

Actuarial Committee

Meeting Agenda

Date	Time	Location	Staff Contact
April 2, 2019	9:30 AM	WCIRB California 1221 Broadway, Suite 900 Oakland, CA	David M. Bellusci
1221 Broadway, Suite 900 • Oakland, CA 94612 • 415.777.0777 • Fax 415.778.7007 • www.wcirb.com • wcirb@wcirb.com			

Released: March 26, 2019

To Members of the Actuarial Committee, WCIRB Members and All Interested Parties:

I. Approval of Minutes

None

II. Working Group Meeting Summaries

None

III. Unfinished Business

A. AC19-03-02: 12/31/2018 Experience – Review of Methodologies

IV. New Business

A. AC19-04-01: 12/31/2018 Loss Adjustment Expense Experience Review

B. AC19-04-02: 12/31/2018 Experience – Alternative Loss Projections

C. AC19-04-03: Early Indicators of High-Risk Opioid Use and Potential Alternative Measures

D. AC19-04-04: Impact of Geographic Practice Cost Index on Physician Fees

V. Matters Arising at Time of Meeting

VI. Next Meeting Date: June 14, 2019

VII. Adjournment

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V. Matters Arising at Time of Meeting

VI. Next Meeting Date: June 16, 2019

VII. Adjournment

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Item AC19-03-02

12/31/2018 Experience – Review of Methodologies

At the March 18, 2019 meeting, the Committee reviewed a preliminary summary of accident year experience through December 31, 2018. Exhibits 1 through 8 provide an updated analysis of December 31, 2018 experience. In total, approximately 100% of the market is included. The loss projection methodologies are generally consistent with those reflected in the analysis presented at the March 18, 2019 meeting and include the updated adjustments to paid medical loss development for the impact of Senate Bill No. 1160 (SB 1160) and Assembly Bill No. 1244 (AB 1244) and the updates to the loss development tail adopted by the Committee at the March 18, 2019 meeting. Wage and loss levels are projected to April 1, 2020—the approximate midpoint of experience on policies incepting during the period from July 1, 2019 through December 31, 2019. For consistency, premiums have been on-leveled to the July 1, 2018 industry average filed pure premium rate level.¹ Other changes from the analysis presented at the March 19, 2019 meeting include revisions to insurer data submissions and updates to the medical on-level adjustments for the impact of SB 1160 and the Drug Formulary (these updates will be discussed at the meeting).

As shown on Exhibit 8, based on December 31, 2018 accident year experience, the projected loss ratio for policies incepting during the period from July 1, 2019 through December 31, 2019, prior to reflecting the estimated impact of the Drug Formulary on medical costs, is 0.534. (This compares to 0.537 presented at the March 18, 2019 meeting and 0.588 reflected in the January 1, 2019 Pure Premium Rate Filing.)

Exhibits 9 through 12 include supplemental information based on December 31, 2018 experience.

¹ In a potential mid-year filing, premiums will be on-leveled to the January 1, 2019 industry average filed pure premium rate level.

**California Workers' Compensation
Accident Year Experience as of December 31, 2018**

<u>Year</u>	<u>Earned Premium</u>	<u>Paid Indemnity</u>	<u>Indemnity Reserves</u>	<u>Paid Medical**</u>	<u>Medical Reserves</u>	<u>IBNR*</u>	<u>Total Incurred**</u>	<u>Loss Ratio*</u>
1986	3,506,609,097	1,383,026,565	4,788,651	1,140,282,820	33,187,391	21,396,193	2,582,681,620	0.737
1987	4,374,085,383	1,505,778,665	7,131,265	1,331,572,885	40,319,531	57,779,784	2,942,582,130	0.673
1988	5,173,049,472	1,702,765,078	6,281,439	1,538,273,396	36,240,683	44,375,679	3,327,936,275	0.643
1989	5,674,529,942	1,938,547,635	8,311,492	1,793,337,737	51,473,556	41,461,020	3,833,131,440	0.675
1990	5,698,665,461	2,256,550,833	8,264,209	2,037,311,679	49,657,180	61,855,244	4,413,639,145	0.775
1991	5,863,319,243	2,472,902,165	14,210,978	2,190,906,502	55,948,392	62,259,870	4,796,227,907	0.818
1992	5,681,466,382	1,972,657,867	13,330,526	1,753,008,950	59,189,719	60,287,522	3,858,474,584	0.679
1993	5,928,480,359	1,690,479,536	13,742,640	1,502,728,868	76,987,895	46,493,986	3,330,432,925	0.562
1994	5,022,749,028	1,623,604,140	20,404,970	1,459,373,331	89,528,939	44,479,222	3,237,390,602	0.645
1995	3,778,975,599	1,757,933,154	28,708,324	1,607,809,755	105,628,464	60,178,875	3,560,258,572	0.942
1996	3,736,857,547	1,945,388,042	33,969,249	1,701,899,134	110,219,431	72,169,008	3,863,644,864	1.034
1997	3,916,944,392	2,304,930,418	42,729,020	1,995,332,016	136,961,684	105,015,667	4,584,968,805	1.171
1998	4,322,051,270	2,758,468,326	55,497,710	2,613,822,288	230,973,781	200,206,255	5,858,968,360	1.356
1999	4,537,629,086	3,037,190,855	55,890,599	3,004,723,530	198,939,518	248,825,614	6,545,570,116	1.443
2000	5,905,419,052	3,406,654,443	73,002,618	3,526,719,801	236,807,233	412,185,445	7,655,369,540	1.296
2001	10,094,684,192	4,808,650,286	114,243,888	5,304,498,015	402,545,637	622,319,992	11,252,257,818	1.115
2002	13,405,893,679	4,739,586,049	104,630,972	5,420,727,998	357,523,086	891,262,422	11,513,730,527	0.859
2003	19,429,675,115	4,504,507,455	157,833,689	4,987,263,223	373,213,300	1,280,355,460	11,303,173,127	0.582
2004	23,043,963,090	3,173,627,668	134,396,508	3,989,785,201	323,031,400	1,390,032,281	9,010,873,058	0.391
2005	21,350,709,483	2,497,209,231	119,156,372	3,586,973,854	316,443,124	1,121,984,832	7,641,767,413	0.358
2006	17,205,061,787	2,580,640,871	133,414,619	3,686,475,911	348,094,529	912,615,502	7,661,241,432	0.445
2007	13,252,379,499	2,711,347,875	147,609,912	3,945,739,408	394,218,724	744,323,823	7,943,239,742	0.599
2008	10,744,360,124	2,753,597,248	164,539,549	3,932,599,063	399,617,783	541,252,629	7,791,606,272	0.725
2009	8,877,640,496	2,613,217,733	169,160,473	3,726,934,481	394,156,818	550,268,295	7,453,737,800	0.840
2010	9,398,228,398	2,625,412,336	171,465,099	3,807,907,762	370,326,404	625,959,477	7,601,071,078	0.809
2011	10,129,285,077	2,577,963,899	193,204,092	3,433,445,278	418,726,915	846,135,170	7,469,475,354	0.737
2012	11,692,134,220	2,580,785,179	240,542,133	3,287,359,245	462,195,740	1,060,472,490	7,631,354,787	0.653
2013	14,149,827,161	2,577,021,270	267,339,977	3,089,565,585	510,633,421	1,812,009,715	8,256,569,968	0.584
2014	15,997,914,039	2,600,103,684	385,356,259	2,897,153,685	607,969,397	3,105,047,144	9,595,630,169	0.600
2015	17,059,168,432	2,447,181,411	529,900,056	2,655,802,771	822,940,758	3,502,479,225	9,958,304,221	0.584
2016	17,953,150,757	2,011,382,503	710,771,368	2,229,566,394	1,063,280,336	4,062,403,141	10,077,403,742	0.561
2017	17,665,705,827	1,306,465,180	944,548,668	1,641,060,547	1,353,658,228	4,942,890,245	10,188,622,868	0.577
2018	17,425,145,407	447,459,746	822,931,404	735,548,903	1,461,634,308	6,459,429,857	9,927,004,218	0.570

* Shown for informational purposes only.

** Paid medical for accident years 2011 and subsequent exclude the paid cost of medical cost containment programs (MCCP).
Paid medical for accident years 2010 and prior include paid MCCP costs.

Source: WCIRB quarterly experience calls

Incurred Indemnity Loss Development Factors

Accident Year	Age-to-Age (in months)															
	<u>24/12</u>	<u>36/24</u>	<u>48/36</u>	<u>60/48</u>	<u>72/60</u>	<u>84/72</u>	<u>96/84</u>	<u>108/96</u>	<u>120/108</u>	<u>132/120</u>	<u>144/132</u>	<u>156/144</u>	<u>168/156</u>	<u>180/168</u>	<u>192/180</u>	<u>204/192</u>
1992																0.999
1993															1.000	1.000
1994															1.002	1.000
1995															1.001	1.002
1996													1.000	1.002	1.001	1.001
1997												1.002	1.003	1.002	1.001	1.001
1998											1.002	1.003	1.004	1.001	1.002	1.001
1999									1.004	1.004	1.005	1.003	1.003	1.002	1.002	1.001
2000									1.006	1.007	1.006	1.005	1.001	1.004	1.002	1.000
2001							1.011	1.010	1.010	1.007	1.005	1.003	1.003	1.002	1.001	1.001
2002							1.018	1.015	1.015	1.009	1.006	1.004	1.002	1.002	1.003	1.002
2003						1.021	1.026	1.018	1.014	1.007	1.007	1.003	1.001	1.002	1.002	
2004					1.041	1.040	1.028	1.016	1.012	1.006	1.005	1.006	1.003	1.002		
2005				1.068	1.053	1.035	1.023	1.015	1.009	1.007	1.004	1.005	1.003			
2006			1.111	1.080	1.053	1.037	1.022	1.012	1.011	1.005	1.007	1.004	1.005			
2007		1.273	1.120	1.070	1.049	1.030	1.019	1.012	1.009	1.006						
2008	1.858	1.302	1.136	1.074	1.045	1.024	1.019	1.014	1.009							
2009	1.983	1.293	1.142	1.076	1.048	1.026	1.016	1.012								
2010	1.994	1.315	1.131	1.069	1.045	1.026	1.016	1.012								
2011	1.997	1.277	1.133	1.061	1.037	1.022	1.019									
2012	1.992	1.279	1.113	1.063	1.041	1.023										
2013	1.931	1.259	1.111	1.055	1.032											
2014	1.960	1.278	1.115	1.059												
2015	1.969	1.260	1.101													
2016	1.941	1.246														
2017	1.913															
Selected (a)	1.913	1.246	1.101	1.059	1.032	1.023	1.019	1.012	1.011	1.007	1.006	1.004	1.002	1.002	1.002	1.001
Cumulative	3.163	1.653	1.327	1.205	1.138	1.103	1.078	1.058	1.045	1.034	1.028	1.022	1.017	1.015	1.013	1.011

(a) Selections are latest year for the 12-to-24 month through 96-to-108 month factors and six-year average for the subsequent age-to-age factors.

Incurred Indemnity Loss Development Factors (Continued)

Accident Year	216/204	228/216	240/228	252/240	264/252	276/264	288/276	300/288	312/300	324/312	336/324	348/336	360/348	372/360	384/372	396/384	408/396	ULT/408Inc.(b)
1983										1.000	1.001	1.001	1.001	1.001	1.001	1.000	1.001	
1984									1.001	1.001	1.000	1.001	1.001	1.001	1.001	1.000	1.001	
1985								1.001	1.000	1.001	1.001	1.001	1.001	1.000	0.999	1.000	1.000	
1986								1.000	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	
1987								1.000	1.001	1.002	1.001	1.000	0.999	1.000	1.000	1.000	1.000	
1988						1.000		1.001	1.000	1.000	1.001	1.001	1.000	1.001	1.001	1.001	1.001	
1989			1.000	1.001	1.000	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990			0.999	0.999	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1991		1.001	1.001	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1992		1.001	1.001	1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1993	0.998	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1994	0.999	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1995	1.001	1.001	1.002	1.000	1.001	1.001	0.999	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1996	1.003	1.001	0.998	1.001	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1997	1.000	1.000	1.000	1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1998	1.003	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1999	1.000	1.000	1.002	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
2000	1.002	1.001																
2001	1.001																	
Selected (a)	1.002	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
Cumulative	1.010	1.008	1.008	1.007	1.007	1.006	1.005	1.005	1.005	1.005	1.005	1.005	1.004	1.004	1.004	1.003	1.003	1.003

(b) The ULT/408Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 108-to-120 through 348-to-360 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

Incurred Medical Loss Development Factors

Accident Year	Age-to-Age (in months) (b)															
	<u>24/12</u>	<u>36/24</u>	<u>48/36</u>	<u>60/48</u>	<u>72/60</u>	<u>84/72</u>	<u>96/84</u>	<u>108/96</u>	<u>120/108</u>	<u>132/120</u>	<u>144/132</u>	<u>156/144</u>	<u>168/156</u>	<u>180/168</u>	<u>192/180</u>	<u>204/192</u>
1993																1.007
1994															1.021	1.011
1995														1.016	1.005	1.009
1996													1.018	1.013	1.014	1.005
1997												1.012	1.015	1.012	1.003	1.007
1998											1.020	1.017	1.004	1.014	1.008	1.012
1999									1.019	1.019	1.018	1.013	1.011	1.013	1.005	0.999
2000								1.017	1.024	1.024	1.018	1.018	1.012	1.006	0.999	0.995
2001							1.034	1.035	1.022	1.022	1.017	1.015	1.013	1.001	0.997	0.994
2002						1.036	1.029	1.028	1.022	1.022	1.014	1.010	0.999	0.997	1.000	0.999
2003						1.042	1.037	1.029	1.018	1.018	1.011	1.003	0.998	0.999	1.001	
2004					1.060	1.061	1.043	1.032	1.026	1.012	1.006	1.001	0.996	0.998		
2005				1.074	1.084	1.055	1.045	1.032	1.020	1.006	1.006	0.999	1.000			
2006			1.103	1.081	1.066	1.048	1.040	1.022	1.012	1.000	1.001	1.005				
2007		1.204	1.124	1.081	1.070	1.050	1.032	1.018	1.004	1.008	1.001					
2008	1.527	1.212	1.129	1.092	1.061	1.041	1.026	1.010	1.004	1.002						
2009	1.604	1.227	1.140	1.087	1.061	1.030	1.016	1.007	1.005							
2010	1.620	1.245	1.134	1.077	1.045	1.025	1.012	1.008								
2011	1.667	1.222	1.125	1.069	1.034	1.016	1.010									
2012	1.592	1.188	1.092	1.056	1.031	1.015										
2013	1.559	1.150	1.086	1.039	1.022											
2014	1.523	1.159	1.079	1.035												
2015	1.511	1.146	1.064													
2016	1.498	1.124														
2017	1.440															
Selected (a)	1.440	1.124	1.064	1.035	1.022	1.015	1.010	1.008	1.012	1.008	1.007	1.006	1.003	1.002	1.002	1.001
Cumulative	2.026	1.407	1.252	1.176	1.137	1.112	1.096	1.085	1.076	1.064	1.055	1.049	1.043	1.040	1.037	1.036

(a) Selections are latest year for the 12-to-24 month through 96-to-108 month factors and six-year average for the subsequent age-to-age factors.

