence of our projected premium to the commonly used level of 75%. Separate factors were considered for losses and expenses.

Trends for the following were explicitly considered: utilization rate, wage rate, technological advancement rate, labor force rate, effect of companies establishing and participating in their private plans. (see Exhibit II).

3. Projected Paid Expenses

We estimated paid expenses (Exhibit III) by applying an expense ratio to projected premiums (excluding the loading for solvency). The expense ratio is based on the experience of other states.

4. Projected Number of Open Claims

We estimated the number of open claims at the end of years 2024-2033 (Exhibit IV) by multiplying the projected number of claims during the event year and the assumed percentage of unpaid claims at the end of the year. We have assumed that 20% of claims incurred during the year remains unpaid at the end of the year.

5. Projected Loss Reserves

We estimated the projected loss reserves (Exhibit VI) by adding the beginning reserve during the payment year to the difference of ultimate losses and paid losses.

Attached Appendices

We prepared the following Appendices as support for the Exhibits described:

- Appendix A compares the parameters for the LBM with the HBM.

- Appendix B shows the assumed distribution of Colorado wages and calculates the Annual and Weekly Average Benefit Levels based on the assumed distribution of Colorado wages and $90,000 wage cap.

- Appendix C calculates the estimated number of reported claims in 2019 by qualifying event.

- Appendix D calculates the Claim Cash Flow for the period 2024-2033.

- Appendix E tests the reasonableness of AMI's projections with the projections made by Stiffler, as published in his paper "Estimating the Costs and Financing of Family and Medical Leave Insurance in Colorado." As the comparison suggests, AMI's estimates are higher, most likely for the following reasons:

  a. AMI's calculations covers more underlying events.

  b. AMI's estimates are for more recent years. Stiffler's estimate covers year 2014 to 2016 while AMI's estimate covers 2024 to 2033. AMI's number of covered workers and total wages covered are higher due to increasing trend over the years.

  c. AMI's eligibility requirement for the program is lower. AMI used $5,000 and $300 as required earnings to be qualified for FAMLI benefits while Stiffler's required earnings to be qualified is $7,480. Note that on Stiffler's article, he only indicated 680 hours of work to be qualified. AMI assumed minimum wage in Colorado of $11 per hour to estimate the corresponding required earnings to be qualified.

Comparison of Assumptions

Comparison of Assumptions - Low Benefit Model vs High Benefit Model

A comparison of the methodology and assumptions used when developing the estimates for LBM versus HBM are as follows:

a. We used the same methodology to develop the HBM exhibits as was used to develop the LBM exhibits. Only some of the assumptions were different.

b. We considered the difference in parameters in the calculation. For example, the earnings threshold in the prior year for LBM is $5,000 compared to $300 for HBM (Appendix A) as indicated by the Task Force.

c. Although the maximum weeks per event increases by a factor of 2.33 (14/6) in going from LBM to HBM, we assumed that the average number of weeks availed increases by less than that factor. We assumed the level of satisfaction is achieve sooner relative to the maximum allowed when the maximum allowed is higher.

d. We assumed that the utilization rate increases slightly, the higher the benefit levels such as for HBM relative to LBM.

e. We assumed that the cap on premium collections for LBM is $90,000, compared to $132,000 for HBM as indicated by the Task Force. Furthermore, the contributions of employers with 15 or less employees were excluded for LBM.

f. We assumed that the cost per claim is the same in LBM and HBM.

AMI Risk Consultants, Inc.

AMI Model and Judgments

Because some of the necessary information was not readily available from either existing comparable programs or from the State of Colorado, we relied on our proprietary models and judgments to calculate the requested estimates. The assumptions determined in this way are as follows:

a. We used a solvency ratio of 20% for losses and 5% for expenses. To maintain a level of solvency, it is necessary that predicted losses and expenses be calculated based at a higher level of confidence, such as the 75% confidence level which is commonly used in the industry. This level gives a 75% likelihood that the funds established will be sufficient to cover both claims and expenses.

AMI's Solvency Model was developed by running a Monte Carlo simulation to simulate at least 10,000 years of claims for various insurance coverages and entities.

Because of the planned premium collections without claim payments in 2023, the set 75% confidence level will increase to 87% confidence level as explained in Page 2.

b. We assumed that 80% of the claims will be paid out by the end of first year and the remaining 20% by the end of the second year. We also assumed that only lump sum payments will be made. We used AMI's Loss Development Model, which measures the payment pattern of various coverages. We assumed that the Fund's claims will show payment patterns similar to short tailed business.

c. We assumed that imposing an additional 52-week duration limit to the per event limits would reduce claims by 5%.

Study Limitations

Our projections are subject to potential errors of estimation because they relate to the outcome of events yet to occur. Consequently, while we believe that our assumptions and methods are reasonable, we cannot guarantee that actual results will not differ, perhaps substantially, from our estimates.

We recommend that the Fund monitor actual results as they develop and adjust the projections to reflect the actual results that emerge.

