

PENNSYLVANIA COMPENSATION RATING BUREAU

Claim Frequencies

The attached exhibits examine historical Workers Compensation claim frequencies in Pennsylvania.

Claim frequencies per \$1 million of expected losses are shown on Page 1 based on statistics gathered by the PCRB. For informational purposes, claim frequencies are also shown at constant (2011) wage levels. The data excludes the experience of deductible business.

Staff is proposing an annual change in claim frequency of -6.1%. This is based on a claim frequency trend line of the form  $y=a*b^x$  using the most recent seven points. Expected losses for PYs 2019 to 2021 were adjusted for 3-points of excess wage inflation compared to historical averages and spread at 1% per year starting in 2019 due to the effects of the pandemic.

The second page shows Unit Statistical Data reported claim counts and the associated claim development factors for experience excluding deductible business.

The third page shows a graph of the frequencies appearing in column (7) of Page 1.

The fourth through sixth pages are comparable to Pages 1 through 3 but include the experience of deductible policies.

The seventh page shows a graph comparing claim frequencies presented on Pages 3 and 6, all indexed to a common value of 1.0 at January 1, 2011.

Page 8 presents the Unit Statistical Plan claim frequencies of Page 1 by industry group and Page 9 shows a graph of those industry group claim frequencies.

**Pennsylvania W.C - Claim Frequencies**  
 PCRB Unit Statistical Plan  
 (Excluding Deductible Business)

Policy Year	Reported Claim Counts (1)	Indemnity Claim Dev Factors (2)	Ultimate Claim Counts (3)	% Change Counts (4)	Expected Losses (5)	% Change Expected Loss (6)	Claim Frequency (# Claims per \$1 million) (7)	% Change Claim Freq (8)
2011	23,160	1.000	23,160		823,898,027		28.11	
2012	21,385	1.000	21,385	-7.7%	810,919,474	-1.6%	26.37	-6.2%
2013	21,550	1.000	21,550	0.8%	833,677,379	2.8%	25.85	-2.0%
2014	20,631	1.000	20,631	-4.3%	872,506,023	4.7%	23.65	-8.5%
2015	19,930	1.000	19,930	-3.4%	914,134,790	4.8%	21.80	-7.8%
2016	19,156	1.000	19,156	-3.9%	939,107,889	2.7%	20.40	-6.4%
2017	18,952	1.000	18,952	-1.1%	982,796,509	4.7%	19.28	-5.5%
2018	19,104	1.002	19,140	1.0%	1,030,346,060	4.8%	18.58	-3.6%
2019	16,906	1.007	17,022	-11.1%	1,022,225,816	-0.8%	16.65	-10.4%
2020	15,762	1.030	16,239	-4.6%	1,022,181,354	0.0%	15.89	-4.6%
2021	16,274	1.030	16,767	3.2%	1,116,039,297	9.2%	15.02	-5.5%

Period	Annual % Change in Claim Frequency	Period	Annual % Change in Claim Frequency
PY11-PY21	-6.2%	PY11-PY20	-6.3%
PY12-PY21	-6.3%	PY12-PY20	-6.4%
PY13-PY21	-6.4%	PY13-PY20	-6.6%
PY14-PY21	-6.2%	PY14-PY20	-6.3%
<b>PY15-PY21</b>	<b>-6.1%</b>	PY15-PY20	-6.2%
PY16-PY21	-6.1%	PY16-PY20	-6.3%
PY17-PY21	-6.3%	PY17-PY20	-6.7%
PY18-PY21	-6.6%	PY18-PY20	-7.5%
PY19-PY21	-5.0%	PY19-PY20	-4.6%
PY20-PY21	-5.5%		

Notes:

- 2020 and 2021 are both at first report. 2021 is from policy data, 2020 and beyond is from unit data.
- Expected Losses for PYs 2019 to 2021 were adjusted for 1% excess wage trend compared to historical averages due to the effects of the pandemic.