(b) Incurred medical loss development factors include the paid cost of medical cost containment programs for accident years 2011 and prior.

Incurred Medical Loss Development Factors (Continued)

Accident Year	216/204	228/216	240/228	252/240	264/252	276/264	288/276	300/288	312/300	324/312	336/324	348/336	360/348	372/360	384/372	396/384	408/396	ULT/408inc (c)
1983										1.004	1.002	1.006	1.003	1.004	1.003	1.003	0.997	
1984									1.003	1.002	1.003	1.001	1.003	1.001	1.001	0.997	1.001	
1985								1.003	1.003	1.003	1.005	1.002	1.003	0.998	0.999	1.000	1.000	
1986								1.005	1.006	1.004	1.005	1.000	1.002	0.998	0.999	0.999	1.000	
1987						1.011	1.006	1.007	1.003	1.004	1.005	1.001	0.997	1.001	1.001	1.006		
1988					1.005	1.005	1.002	1.005	1.003	1.003	1.002	0.998	0.999	1.000	1.000			
1989				1.005	1.005	1.008	1.006	1.000	1.003	0.999	0.999	0.999	0.999					
1990				1.005	1.003	1.003	1.003	0.997	1.002	1.000	1.000	0.998						
1991			1.007	1.002	1.003	1.002	1.003	1.001	1.000	0.999	0.998							
1992		1.005	1.004	1.005	1.003	1.005	1.000	0.999	1.001	0.999								
1993	1.005	1.007	1.011	1.004	0.999	1.000	0.996	0.999	0.998									
1994	1.011	1.004	1.007	1.006	1.001	0.996	0.995	1.001										
1995	1.015	0.996	1.006	0.999	1.006	0.992	0.999											
1996	1.008	1.005	1.001	0.998	0.999	0.997												
1997	1.001	0.994	0.998	0.997	0.998													
1998	1.001	1.001	0.994	1.001														
1999	0.999	0.995	1.002															
2000	0.996	0.999																
2001	1.002																	

Selected (a)
Cumulative

1.001
1.035

0.998
1.033

1.001
1.035

0.998
1.035

1.001
1.035

0.998
1.035

1.001
1.035

0.998
1.035

1.001
1.035

0.998
1.035

1.001
1.035

0.998
1.035

1.001
1.035

0.998
1.035

1.001
1.035

0.998
1.035

1.001
1.035

0.998
1.035

1.001
1.035

(c) The ULT/408inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 108-to-120 through 348-to-360 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

Paid Indemnity Loss Development Factors

Accident Year	<u>24/12</u>	<u>36/24</u>	<u>48/36</u>	<u>60/48</u>	<u>72/60</u>	<u>84/72</u>	<u>96/84</u>	Age-to-Age (in months)					<u>144/132</u>	<u>156/144</u>	<u>168/156</u>	<u>180/168</u>	<u>192/180</u>	<u>204/192</u>
1993																		1.003
1994																	1.003	1.003
1995																	1.005	1.003
1996																	1.004	1.004
1997																	1.006	1.005
1998																	1.006	1.006
1999																	1.007	1.006
2000																	1.007	1.004
2001																	1.007	1.005
2002																	1.006	1.005
2003																	1.006	1.005
2004																	1.006	1.005
2005																	1.007	1.007
2006																	1.008	1.008
2007																	1.010	
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
Selected (a)	3.186	1.586	1.244	1.129	1.072	1.051	1.041	1.027	1.024	1.019	1.016	1.016	1.016	1.012	1.009	1.007	1.006	1.005
Cumulative	9.760	3.063	1.931	1.553	1.375	1.283	1.221	1.173	1.142	1.115	1.094	1.094	1.094	1.077	1.065	1.055	1.047	1.040

(a) Selections are latest year for the 12-to-24 month through 96-to-108 month factors and three-year average for the subsequent age-to-age factors.

Paid Indemnity Loss Development Factors (Continued)

Accident Year	216/204	228/216	240/228	252/240	264/252	276/264	288/276	300/288	312/300	Age-to-Age (in months)										360/348	372/360	384/372	396/384	408/396	408Inc/408Pd (b)	U.L.T/408Inc (c)
1983										1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.005					
1984									1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.001	1.000	1.005						
1985								1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.002	1.001	1.001	1.000	1.005						
1986							1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.005							
1987						1.001	1.001	1.001	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.003							
1988					1.001	1.001	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1989				1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1990			1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1991		1.002	1.001	1.001	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1992	1.002	1.002	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1993	1.002	1.003	1.003	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1994	1.004	1.003	1.003	1.003	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1995	1.005	1.005	1.003	1.003	1.002	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1996	1.005	1.004	1.003	1.003	1.002	1.003	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1997	1.004	1.003	1.003	1.002	1.003	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1998	1.006	1.004	1.003	1.003	1.002	1.003	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
1999	1.004	1.003	1.003	1.003	1.002	1.003	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
2000	1.004	1.004	1.003	1.003	1.002	1.003	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							
2001	1.005	1.004	1.003	1.003	1.002	1.003	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003							

Selected (a)
Cumulative

1.004
1.036

1.004
1.007

1.001
1.008

1.001
1.010

1.001
1.011

1.001
1.012

1.001
1.013

1.001
1.014

1.001
1.015

1.001
1.017

1.001
1.019

1.001
1.022

(b) Three-year averages of the 408Inc/408Pd factors are selected.
(c) The U.L.T/408Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 108-to-120 through 348-to-360 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

Paid Medical Loss Development Factors

Unadjusted (a) Accident Year	24/12	36/24	48/36	60/48	72/60	84/72	96/84	108/96	120/108	132/120	144/132	156/144	168/156	180/168	192/180	204/192
1993																
1994															1.011	1.012
1995														1.018	1.018	1.015
1996													1.020	1.018	1.016	1.013
1997												1.022	1.019	1.016	1.014	1.014
1998											1.030	1.021	1.019	1.019	1.015	1.017
1999										1.032	1.025	1.025	1.016	1.016	1.018	1.015
2000									1.031	1.027	1.023	1.020	1.020	1.017	1.013	1.010
2001								1.038	1.034	1.030	1.022	1.022	1.022	1.017	1.012	1.011
2002								1.034	1.032	1.024	1.023	1.018	1.016	1.012	1.011	1.010
2003								1.041	1.030	1.030	1.026	1.019	1.016	1.013	1.012	
2004								1.040	1.036	1.034	1.024	1.018	1.015	1.012		
2005								1.054	1.049	1.038	1.021	1.019	1.014			
2006								1.056	1.042	1.034	1.025	1.020				
2007						1.057		1.051	1.041	1.031	1.022	1.020				
2008						1.070		1.067	1.046	1.032	1.018					
2009						1.068		1.066	1.043	1.030						
2010						1.092		1.095	1.067							
2011						1.138		1.140	1.099							
2012						1.142		1.145	1.097							
2013						1.160		1.160	1.104							
2014						1.152		1.152	1.096							
2015						1.147		1.145	1.095							
2016						1.143		1.143	1.087							
2017						1.130		1.130	1.077							
						1.121										
						1.226										
						1.217										
						1.413										
						1.421										
						1.230										
						1.241										
						1.251										
						1.265										
						1.468										
						1.470										
						1.468										
						1.464										
						1.462										
						1.439										
						1.410										
						2.372										

Adjusted (b) Accident Year	24/12	36/24	48/36	60/48	72/60	84/72	96/84	108/96	120/108	132/120	144/132	156/144	168/156	180/168	192/180	204/192
2000																
2001															1.012	1.010
2002														1.012	1.011	1.010
2003														1.013	1.012	
2004													1.016	1.012		
2005												1.018	1.015	1.012		
2006											1.021	1.019	1.014			
2007											1.020	1.015				
2008									1.031							
2009									1.027							
2010									1.024							
2011																
2012																
2013																
2014																
2015																
2016																
2017																
Selected (c)	2.372	1.410	1.219	1.124	1.080	1.058	1.043	1.030	1.027	1.022	1.020	1.017	1.015	1.012	1.012	1.010
Cumulative Unadjusted for Impact of SB 1160	7.471	3.150	2.234	1.833	1.630	1.510	1.427	1.368	1.328	1.293	1.265	1.240	1.219	1.201	1.186	1.173
Cumulative Adjusted for Impact of SB 1160(d)	7.090	2.989	2.142	1.781	1.603	1.494	1.427	1.368	1.328	1.293	1.265	1.240	1.219	1.201	1.186	1.173

- (a) Paid medical loss development factors include the paid cost of medical cost containment programs for accident years 2011 and prior.
 (b) These factors are adjusted for the losses paid prior to July 1, 2017 by -3.6%, -3.8%, -3.4%, -2.4%, -0.9%, and -0.1% to accident years 2011 to 2016, respectively, for the SB 1160 lien reforms.
 (c) Selections are latest year for the 12-to-24 month through 96-to-108 month factors and three-year average for the subsequent age-to-age factors.
 (d) The cumulative factors for 24, 36, 48, 60, and 72 months are adjusted by -5.1%, -4.1%, -2.8%, -1.7%, and -1.0%, respectively, for the impact of the SB 1160 reductions in future lien filings.

Paid Medical Loss Development Factors (Continued)

Unadjusted (a) Accident Year	216/204	228/216	240/228	252/240	264/252	276/264	288/276	300/288	312/300	324/312	336/324	348/336	360/348	372/360	384/372	396/384	408/396	408inc/408Pd (e)	ULT/408inc (f)
1983																			
1984																			
1985																			
1986																			
1987																			
1988																			
1989																			
1990																			
1991																			
1992																			
1993																			
1994																			
1995																			
1996																			
1997																			
1998																			
1999																			
2000																			
2001																			
Adjusted (b) Accident Year	216/204	228/216	240/228	252/240	264/252	276/264	288/276	300/288	312/300	324/312	336/324	348/336	360/348	372/360	384/372	396/384	408/396	408inc/408Pd (e)	ULT/408inc (f)
1983																			
1984																			
1985																			
1986																			
1987																			
1988																			
1989																			
1990																			
1991																			
1992																			
1993																			
1994																			
1995																			
1996																			
1997																			
1998																			
1999																			
2000																			
2001																			
Selected (c)	1.010	1.009	1.008	1.008	1.008	1.010	1.007	1.005	1.004	1.003	1.003	1.003	1.003	1.004	1.003	1.003	1.003	1.027	
Cumulative	1.161	1.149	1.139	1.130	1.121	1.112	1.102	1.095	1.089	1.084	1.081	1.078	1.075	1.072	1.067	1.064	1.061		1.030

(e) Six-year averages of the 408inc/408Pd factors are selected.
(f) The ULT/408inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 108-to-120 through 348-to-360 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

Selected Indemnity Development Factors - Paid to Age 252, Incurred from Age 252 to Ultimate

Accident Year	24/12	36/24	48/36	60/48	72/60	84/72	96/84	108/96	120/108	132/120	144/132	156/144	168/156	180/168	192/180	204/192	216/204	228/216	240/228	252/240	252Inc/252Pd (c)
1992																					
1993																					
1994																					
1995																					
1996																					
1997																					
1998																					
1999																					
2000																					
2001																					
2002																					
2003																					
2004																					
2005																					
2006																					
2007																					
2008																					
2009																					
2010																					
2011																					
2012																					
2013																					
2014																					
2015																					
2016																					
2017																					
Selected (a)	3.178(c)	1.558(c)	1.222(c)	1.111(c)	1.062(c)	1.043(d)	1.041	1.027	1.024	1.019	1.016	1.012	1.009	1.007	1.006	1.005	1.004	1.004	1.003	1.003	1.020
Cumulative	9.143	2.877	1.846	1.510	1.360	1.280	1.227	1.179	1.148	1.121	1.100	1.083	1.070	1.061	1.053	1.046	1.041	1.037	1.033	1.030	

- (a) Selections are latest year for the 12-to-24 month through 96-to-108 month factors and three-year average for the subsequent paid age-to-age factors. Paid development factors are selected to age 252, where an incurred-to-paid ratio is chosen, and subsequently, six-year average incurred loss development factors are selected until ultimate.
- (b) A three-year average of the 252Inc/252Pd factor is selected.
- (c) Based on calculations shown on Exhibits 2.5.3 to 2.5.8. Each of these selections is calculated as the latest year paid indemnity age-to-age factor multiplied by an adjustment for changes in claim settlement rates.