Section III
Actuarial Exhibits

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
SUMMARY OF RESULTS
AMOUNTS IN $000's

	2024		2033	
	LBM	**HBM**	**LBM**	**HBM**
Premiums	$1,168,876	$2,294,367	$2,308,567	$4,580,136
Paid Losses	$731,486	$1,479,401	$1,819,845	$3,680,567
Expenses	$68,236	$71,681	$87,061	$91,457
Cashflow	$369,155	$743,285	$401,661	$808,112
Wage Base	$163,583,485	$194,810,356	$264,888,041	$315,453,200
Premium Rate*	0.0071	0.0118	0.0087	0.0145
Number of Claims*	258,896	271,969	445,910	468,426
Reserves	$1,028,484	$2,080,069	$1,215,138	$2,457,570

Year	LBM		HBM	
	Premium Rate	**Fund Balance***	**Premium Rate**	**Fund Balance***
2024	0.0071	$1,214,767	0.0118	$2,453,504
2025	0.0073	$1,430,906	0.0121	$2,887,203
2026	0.0075	$1,664,450	0.0123	$3,355,986
2027	0.0076	$1,916,802	0.0126	$3,862,693
2028	0.0078	$2,189,476	0.0129	$4,410,392
2029	0.0080	$2,484,111	0.0132	$5,002,399
2030	0.0082	$2,802,476	0.0135	$5,642,299
2031	0.0083	$3,146,484	0.0139	$6,333,968
2032	0.0085	$3,518,201	0.0142	$7,081,594
2033	0.0087	$3,919,862	0.0145	$7,889,707

Notes:

*Initial 2023 Premiums Collection plus the Cumulative Cashflow in Exhibit I - Column (4)

EXHIBIT I - LOW

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED CASHFLOW - 2024 - 2033
AMOUNTS IN $000's

Payment Year	Projected Premiums	Paid Losses	Paid Expenses	Projected Cashflow
	(1)	(2)	(3)	(4)
2024	1,168,876	731,486	68,236	369,155
2025	1,260,653	973,823	70,691	216,139
2026	1,359,648	1,052,990	73,114	233,544
2027	1,466,429	1,138,594	75,484	252,351
2028	1,581,609	1,231,156	77,779	272,674
2029	1,705,849	1,331,243	79,972	294,635
2030	1,839,865	1,439,467	82,033	318,365
2031	1,984,425	1,556,488	83,928	344,008
2032	2,140,360	1,683,024	85,619	371,718
2033	2,308,567	1,819,845	87,061	401,661

Notes:

(1) - Per Exhibit II-Low, Column (2)

(2) - See Appendix D

(3) - Per Exhibit III-Low, Column (2)

(4) = (1) - (2) - (3); Cashflow = Premiums - Paid Losses - Expenses

EXHIBIT I - HIGH

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED CASHFLOW - 2024 - 2033
AMOUNTS IN $000's

Payment Year	Projected Premiums	Paid Losses	Paid Expenses	Projected Cashflow
	(1)	(2)	(3)	(4)
2024	2,294,367	1,479,401	71,681	743,285
2025	2,477,514	1,969,520	74,295	433,699
2026	2,675,287	2,129,632	76,871	468,784
2027	2,888,854	2,302,761	79,386	506,707
2028	3,119,478	2,489,965	81,814	547,698
2029	3,368,520	2,692,387	84,126	592,007
2030	3,637,454	2,911,266	86,288	639,900
2031	3,927,867	3,147,938	88,260	691,669
2032	4,241,477	3,403,850	90,000	747,627
2033	4,580,136	3,680,567	91,457	808,112

Notes:

(1) - Per Exhibit II-High, Column (2)

(2) - See Appendix D

(3) - Per Exhibit III-High, Column (2)

(4) = (1) - (2) - (3); Cashflow = Premiums - Paid Losses - Expenses

EXHIBIT II - LOW

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED PREMIUMS AND PREMIUM RATE - 2024 - 2033
AMOUNTS IN $000's

Event Year	Projected Ultimate Claims	Projected Premiums	Projected Wages	Projected Premium Rate
	(1)	(2)	(3)	(4)
2024	914,357	1,168,876	163,583,485	0.0071
2025	988,690	1,260,653	172,582,818	0.0073
2026	1,069,066	1,359,648	182,077,237	0.0075
2027	1,155,976	1,466,429	192,093,980	0.0076
2028	1,249,951	1,581,609	202,661,780	0.0078
2029	1,351,566	1,705,849	213,810,955	0.0080
2030	1,461,442	1,839,865	225,573,487	0.0082
2031	1,580,250	1,984,425	237,983,119	0.0083
2032	1,708,717	2,140,360	251,075,451	0.0085
2033	1,847,628	2,308,567	264,888,041	0.0087

Assumptions

(5) Permissible Loss Ratio for Year 2024	0.9306
(6a) Solvency Margin - Losses	0.2000
(6b) Solvency Margin - Expenses	0.0500

(7) Utilization Rate Trend	3.53%
(8) Wage Rate Trend	2.82%
(9) Technological Advancement Trend	(1.00%)
(10) Labor Force Trend	2.65%
(11) Effect of Private Plan Trend	(0.04%)
(12) Overall Claims Trend	8.13%

Notes:

(1) - Trended Estimated Ultimate Losses from Exhibit V-Low, Page 1 using (12)

(2) = ((1) / (5)) * [(1 + (6a)) * (5) + (1 + (6b)) * (1 - (5))]; Premiums = Ultimate Claims + Expenses + Solvency Margin

(3) - Trended Total Annual Wages in Colorado. Capped to $90,000 Wage Base. Adjusted for Employers with 15 or fewer Employees.
   The Annual Wage is taken from Labor Market Information, Quarterly Census of Employment and Wages of
   Colorado Department of Labor and Employment

(4) = (2)/(3); Premium Rate = Premiums / Wage Base

(5) - 1.00 less the expense ratio in Exhibit III-Low. This ratio gradually increases to 0.9550 in 2033 to reflect expected economies of scale.

(6a) & (6b) - Per AMI Calculations.

(7) - Selected based from EDD California - 2015 Paid Family Leave Market Research (growth rate of claims over
   growth rate of labor force from 2004 to 2015)

(8) - Selected from the CDLE, Labor Market Information, Quarterly Census of Employment and Wages

(9) - Based in known decrease in frequency and severity of claims for comparable paid family and medical programs.