Policy Year	SAWW	% Change SAWW	SAWW Index	Adjusted Claim Frequency # Claims per \$1 million	% Change Adj Claim Frequency
2011	917		1.0000		
2012	932	1.6%	1.0164	26.80	
2013	951	2.0%	1.0371	26.81	0.0%
2014	978	2.8%	1.0665	25.22	-5.9%
2015	995	1.7%	1.0851	23.66	-6.2%
2016	1,025	3.0%	1.1178	22.80	-3.6%
2017	1,049	2.3%	1.1439	22.06	-3.2%
2018	1,081	3.1%	1.1788	21.90	-0.7%
2019	1,130	4.5%	1.2323	20.52	-6.3%
2020	1,205	6.6%	1.3141	20.88	1.8%
2021	1,273	5.6%	1.3882	20.86	-0.1%

Period	Annual % Change in Adjusted Claim Frequency	Period	Annual % Change in SAWW
PY11-PY21		PY11-PY21	3.2%
PY12-PY21	-3.2%	PY12-PY21	3.4%
PY13-PY21	-3.1%	PY13-PY21	3.6%
PY14-PY21	-2.7%	PY14-PY21	3.8%
PY15-PY21	-2.2%	PY15-PY21	4.1%
PY16-PY21	-1.9%	PY16-PY21	4.5%
PY17-PY21	-1.6%	PY17-PY21	5.1%
PY18-PY21	-1.3%	PY18-PY21	5.7%
PY19-PY21	0.8%	PY19-PY21	6.1%
PY20-PY21	-0.1%	PY20-PY21	5.6%

Adjusted Claim Frequency is claim frequency per \$1 million expected losses at constant (2011) wages

Projected Annual Change in Claim Frequency: -6.1% (see PY15-PY21)

**Pennsylvania W.C - Claim Frequencies**

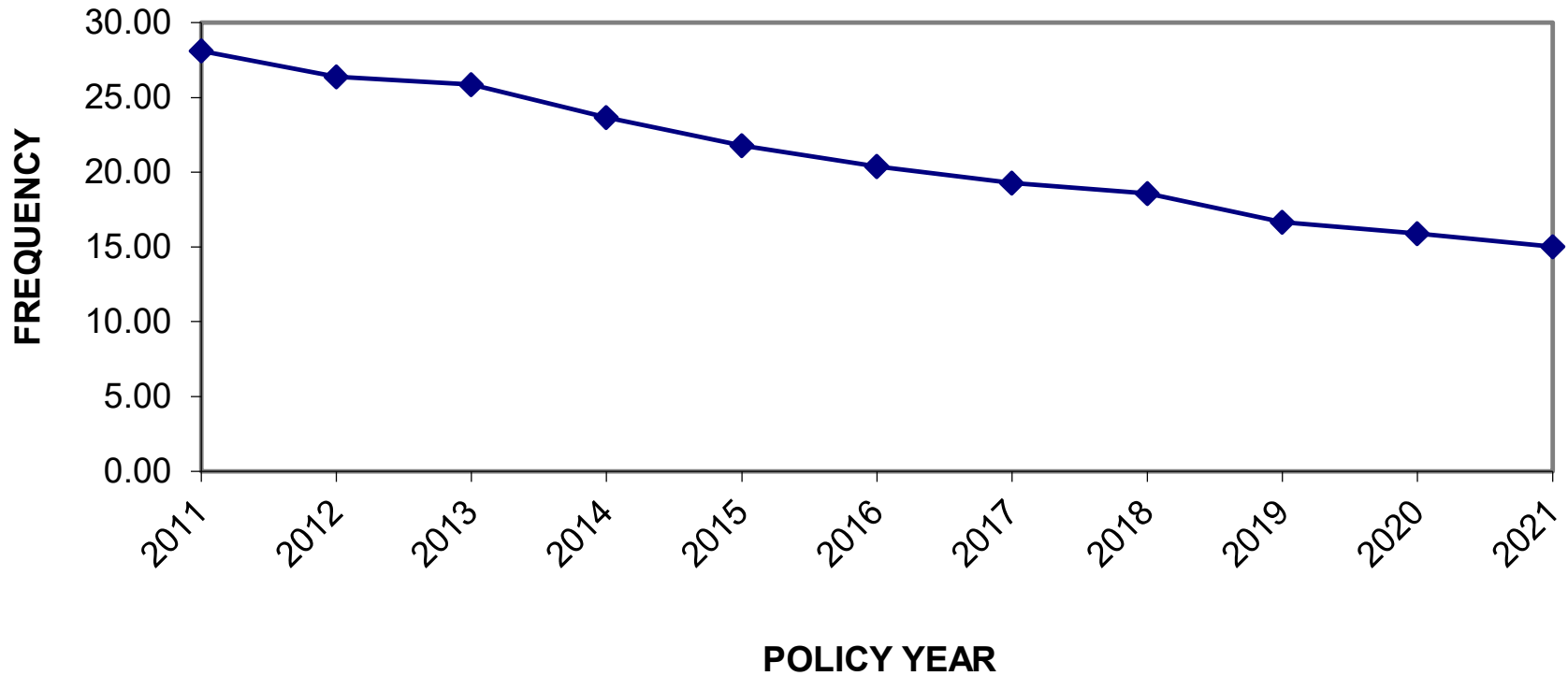
PCRB Unit Statistical Plan  
(Excluding Deductible Business)

