

PENNSYLVANIA COMPENSATION RATING BUREAU

Indicated Change in Loss Costs

Page 1 presents the overall indicated change in loss costs.

Derivation of the indemnity and medical trend factors and trended loss ratios shown on Page 1 is presented on Page 2.

Page 3 provides the calculation of Statewide Average Weekly Wage (SAWW) trends. The selection of the 6-point exponential trend fit for Policy Years 2017-2022 was used in the calculation of the indemnity and medical severity trends on Page 2.

Page 4 shows the derivation of overall frequency trend factors for each of the latest three policy years.

EXHIBIT I

INDICATED CHANGE IN LOSS COSTS

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
(1) Policy Year 2019 Ratio of Loss to Expected Loss	0.5569	0.5761	1.1330
(2) Policy Year 2020 Ratio of Loss to Expected Loss	0.5136	0.5249	1.0385
(3) Policy Year 2021 Ratio of Loss to Expected Loss	0.4931	0.5039	0.9970
(4) Weighted Average (2019 - 33%; 2020 - 33%; 2021 - 33%)	0.5212	0.5350	1.0562
(5) Policy Year 2019 Ratio Trended to 4/1/2025 +	0.4686	0.4895	0.9581
(6) Policy Year 2020 Ratio Trended to 4/1/2025 +	0.4466	0.4600	0.9066
(7) Policy Year 2021 Ratio Trended to 4/1/2025 +	0.4432	0.4556	0.8988
(8) Weighted Average (2019 - 33%; 2020 - 33%; 2021 - 33%)	0.4528	0.4684	0.9212
(9) Indicated Change in Loss Costs	0.4528	0.4684	0.9212 -7.88%

CHANGES IN MANUAL LOSS COST LEVEL BY INDUSTRY GROUP

	<u>Mfg.</u>	<u>Cont.</u>	<u>Other</u>	<u>Total</u>
(10) Current Collectible Premium Ratio	1.0318	1.1426	1.0027	
(11) Anticipated Collectible Premium Ratio	1.0682	1.1952	1.0171	
(12) Final Indicated Change in Manual Loss Cost Level (9T) * (11) / (10)	0.9537	0.9636	0.9344	0.9442

+ Refer to pages 20 and 21

DETERMINATION OF TREND

INDEMNITY

Policy Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Actual Loss Ratio	0.8070	0.7925	0.7555	0.6834	0.6224	0.6126	0.6069	0.5569	0.5136	0.4931
Normalized Frequency	0.9381	0.9196	0.8413	0.7755	0.7257	0.6859	0.6610	0.5923	0.5653	0.5343
Severity Loss Ratio	0.8602	0.8618	0.8980	0.8812	0.8576	0.8932	0.9182	0.9402	0.9086	0.9228
x	1	2	3	4	5	6	7	8	9	10
y	0.8602	0.8618	0.8980	0.8812	0.8576	0.8932	0.9182	0.9402	0.9086	0.9228

Trend Selection	Severity Loss Ratio Trend	SAWW Trend
3 pt	-0.9%	4.8%
4 pt	-0.2%	5.4%
5 pt	0.5%	5.4%
6 pt	1.3%	5.0%
7 pt	1.1%	4.6%
8 pt	0.8%	4.3%
9 pt	0.8%	4.0%
All Available	0.8%	3.6%

7 Point Exponential Regression = 1.1% (y = 0.836425 * 1.010960 ^ x)
 SAWW 6 Point Exponential Regression = 5.0% *
Selected Annual Trend Factor = 3.1%

Policy Year	Annual Severity Trend Factor (1)	Trend Period # of Years to 4/1/2024 (2)	Severity Trend Factor (3) = (1) ^ (2)	Frequency Trend Factor (4) **
2019	1.0306	5.2500	1.1714	0.7184
2020	1.0306	4.2500	1.1366	0.7651
2021	1.0306	3.2500	1.1029	0.8149

Trended Loss Ratio

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3) * (4)	Trended Loss Ratio (7) = (5) * (6)
2019	0.5569	0.8415	0.4686
2020	0.5136	0.8696	0.4466
2021	0.4931	0.8988	0.4432

MEDICAL

Policy Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Actual Loss Ratio	0.7984	0.7908	0.7705	0.6720	0.6394	0.6349	0.6673	0.5761	0.5249	0.5039
Normalized Frequency	0.9381	0.9196	0.8413	0.7755	0.7257	0.6859	0.6610	0.5923	0.5653	0.5343
Severity Loss Ratio	0.8511	0.8599	0.9158	0.8665	0.8811	0.9257	1.0096	0.9726	0.9286	0.9431
x	1	2	3	4	5	6	7	8	9	10
y	0.8511	0.8599	0.9158	0.8665	0.8811	0.9257	1.0096	0.9726	0.9286	0.9431