(10) - Selected trend from the 2018 CDLE, Labor Market Information, Quarterly Census of Employment and Wages.

(11) - Per Washington State Experience

(12) = [1 + (7)] * [1 + (8)] * [1 + (9)] * [1 + (10)] * [1 + (11)] - 1

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EXHIBIT II - HIGH

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED PREMIUMS AND PREMIUM RATE - 2024 - 2033
AMOUNTS IN $000's

Event Year	Projected Ultimate Claims	Projected Premiums	Projected Wages	Projected Premium Rate
	(1)	(2)	(3)	(4)
2024	1,849,252	2,294,367	194,810,356	0.0118
2025	1,999,587	2,477,514	205,527,595	0.0121
2026	2,162,144	2,675,287	216,834,429	0.0123
2027	2,337,916	2,888,854	228,763,293	0.0126
2028	2,527,977	3,119,478	241,348,408	0.0129
2029	2,733,490	3,368,520	254,625,878	0.0132
2030	2,955,710	3,637,454	268,633,789	0.0135
2031	3,195,995	3,927,867	283,412,328	0.0139
2032	3,455,814	4,241,477	299,003,889	0.0142
2033	3,736,755	4,580,136	315,453,200	0.0145

Assumptions

(5) Permissible Loss Ratio for Year 2024	0.9627
(6a) Solvency Margin - Losses	0.2000
(6b) Solvency Margin - Expenses	0.0500

(7) Utilization Rate Trend	3.53%
(8) Wage Rate Trend	2.82%
(9) Technological Advancement Trend	(1.00%)
(10) Labor Force Trend	2.65%
(11) Effect of Private Plan Trend	(0.04%)
(12) Overall Claims Trend	8.13%

Notes:

(1) - Trended Estimated Ultimate Losses from Exhibit V-High, Page 1 using (12)

(2) = ((1) / (5)) * [(1 + (6a)) * (5) + (1 + (6b)) * (1 - (5))]; Premiums = Ultimate Claims + Expenses + Solvency Margin

(3) - Trended Total Annual Wages in Colorado. Capped to $132,900 Wage Base.

  The Annual Wage is taken from Labor Market Information, Quarterly Census of Employment and Wages of

  Colorado Department of Labor and Employment

(4) = (2)/(3); Premium Rate = Premiums / Wage Base

(5) - 1.00 less the expense ratio in Exhibit III-Low. This ratio gradually increases to 0.9761 in 2033 to reflect expected economies of scale.

  The permissible loss ratio is higher for HBM because expense ratio is lower.

  The expense ratio is lower because the fixed portion is now ratioed to a higher benefit level.

(6a) & (6b) - Per AMI Calculations.

(7) - Selected based from EDD California - 2015 Paid Family Leave Market Research (growth rate of claims over

  growth rate of labor force from 2004 to 2015)

(8) - Selected from the CDLE, Labor Market Information, Quarterly Census of Employment and Wages

(9) - Based in known decrease in frequency and severity of claims for comparable paid family and medical programs.

(10) - Selected trend from the 2018 CDLE, Labor Market Information, Quarterly Census of Employment and Wages.

(11) - Per Washington State Experience

(12) = [1 + (7)] * [1 + (8)] * [1 + (9)] * [1 + (10)] * [1 + (11)] - 1

AMI Risk Consultants, Inc.

EXHIBIT III - LOW

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED EXPENSES - 2024-2033
AMOUNTS IN $000's

Payment Year	Projected Premiums	Paid Expenses
	(1)	(2)
2024	1,168,876	68,236
2025	1,260,653	70,691
2026	1,359,648	73,114
2027	1,466,429	75,484
2028	1,581,609	77,779
2029	1,705,849	79,972
2030	1,839,865	82,033
2031	1,984,425	83,928
2032	2,140,360	85,619
2033	2,308,567	87,061

Assumptions

(3) Expense Ratio for Year 2024	0.0694

Notes:

(1) - Per Exhibit II-Low, Column (2)

(2) - Exhibit II-Low, Column (1) / Exhibit II-Low, Item (5) * (3)

(3) - Selected Expense Ratio from Annual Report for 2017: New Jersey Family Leave Insurance
and Temporary Disability Insurance Program Historical Expense Ratio and Colorado Paid
Family and Medical Leave: Program Design and Implementation assumed Expense Ratio.
This ratio gradually decreases to 0.0450 in 2033 to reflect expected economies of scale.
Assumed that the cost per claim is the same in LBM and HBM.

EXHIBIT III - HIGH

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED EXPENSES - 2024-2033
AMOUNTS IN $000's

Payment Year	Projected Premiums	Paid Expenses
	(1)	(2)
2024	2,294,367	71,681
2025	2,477,514	74,295
2026	2,675,287	76,871
2027	2,888,854	79,386
2028	3,119,478	81,814
2029	3,368,520	84,126
2030	3,637,454	86,288
2031	3,927,867	88,260
2032	4,241,477	90,000
2033	4,580,136	91,457

Assumptions

(3) Expense Ratio for Year 2024	0.0373

Notes:

(1) - Per Exhibit II-High, Column (2)

(2) - Exhibit II-High, Column (1) / Exhibit II-High, Item (5) * (3)

(3) - Selected Expense Ratio from Annual Report for 2017: New Jersey Family Leave Insurance
and Temporary Disability Insurance Program Historical Expense Ratio and Colorado Paid
Family and Medical Leave: Program Design and Implementation assumed Expense Ratio.
This ratio gradually decreases to 0.0239 in 2033 to reflect expected economies of scale.
The expense ratio is lower for HBM because the fixed portion is now ratioed to a higher benefit level.
Assumed that the cost per claim is the same in LBM and HBM.