Selected Indemnity Development Factors - Paid to Age 252, Incurred from Age 252 to Ultimate (Continued)

Accident Year	Age-to-Age (in months)															
	<u>264/252</u>	<u>276/264</u>	<u>288/276</u>	<u>300/288</u>	<u>312/300</u>	<u>324/312</u>	<u>336/324</u>	<u>348/336</u>	<u>360/348</u>	<u>372/360</u>	<u>384/372</u>	<u>396/384</u>	<u>408/396</u>	<u>ULT/408Inc (d)</u>		
1980								1.000								
1981								0.999	1.001							
1982							1.000	1.001	1.001							
1983						1.000	1.001	1.001	1.001	1.001	1.001	1.000	1.001			
1984					1.001	1.001	1.000	1.001	1.001	1.000	0.999	1.000	1.000	1.000		
1985				1.001	1.000	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000		
1986			1.001	1.000	1.001	1.002	1.001	1.000	0.999	1.000	1.000	1.000				
1987		1.000	1.000	1.001	1.002	1.000	1.001	1.001	1.001	1.001	1.001					
1988	1.000	1.001	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000						
1989	1.000	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000							
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001								
1992	1.001	1.001	1.000	1.000	1.000	1.000										
1993	1.001	1.000	1.000	1.000	1.000											
1994	1.001	1.001	0.999	1.001												
1995	1.000	1.001	1.000													
1996	1.001	1.001														
1997	1.001															
Selected (a)	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000			
Cumulative	1.007	1.006	1.005	1.005	1.005	1.005	1.005	1.005	1.004	1.004	1.004	1.003	1.003	1.003		

(d) The ULT/408Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 108-to-120 through 348-to-360 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

**Paid Indemnity Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

A. Total Reported Indemnity Claim Counts

Accident Year	Evaluated as of (in months)						
	<u>12</u>	<u>24</u>	<u>36</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>84</u>
2009							113,385
2010						117,038	117,299
2011					117,525	117,848	118,080
2012				123,509	124,295	124,726	124,865
2013			130,411	131,974	132,732	132,957	
2014		132,653	136,897	138,511	139,056		
2015	111,525	139,012	143,262	144,010			
2016	113,387	142,294	146,172				
2017	117,855	142,817					
2018	117,836						

B. Development of Total Reported Indemnity Claim Counts

Accident Year	Age-to-Age Development (in months):						
	<u>12-24</u>	<u>24-36</u>	<u>36-48</u>	<u>48-60</u>	<u>60-72</u>	<u>72-84</u>	<u>84-Ultimate</u>
2010						1.002	
2011					1.003	1.002	
2012				1.006	1.003	1.001	
2013			1.012	1.006	1.002		
2014		1.032	1.012	1.004			
2015	1.246	1.031	1.005				
2016	1.255	1.027					
2017	1.212						
Latest Year	1.212	1.027	1.005	1.004	1.002	1.001	
Cumulative	1.266	1.044	1.017	1.011	1.007	1.006	1.005

Acc. Year	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
Ult. Claim Counts	149,142	149,166	148,620	145,661	140,099	133,727	125,449

C. Closed Indemnity Claim Counts

Accident Year	Evaluated as of (in months)						
	<u>12</u>	<u>24</u>	<u>36</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>84</u>
2009							100,554
2010						100,711	105,835
2011					96,101	102,784	107,555
2012				92,796	103,252	110,334	115,045
2013			84,282	101,293	112,572	119,559	
2014		65,747	90,461	108,337	120,029		
2015	30,404	70,797	98,160	116,348			
2016	32,406	76,284	104,243				
2017	36,086	80,975					
2018	37,421						

Source: Accident year experience of insurers with available claim count data

**Paid Indemnity Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

D. Ultimate Indemnity Claim Settlement Ratio (a)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							88.2%
2010						85.4%	89.8%
2011					81.0%	86.6%	90.7%
2012				74.0%	82.3%	88.0%	91.7%
2013			63.0%	75.7%	84.2%	89.4%	
2014		46.9%	64.6%	77.3%	85.7%		
2015	20.9%	48.6%	67.4%	79.9%			
2016	21.8%	51.3%	70.1%				
2017	24.2%	54.3%					
2018	25.1%						

E. Adjusted Closed Indemnity Claim Counts at Equal Percentiles of Ultimate Claim Counts (b)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							104,537
2010						105,406	108,120
2011					101,637	106,063	108,793
2012				100,203	107,478	112,158	115,045
2013			93,797	106,816	114,570	119,559	
2014		76,053	98,266	111,905	120,029		
2015	36,548	79,072	102,167	116,348			
2016	37,290	80,679	104,243				
2017	37,427	80,975					
2018	37,421						

F. Average Paid Indemnity per Closed Claim

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							18,114
2010						16,724	18,430
2011					14,925	16,889	18,410
2012				12,612	15,173	17,081	18,340
2013			9,555	12,985	15,444	17,101	
2014		5,627	10,173	13,775	16,341		
2015	2,352	6,209	10,943	14,481			
2016	2,502	6,569	11,025				
2017	2,601	6,643					
2018	2,863						

- (a) Ratio of closed indemnity claim counts (Item C) to the estimated ultimate indemnity claim counts (Item B) for that accident year.
- (b) The claim counts for the latest evaluation of each accident year are equal to the reported number of closed indemnity claims. All prior evaluations shown are the product of the latest ultimate indemnity claim settlement ratio (Item D) and the ultimate indemnity claim counts (Item B) for that accident year.

Source: Accident year experience of insurers with available claim count data

**Paid Indemnity Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

G. Adjusted Average Paid Indemnity per Closed Claim (c)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							19,544
2010						18,281	19,257
2011					16,535	17,921	18,836
2012				14,377	16,285	17,558	18,340
2013			11,343	14,136	15,901	17,101	
2014		7,203	11,613	14,512	16,341		
2015	2,726	7,370	11,640	14,481			
2016	2,786	7,126	11,025				
2017	2,675	6,643					
2018	2,863						

H. Adjusted Paid Indemnity on Closed Claims (in \$000) (d)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							2,043,034
2010						1,926,940	2,082,052
2011					1,680,567	1,900,709	2,049,238
2012				1,440,621	1,750,236	1,969,282	2,109,935
2013			1,063,969	1,509,915	1,821,757	2,044,619	
2014		547,817	1,141,125	1,624,019	1,961,418		
2015	99,634	582,727	1,189,257	1,684,874			
2016	103,890	574,920	1,149,323				
2017	100,112	537,883					
2018	107,138						

I. Paid Indemnity on Open Claims (in \$000)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							565,119
2010						628,788	501,300
2011					675,653	555,700	439,535
2012				778,675	647,914	523,791	417,295
2013			857,752	777,524	623,862	488,939	
2014		741,811	899,437	792,850	618,847		
2015	299,788	778,237	895,874	761,865			
2016	311,989	770,619	862,526				
2017	320,960	768,686					
2018	340,321						

- (c) Adjusted based on ultimate indemnity claim settlement ratios (Item D) and assuming a log-linear relationship between maturities.
(d) Each amount is the product of the adjusted closed indemnity claim counts (Item E) and the adjusted average paid indemnity per closed claim (Item G), and divided by \$1,000.

Source: Accident year experience of insurers with available claim count data

**Paid Indemnity Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

J. Average Paid Indemnity per Open Claim for Indemnity Claims in Transition (e)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							44,043
2010						38,512	43,725
2011					31,537	36,890	41,763
2012				25,353	30,790	36,394	42,494
2013			18,595	25,342	30,945	36,493	
2014		11,087	19,369	26,277	32,525		
2015	3,696	11,409	19,864	27,542			
2016	3,853	11,674	20,571				
2017	3,925	12,430					
2018	4,232						

K. Changes in Paid Indemnity on Open Claims Resulting from the Impact of Changes in
Claim Settlement Rates (in \$000) (f)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							-175,425
2010						-180,815	-99,912
2011					-174,590	-120,962	-51,702
2012				-187,792	-130,117	-66,382	
2013			-176,927	-139,964	-61,829		
2014		-114,256	-151,159	-93,729			
2015	-22,706	-94,406	-79,593				
2016	-18,816	-51,297					
2017	-5,264						

L. Adjusted Paid Indemnity on Open Claims (in \$000) (g)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							389,695
2010						447,973	401,388
2011					501,063	434,738	387,833
2012				590,884	517,797	457,409	417,295
2013			680,825	637,561	562,033	488,939	
2014		627,555	748,278	699,121	618,847		
2015	277,082	683,831	816,281	761,865			
2016	293,173	719,322	862,526				
2017	315,696	768,686					
2018	340,321						

- (e) Each amount is equal to the product of [the average monthly indemnity payment per open indemnity claim] and [the number of months for the current evaluation]. For evaluations indicating claim settlement rate decreases, the average monthly indemnity payment per open indemnity claim at the prior evaluation is used. For evaluations indicating claim settlement rate increases, the average monthly indemnity payment per open indemnity claim at the same evaluation is used.
- (f) Each amount is equal to [the difference between unadjusted and adjusted closed indemnity claim counts (Items C and E)] multiplied by the corresponding [average paid indemnity per open claim for indemnity claims in transition (Item J)].
- (g) Each amount is the sum of [paid indemnity on open claims (Item I)] and the corresponding [incremental changes in paid indemnity on open claims resulting from the impact of changes in claim settlement rates (Item K)].

Source: Accident year experience of insurers with available claim count data

**Paid Indemnity Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

M. Adjusted Total Paid Indemnity (in \$000) (h)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							2,432,729
2010						2,374,914	2,483,440
2011					2,181,630	2,335,448	2,437,071
2012				2,031,504	2,268,033	2,426,691	2,527,230
2013			1,744,794	2,147,476	2,383,790	2,533,558	
2014		1,175,372	1,889,403	2,323,140	2,580,265		
2015	376,717	1,266,558	2,005,538	2,446,739			
2016	397,063	1,294,242	2,011,849				
2017	415,808	1,306,569					
2018	447,460						

N. Paid Indemnity Loss Development Factors Based on Adjusted Total Paid Indemnity

Accident Year	Evaluated as of (in months)					
	12-24	24-36	36-48	48-60	60-72	72-84
2009						
2010						1.046
2011					1.071	1.044
2012				1.116	1.070	1.041
2013			1.231	1.110	1.063	
2014		1.607	1.230	1.111		
2015	3.362	1.583	1.220			
2016	3.260	1.554				
2017	3.142					
Latest Year	3.142	1.554	1.220	1.111	1.063	1.041
3-Year Average	3.255	1.582	1.227	1.112	1.068	1.044

O. Paid Indemnity Loss Development Factors (i)

Accident Year	Evaluated as of (in months)					
	12-24	24-36	36-48	48-60	60-72	72-84
2010						1.060
2011					1.086	1.056
2012				1.136	1.088	1.049
2013			1.258	1.129	1.072	
2014		1.637	1.256	1.129		
2015	3.280	1.618	1.242			
2016	3.235	1.582				
2017	3.150					

- (h) Each amount is the sum of the adjusted paid indemnity on closed claims (Item H) and the adjusted paid indemnity on open claims (Item L).
- (i) Development factors are based on paid indemnity losses from the same insurer mix as that used in the adjustment for changes in claim settlement rates and applied in the calculation of the development factors in Item N.

Source: Accident year experience of insurers with available claim count data

**Paid Indemnity Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

P. Impact of Adjustment for Changes in Claim Settlement Rates (j)

Accident Year	Evaluated as of (in months)					
	<u>12-24</u>	<u>24-36</u>	<u>36-48</u>	<u>48-60</u>	<u>60-72</u>	<u>72-84</u>
2010						-1.35%
2011					-1.43%	-1.17%
2012				-1.75%	-1.62%	-0.75%
2013			-2.19%	-1.66%	-0.90%	
2014		-1.79%	-2.09%	-1.63%		
2015	2.51%	-2.12%	-1.77%			
2016	0.75%	-1.74%				
2017	-0.24%					

Q. Paid Indemnity Loss Development Factors Adjusted for Changes in
Indemnity Claim Settlement Rates (k)

Accident Year	Evaluated as of (in months)					
	<u>12-24</u>	<u>24-36</u>	<u>36-48</u>	<u>48-60</u>	<u>60-72</u>	<u>72-84</u>
2010						1.046
2011					1.071	1.044
2012				1.117	1.069	1.043
2013			1.232	1.110	1.062	
2014		1.606	1.231	1.111		
2015	3.360	1.584	1.222			
2016	3.259	1.558				
2017	3.178					
Latest Year	3.178	1.558	1.222	1.111	1.062	1.043
3-Year Average	3.266	1.583	1.228	1.113	1.068	1.044

(j) Each factor represents the change in age-to-age development factors from Item O to those in Item N.

(k) Each factor is the product of [1.0 + the impact of adjustment for changes in claim settlement rates (Item P)] and [the paid indemnity age-to-age development factor from Exhibit 2.5.1].