**Reported Claim Count Development**

Policy Year	Reported Claim Counts									
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
2008				24,782	24,790	24,798	24,795	24,803	24,806	24,808
2009			23,048	23,083	23,089	23,099	23,098	23,102	23,102	23,107
2010		23,664	23,826	23,858	23,874	23,890	23,898	23,901	23,909	23,915
2011	22,470	22,948	23,080	23,128	23,142	23,150	23,154	23,155	23,158	23,160
2012	20,718	21,193	21,330	21,368	21,379	21,383	21,385	21,387	21,385	
2013	20,825	21,363	21,505	21,544	21,547	21,547	21,548	21,550		
2014	20,001	20,441	20,553	20,609	20,617	20,625	20,631			
2015	19,334	19,794	19,896	19,931	19,927	19,930				
2016	18,588	19,022	19,119	19,146	19,156					
2017	18,413	18,820	18,920	18,952						
2018	18,583	19,030	19,104							
2019	16,528	16,906								
2020	15,762									

Policy Year	Claim Development Factors									
	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>	<u>5-6</u>	<u>6-7</u>	<u>7-8</u>	<u>8-9</u>	<u>9-10</u>	
2008				1.000	1.000	1.000	1.000	1.000	1.000	1.000
2009			1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2010		1.007	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000
2011	1.021	1.006	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000
2012	1.023	1.006	1.002	1.001	1.000	1.000	1.000	1.000		
2013	1.026	1.007	1.002	1.000	1.000	1.000	1.000			
2014	1.022	1.005	1.003	1.000	1.000	1.000				
2015	1.024	1.005	1.002	1.000	1.000					
2016	1.023	1.005	1.001	1.001						
2017	1.022	1.005	1.002							
2018	1.024	1.004								
2019	1.023									
<b>All Yr Ave.</b>	1.023	1.006	1.002	1.000	1.000	1.000	1.000	1.000	1.000	Tail
<b>5Yr Ave.</b>	1.023	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	
<b>3Yr Ave.</b>	1.023	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	
<b>Selected CDF</b>	1.023	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<b>Cum CDF</b>	1.030	1.007	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000

**PA W.C. - CLAIM FREQUENCIES**  
**PCRB Unit Statistical Plan (Excl. Deductible Business)**



—◆— Claim Freq per \$1 Million Expected Losses

**Pennsylvania W.C - Claim Frequencies**  
 PCRB Unit Statistical Plan  
 All Business Including Deductible Business

Policy Year	# of Claim Indemnity (1)	Indemnity Claim Dev Factors (2)	Ultimate Claim Counts (3)	% Change Counts (4)	Expected Losses (5)	% Change Exp Loss (6)	Claim Frequency (#Claims per \$1 million) (7)	% Change Claim Freq (8)
2011	35,383	1.000	35,383		1,333,469,606		26.53	
2012	33,785	1.000	33,785	-4.5%	1,347,622,196	1.1%	25.07	-5.5%
2013	34,667	1.000	34,667	2.6%	1,401,357,981	4.0%	24.74	-1.3%
2014	33,625	1.000	33,625	-3.0%	1,475,934,392	5.3%	22.78	-7.9%
2015	32,476	1.000	32,476	-3.4%	1,529,181,986	3.6%	21.24	-6.8%
2016	31,544	1.000	31,544	-2.9%	1,570,222,567	2.7%	20.09	-5.4%
2017	31,502	1.001	31,520	-0.1%	1,660,956,673	5.8%	18.98	-5.5%
2018	31,574	1.003	31,671	0.5%	1,746,779,642	5.2%	18.13	-4.5%
2019	28,457	1.009	28,725	-9.3%	1,751,932,814	0.3%	16.40	-9.5%
2020	27,174	1.040	28,263	-1.6%	1,740,779,564	-0.6%	16.24	-1.0%
2021	27,854	1.040	28,970	2.5%	1,889,041,241	8.5%	15.34	-5.5%