EXHIBIT IV - LOW

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED NUMBER OF OPEN CLAIMS AT THE END OF THE YEAR - 2024-2033

Event Year	Projected Number of Claims	AT THE END OF PAYMENT YEAR:									
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2024	258,896	51,779	0	0	0	0	0	0	0	0	0
2025	275,018		55,004	0	0	0	0	0	0	0	0
2026	292,144			58,429	0	0	0	0	0	0	0
2027	310,336				62,067	0	0	0	0	0	0
2028	329,662					65,932	0	0	0	0	0
2029	350,190						70,038	0	0	0	0
2030	371,997							74,399	0	0	0
2031	395,162								79,032	0	0
2032	419,770									83,954	0
2033	445,910										89,182
Total		**51,779**	**55,004**	**58,429**	**62,067**	**65,932**	**70,038**	**74,399**	**79,032**	**83,954**	**89,182**

Notes:

Projected Number of Claims are taking the 2019 number of claims in Appendix C and trending it using the Utilization Rate Trend - Item (7), Labor Force Trend - Item (10) and
     Effect of Private Plan Trend - Item (11) in Exhibit II-Low.

Number of Open Claims = Estimated Number of Claims * (1 - Cumulative Claim Settlement Pattern)

This assumes that only lump sump payments will be made.

EXHIBIT IV - HIGH

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED NUMBER OF OPEN CLAIMS AT THE END OF THE YEAR - 2024-2033

Event Year	Projected Number of Claims	AT THE END OF PAYMENT YEAR:									
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2024	271,969	54,394	0	0	0	0	0	0	0	0	0
2025	288,905		57,781	0	0	0	0	0	0	0	0
2026	306,896			61,379	0	0	0	0	0	0	0
2027	326,007				65,201	0	0	0	0	0	0
2028	346,308					69,262	0	0	0	0	0
2029	367,873						73,575	0	0	0	0
2030	390,781							78,156	0	0	0
2031	415,116								83,023	0	0
2032	440,966									88,193	0
2033	468,426										93,685
Total		**54,394**	**57,781**	**61,379**	**65,201**	**69,262**	**73,575**	**78,156**	**83,023**	**88,193**	**93,685**

Notes:

Projected Number of Claims are taking the 2019 number of claims in Appendix C and trending it using the Utilization Rate Trend - Item (7), Labor Force Trend - Item (10) and
  Effect of Private Plan Trend - Item (11) in Exhibit II-High.

Number of Open Claims = Estimated Number of Claims * (1 - Cumulative Claim Settlement Pattern)

This assumes that only lump sump payments will be made.

EXHIBIT V - LOW
PAGE 1 OF 2

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF ESTIMATED ULTIMATE LOSSES - 2019

Qualifying Event	Average Cost	Utilization Rate	Estimated Ultimate Losses (in $000's)
	(1)	(2)	(3)
Family:			
Bonding (parental leave after child birth/ adoption)	3,313	0.020540	177,134
Care for family members	3,374	0.007227	63,463
Military service related leave	1,679	0.000057	250
Family Total			**240,847**
Medical:			
Own disability (including actual child birth and time to recover from child birth)	3,482	0.040564	367,613
Domestic violence, sexual assault, stalking	2,015	0.000790	4,143
Organ donation	3,358	0.000684	5,976
Medical Total			**377,731**
Grand Total		**0.069861**	**618,578**

(4) Number of Covered Workers	2,739,754
(5) Effect of Maximum Sum for Family Leave and Medical Leave Combined in a 52-Week Period	0.950

Notes:

(1) - Per Exhibit V-Low, Page 2, Column (5)

(2) For Bonding, Family Care and Own Disability: Per "Colorado Paid Family and Medical Leave: Program Design and Implementation" article.

For Military Service Related Leave: Per New York experience based in "Colorado Paid Family and Medical Leave: Program Design and Implementation" article.

For Domestic Violence, Sexual Assault and Stalking Leave: Rate of Domestic Violence, Sexual Assault and Stalking from BJS, National Crime Victimization Survey.

For Organ Donation Leave: Six-Year Average of the Ratio of Number Organ Donors to Population in Wyoming and Colorado from Donor Alliance website.

(3) = (1) * (2) * (4) *(5) / 1000; Ultimate Losses = Number of Covered Workers * Utilization Rate * Average Cost * Adjustment Factor

(4) - Data from the 2018 CDLE, Labor Market Information, Quarterly Census of Employment and Wages trended to 2019. Adjusted for $5,000 earnings threshold. Adjusted for employers with equivalent private plans to opt out.

(5) - Per AMI Calculations

AMI Risk Consultants, Inc.

EXHIBIT V - HIGH
PAGE 1 OF 2

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF ESTIMATED ULTIMATE LOSSES - 2019

Qualifying Event	Average Cost	Utilization Rate	Estimated Ultimate Losses (in $000's)
	(1)	(2)	(3)
Family:			
Bonding (parental leave after child birth/ adoption)	6,847	0.021567	384,505
Care for family members	7,324	0.007588	144,705
Military service related leave	3,006	0.000060	470
Family Total			**529,680**
Medical:			
Own disability (including actual child birth and time to recover from child birth)	6,332	0.042592	702,336
Domestic violence, sexual assault, stalking	3,608	0.000830	7,793
Organ donation	6,013	0.000718	11,241
Medical Total			**721,370**
Grand Total		**0.073354**	**1,251,050**

(4) Number of Covered Workers	2,741,047
(5) Effect of Maximum Sum for Family Leave and Medical Leave Combined in a 52-Week Period	0.950

Notes:

(1) - Per Exhibit V-High, Page 2, Column (5)

(2) For Bonding, Family Care and Own Disability: Per "Colorado Paid Family and Medical Leave: Program Design and Implementation" article.