Source: Accident year experience of insurers with available claim count data

Selected Medical Development Factors - Paid to Age 252, Incurred from Age 252 to Ultimate (Continued)

Accident Year	Age-to-Age (in months)															
	<u>264/252</u>	<u>276/264</u>	<u>288/276</u>	<u>300/288</u>	<u>312/300</u>	<u>324/312</u>	<u>336/324</u>	<u>348/336</u>	<u>360/348</u>	<u>372/360</u>	<u>384/372</u>	<u>396/384</u>	<u>408/396</u>	<u>ULT/408Inc (g)</u>		
1983										1.004	1.003	0.997	0.999			
1984									1.003	1.001	0.997	1.000	1.001			
1985									1.003	0.998	0.999	0.999	1.000			
1986							1.005	1.000	1.002	0.998	1.001	1.006				
1987						1.004	1.005	1.001	0.997	1.001	1.000					
1988					1.003	1.003	1.002	0.998	0.999	1.000						
1989			1.003	1.000	0.997	0.999	0.999	0.999	0.999							
1990			1.002	1.001	1.001	1.000	1.000	0.998								
1991		1.003	1.005	1.001	1.000	0.999	0.998									
1992		1.003	1.000	0.999	1.001	0.999										
1993	1.003	1.000	0.996	0.999	0.998											
1994	1.001	0.996	0.995	1.001												
1995	1.006	0.992	0.999													
1996	0.999	0.997														
1997	0.998															

Selected (c) 1.001 0.999 0.999 1.000 1.001 1.001 1.001 1.002 1.000 1.001 1.000 1.000 1.001 1.000 1.030

Cumulative 1.033 1.032 1.033 1.034 1.034 1.034 1.033 1.033 1.031 1.031 1.031 1.031 1.031 1.030 1.030

(g) The UL T/408Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 108-to-120 through 348-to-360 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

**Paid Medical Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

A. Total Reported Indemnity Claim Counts

Accident Year	Evaluated as of (in months)						
	<u>12</u>	<u>24</u>	<u>36</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>84</u>
2009							113,385
2010						117,038	117,299
2011					117,525	117,848	118,080
2012				123,509	124,295	124,726	124,865
2013			130,411	131,974	132,732	132,957	
2014		132,653	136,897	138,511	139,056		
2015	111,525	139,012	143,262	144,010			
2016	113,387	142,294	146,172				
2017	117,855	142,817					
2018	117,836						

B. Development of Total Reported Indemnity Claim Counts

Accident Year	Age-to-Age Development (in months):						
	<u>12-24</u>	<u>24-36</u>	<u>36-48</u>	<u>48-60</u>	<u>60-72</u>	<u>72-84</u>	<u>84-Ultimate</u>
2010						1.002	
2011					1.003	1.002	
2012				1.006	1.003	1.001	
2013			1.012	1.006	1.002		
2014		1.032	1.012	1.004			
2015	1.246	1.031	1.005				
2016	1.255	1.027					
2017	1.212						
Latest Year	1.212	1.027	1.005	1.004	1.002	1.001	
Cumulative	1.266	1.044	1.017	1.011	1.007	1.006	1.005

Acc. Year	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
Ult. Claim Counts	149,142	149,166	148,620	145,661	140,099	133,727	125,449

C. Closed Indemnity Claim Counts

Accident Year	Evaluated as of (in months)						
	<u>12</u>	<u>24</u>	<u>36</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>84</u>
2009							100,554
2010						100,711	105,835
2011					96,101	102,784	107,555
2012				92,796	103,252	110,334	115,045
2013			84,282	101,293	112,572	119,559	
2014		65,747	90,461	108,337	120,029		
2015	30,404	70,797	98,160	116,348			
2016	32,406	76,284	104,243				
2017	36,086	80,975					
2018	37,421						

Source: Accident year experience of insurers with available claim count and paid loss data

**Paid Medical Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

D. Ultimate Indemnity Claim Settlement Ratio (a)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							88.2%
2010						85.4%	89.8%
2011					81.0%	86.6%	90.7%
2012				74.0%	82.3%	88.0%	91.7%
2013			63.0%	75.7%	84.2%	89.4%	
2014		46.9%	64.6%	77.3%	85.7%		
2015	20.9%	48.6%	67.4%	79.9%			
2016	21.8%	51.3%	70.1%				
2017	24.2%	54.3%					
2018	25.1%						

E. Adjusted Closed Indemnity Claim Counts at Equal Percentiles of Ultimate Claim Counts (b)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							104,537
2010						105,406	108,120
2011					101,637	106,063	108,793
2012				100,203	107,478	112,158	115,045
2013			93,797	106,816	114,570	119,559	
2014		76,053	98,266	111,905	120,029		
2015	36,548	79,072	102,167	116,348			
2016	37,290	80,679	104,243				
2017	37,427	80,975					
2018	37,421						

F. Average Paid Medical per Closed Indemnity Claim

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							22,663
2010						20,833	23,467
2011					17,300	20,271	22,466
2012				13,847	17,109	19,468	21,131
2013			10,011	13,626	16,518	18,572	
2014		5,835	10,091	13,705	16,387		
2015	2,533	6,283	10,486	13,877			
2016	2,745	6,516	10,517				
2017	2,854	6,673					
2018	2,974						

- (a) Ratio of closed indemnity claim counts (Item C) to the estimated ultimate indemnity claim counts (Item B) for that accident year.
- (b) The claim counts for the latest evaluation of each accident year are equal to the reported number of closed indemnity claims. All prior evaluations shown are the product of the latest ultimate indemnity claim settlement ratio (Item D) and the ultimate indemnity claim counts (Item B) for that accident year.

Source: Accident year experience of insurers with available claim count and paid loss data

**Paid Medical Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

G. Adjusted Average Paid Medical per Closed Indemnity Claim (c)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							24,847
2010						23,235	24,722
2011					19,728	21,756	23,080
2012				16,086	18,480	20,096	21,131
2013			11,895	14,973	17,081	18,572	
2014		7,332	11,534	14,474	16,387		
2015	2,909	7,336	11,154	13,877			
2016	3,022	7,026	10,517				
2017	2,927	6,673					
2018	2,974						

H. Adjusted Paid Medical (in \$000) on Closed Indemnity Claims (d)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							2,597,473
2010						2,449,150	2,672,919
2011					2,005,048	2,307,461	2,510,936
2012				1,611,880	1,986,180	2,253,878	2,430,984
2013			1,115,703	1,599,301	1,957,017	2,220,478	
2014		557,653	1,133,437	1,619,657	1,966,967		
2015	106,308	580,073	1,139,602	1,614,580			
2016	112,684	566,819	1,096,294				
2017	109,557	540,382					
2018	111,279						

I. Paid Medical on Open Indemnity Claims (in \$000)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							880,631
2010						937,493	765,673
2011					932,386	780,489	626,929
2012				964,538	825,150	682,212	563,356
2013			963,750	892,961	728,573	579,457	
2014		823,505	943,679	833,813	654,577		
2015	363,998	832,621	902,020	785,811			
2016	379,104	827,976	868,482				
2017	403,330	827,756					
2018	423,820						

- (c) Adjusted based on ultimate indemnity claim settlement ratios (Item D) and assuming a log-linear relationship between maturities.
- (d) Each amount is equal to the product of [adjusted closed indemnity claim counts (Item E)] and [adjusted average paid medical per closed indemnity claim (Item G)], and divided by \$1,000.

Source: Accident year experience of insurers with available claim count and paid loss data

**Paid Medical Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

J. Average Paid Medical per Open Indemnity Claim for Indemnity Claims in Transition (e)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							68,633
2010						57,420	66,785
2011					43,521	51,812	59,568
2012				31,405	39,212	47,401	57,368
2013			20,892	29,104	36,139	43,250	
2014		12,308	20,322	27,634	34,403		
2015	4,487	12,206	20,000	28,408			
2016	4,681	12,543	20,713				
2017	4,933	13,385					
2018	5,270						

K. Changes in Paid Medical on Open Indemnity Claims Resulting from the Impact of Changes in Indemnity Claim Settlement Rates (in \$000) (f)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							-273,366
2010						-269,586	-152,603
2011					-240,931	-169,893	-73,745
2012				-232,616	-165,710	-86,459	
2013			-198,791	-160,744	-72,207		
2014		-126,839	-158,594	-98,572			
2015	-27,569	-101,003	-80,139				
2016	-22,864	-55,115					
2017	-6,615						

L. Adjusted Paid Medical on Open Indemnity Claims (in \$000) (g)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							607,265
2010						667,907	613,070
2011					691,455	610,596	553,184
2012				731,922	659,439	595,753	563,356
2013			764,959	732,218	656,366	579,457	
2014		696,666	785,085	735,241	654,577		
2015	336,429	731,617	821,881	785,811			
2016	356,240	772,861	868,482				
2017	396,716	827,756					
2018	423,820						

- (e) Each amount is equal to the product of [the average monthly medical payment per open indemnity claim] and [the number of months for the current evaluation]. For evaluations indicating claim settlement rate decreases, the average monthly medical payment per open indemnity claim at the prior evaluation is used. For evaluations indicating claim settlement rate increases, the average monthly medical payment per open indemnity claim at the same evaluation is used.
- (f) Each amount is equal to [the difference between unadjusted and adjusted closed indemnity claim counts (Items C and E)] multiplied by [the corresponding average paid medical per open indemnity claim for indemnity claims in transition (Item J)].
- (g) Each amount is the sum of [paid medical on open indemnity claims (Item I)] and the corresponding [incremental changes in paid medical on open indemnity claims resulting from the impact of changes in indemnity claim settlement rates (Item K)].

Source: Accident year experience of insurers with available claim count and paid loss data

**Paid Medical Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

M. Paid Medical on Medical-Only Claims (in \$000)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							227,807
2010						223,592	226,665
2011					211,137	214,690	218,218
2012				214,146	219,452	223,986	226,238
2013			212,155	219,855	226,236	229,444	
2014		224,805	236,382	243,778	248,341		
2015	157,104	237,621	248,043	254,816			
2016	168,323	253,005	265,212				
2017	186,711	272,997					
2018	200,450						

N. Adjusted Total Paid Medical (in \$000) (h)

Accident Year	Evaluated as of (in months)						
	12	24	36	48	60	72	84
2009							3,432,545
2010						3,384,088	3,557,849
2011					3,149,109	3,387,388	3,547,050
2012				2,557,948	2,865,071	3,073,617	3,220,578
2013			2,092,817	2,551,374	2,839,619	3,029,380	
2014		1,479,124	2,154,905	2,598,677	2,869,884		
2015	599,842	1,549,311	2,209,525	2,655,207			
2016	637,247	1,592,684	2,229,988				
2017	692,984	1,641,135					
2018	735,549						

O. Paid Medical Loss Development Factors Based on Adjusted Total Paid Medical

Accident Year	Evaluated as of (in months)					
	12-24	24-36	36-48	48-60	60-72	72-84
2010						1.051
2011					1.076	1.047
2012				1.120	1.073	1.048
2013			1.219	1.113	1.067	
2014		1.457	1.206	1.104		
2015	2.583	1.426	1.202			
2016	2.499	1.400				
2017	2.368					
Latest Year	2.368	1.400	1.202	1.104	1.067	1.048

(h) Each amount is the sum of [adjusted paid medical on closed indemnity claims (Item H)], [adjusted paid medical on open indemnity claims (Item L)] and [paid medical on medical-only claims (Item M)]. The effect of the paid cost of medical cost containment programs are only present for accident years 2011 and prior.

Source: Accident year experience of insurers with available claim count and paid loss data

**Paid Medical Loss Development Factors
With Separate Adjustments on Open and Closed Claims
for Changes in Claim Settlement Rates**

P. Paid Medical Loss Development Factors (i)

Accident Year	Evaluated as of (in months)					
	12-24	24-36	36-48	48-60	60-72	72-84
2010						1.066
2011					1.094	1.058
2012				1.141	1.086	1.054
2013			1.234	1.129	1.076	
2014		1.462	1.224	1.120		
2015	2.533	1.438	1.218			
2016	2.480	1.413				
2017	2.368					

Q. Impact of Adjustment for Changes in Indemnity Claim Settlement Rates (j)

Accident Year	Evaluated as of (in months)					
	12-24	24-36	36-48	48-60	60-72	72-84
2010						-1.39%
2011					-1.66%	-1.01%
2012				-1.84%	-1.26%	-0.63%
2013			-1.24%	-1.41%	-0.89%	
2014		-0.32%	-1.50%	-1.40%		
2015	1.97%	-0.86%	-1.36%			
2016	0.79%	-0.92%				
2017	0.01%					

R. Paid Medical Loss Development Factors Adjusted for Changes in Indemnity
Claim Settlement Rates (k)

Accident Year	Evaluated as of (in months)					
	12-24	24-36	36-48	48-60	60-72	72-84
2010						1.051
2011					1.077	1.048
2012				1.122	1.074	1.051
2013			1.223	1.116	1.070	
2014		1.457	1.210	1.108		
2015	2.583	1.428	1.202			
2016	2.499	1.397				
2017	2.372					
Latest Year	2.372	1.397	1.202	1.108	1.070	1.051
3-Year Average	2.485	1.427	1.212	1.115	1.074	1.050

(i) Development factors are based on paid medical losses from the same insurer mix as that used in the adjustment for changes in claim settlement rates and applied in the calculation of the development factors in Item O.

(j) Each factor represents the change in age-to-age development factors from Item P to those in Item O.

(k) Each factor is the product of [1.0 + the impact of adjustment for changes in claim settlement rates (Item Q)] and [the adjusted paid medical age-to-age development factor from Exhibit 2.6.1].