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2016	1,025	3.0%	1.1178	22.46	-2.5%
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2018	1,081	3.1%	1.1788	21.37	-1.6%
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PY12-PY21	-2.4%	PY12-PY21	3.4%
PY13-PY21	-2.4%	PY13-PY21	3.6%
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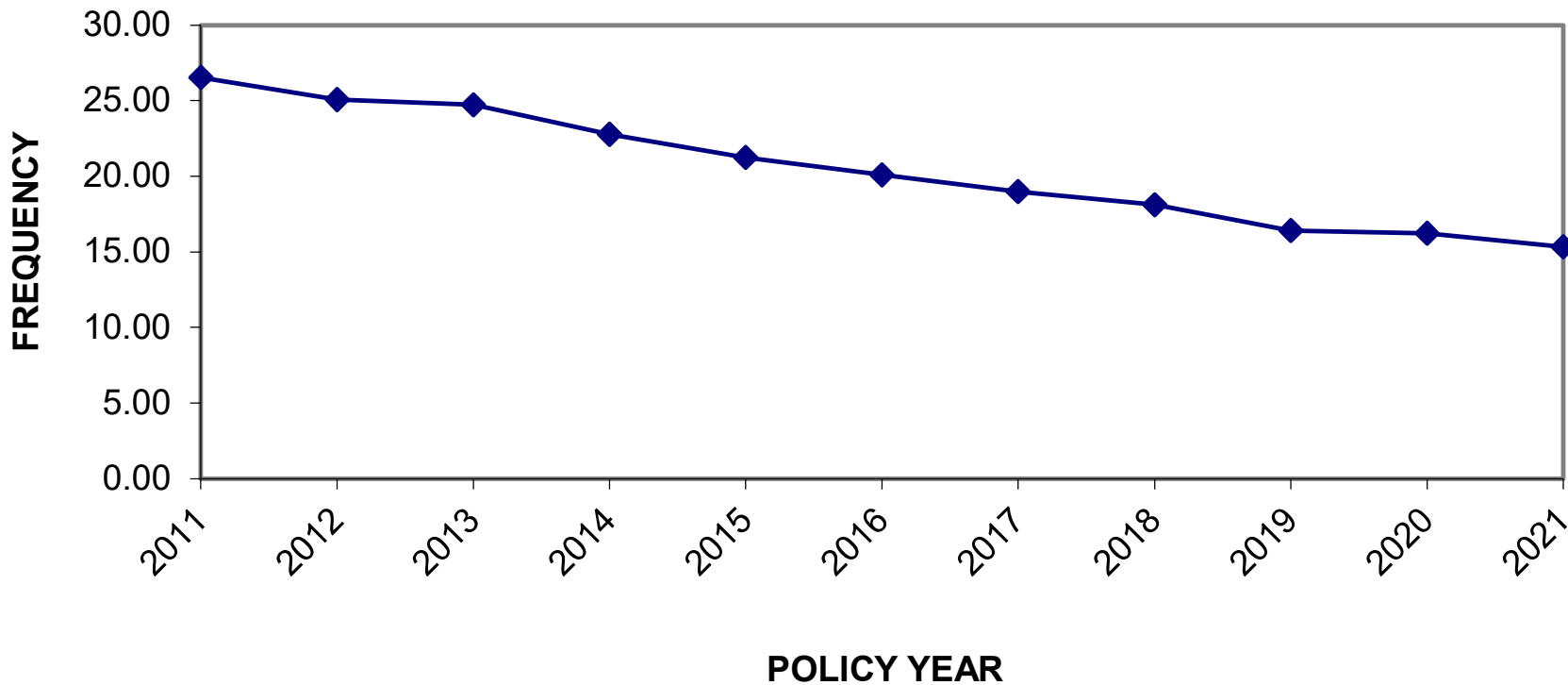
**Pennsylvania W.C - Claim Frequencies**  
 PCRB Unit Statistical Plan  
 (Including Deductible Business)