For Military Service Related Leave: Per New York experience based in "Colorado Paid Family and Medical Leave: Program Design and Implementation" article

For Domestic Violence, Sexual Assault and Stalking Leave: Rate of Domestic Violence, Sexual Assault and Stalking from BJS, National Crime Victimization Survey.

For Organ Donation Leave: Six-Year Average of the Ratio of Number Organ Donors to Population in Wyoming and Colorado from Donor Alliance website.

(3) = (1) * (2) * (4) *(5) / 1000; Ultimate Losses = Number of Covered Workers * Utilization Rate * Average Cost * Adjustment Factor

(4) - Data from the 2018 CDLE, Labor Market Information, Quarterly Census of Employment and Wages trended to 2019. Adjusted for $300 earnings threshold. Adjusted for employers with equivalent private plans to opt out.

(5) - Per AMI Calculations

EXHIBIT V - LOW
PAGE 2 OF 2

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT - 2019
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF AVERAGE COST - 2019

	Average Benefit Relativity	Average Weekly Benefit	Average Number of Weeks Relativity	Average Number of Weeks of Benefit	Average Cost
	(1)	(2)	(3)	(4)	(5)
Family:					
Bonding (parental leave after child birth/ adoption)	1.024	683	0.809	4.855	3,313
Care for family members	0.923	615	0.914	5.484	3,374
Military service related leave	0.800	533	0.525	3.150	1,679
Medical:					
Own disability (including actual child birth and time to recover from child birth)	0.871	580	1.000	6.000	3,482
Domestic violence, sexual assault, stalking	0.800	533	0.630	3.780	2,015
Organ donation	1.000	666	0.840	5.040	3,358

(6) Statewide Average Benefit per Week	666
(7) Assumed Base Number of Weeks	6

Notes:

(1) - For Bonding, Care and Own Disability- Extrapolated based on the distribution of the ratio average weekly benefit per qualifying event to the statewide
       average weekly benefit of other States

    For Military service related leave, Domestic violence leave and Organ donation related leave - Per AMI Calculations.

(2) = (1) * (6)

(3) - For Bonding, Care and Own Disability - Extrapolated based on the distribution of the ratio of average benefit duration per qualifying event to the statewide
       allowed duration of other States.

    For Military service related leave, Domestic violence leave and Organ donation related leave - Per AMI Calculations.

    Adjusted for more generous feature of Colorado FAMLI such as higher wage replacement percentage and job protection.

(4) = (3) * (7)

(5) = (2) * (4) * (8)

(6) - See Appendix B

(7) - See Appendix A

EXHIBIT V - HIGH
PAGE 2 OF 2

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT - 2019
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF AVERAGE COST - 2019

	Average Benefit Relativity	Average Weekly Benefit	Average Number of Weeks Relativity	Average Number of Weeks of Benefit	Average Cost
	(1)	(2)	(3)	(4)	(5)
Family:					
Bonding (parental leave after child birth/ adoption)	1.024	683	0.717	10.032	6,847
Care for family members	0.923	615	0.850	11.904	7,324
Military service related leave	0.800	533	0.403	5.641	3,006
Medical:					
Own disability (including actual child birth and time to recover from child birth)	0.871	580	0.779	10.912	6,332
Domestic violence, sexual assault, stalking	0.800	533	0.483	6.769	3,608
Organ donation	1.000	666	0.645	9.025	6,013

(6) Statewide Average Benefit per Week	666
(7) Assumed Base Number of Weeks	14

Notes:

(1) - For Bonding, Care and Own Disability- Extrapolated based on the distribution of the ratio average weekly benefit per qualifying event to the statewide
average weekly benefit of other States.

For Military service related leave, Domestic violence leave and Organ donation related leave - Per AMI Calculations.

(2) = (1) * (6)

(3) - For Bonding, Care and Own Disability - Extrapolated based on the distribution of the ratio of average benefit duration per qualifying event to the statewide
allowed duration of other States.

For Military service related leave, Domestic violence leave and Organ donation related leave - Per AMI Calculations.

Adjusted for more generous feature of Colorado FAMLI such as higher wage replacement percentage and job protection.

(4) = (3) * (7)

(5) = (2) * (4) * (8)

(6) - See Appendix B

(7) - See Appendix A

EXHIBIT VI - LOW

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED RESERVES - 2024 - 2033
AMOUNTS IN $000's

Payment Year	Beginning Reserves	Ultimate Losses	Paid Losses	Ending Reserves
	(1)	(2)	(3)	(4)
2024	845,613	914,357	731,486	1,028,484
2025	1,028,484	988,690	973,823	1,043,351
2026	1,043,351	1,069,066	1,052,990	1,059,426
2027	1,059,426	1,155,976	1,138,594	1,076,808
2028	1,076,808	1,249,951	1,231,156	1,095,603
2029	1,095,603	1,351,566	1,331,243	1,115,926
2030	1,115,926	1,461,442	1,439,467	1,137,901
2031	1,137,901	1,580,250	1,556,488	1,161,663
2032	1,161,663	1,708,717	1,683,024	1,187,356
2033	1,187,356	1,847,628	1,819,845	1,215,138

Notes:

(1) = (4) of previous payment year; For 2024, losses portion of the 2023 premiums collection only.