Source: Accident year experience of insurers with available claim count and paid loss data

**Developed Indemnity Loss Ratios Using Selected Loss Development Factors
Adjusted for Changes in Claim Settlement Rates
Based on Experience as of December 31, 2018**

Accident Year	Development Factors			
	(1) Paid or Incurred Loss Ratio(a)	(2) Annual(b)	(3) Cumulative	(4) Projected Ultimate Loss Ratio (4) = (1) x (3)
1986	0.396	1.000	1.003	0.397
1987	0.346	1.000	1.003	0.347
1988	0.330	1.000	1.004	0.332
1989	0.343	1.000	1.004	0.344
1990	0.397	1.000	1.004	0.399
1991	0.424	1.001	1.005	0.426
1992	0.350	1.000	1.005	0.351
1993	0.287	1.000	1.005	0.289
1994	0.327	1.000	1.005	0.329
1995	0.473	1.000	1.005	0.475
1996	0.530	1.000	1.005	0.532
1997	0.599	1.001	1.006	0.603
1998	0.651	1.001	1.007	0.655
1999	0.669	1.003	1.030	0.689
2000	0.577	1.003	1.033	0.596
2001	0.476	1.004	1.037	0.494
2002	0.354	1.004	1.041	0.368
2003	0.232	1.005	1.046	0.243
2004	0.138	1.006	1.053	0.145
2005	0.117	1.007	1.061	0.124
2006	0.150	1.009	1.070	0.161
2007	0.205	1.012	1.083	0.222
2008	0.256	1.016	1.100	0.282
2009	0.294	1.019	1.121	0.330
2010	0.279	1.024	1.148	0.321
2011	0.255	1.027	1.179	0.300
2012	0.221	1.041	1.227	0.271
2013	0.182	1.043	1.280	0.233
2014	0.163	1.062	1.360	0.221
2015	0.143	1.111	1.510	0.217
2016	0.112	1.222	1.846	0.207
2017	0.074	1.558	2.877	0.213
2018	0.026	3.178	9.143	0.235

(a) Based on Exhibit 1. To reflect the selected loss development methodology, reported loss ratios displayed prior to 1999 are on an incurred basis. Subsequent reported loss ratios are on a paid basis.

(b) See Exhibits 2.5.1 and 2.5.2.

**Developed Medical Loss Ratios Using Selected Loss Development Factors
Adjusted for Changes in Claim Settlement Rates
Based on Experience as of December 31, 2018**

	(1)	(2)	(3)	(4)	(5)
			Reform Adjusted		
			<u>Development Factors</u>		
			<u>Cumulative</u>		
Accident Year	Paid or Incurred Loss Ratio(a)	Annual(b)	Unadjusted for Reforms(b)	Adjusted for Reforms(b)	Projected Ultimate Loss Ratio (1) x (4)
1986	0.335	1.000	1.030	1.030	0.345
1987	0.314	1.001	1.031	1.031	0.323
1988	0.304	1.000	1.031	1.031	0.314
1989	0.325	1.000	1.031	1.031	0.335
1990	0.366	1.001	1.031	1.031	0.378
1991	0.383	1.000	1.031	1.031	0.395
1992	0.319	1.002	1.033	1.033	0.329
1993	0.266	1.001	1.033	1.033	0.275
1994	0.308	1.001	1.034	1.034	0.319
1995	0.453	1.000	1.034	1.034	0.469
1996	0.485	0.999	1.033	1.033	0.501
1997	0.544	0.999	1.032	1.032	0.562
1998	0.658	1.001	1.033	1.033	0.680
1999	0.662	1.008	1.127	1.127	0.746
2000	0.597	1.008	1.136	1.136	0.679
2001	0.525	1.009	1.146	1.146	0.602
2002	0.404	1.010	1.158	1.158	0.468
2003	0.257	1.010	1.170	1.170	0.300
2004	0.173	1.012	1.184	1.184	0.205
2005	0.168	1.012	1.199	1.199	0.201
2006	0.214	1.015	1.217	1.217	0.261
2007	0.298	1.017	1.238	1.238	0.368
2008	0.366	1.020	1.263	1.263	0.462
2009	0.420	1.022	1.290	1.290	0.542
2010	0.405	1.027	1.325	1.325	0.537
2011	0.339	1.030	1.365	1.365	0.463
2012	0.281	1.043	1.424	1.424	0.400
2013	0.218	1.051	1.497	1.482	0.324
2014	0.181	1.070	1.602	1.575	0.285
2015	0.156	1.108	1.776	1.726	0.269
2016	0.124	1.202	2.135	2.048	0.254
2017	0.093	1.397	2.983	2.831	0.263
2018	0.042	2.372	7.076	6.715	0.283

- (a) Based on Exhibit 1. Paid MCCC costs are excluded from accident years 2011 and subsequent. To reflect the selected loss development methodology, reported loss ratios displayed prior to 1999 are on an incurred basis. Subsequent reported loss ratios are on a paid basis.
- (b) See Exhibits 2.6.1 and 2.6.2.

Indemnity Benefit Level Factors

Accident Year	(1) Annual Benefit Change Prior to Frequency Adjustments (a)	(2) Frequency Adjustments (a)	(3) Annual Impact on Indemnity Benefits Due to Wage Inflation (b)	(4a) Annual Cost Impact on Indemnity (c)	(5a) Composite Indemnity Adjustment Factor (d)	
1986	0.0	0.0	1.6	1.6	1.551	
1987	0.0	0.0	1.9	1.9	1.522	
1988	0.0	0.0	1.5	1.5	1.500	
1989	0.0	0.0	1.5	1.5	1.478	
1990	2.3	19.9	1.7	24.7	1.184	
1991	4.9	14.8	0.8	21.4	0.976	
1992	1.8	-8.3	1.6	-5.2	1.029	
1993	0.2	-18.1	0.4	-17.6	1.249	
1994	-5.1	0.2	0.6	-4.3	1.305	
1995	6.3	0.6	1.0	8.0	1.209	
1996	5.3	0.4	1.2	7.0	1.130	
1997	9.7	0.2	1.6	11.7	1.011	
1998	6.5	0.0	1.8	8.4	0.933	
1999	5.7	0.0	2.1	7.9	0.864	
2000	3.9	0.0	3.1	7.1	0.807	
2001	-0.3	0.0	0.2	-0.1	0.808	
2002	-0.7	0.0	0.4	-0.3	0.828	(e)
2003	7.3	0.0	1.2	8.6	0.826	(e)
2004	-6.0	-13.7	1.7	-17.5	1.137	(e)
2005	-31.6	-15.3	1.1	-41.5	1.544	
2006	5.6	-5.7	1.6	1.2	1.526	
2007	1.6	0.0	1.6	3.2	1.478	
2008	4.8	0.6	0.7	6.2	1.393	
2009	0.4	1.4	0.2	2.0	1.365	
2010	0.4	0.0	1.0	1.4	1.346	
2011	0.0	0.0	1.6	1.6	1.325	
2012	0.3	0.0	2.1	2.4	1.294	
2013	2.6	0.2	0.4	3.2	1.254	
2014	7.0	1.5	1.7	10.4	1.135	
2015	0.3	0.0	2.3	2.6	1.106	
2016	0.3	0.0	1.0	1.3	1.092	
2017	0.5	0.0	1.5	2.0	1.071	
2018	0.4	0.0	2.0	2.4	1.046	
2019	0.4	0.0	2.2	2.6		
4/1/2020	0.3 (Annual 0.5)	0.0	1.6 (Annual 2.1)	1.9		

- (a) Based on WCIRB evaluations of the average impact of legislative changes on the cost of indemnity benefits. These annual changes in benefits reflect the WCIRB's retrospective estimates of the cost impact of recent legislation as reflected in emerging post-reform costs. The annual cost impacts have been segregated between claim severity and claim frequency impacts.
- (b) These impacts are based on the weekly wages (See Exhibit 5.1) of injured workers and the legislatively scheduled benefits for that year.
- (c) $\{ [\text{Column (1)} / 100 + 1.0] \times [\text{Column (2)} / 100 + 1.0] \times [\text{Column (3)} / 100 + 1.0] - 1.0 \} \times 100$.
- (d) These factors represent the combined impact of the annual benefit changes on claim severity shown in Column (1), claim frequencies shown in Column (2) and wage inflation impact on benefits shown in Column (3), adjusted to the 4/1/2020 level.
- (e) On-level factors for accident years 2002, 2003 and 2004 adjust the portion of permanent disability claims that are estimated to not be subject to the January 1, 2005 PDRS (95% for accident year 2002, 75% for accident year 2003 and 40% for accident year 2004) to the January 1, 2005 PDRS level, and adjust for the corresponding utilization impacts on all 2002, 2003 and 2004 indemnity claims.

Annual Medical Cost Level Change - Non-Legislative

Accident Year	(1) Proportion of Medical Subject to Fee Schedule (a)	(2) Proportion of Medical Not Subject to Fee Schedule (a)	(3) Impact of Fee Schedule Change on Total Medical (b)	(4) Change in Medical CPI (c)	(5) Impact of CPI Change on Total Medical (d)	(6) Annual Non-Legislative Cost Impact on Total Medical (e)
1986	0.604	0.396	0.0%	9.1%	3.0%	3.0%
1987	0.610	0.390	0.9%	7.4%	2.9%	3.8%
1988	0.649	0.351	0.8%	7.7%	3.0%	3.8%
1989	0.647	0.353	0.0%	8.6%	3.0%	3.0%
1990	0.661	0.339	0.0%	10.4%	3.7%	3.7%
1991	0.631	0.369	0.0%	10.6%	3.6%	3.6%
1992	0.628	0.372	0.0%	8.1%	3.0%	3.0%
1993	0.565	0.435	0.0%	7.3%	2.7%	2.7%
1994	0.691	0.309	-3.6%	4.3%	1.3% (i)	-2.3%
1995	0.681	0.319	0.0%	3.0%	0.9%	0.9%
1996	0.663	0.337	0.0%	3.0%	1.0%	1.0%
1997	0.643	0.357	0.0%	2.2%	0.7%	0.7%
1998	0.658	0.342	0.0%	2.2%	0.8%	0.8%
1999	0.728	0.272	1.6%	3.3%	0.9% (ii)	2.5%
2000	0.715	0.285	0.5%	4.3%	1.2%	1.7%
2001	0.722	0.278	1.5%	4.8%	1.4%	2.9%
2002	0.635	0.365	0.6%	5.1%	1.4%	2.0%
2003	0.786	0.214	0.0%	4.8%	1.4% (iii)	1.4%
2004	0.952	0.048	0.0%	5.0%	0.0% (iv),(v)	0.0%
2005	0.936	0.064	0.0%	4.8%	0.0% (v)	0.0%
2006	0.926	0.074	0.0%	4.1%	0.3%	0.3%
2007	0.923	0.077	1.4%	5.3%	0.4%	1.8%
2008	0.896	0.104	-0.1%	4.2%	0.3%	0.2%
2009	0.894	0.106	0.0%	3.6%	0.4%	0.4%
2010	0.895	0.105	0.0%	2.8%	0.3%	0.3%
2011	0.969	0.031	0.0%	3.2%	0.3%	0.3%
2012	0.969	0.031	0.0%	2.7%	0.1%	0.1%
2013	0.938	0.062	0.0%	2.6%	0.1%	0.1%
2014	0.928	0.072	0.0%	4.2%	0.3%	0.3%
2015	0.933	0.067	0.0%	3.1%	0.2%	0.2%
2016	0.918	0.082	0.0%	5.4%	0.4%	0.4%
2017	0.906	0.094	0.0%	2.2%	0.2%	0.2%
2018	0.906	0.094	0.0%	2.2%	0.2%	0.2%
2019	0.906	0.094	0.0%	2.4%	0.2%	0.2%
4/1/2020	0.906	0.094	0.0% (Annual 0.0%)	2.0% (Annual 2.7%)	0.2%	0.2%

(a) From a Special Carrier Study through 1990. Based on WCIRB's Aggregate Indemnity and Medical Costs Calls for years 1991 through 2012. Based on WCIRB medical transaction data from 2013 onwards. Accident years 2011 and subsequent do not include MCCC costs.

(b) Based on the WCIRB's evaluation of the cost impact of changes in the medical fee schedules.

(c) Based on a component of the Consumer Price Index. Projections furnished by the California Department of Finance.

(d) Adjusted CPI on workers' compensation medical costs that are not subject to fee schedules. The current year impact is the weighted average of 0% and Column (4), with Columns (1) and (2) from prior years as weights. (i) 1993's non-fee proportion is reduced by 13.8% due to the new medical-legal fee schedule enacted in 1994. (ii) 1998's non-fee proportion is reduced by 7.7% due to the Inpatient Hospital Fee Schedule (IHFS) effective 4/1/1999. (iii) 2002's non-fee proportion is reduced by 7.6% due to the new pharmaceutical fee schedule effective 1/1/2003. (iv) 2003's non-fee proportion is reduced by 17.2% due to the outpatient fee schedule effective 1/1/2004. (v) Given the anticipated impact of legislative reform, a 0% inflation rate has been assumed for 2004 and 2005.

(e) Column (6) = Column (3) + Column (5).