**Reported Claim Count Development**

Policy Year	Reported Claim Counts									
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
2008				37,766	37,792	37,810	37,813	37,826	37,832	37,838
2009			35,445	35,540	35,562	35,577	35,582	35,598	35,603	35,608
2010		35,875	36,161	36,226	36,252	36,279	36,302	36,302	36,312	36,320
2011	33,996	35,001	35,247	35,326	35,346	35,362	35,367	35,373	35,380	35,383
2012	32,325	33,344	33,638	33,738	33,765	33,776	33,781	33,786	33,785	
2013	33,176	34,271	34,522	34,617	34,642	34,654	34,654	34,667		
2014	32,305	33,266	33,477	33,575	33,599	33,615	33,625			
2015	31,197	32,184	32,387	32,457	32,472	32,476				
2016	30,299	31,244	31,461	31,541	31,544					
2017	30,369	31,215	31,434	31,502						
2018	30,472	31,416	31,574							
2019	27,623	28,457								
2020	27,174									

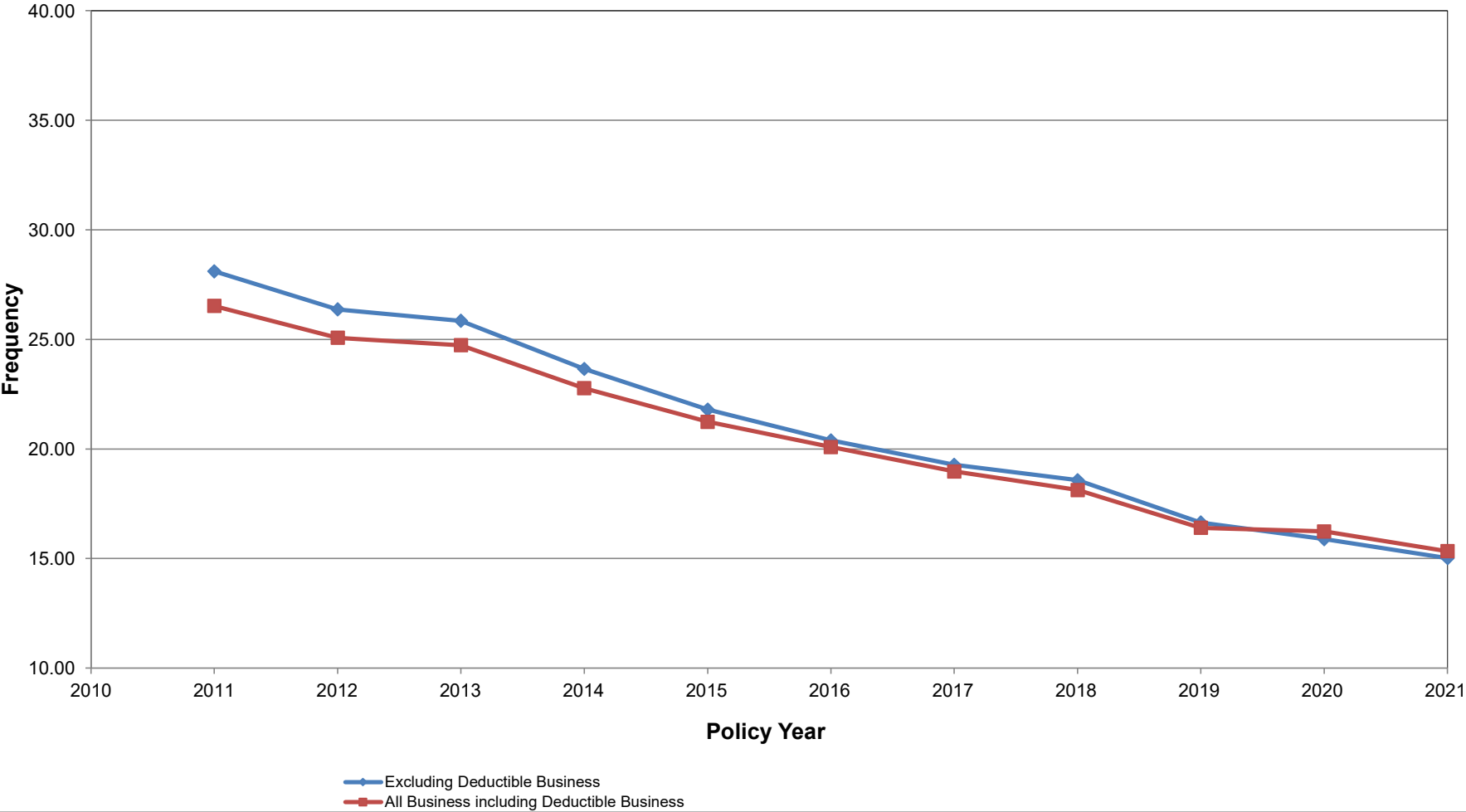
Policy Year	Claim Development Factors									Tail	
	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>	<u>5-6</u>	<u>6-7</u>	<u>7-8</u>	<u>8-9</u>	<u>9-10</u>		
2008				1.001	1.000	1.000	1.000	1.000	1.000	1.000	
2009			1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
2010		1.008	1.002	1.001	1.001	1.001	1.000	1.000	1.000	1.000	
2011	1.030	1.007	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
2012	1.032	1.009	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
2013	1.033	1.007	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
2014	1.030	1.006	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
2015	1.032	1.006	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2016	1.031	1.007	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2017	1.028	1.007	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2018	1.031	1.005									
2019	1.030										
<b>All Yr Ave.</b>	1.031	1.007	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
<b>5Yr Ave.</b>	1.030	1.006	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
<b>3Yr Ave.</b>	1.030	1.006	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
<b>Selected CDF</b>	1.030	1.006	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<b>Cum CDF</b>	1.040	1.009	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000