(2) - Per Exhibit II-Low, Column (1)

(3) - Per Exhibit I-Low, Column (2)

(4) = (1) + (2) - (3); Ending Reserves = Beginning Reserves + Ultimate Losses - Paid Losses

EXHIBIT VI - HIGH

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED RESERVES - 2024 - 2033
AMOUNTS IN $000's

Payment Year	Beginning Reserves	Ultimate Losses	Paid Losses	Ending Reserves
	(1)	(2)	(3)	(4)
2024	1,710,219	1,849,252	1,479,401	2,080,069
2025	2,080,069	1,999,587	1,969,520	2,110,136
2026	2,110,136	2,162,144	2,129,632	2,142,648
2027	2,142,648	2,337,916	2,302,761	2,177,802
2028	2,177,802	2,527,977	2,489,965	2,215,814
2029	2,215,814	2,733,490	2,692,387	2,256,917
2030	2,256,917	2,955,710	2,911,266	2,301,361
2031	2,301,361	3,195,995	3,147,938	2,349,418
2032	2,349,418	3,455,814	3,403,850	2,401,382
2033	2,401,382	3,736,755	3,680,567	2,457,570

Notes:

(1) = (4) of previous payment year; For 2024, losses portion of the 2023 premiums collection only.

(2) - Per Exhibit II-High, Column (1)

(3) - Per Exhibit I-High, Column (2)

(4) = (1) + (2) - (3); Ending Reserves = Beginning Reserves + Ultimate Losses - Paid Losses

EXHIBIT VII

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION PREMIUM RATE FOR ADDITIONAL 12 WEEKS OF MAXIMUM BONDING PERIOD - 2024 - 2033
AMOUNTS IN $000's

(1) Average Cost for Additional 12 Weeks of Bonding (whole dollars)	4,795
(2) Utilization Rate	0.021567
(3) Number of Covered Workers	2,741,047
(4) Estimated Ultimate Losses - 2019	283,466

Event Year	Projected Additional Ultimate Claims	Projected Additional Premiums	Projected Wages	Projected Additional Premium Rate
	(5)	(6)	(7)	(8)
2024	419,008	519,863	194,810,356	0.0027
2025	453,071	561,361	205,527,595	0.0027
2026	489,904	606,173	216,834,429	0.0028
2027	529,731	654,563	228,763,293	0.0029
2028	572,795	706,819	241,348,408	0.0029
2029	619,361	763,247	254,625,878	0.0030
2030	669,712	824,183	268,633,789	0.0031
2031	724,156	889,986	283,412,328	0.0031
2032	783,027	961,044	299,003,889	0.0032
2033	846,683	1,037,778	315,453,200	0.0033

Assumptions

(9) Permissible Loss Ratio for Year 2024	0.9627
(10a) Solvency Margin - Losses	0.2000
(10b) Solvency Margin - Expenses	0.0500

(11) Utilization Rate Trend	3.53%
(12) Wage Rate Trend	2.82%
(13 Technological Advancement Trend	(1.00%)
(14) Labor Force Trend	2.65%
(15) Effect of Private Plan Trend	(0.04%)
(16) Overall Claims Trend	8.13%

Notes:

(1) - From Exhibit V-High, Page 2 Model - average cost assuming 26 weeks of maximum bonding period minus average cost assuming 14 weeks of maximum bonding period.

(2) - Per Exhibit V-High, Page 1, Column (2) for Bonding

(3) - Per Exhibit V-High, Page 1, Item (4)

(4) = (1) * (2) * (3); Ultimate Losses = Number of Covered Workers * Utilization Rate * Average Cost

(5) - Trended Estimated Ultimate Losses from (4) using (12)

(6) = ((5) / (9)) * [(1 + (10a)) * (9) + (1 + (10b)) * (1 - (9))]; Premiums = Ultimate Claims + Expenses + Solvency Margin

(8) = (6)/(7); Premium Rate = Premiums / Wage Base

(7), (9) to (16) - Per Exhibit II-High

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
LOW BENEFITS MODEL VS HIGH BENEFITS MODEL*

Parameter	Low Benefits Model	High Benefits Model
	(1)	(2)
Duration Limit - Family Leave (per event maximum)	6 weeks	14 weeks
Duration Limit - Medical Leave (per event maximum)	6 weeks	14 weeks
Duration Limit for Family and Medical Leave Combined in a 52-Week Period	12 weeks	28 weeks
Earning Threshold in a Base Period	$5,000	$300
Cap on Premium Collections	$90,000	$132,900 (current social security wage base maximum)
Employer Exemptions	Exclude employers with 15 or fewer employees form payment of the employer premium under the LOW benefits model (only 50% of the worker premium would be collected--the employee share.)	No exemptions/all employers required to participate and pay premiums.
Wage Replacement Percentage	Use the Washington state wage replacement rates with a benefit cap of 95 percent of the statewide average weekly wage for BOTH the low and high model.	

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF WAGE DISTRIBUTION AND AVERAGE WEEKLY BENEFIT

(1) Assumed Distribution of Wages	lognormal distribution mu=10.70, sigma=0.6597

(2a) Probability of Wage < $300	0.000000
(2b) Probability of Wage < $5,000	0.000472
(3a) Probability of Wage > $90,000	0.141310
(3b) Probability of Wage > $132,900	0.047926

Wage Classification*	Prob (Wage in the interval)	Annual Expected Benefit in the Interval
	(4)	(5)
Less than 50% of SAWW	0.2469	17,963
More than 50% of SAWW but less than 95% of CAP	0.6117	37,000
More than 95% of CAP	0.1413	53,599

(6) Annual Expected Benefit	34,645
(7) Weekly Expected Benefit	666

Notes:

(1) The distribution of Colorado wages is estimated by matching percentiles of the Occupational Wage Table from the Occupational Employment Statistics Program.

(2), (3) & (4) - Based on the assumed cumulative distribution of wages.