Annual Medical Cost Level Change - Legislative

Accident <u>Year</u>	(1) Annual Legislative Cost Impact on Medical Severity(a)	(2) Annual Legislative Cost Impact on Medical Due to Frequency Changes(b)	(3) Annual Total Legislative Cost Impact on Medical(c)
1986	0.0%	0.0%	0.0%
1987	0.0%	0.0%	0.0%
1988	0.0%	0.0%	0.0%
1989	0.0%	0.0%	0.0%
1990	-0.7%	19.9%	19.1%
1991	-1.6%	14.7%	12.9%
1992	0.5%	-8.4%	-7.9%
1993	-0.7%	-18.1%	-18.7%
1994	-2.6%	0.3%	-2.3%
1995	0.0%	0.5%	0.5%
1996	0.0%	0.4%	0.4%
1997	0.0%	0.2%	0.2%
1998	12.6%	0.0%	12.6%
1999	12.6%	0.0%	12.6%
2000	7.0%	0.0%	7.0%
2001	6.6%	0.0%	6.6%
2002	-5.6%	0.0%	-5.6%
2003	-6.0%	0.0%	-6.0%
2004	-24.4%	-12.5%	-33.9%
2005	0.0%	-13.9%	-13.9%
2006	0.1%	-5.2%	-5.1%
2007	0.1%	0.0%	0.1%
2008	0.2%	0.3%	0.5%
2009	0.0%	1.0%	1.0%
2010	0.0%	0.0%	0.0%
2011	-3.0%	0.0%	-3.0%
2012	-5.4%	0.0%	-5.4%
2013	-9.2%	0.2%	-9.0%
2014	-6.3%	1.3%	-5.1%
2015	-2.5%	0.0%	-2.5%
2016	-0.5%	0.0%	-0.5%
2017	-0.4%	0.0%	-0.4%
2018	0.3%	0.0%	0.3%
2019	0.0%	0.0%	0.0%
4/1/2020	0.0%	0.0%	0.0%

- (a) Reflects the WCIRB's most recent estimates of the cost impact of legislation including SB 863 provisions effective 1/1/2013 and 1/1/2014. Does not include the impact of the SB 1160 lien provisions on future medical costs, which are reflected in the medical loss development projections.
- (b) This reflects the annual percentage impact on medical costs due to changes in the frequency of indemnity claims as a result of benefit changes.
- (c) $[\text{Column (1)} + 1.0] \times [\text{Column (2)} + 1.0] - 1.0$

Total Medical Cost Level Factors

Accident Year	(1) Annual Non-Legislative Cost Impact on Medical (a)	(2) Annual Legislative Cost Impact on Medical(b)	(3) Total Annual Cost Impact on Medical(c)	(4) Composite Medical On-level Factor(d)
1986	3.0%	0.0%	3.0%	0.801
1987	3.8%	0.0%	3.8%	0.772
1988	3.8%	0.0%	3.8%	0.743
1989	3.0%	0.0%	3.0%	0.722
1990	3.7%	19.1%	23.5%	0.585
1991	3.6%	12.9%	16.9%	0.500
1992	3.0%	-7.9%	-5.2%	0.527
1993	2.7%	-18.7%	-16.5%	0.631
1994	-2.3%	-2.3%	-4.6%	0.661
1995	0.9%	0.5%	1.4%	0.652
1996	1.0%	0.4%	1.4%	0.643
1997	0.7%	0.2%	0.9%	0.637
1998	0.8%	12.6%	13.5%	0.562
1999	2.5%	12.6%	15.4%	0.487
2000	1.7%	7.0%	8.8%	0.447
2001	2.9%	6.6%	9.7%	0.408
2002	2.0%	-5.6%	-3.7%	0.423
2003	1.4%	-6.0%	-4.7%	0.444
2004	0.0%	-33.9%	-33.9%	0.671
2005	0.0%	-13.9%	-13.9%	0.780
2006	0.3%	-5.1%	-4.8%	0.819
2007	1.8%	0.1%	1.9%	0.804
2008	0.2%	0.5%	0.7%	0.798
2009	0.4%	1.0%	1.4%	0.787
2010	0.3%	0.0%	0.3%	0.785
2011	0.3%	-3.0%	-2.7%	0.807
2012	0.1%	-5.4%	-5.3%	0.852
2013	0.1%	-9.0%	-8.9%	0.936
2014	0.3%	-5.1%	-4.8%	0.983
2015	0.2%	-2.5%	-2.3%	1.006
2016	0.4%	-0.5%	-0.1%	1.007
2017	0.2%	-0.4%	-0.2%	1.009
2018	0.2%	0.3%	0.5%	1.004
2019	0.2%	0.0%	0.2%	
4/1/2020	0.2%	0.0%	0.2%	

- (a) See Exhibit 4.2, Column (6).
- (b) See Exhibit 4.3, Column (3).
- (c) $\text{Column (3)} = [1.0 + \text{Column (1)}] \times [1.0 + \text{Column (2)}] - 1.0$.
- (d) These factors adjust the annual impact shown in Column (3) to the 4/1/2020 level.

Annual Wage Level Changes

<u>Year</u>	<u>Annual Wage Level Change(a)</u>	<u>Factor to a 4/1/2020 Wage Level</u>
1986	4.7	3.248
1987	5.6	3.076
1988	4.4	2.947
1989	4.3	2.825
1990	5.0	2.691
1991	2.3	2.630
1992	4.7	2.512
1993	1.2	2.482
1994	1.8	2.438
1995	2.9	2.370
1996	3.4	2.292
1997	4.7	2.189
1998	5.2	2.081
1999	6.2	1.959
2000	9.0	1.797
2001	0.6	1.787
2002	1.1	1.767
2003	3.6	1.706
2004	5.0	1.625
2005	3.2	1.574
2006	4.6	1.505
2007	4.5	1.440
2008	2.1	1.411
2009	0.5	1.404
2010	3.0	1.363
2011	3.1	1.322
2012	4.1	1.270
2013	0.7	1.261
2014	3.3	1.221
2015	4.4	1.169
2016	1.9	1.147
2017	2.9	1.115
2018	3.9	1.073
Projected: 2019	4.2	
4/1/2020	3.0	(Annual = 4.0)

(a) Historical wage changes through 2017 are based on Bureau of Labor Statistics data. Forecasts for 2018 to 2020 are based on the average of wage level projections made by the UCLA Anderson School of Business as of December 2018 and those made by the California Department of Finance as of November 2018.

Premium Adjustment Factors

	(1)	(2a)	(2b)	(2c)	(3)	(4)	(5)	(6)	(7)
		Ratio of Industry Average Charged Rates to Advisory Pure Premium	Factor to Industry Average Filed Pure Premium Rate Level as of July 1, 2018 (c)	Factor to Adjust Insurer Premium to an Industry Average Filed Pure Premium Rate Level as of July 1, 2018 (d)	Adjustment to Remove Surcharge Premium (e)	Average Experience Modification (f)	Off-Balance Correction in Advisory July 1, 2018 Pure Premium Rates	Factor to Adjust for Impact of Premium Resulting from Audits (g)	Composite Premium Adjustment Factor (h)
Calendar Year	Factor to a 4/1/2020 Wage Level (a)	Rates (b)	July 1, 2018 (c)	July 1, 2018 (d)	Premium (e)	Modification (f)	Rates	Audits (g)	Factor (h)
1986	3.248	---	---	0.792	0.991	0.983	1.015	---	2.554
1987	3.076	---	---	0.696	0.992	0.983	1.015	---	2.129
1988	2.947	---	---	0.622	0.993	0.963	1.015	---	1.863
1989	2.825	---	---	0.613	0.993	0.945	1.015	---	1.792
1990	2.691	---	---	0.598	0.991	0.942	1.015	---	1.666
1991	2.630	---	---	0.553	0.987	0.939	1.015	---	1.507
1992	2.512	---	---	0.531	0.982	0.940	1.015	---	1.373
1993	2.482	---	---	0.524	0.981	0.949	1.015	---	1.325
1994	2.438	---	---	0.600	0.986	0.948	1.015	---	1.500
1995	2.370	---	---	0.812	0.995	0.958	1.015	---	1.970
1996	2.292	1.023	0.863	0.844	1.000	0.935	1.015	---	2.037
1997	2.189	0.989	0.861	0.871	1.000	0.949	1.015	---	1.978
1998	2.081	0.965	0.897	0.930	1.000	0.959	1.015	---	1.987
1999	1.959	0.972	0.907	0.933	1.000	0.954	1.015	---	1.888
2000	1.797	1.005	0.822	0.818	1.000	0.970	1.015	---	1.493
2001	1.787	1.029	0.724	0.704	1.000	0.969	1.015	---	1.278
2002	1.767	1.157	0.648	0.560	1.000	0.991	1.015	---	0.984
2003	1.706	1.267	0.530	0.418	1.000	1.005	1.015	---	0.700
2004	1.625	1.397	0.539	0.386	1.000	0.981	1.015	---	0.630
2005	1.574	1.470	0.649	0.441	1.000	0.982	1.015	---	0.697
2006	1.505	1.447	0.836	0.578	1.000	0.956	1.015	---	0.896
2007	1.440	1.493	1.139	0.763	1.000	0.931	1.015	0.985	1.145
2008	1.411	1.426	1.356	0.951	1.000	0.946	1.015	0.991	1.384
2009	1.404	1.366	1.337	0.979	1.000	0.937	1.015	1.034	1.494
2010	1.363	1.384	1.310	0.947	1.000	0.941	1.015	1.005	1.357
2011	1.322	1.401	1.309	0.934	1.000	0.982	1.015	---	1.239
2012	1.270	1.223	1.079	0.882	1.000	1.000	1.015	---	1.104
2013	1.261	1.138	0.869	0.764	1.000	0.983	1.015	---	0.965
2014	1.221	1.126	0.800	0.710	1.000	0.961	1.015	---	0.889
2015	1.169	1.109	0.778	0.702	1.000	0.951	1.015	---	0.850
2016	1.147	1.148	0.838	0.730	1.000	0.949	1.015	---	0.869
2017	1.115	1.156	0.925	0.800	1.000	0.956	1.015	---	0.919
2018	1.073	1.193	1.047	0.878	1.000	0.958	1.015	---	0.969

- (a) See Exhibit 5.1.
- (b) Based on WCIRB calendar year experience calls. The industry average charged rates reflect most rating plan adjustments but do not reflect the application of deductible credits or retrospective rating plan adjustments.
- (c) Reflects (1) advisory pure premium rate level changes to bring premium to the advisory July 1, 2018 pure premium rate level and (2) an additional adjustment factor, which is the ratio of the average advisory July 1, 2018 pure premium rate (\$1.78) to the industry average filed pure premium rate as of July 1, 2018 (\$2.13).
- (d) $(2b) \div (2a)$. This column adjusts premiums at the industry average charged rate level to the industry average filed pure premium rate level as of July 1, 2018.
- (e) Based on unit statistical data.
- (f) Based on average promulgated experience modifications. Calendar years 1996 through 2000 include adjustments for the impacts of AB 1913 and SB 1217 (1998).
- (g) Based on a comparison of premium reported on a calendar year basis to premium reported on an estimated ultimate policy year basis over the course of two accident years. The factor is applied only for calendar years 2007 to 2010, during which reported premiums were impacted by recessionary economic forces.
- (h) $(1) \times (2c) \times (3) \times (6) \div [(4) \times (5)]$ for calendar years 2007 to 2010. $(1) \times (2c) \times (3) \div [(4) \times (5)]$ for all other calendar years.

2018 Accident Year Indemnity Claim Frequency Model
As of PY 2016 Preliminary 1st Set & December 2018 UCLA

AY	Annual % Changes Intra- Class Ind Freq	Annual Log Differences						
		Intra-Class Indemnity Frequency per \$M Exposure at PY 2016 Level				AY+1 Indemnity Benefit Level	Cumulative Injury Index	Economic Variables (1st Prin. Comp.)
		Total	Cumulative	Non-cum.				
1962	----	----	----	----	----	----	----	----
1963	2.0%	0.020	----	----	0.000	----	-0.029	0.000
1964	0.3%	0.003	----	----	0.000	----	0.004	0.000
1965	-0.3%	-0.003	----	----	0.000	----	0.020	0.000
1966	1.7%	0.017	----	----	0.000	----	0.191	0.000
1967	1.8%	0.017	----	----	0.000	----	-0.146	0.000
1968	1.4%	0.014	----	----	0.049	----	0.059	0.000
1969	2.7%	0.026	----	----	0.000	----	0.044	0.000
1970	1.8%	0.018	----	----	0.000	----	-0.337	0.000
1971	1.5%	0.015	----	----	0.162	----	-0.186	0.000
1972	-4.3%	-0.044	----	----	0.040	----	0.161	0.000
1973	7.0%	0.067	----	----	0.049	----	0.090	0.000
1974	19.2%	0.176	----	----	0.058	----	-0.035	0.000
1975	12.5%	0.118	----	----	0.000	----	-0.300	0.000
1976	0.8%	0.008	----	----	0.063	----	0.085	0.000
1977	4.3%	0.042	----	----	0.001	----	0.112	0.000
1978	-8.7%	-0.091	----	----	0.000	----	0.173	0.000
1979	0.5%	0.005	-0.053	0.007	0.000	-0.060	0.134	0.000
1980	-6.5%	-0.068	-0.132	-0.066	0.033	-0.066	-0.080	0.000
1981	-3.5%	-0.036	-0.028	-0.036	0.000	0.008	-0.079	0.000
1982	-1.6%	-0.016	0.153	-0.022	0.352	0.175	-0.294	0.000
1983	6.2%	0.060	0.214	0.054	0.081	0.160	0.029	0.000
1984	9.5%	0.091	0.235	0.084	0.000	0.151	0.222	0.000
1985	2.0%	0.020	0.138	0.014	0.000	0.124	0.081	0.000
1986	-2.4%	-0.024	0.039	-0.028	0.000	0.067	0.078	0.000
1987	1.5%	0.015	0.053	0.013	0.000	0.041	0.151	0.000
1988	0.7%	0.007	0.104	0.000	0.000	0.104	0.088	0.000
1989	2.5%	0.024	0.212	0.009	0.046	0.203	0.045	0.000
1990	9.0%	0.087	0.337	0.061	0.071	0.276	-0.121	0.000
1991	0.3%	0.003	0.166	-0.018	0.023	0.184	-0.293	0.000
1992	-11.1%	-0.118	-0.272	-0.098	0.013	-0.174	-0.186	0.068
1993	-14.9%	-0.162	-0.240	-0.153	-0.057	-0.088	-0.022	0.464
1994	-12.8%	-0.136	-0.462	-0.107	0.061	-0.355	0.106	0.173
1995	-4.6%	-0.048	-0.016	-0.050	0.053	0.034	0.092	0.295
1996	-6.8%	-0.070	-0.136	-0.065	0.096	-0.071	0.075	0.000
1997	-3.3%	-0.033	-0.023	-0.034	0.066	0.011	0.138	0.000
1998	-3.8%	-0.038	-0.040	-0.038	0.058	-0.002	0.079	0.000
1999	1.5%	0.014	0.100	0.008	0.040	0.092	0.128	0.000
2000	4.0%	0.039	0.071	0.037	-0.003	0.034	0.066	0.000
2001	-6.9%	-0.072	-0.018	-0.076	-0.007	0.059	-0.101	0.000
2002	-2.3%	-0.023	0.007	-0.026	0.060	0.033	-0.202	0.000
2003	-2.9%	-0.029	-0.005	-0.031	-0.065	0.026	-0.023	0.000
2004	-16.6%	-0.182	-0.209	-0.180	-0.398	-0.030	0.093	0.000
2005	-13.6%	-0.146	-0.298	-0.133	0.051	-0.165	0.141	0.000
2006	-5.7%	-0.059	-0.050	-0.059	0.016	0.009	0.095	0.000
2007	-1.6%	-0.017	0.021	-0.019	0.049	0.040	-0.084	0.000
2008	-2.7%	-0.027	0.038	-0.033	0.006	0.071	-0.308	0.000
2009	-0.2%	-0.002	0.168	-0.018	0.066	0.186	-0.427	0.000
2010	8.9%	0.085	0.139	0.079	0.012	0.060	-0.092	0.000
2011	1.3%	0.013	0.032	0.010	0.003	0.022	0.043	0.000
2012	4.6%	0.045	0.127	0.035	0.025	0.091	0.123	0.000
2013	0.4%	0.004	0.134	-0.014	0.071	0.147	0.151	0.000
2014	0.2%	0.002	0.066	-0.008	0.003	0.074	0.178	0.000
2015	-0.9%	-0.009	0.048	-0.018	0.002	0.066	0.194	0.000
2016	-3.5%	-0.036	0.031	-0.047	0.004	0.079	0.124	0.000
2017*	-3.5%	-0.036	0.083	-0.059	0.004	0.142	0.140	0.000
2018	-0.9%	-0.009	-0.009	-0.009	0.003	0.000	0.129	0.000
2019	-2.4%	-0.024	-0.024	-0.024	0.004	0.000	-0.061	0.000
2020	-1.9%	-0.019	-0.019	-0.019	0.004	0.000	0.002	0.000
2021	-2.3%	-0.023	-0.023	-0.023	0.004	0.000	-0.044	0.000