**PA W.C. - CLAIM FREQUENCIES**  
**PCRB Unit Statistical Plan (All Business Incl. Deductible Business)**



◆ Claim Freq per \$1 Million Expected Losses

# PA W.C. - COMPARISON OF CLAIM FREQUENCIES (Claim Frequencies per \$1 Million Expected Losses)





**Pennsylvania W.C. - Claim Frequencies**  
 PCRB Unit Statistical Plan  
 (Excluding Deductible Business)

Policy Year	Industry Group	Reported	Indemnity Claim	Ultimate	% Change	Expected	% Change	Claim Frequency	% Change	Period	Annual % Change	Period	Annual % Change
		Claim Counts (1)	Dev Factors (2)	Claim Counts (3)	Counts (4)	Losses (5)	Expected Loss (6)	(#Claims per \$1 million) (7)	Claim Freq (8)		In Claim Frequency		In Claim Frequency
2011	1 (Manufacturing)	4,357	1.000	4,357	0.0%	140,425,984	0.0%	31.03	0.0%	PY11-PY21	-5.4%	PY11-PY20	-5.4%
2012	1	3,731	1.000	3,731	-14.4%	132,218,348	-5.8%	28.22	-9.1%	PY12-PY21	-5.3%	PY12-PY20	-5.3%
2013	1	3,696	1.000	3,696	-0.9%	137,666,263	4.1%	26.85	-4.9%	PY13-PY21	-5.4%	PY13-PY20	-5.4%
2014	1	3,662	1.000	3,662	-0.9%	142,356,830	3.4%	25.72	-4.2%	PY14-PY21	-5.5%	PY14-PY20	-5.5%
2015	1	3,598	1.000	3,598	-1.7%	146,058,803	2.6%	24.63	-4.2%	<b>PY15-PY21</b>	<b>-5.6%</b>	PY15-PY20	-5.6%
2016	1	3,424	1.000	3,424	-4.8%	147,423,798	0.9%	23.23	-5.7%	PY16-PY21	-5.5%	PY16-PY20	-5.5%
2017	1	3,198	1.000	3,198	-6.6%	149,568,368	1.5%	21.38	-8.0%	PY17-PY21	-5.3%	PY17-PY20	-5.2%
2018	1	3,274	1.003	3,282	2.6%	156,904,052	4.9%	20.92	-2.2%	PY18-PY21	-5.9%	PY18-PY20	-6.5%
2019	1	2,948	1.008	2,971	-9.5%	152,551,793	-2.8%	19.48	-6.9%	PY19-PY21	-5.4%	PY19-PY20	-6.1%
2020	1	2,612	1.035	2,703	-9.0%	147,702,702	-3.2%	18.30	-6.1%	PY20-PY21	-4.7%		
2021	1	2,669	1.035	2,762	2.2%	158,315,215	7.2%	17.44	-4.7%				
2011	2 (Contracting)	3,913	1.000	3,913	0.0%	206,689,641	0.0%	18.93	0.0%	PY11-PY21	-7.5%	PY11-PY20	-7.5%
2012	2	3,550	1.000	3,550	-9.3%	206,058,731	-0.3%	17.23	-9.0%	PY12-PY21	-7.5%	PY12-PY20	-7.5%
2013	2	3,465	1.000	3,465	-2.4%	210,494,138	2.2%	16.46	-4.5%	PY13-PY21	-7.5%	PY13-PY20	-7.5%
2014	2	3,400	1.000	3,400	-1.9%	225,545,064	7.2%	15.07	-8.4%	PY14-PY21	-7.3%	PY14-PY20	-7.1%