(5) - Conditional expectation of Benefit given the wage distribution

(6) = Sum of the products of (4) and (5)

(7) = (6) / 52

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PROJECTED NUMBER OF CLAIMS - 2019

Qualifying Event	Number of Claims	
	LOW	HIGH
Family:		
Bonding (parental leave after child birth/ adoption)	56,273	59,115
Care for family members	19,799	20,799
Military service related leave	157	164
Medical:		
Own disability (including actual child birth and time to recover from child birth)	111,136	116,747
Domestic violence, sexual assault, stalking	2,164	2,274
Organ donation	1,873	1,968
Total	**191,402**	**201,067**

Notes:

Number of Claims = Number of Covered Workers * Utilization Rate.

Number of Claims = Exhibit V, Page 1, Item (4) * Exhibit V, Page 1, Column (2).

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
CALCULATION OF PAID LOSS CASH FLOW

Event Year	Projected Ultimate Loss	LOW BENEFITS MODEL - PAYMENT YEAR									
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2024	914,357	731,486	182,871	0	0	0	0	0	0	0	0
2025	988,690		790,952	197,738	0	0	0	0	0	0	0
2026	1,069,066			855,252	213,813	0	0	0	0	0	0
2027	1,155,976				924,780	231,195	0	0	0	0	0
2028	1,249,951					999,961	249,990	0	0	0	0
2029	1,351,566						1,081,253	270,313	0	0	0
2030	1,461,442							1,169,153	292,288	0	0
2031	1,580,250								1,264,200	316,050	0
2032	1,708,717									1,366,974	341,743
2033	1,847,628										1,478,102
Total		**731,486**	**973,823**	**1,052,990**	**1,138,594**	**1,231,156**	**1,331,243**	**1,439,467**	**1,556,488**	**1,683,024**	**1,819,845**

Event Year	Projected Ultimate Loss	HIGH BENEFITS MODEL - PAYMENT YEAR									
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2024	1,849,252	1,479,401	369,850	0	0	0	0	0	0	0	0
2025	1,999,587		1,599,670	399,917	0	0	0	0	0	0	0
2026	2,162,144			1,729,715	432,429	0	0	0	0	0	0
2027	2,337,916				1,870,333	467,583	0	0	0	0	0
2028	2,527,977					2,022,382	505,595	0	0	0	0
2029	2,733,490						2,186,792	546,698	0	0	0
2030	2,955,710							2,364,568	591,142	0	0
2031	3,195,995								2,556,796	639,199	0
2032	3,455,814									2,764,651	691,163
2033	3,736,755										2,989,404
Total		**1,479,401**	**1,969,520**	**2,129,632**	**2,302,761**	**2,489,965**	**2,692,387**	**2,911,266**	**3,147,938**	**3,403,850**	**3,680,567**

Payout Pattern	First Year	Second Year
	0.8	0.2

Notes:

See Exhibit II, Column (1) for the Calculation of Projected Ultimate Losses

Paid Loss Cashflow = Estimated Ultimate Loss * Payout Pattern

For example: For Event Year 2025 during Payment Year 2026:

        Estimated Ultimate Loss = 988,690

        Payment Year 2026 is Payment Year 2 for Event Year 2025
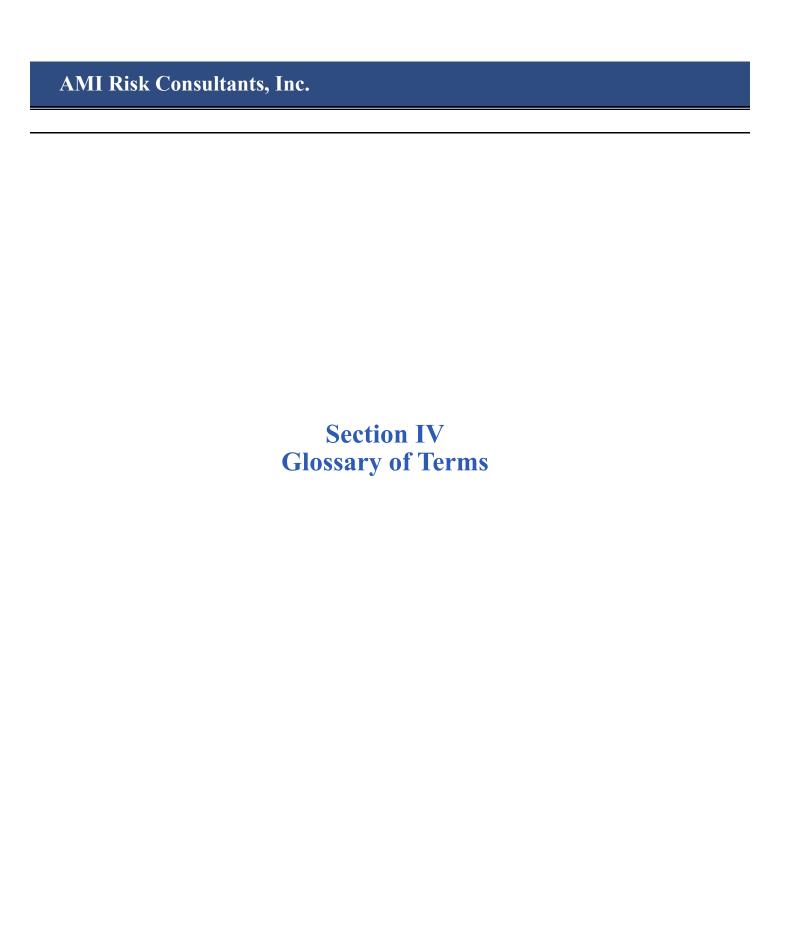
        Payout Pattern = 0.2

        Cashflow for Event Year 2025 during Payment Year 2026 = 988,690 * 0.2 = 197,738

Payout Pattern is based in known payout pattern for comparable paid family and medical programs.