Y = Hazardousness-Adjusted Noncumulative Indemnity Claim Frequency

Constant	-0.020
Std Err of Y Est	0.041
R Squared	0.544
No. of Observations	39
Degrees of Freedom	34

X Coefficient(s)	0.177	0.270	0.082	-0.133
Std Err of Coef.	0.075	0.064	0.045	0.079

Notes:

Indemnity Benefit Level variable is leading. The benefit level change for AY 2004 is related to the AY 2003 change in non-cumulative frequency.
The Indemnity Benefit Level change for Ogilvie & Almaraz / Guzman in 2009-2010 is not leading.
The Indemnity Benefit Level variable excludes indemnity benefit utilization, and changes in the death and permanent total benefits.
The Indemnity Benefit Level variable has been revised due to on-leveling reassessments. See Actuarial Committee item AC09-03-03.
For 1993 on, cumulative claims include both cumulative trauma and occupational disease claims. See March 19, 2014 Actuarial Committee Agenda Item III.
Economic variables are historical through 2017; December 2018 UCLA Anderson Forecasts for 2018 on.
Regression is over AY 1979 through AY 2017. AY 2018 through AY 2021 are projections.
The constant term, -0.020, consists of measured offsets that recognize annual changes in real benefit levels relative to nominal benefit levels and long-term economic growth. Without these offsets, the indemnity benefit level and economic variables would project frequency to increase without bound.
*AY 2017 is preliminary and change is based on a comparison of 2017 accidents on 2016 policies to 2016 accidents on 2015 policies.

**Projection of Indemnity Severity Trends by Accident Year
Based on Experience as of December 31, 2018**

Accident Year	(1) Estimated Ultimate Severity	(2) Annual % Change	(3) Indemnity Adjustment Factor (a)	(4) Ultimate On-level Severity (1) x (3)	(5) Annual % Change
1990	9,960	---	1.895	18,870	---
1991	10,884	9.3%	1.792	19,501	3.3%
1992	10,993	1.0%	1.732	19,044	-2.3%
1993	11,974	8.9%	1.722	20,619	8.3%
1994	12,939	8.1%	1.804	23,337	13.2%
1995	14,514	12.2%	1.680	24,384	4.5%
1996	16,254	12.0%	1.577	25,625	5.1%
1997	19,306	18.8%	1.414	27,308	6.6%
1998	21,168	9.6%	1.305	27,617	1.1%
1999	23,200	9.6%	1.209	28,048	1.6%
2000	24,632	6.2%	1.129	27,799	-0.9%
2001	27,110	10.1%	1.130	30,626	10.2%
2002	26,207	-3.3%	1.158	30,335	-0.9%
2003	25,830	-1.4%	1.155	29,843	-1.6%
2004	21,069	-18.4%	1.373	28,921	-3.1%
2005	19,031	-9.7%	1.578	30,036	3.9%
2006	20,732	8.9%	1.471	30,498	1.5%
2007	22,542	8.7%	1.425	32,124	5.3%
2008	24,650	9.3%	1.350	33,286	3.6%
2009	25,798	4.7%	1.342	34,628	4.0%
2010	25,398	-1.6%	1.324	33,619	-2.9%
2011	25,108	-1.1%	1.303	32,712	-2.7%
2012	24,721	-1.5%	1.272	31,451	-3.9%
2013	24,230	-2.0%	1.235	29,926	-4.8%
2014	24,971	3.1%	1.135	28,345	-5.3%
2015	25,268	1.2%	1.106	27,956	-1.4%
2016	24,814	-1.8%	1.092	27,110	-3.0%
2017	24,880	0.3%	1.071	26,654	-1.7%
2018	26,594	6.9%	1.046	27,810	4.3%

(6) Estimated Annual Exponential Trend Based on 1990 to 2018: 1.3%

(7) Estimated Annual Exponential Trend Based on 2005 to 2018: -1.4%

(8) Estimated Annual Exponential Trend Based on 2014 to 2018: -0.9%

Selected Indemnity Severity Trend: -0.5%

(a) These adjustment factors are based on Exhibit 4.1, excluding the impact of frequency.

Source: WCIRB experience calls.

**Projection of Medical Severity Trends by Accident Year
Based on Experience as of December 31, 2018**

Accident Year	(1) Estimated Ultimate Severity (a)	(2) Annual % Change	(3) Medical Adjustment Factor (b)	(4) Ultimate On-level Severity (1) x (3)	(5) Annual % Change
1990	8,786	---	0.912	8,014	---
1991	9,420	7.2%	0.895	8,429	5.2%
1992	9,532	1.2%	0.864	8,240	-2.2%
1993	10,563	10.8%	0.848	8,954	8.7%
1994	11,671	10.5%	0.891	10,396	16.1%
1995	13,360	14.5%	0.883	11,794	13.4%
1996	14,302	7.0%	0.874	12,500	6.0%
1997	16,973	18.7%	0.868	14,732	17.9%
1998	20,845	22.8%	0.765	15,941	8.2%
1999	23,901	14.7%	0.663	15,837	-0.7%
2000	26,752	11.9%	0.609	16,289	2.9%
2001	31,809	18.9%	0.555	17,657	8.4%
2002	32,083	0.9%	0.576	18,496	4.8%
2003	30,628	-4.5%	0.605	18,525	0.2%
2004	28,271	-7.7%	0.800	22,618	22.1%
2005	29,115	3.0%	0.800	23,292	3.0%
2006	31,737	9.0%	0.797	25,290	8.6%
2007	35,429	11.6%	0.782	27,705	9.5%
2008	38,277	8.0%	0.779	29,812	7.6%
2009	40,267	5.2%	0.776	31,237	4.8%
2010	40,514	0.6%	0.773	31,335	0.3%
2011	36,801 (c)	---	0.795	29,255 (c)	---
2012	34,653	-5.8%	0.840	29,091	-0.6%
2013	31,818	-8.2%	0.924	29,388	1.0%
2014	30,325	-4.7%	0.983	29,804	1.4%
2015	29,430	-3.0%	1.006	29,606	-0.7%
2016	28,522	-3.1%	1.007	28,722	-3.0%
2017	28,627	0.4%	1.009	28,886	0.6%
2018	29,865	4.3%	1.004	29,985	3.8%

Selected Medical Severity Trend: 2.5%

- (a) Estimated ultimate severities for all accident years are derived by dividing ultimate medical losses on indemnity claims by ultimate indemnity claim counts. The estimated ultimate medical severities were derived from the projected ultimate loss ratios shown in Exhibit 3.2, column (5).
- (b) These adjustment factors are based on Exhibit 4.4, excluding the impact of frequency, and including the impact of SB 1160 provisions applicable to outstanding medical losses.
- (c) Severities for accident years 2011 and subsequent do not reflect the cost of medical cost containment programs (MCCP). Severities for accident years 2010 and prior do reflect MCCP costs.

Source: WCIRB experience calls.

**Projection of Medical Severity Trends by Accident Year
Adjusted to Remove the Cost of Medical Cost Containment Programs (MCCP)
Based on Experience as of December 31, 2018**

(1) Accident Year	MCCP Included				MCCP Removed Based on WCIRB Aggregate Calendar Year Data Calls (b)			
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Estimated Ultimate Severity (a)	Annual % Change	Ultimate On-Level Severity (c)	Annual % Change	Estimated Ultimate Severity (a)	Annual % Change	Ultimate On-Level Severity (c)	Annual % Change
2005	29,115	---	23,292	---	27,587	---	22,070	---
2006	31,738	9.0%	25,290	8.6%	29,756	7.9%	23,710	7.4%
2007	35,429	11.6%	27,705	9.5%	33,076	11.2%	25,864	9.1%
2008	38,277	8.0%	29,812	7.6%	34,932	5.6%	27,207	5.2%
2009	40,267	5.2%	31,237	4.8%	36,909	5.7%	28,632	5.2%
2010	40,514	0.6%	31,335	0.3%	37,098	0.5%	28,693	0.2%
2011	40,325	-0.5%	32,056	2.3%	36,801	-0.8%	29,255	2.0%
2012	37,925	-6.0%	31,838	-0.7%	34,653	-5.8%	29,091	-0.6%
2013	34,891	-8.0%	32,226	1.2%	31,818	-8.2%	29,388	1.0%
2014	33,222	-4.8%	32,650	1.3%	30,325	-4.7%	29,804	1.4%
2015	32,116	-3.3%	32,308	-1.0%	29,430	-3.0%	29,606	-0.7%
2016	31,076	-3.2%	31,294	-3.1%	28,522	-3.1%	28,722	-3.0%
2017	31,275	0.6%	31,558	0.8%	28,627	0.4%	28,886	0.6%
2018	32,784	4.8%	32,915	4.3%	29,865	4.3%	29,985	3.8%

Estimated Annual Exponential Trend

Trend Based on 1990 to 2018:

Trend Based on 2005 to 2018:

Trend Based on 2014 to 2018:

5.7%
2.0%
-0.1%

Selected Medical Severity Trend:

2.5%

(a) Estimated ultimate severities for all accident years were derived by dividing ultimate medical losses on indemnity claims by ultimate indemnity claim counts.

(b) Adjustments to accident years 2005 through 2010 based on WCIRB's Annual Calls for Direct California Workers' Compensation Aggregate Indemnity and Medical Costs.

(c) Ultimate severities are on-leveled based on adjustment factors shown on Exhibit 6.3.

Source: WCIRB experience calls.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity Loss Ratio(a)	(2) Composite Indemnity Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1)×(2)÷(3)
1986	0.397	1.551	2.554	0.241
1987	0.347	1.522	2.129	0.248
1988	0.332	1.500	1.863	0.267
1989	0.344	1.478	1.792	0.284
1990	0.399	1.184	1.666	0.284
1991	0.426	0.976	1.507	0.276
1992	0.351	1.029	1.373	0.263
1993	0.289	1.249	1.325	0.272
1994	0.329	1.305	1.500	0.286
1995	0.475	1.209	1.970	0.292
1996	0.532	1.130	2.037	0.295
1997	0.603	1.011	1.978	0.308
1998	0.655	0.933	1.987	0.308
1999	0.689	0.864	1.888	0.316
2000	0.596	0.807	1.493	0.322
2001	0.494	0.808	1.278	0.312
2002	0.368	0.828	0.984	0.310
2003	0.243	0.826	0.700	0.286
2004	0.145	1.137	0.630	0.262
2005	0.124	1.544	0.697	0.275
2006	0.161	1.526	0.896	0.273
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.221	1.135	0.889	0.282
2015	0.217	1.106	0.850	0.282
2016	0.207	1.092	0.869	0.260
2017	0.213	1.071	0.919	0.248
2018	0.235	1.046	0.969	0.253
				Projections (d)
2019				0.243
4/1/2020				0.238