2015	2	3,199	1.000	3,199	-5.9%	239,016,410	6.0%	13.38	-11.2%	<b>PY15-PY21</b>	<b>-6.9%</b>	PY15-PY20	-6.6%
2016	2	3,053	1.000	3,053	-4.6%	248,271,877	3.9%	12.30	-8.1%	PY16-PY21	-6.9%	PY16-PY20	-6.4%
2017	2	3,013	1.000	3,013	-1.3%	260,238,744	4.8%	11.58	-5.9%	PY17-PY21	-7.2%	PY17-PY20	-6.6%
2018	2	3,008	1.002	3,013	0.0%	273,142,458	5.0%	11.03	-4.7%	PY18-PY21	-7.7%	PY18-PY20	-7.0%
2019	2	2,645	1.007	2,663	-11.6%	268,318,220	-1.8%	9.93	-10.0%	PY19-PY21	-7.2%	PY19-PY20	-3.9%
2020	2	2,497	1.023	2,555	-4.1%	267,628,981	-0.3%	9.54	-3.9%	PY20-PY21	-10.4%		
2021	2	2,460	1.023	2,517	-1.5%	294,511,878	10.0%	8.55	-10.4%				
2011	3 (Other)	14,890	1.000	14,890	0.0%	476,782,402	0.0%	31.23	0.0%	PY11-PY21	-6.0%	PY11-PY20	-6.1%
2012	3	14,104	1.000	14,104	-5.3%	472,642,395	-0.9%	29.84	-4.5%	PY12-PY21	-6.2%	PY12-PY20	-6.3%
2013	3	14,389	1.000	14,389	2.0%	485,516,978	2.7%	29.64	-0.7%	PY13-PY21	-6.4%	PY13-PY20	-6.6%
2014	3	13,569	1.000	13,569	-5.7%	504,604,129	3.9%	26.89	-9.3%	PY14-PY21	-6.1%	PY14-PY20	-6.3%
2015	3	13,133	1.000	13,133	-3.2%	529,059,577	4.8%	24.82	-7.7%	<b>PY15-PY21</b>	<b>-6.1%</b>	PY15-PY20	-6.2%
2016	3	12,679	1.000	12,679	-3.5%	543,412,214	2.7%	23.33	-6.0%	PY16-PY21	-6.2%	PY16-PY20	-6.5%
2017	3	12,741	1.000	12,741	0.5%	572,989,397	5.4%	22.24	-4.7%	PY17-PY21	-6.5%	PY17-PY20	-7.1%
2018	3	12,822	1.002	12,845	0.8%	600,299,550	4.8%	21.40	-3.8%	PY18-PY21	-6.6%	PY18-PY20	-8.0%
2019	3	11,313	1.007	11,388	-11.3%	601,355,803	0.2%	18.94	-11.5%	PY19-PY21	-4.4%	PY19-PY20	-4.4%
2020	3	10,653	1.031	10,982	-3.6%	606,849,672	0.9%	18.10	-4.4%	PY20-PY21	-4.3%		
2021	3	11,145	1.031	11,489	4.6%	663,212,205	9.3%	17.32	-4.3%				

Notes:

- 2020 and 2021 are both at first report. 2021 is from policy data, 2020 and beyond is from unit data.
- Expected Losses for PYs 2019 to 2021 were adjusted for 1% excess wage trend compared to historical averages due to the effects of the pandemic.

## PA W.C. - CLAIM FREQUENCIES BY INDUSTRY GROUP PCRB Unit Statistical Plan (Excl. Deductible Business)