AMI Risk Consultants, Inc.

COLORADO DEPARTMENT OF LABOR & EMPLOYMENT
FAMILY AND MEDICAL LEAVE INSURANCE PROGRAM
COMPARISON OF RESULTS

		2014	2015	2016
A. Stiffler Estimate		2014	2015	2016
B. AMI Low	2019	2024	2025	2026
C. AMI High	2019	2024	2025	2026
Average Weekly Benefit				
A. Stiffler Estimate		644	657	671
B. AMI Low	666	666	666	666
C. AMI High	687	687	687	687
Workers Eligible				
A. Stiffler Estimate		2,240,666	2,271,587	2,302,935
B. AMI Low	2,739,754	3,113,154	3,629,731	4,342,430
C. AMI High	2,741,047	3,114,623	3,631,444	4,344,480
Program Benefit Cost				
Family Leave				
A. Stiffler Estimate		$109,700	$113,500	$117,500
B. AMI Low	$240,847	$356,010	$384,952	$416,247
C. AMI High	$529,680	$782,951	$846,602	$915,426
Medical				
A. Stiffler Estimate		$292,300	$320,700	$351,900
B. AMI Low	$377,731	$558,347	$603,738	$652,819
C. AMI High	$721,370	$1,066,300	$1,152,985	$1,246,718
Administrative Cost				
A. Stiffler Estimate		$12,000	$12,400	$12,700
B. AMI Low		$68,236	$70,691	$73,114
C. AMI High		$71,681	$74,295	$76,871
Total Cost (excluding solvency margin)				
A. Stiffler Estimate		$414,000	$446,700	$482,200
B. AMI Low		$799,721	$1,044,514	$1,126,104
C. AMI High		$1,551,082	$2,043,815	$2,206,503
Total Payroll				
A. Stiffler Estimate		$120,200,000	$125,000,000	$130,000,000
B. AMI Low		$163,583,485	$172,582,818	$163,583,485
C. AMI High		$194,810,356	$205,527,595	$216,834,429
Total Cost as Percentage of Total Payroll				
A. Stiffler Estimate		0.34%	0.36%	0.37%
B. AMI Low		0.49%	0.61%	0.69%
C. AMI High		0.80%	0.99%	1.02%
Number of Weeks Allowed				
A. Stiffler Estimate		12	12	12
B. AMI Low		6	6	6
C. AMI High		14	14	14
Maximum Benefit				
A. Stiffler Estimate		$1,000	$1,000	$1,000
B. AMI Low	1,030	$1,030	$1,030	$1,030
C. AMI High	1,030	$1,030	$1,030	$1,030
Percentage Replacement Wages				
A. Stiffler Estimate		66-95%	66-95%	66-95%
B. AMI Low		60-90%	60-90%	60-90%
C. AMI High		60-90%	60-90%	60-90%
Mininum Wages for eligibility				
A. Stiffler Estimate		680 hours x $11/hour = $7,480	680 hours x $11/hour = $7,480	680 hours x $11/hour = $7,480
B. AMI Low	$5,000	$5,000	$5,000	$5,000
C. AMI High	$300	$300	$300	$300
Qualifying Events				
A. Stiffler Estimate		Bonding, Family Care, Own Disability	Bonding, Family Care, Own Disability	Bonding, Family Care, Own Disability
B. AMI Low	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related
C. AMI High	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related	Bonding, Family Care, Military Service Related, Own Disability, Domestic Violence Related, Organ Donation Related

AMI Risk Consultants, Inc.

Section IV
Glossary of Terms

AMI Loss Development Model	A model to establish how losses are paid over time based on similar insurance industry coverages. AMI has accumulated and observed payment patterns from working with several hundred clients over 27 years.
AMI Solvency Model	A model developed by AMI to establish the Solvency Margin. To establish the required level, a Monte Carlo simulation is ran to determine the level of variability based on insurance industry experience. This model used the claim frequency and claim severity experience of similar programs.
Monte Carlo Simulation	A method of simulation to quantify uncertainties by repeatedly performing the calculations using different set of random values from a given set of probability distribution.
Open Claims	Claims that are not yet paid or settled.
Overall Claim Trend	Pertains to how much are claims expected to increase every year. Major factors that are expected to influence it are: the utilization trend rate, wage rate trend and labor force trend rate.
Permissible Loss Ratio	The portion of premium without solvency margin attributable to claims benefit
Relativity Factors	Factors developed by AMI to differentiate the claim characteristic by underlying event. Relativity factors were established for average weekly benefit and average duration. The former attempts to differentiate the salaries of claimants by underlying event. The latter attempts to differentiate how much of the maximum benefit level are claimants willing to use.
Solvency Margin	Pertains to how much additional premiums over premiums suggested by expected losses and expenses should be collected to maintain a given level of confidence so that the additional premiums will be enough to pay actual claims. In our study, we used as standard, a 75% confidence level- the standard commonly used by Fund's and Self Insurance Programs.

Ultimate Cost of Benefits	Estimated cost of claims, calculated by underlying event. It is calculated by multiplying the average cost by the utilization rate and the projected number of workers.
Underlying Events	Events that result in a Family and Medical Leave Insurance claim. They are grouped according as follows: a.Family (Bonding, Family Care, Military Service Related) b.Medical (Own Disability, Domestic Violence Related, Organ Donation Related)
Utilization Rate	The number of claims per covered worker.
Utilization Rate Trend	Pertains to how much the utilization rate is expected to increase every year as the Family and Medical Leave Insurance Program gains popularity.