Trend Selection	Severity Loss Ratio Trend	SAWW Trend
3 pt	-1.5%	4.8%
4 pt	-2.5%	5.4%
5 pt	-0.5%	5.4%
6 pt	0.9%	5.0%
7 pt	1.5%	4.6%
8 pt	1.1%	4.3%
9 pt	1.3%	4.0%
All Available	1.4%	3.6%

7 Point Exponential Regression = 1.5% (y = 0.840902 * 1.014699 ^ x)
 SAWW 6 Point Exponential Regression = 5.0% *
Selected Annual Trend Factor = 3.2%

Policy Year	Annual Severity Trend Factor (1)	Trend Period # of Years to 4/1/2024 (2)	Severity Trend Factor (3) = (1) ^ (2)	Frequency Trend Factor (4) **
2019	1.0325	5.2500	1.1826	0.7184
2020	1.0325	4.2500	1.1454	0.7651
2021	1.0325	3.2500	1.1094	0.8149

Trended Loss Ratio

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3) * (4)	Trended Loss Ratio (7) = (5) * (6)
2019	0.5761	0.8496	0.4895
2020	0.5249	0.8763	0.4600
2021	0.5039	0.9041	0.4556

* See page 1.3
 ** See page 1.4

SAWW Trend Calculation

Policy <u>Year</u>	Official <u>SAWW</u>	Annual <u>Percent Change</u>	<u>Period</u>	SAWW Exp Fit <u>Trend</u>
2000	662.00		2012-2022	3.6% 11 pt
2001	675.00	2.0%	2013-2022	3.8% 10 pt
2002	690.00	2.2%	2014-2022	4.0% 9 pt
2003	716.00	3.8%	2015-2022	4.3% 8 pt
2004	745.00	4.1%	2016-2022	4.6% 7 pt
2005	779.00	4.6%	2017-2022	5.0% 6 pt
2006	807.00	3.6%	2018-2022	5.4% 5 pt
2007	836.00	3.6%	2019-2022	5.4% 4 pt
2008	845.00	1.1%	2020-2022	4.8% 3 pt
2009	858.00	1.5%		
2010	888.00	3.5%		
2011	917.00	3.3%	2009-2019	2.6% 11 pt
2012	932.00	1.6%	2010-2019	2.5% 10 pt
2013	951.00	2.0%	2011-2019	2.6% 9 pt
2014	978.00	2.8%	2012-2019	2.7% 8 pt
2015	995.00	1.7%	2013-2019	2.8% 7 pt
2016	1025.00	3.0%	2014-2019	2.9% 6 pt
2017	1049.00	2.3%	2015-2019	3.1% 5 pt
2018	1081.00	3.1%	2016-2019	3.3% 4 pt
2019	1130.00	4.5%	2017-2019	3.8% 3 pt
2020	1205.00	6.6%		
2021	1273.00	5.6%		
2022*	1323.00	3.9%		

* Estimated

DETERMINATION OF TREND

CLAIM FREQUENCY

Policy Year Frequency per \$1 million of Expected Losses

Policy Year	Claim Frequency	Normalized Frequency
2011	28.11	1.0000
2012	26.37	0.9381
2013	25.85	0.9196
2014	23.65	0.8413
2015	21.80	0.7755
2016	20.40	0.7257
2017	19.28	0.6859
2018	18.58	0.6610
2019	16.65	0.5923
2020	15.89	0.5653
2021	15.02	0.5343

Policy Year	2013	2014	2015	2016	2017	2018	2019	2020	2021
x	1	2	3	4	5	6	7	8	9
y	0.9196	0.8413	0.7755	0.7257	0.6859	0.6610	0.5923	0.5653	0.5343

Trend Seletion	Frequency Trend
3 pt	-5.0%
4 pt	-6.6%
5 pt	-6.3%
6 pt	-6.1%
7 pt	-6.1%
8 pt	-6.2%
9 pt	-6.4%
10 pt	-6.3%

Selected Annual Frequency Trend Factor:

7 Point Exponential Regression = -6.1% (y = 0.827802 * 0.938946 ^ x)

Policy Year	Annual Frequency Trend Factor (1)	Trend Period # of Years to 4/1/2024 (2)	Frequency Trend Factor (3) = (1) ^ (2)
2019	0.9389	5.2500	0.7184
2020	0.9389	4.2500	0.7651
2021	0.9389	3.2500	0.8149