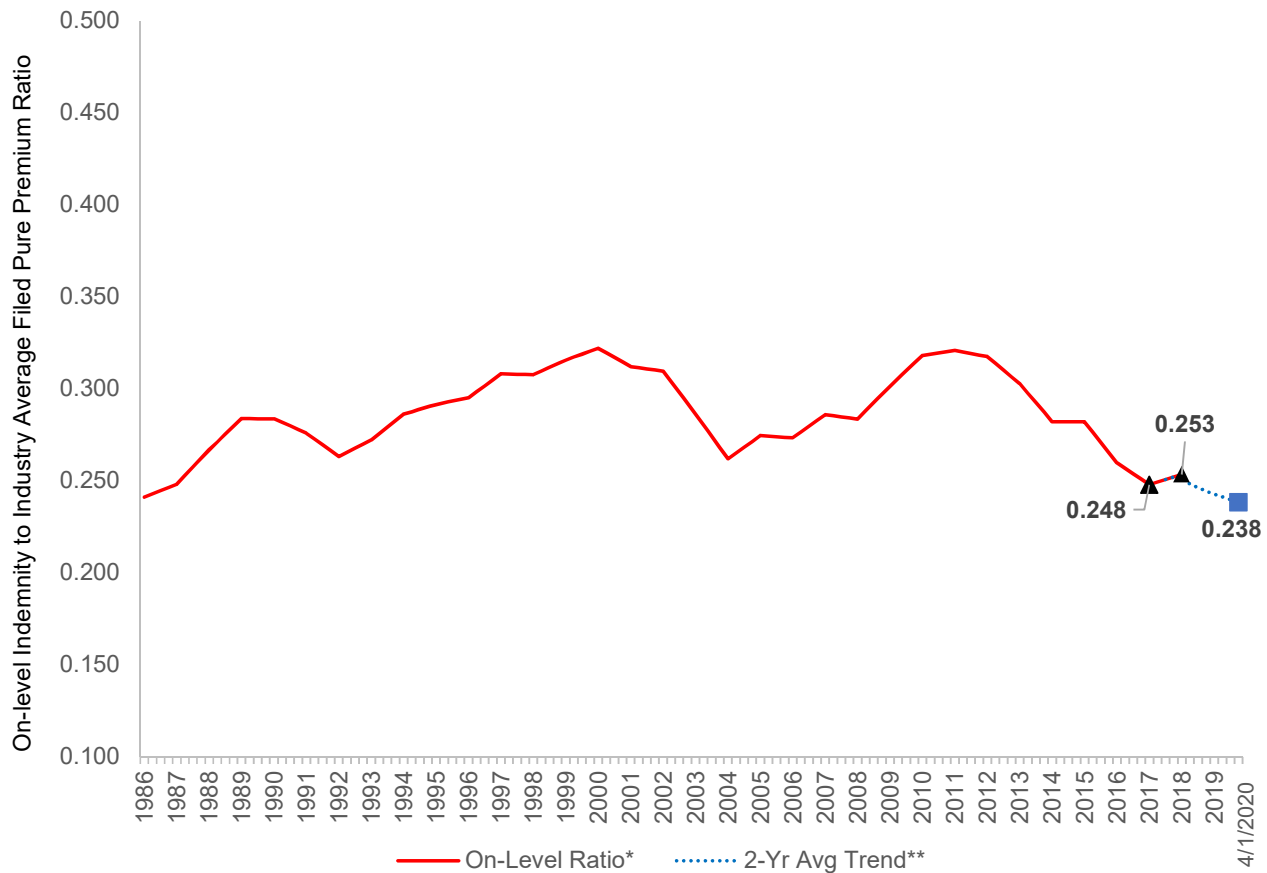
(a) See Exhibit 3.1.

(b) See Exhibit 4.1.

(c) See Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Exhibit 6.2, the actual frequency trend for accident year 2018 from Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**On-Level Indemnity Loss to Industry Average Filed Pure Premium Ratios
Based on Experience as of December 31, 2018**



* On-level indemnity to industry average filed pure premium ratios (see Exhibit 7.1)

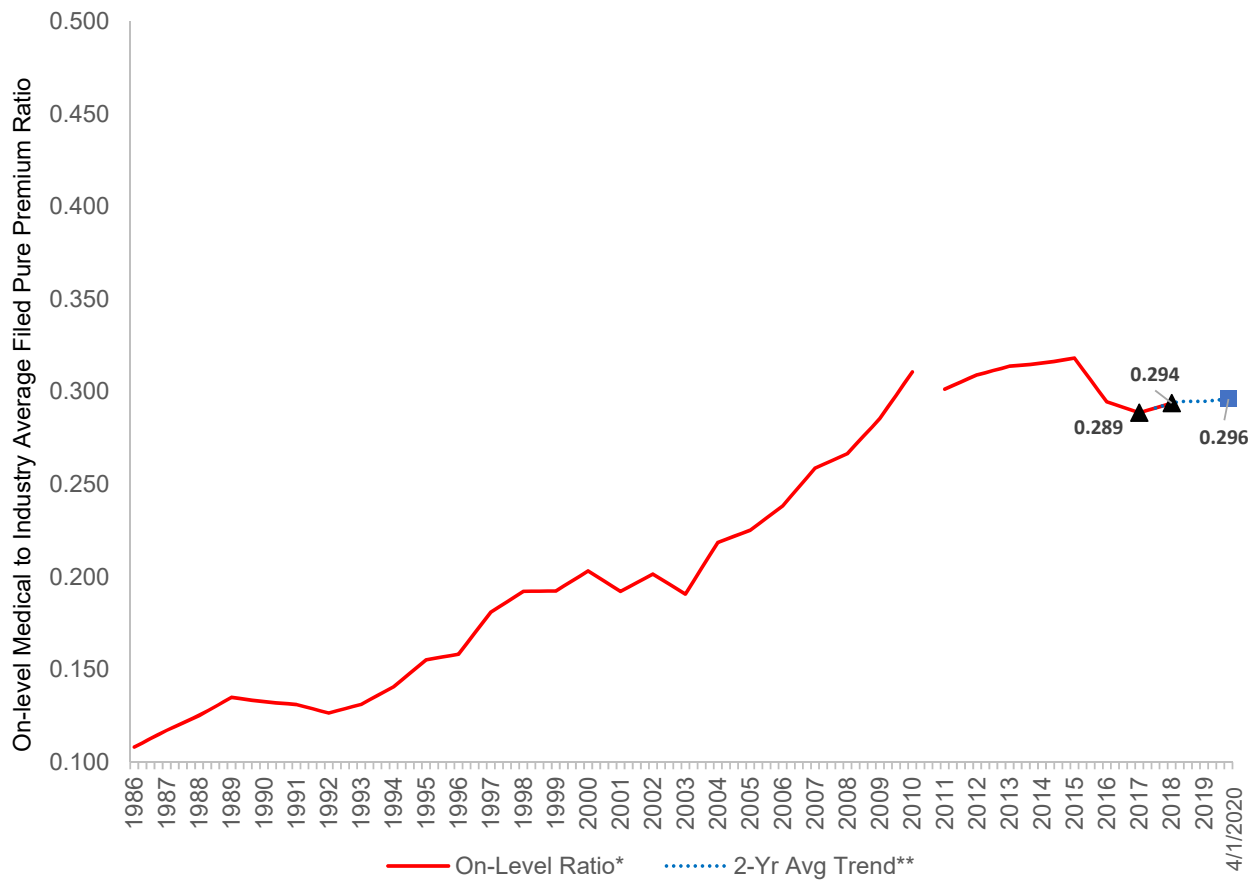
** The 4/1/2020 indemnity to industry average filed pure premium ratio was calculated based on separate frequency and severity trends applied to the 2017 and 2018 years.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical Loss Ratio(a)	(2) Composite Medical On-Level Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1)×(2)÷(3)
1986	0.345	0.801	2.554	0.108
1987	0.323	0.772	2.129	0.117
1988	0.314	0.743	1.863	0.125
1989	0.335	0.722	1.792	0.135
1990	0.378	0.585	1.666	0.132
1991	0.395	0.500	1.507	0.131
1992	0.329	0.527	1.373	0.126
1993	0.275	0.631	1.325	0.131
1994	0.319	0.661	1.500	0.141
1995	0.469	0.652	1.970	0.155
1996	0.501	0.643	2.037	0.158
1997	0.562	0.637	1.978	0.181
1998	0.680	0.562	1.987	0.192
1999	0.746	0.487	1.888	0.192
2000	0.679	0.447	1.493	0.203
2001	0.602	0.408	1.278	0.192
2002	0.468	0.423	0.984	0.202
2003	0.300	0.444	0.700	0.191
2004	0.205	0.671	0.630	0.219
2005	0.201	0.780	0.697	0.225
2006	0.261	0.819	0.896	0.238
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.324	0.936	0.965	0.314
2014	0.285	0.983	0.889	0.315
2015	0.269	1.006	0.850	0.318
2016	0.254	1.007	0.869	0.295
2017	0.263	1.009	0.919	0.289
2018	0.283	1.004	0.969	0.294
				Projections (d)
2019				0.295
4/1/2020				0.296

- (a) See Exhibit 3.2. Medical loss ratios for accident years 2011 and subsequent do not reflect the cost of medical cost containment programs (MCCP). Ratios for accident years 2010 and prior do reflect MCCP costs.
- (b) See Exhibit 4.4.
- (c) See Exhibit 5.2.
- (d) These on-level ratios were projected based on an estimated annual medical severity trend from Exhibit 6.4, the actual frequency trend for accident year 2018 from Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.
- (e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**On-Level Medical Loss to Industry Average Filed Pure Premium Ratios
Based on Experience as of December 31, 2018**



* On-level medical to industry average filed pure premium ratios (see Exhibit 7.3)

** The 4/1/2020 medical to industry average filed pure premium ratio was calculated based on separate frequency and severity trends applied to the 2017 and 2018 years.

**Indicated Loss to Industry Average Filed Pure Premium Ratios
For Policies with Effective Dates between January 1, 2019 and December 31, 2019
Based on Experience as of December 31, 2018**

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
1. Projected Loss to Industry Average Filed Pure Premium Ratio (See Exhibits 7.1 and 7.3)	0.238	0.296	0.534
2. Impact of Medical Treatment Utilization Schedule (MTUS) Drug Formulary	---	-0.6%	---
3. Projected Loss to Industry Average Filed Pure Premium Ratio After Impact of MTUS Drug Formulary (1) x [1 + (2)]	0.238	0.294	0.532

Quarterly Incurred Indemnity Loss Development Factors
Through December 31, 2018

Age in	Accident Year																				
Months	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
6/3									2.417	2.724	2.785	3.031	3.116	3.052	3.238	3.344	3.303	3.209	3.201	3.356	3.200
9/6									1.656	1.776	1.820	1.848	1.904	2.001	1.966	1.940	1.960	1.948	1.945	1.874	2.002
12/9									1.448	1.511	1.510	1.530	1.564	1.632	1.587	1.585	1.570	1.578	1.578	1.580	1.580
15/12	1.229	1.260	1.268	1.250	1.257	1.238	1.180	1.149	1.189	1.234	1.248	1.293	1.306	1.306	1.303	1.301	1.301	1.313	1.309	1.298	
18/15	1.172	1.202	1.188	1.184	1.206	1.167	1.101	1.103	1.140	1.158	1.182	1.194	1.197	1.195	1.206	1.178	1.190	1.187	1.189	1.177	
21/18	1.145	1.140	1.150	1.148	1.153	1.127	1.066	1.096	1.117	1.128	1.139	1.153	1.140	1.146	1.141	1.141	1.132	1.137	1.134	1.139	
24/21	1.126	1.112	1.121	1.111	1.117	1.094	1.045	1.082	1.098	1.106	1.106	1.114	1.119	1.117	1.111	1.104	1.114	1.111	1.104	1.100	
27/24	1.074	1.096	1.093	1.100	1.094	1.073	1.045	1.070	1.082	1.081	1.088	1.089	1.091	1.085	1.087	1.081	1.082	1.087	1.079		
30/27	1.078	1.069	1.074	1.082	1.064	1.051	1.040	1.054	1.057	1.072	1.075	1.075	1.080	1.071	1.068	1.067	1.074	1.066	1.064		
33/30	1.045	1.058	1.048	1.062	1.047	1.032	1.036	1.042	1.049	1.053	1.059	1.052	1.064	1.053	1.060	1.047	1.055	1.050	1.047		
36/33	1.043	1.046	1.039	1.046	1.035	1.020	1.029	1.033	1.039	1.043	1.051	1.049	1.049	1.043	1.041	1.043	1.042	1.035	1.037		
39/36	1.038	1.041	1.035	1.038	1.028	1.017	1.027	1.029	1.031	1.033	1.040	1.039	1.039	1.041	1.035	1.031	1.036	1.031			
42/39	1.027	1.028	1.034	1.030	1.023	1.018	1.020	1.020	1.031	1.033	1.036	1.038	1.035	1.032	1.028	1.031	1.030	1.027			
45/42	1.024	1.026	1.026	1.020	1.009	1.019	1.018	1.024	1.026	1.028	1.030	1.035	1.027	1.033	1.022	1.024	1.024	1.024			
48/45	1.025	1.020	1.022	1.013	1.008	1.013	1.013	1.021	1.019	1.021	1.024	1.024	1.026	1.023	1.024	1.020	1.020	1.016			
51/48	1.022	1.017	1.018	1.015	1.010	1.016	1.010	1.018	1.021	1.018	1.022	1.023	1.021	1.018	1.017	1.015	1.019				
54/51	1.019	1.018	1.013	1.009	1.007	1.017	1.009	1.017	1.021	1.020	1.021	1.020	1.020	1.016	1.019	1.015	1.014				
57/54	1.014	1.017	1.012	1.006	1.008	1.011	1.011	1.018	1.017	1.014	1.018	1.017	1.015	1.014	1.013	1.011	1.014				
60/57	1.013	1.014	1.007	1.005	1.008	1.009	1.011	1.013	1.019	1.016	1.013	1.015	1.012	1.014	1.012	1.012	1.011				
63/60	1.012	1.012	1.007	1.007	1.008	1.008	1.010	1.014	1.013	1.015	1.011	1.014	1.014	1.009	1.012	1.009					
66/63	1.014	1.009	1.005	1.006	1.011	1.008	1.010	1.013	1.016	1.014	1.015	1.013	1.013	1.009	1.010	1.009					
69/66	1.010	1.007	1.003	1.005	1.008	1.007	1.011	1.012	1.011	1.010	1.009	1.012	1.007	1.010	1.010	1.007					
72/69	1.009	1.006	1.005	1.005	1.005	1.009	1.009	1.013	1.011	1.009	1.009	1.009	1.010	1.008	1.007	1.006					
75/72	1.006	1.004	1.004	1.005	1.003	1.005	1.007	1.010	1.011	1.010	1.010	1.008	1.007	1.004	1.006						
78/75	1.007	1.004	1.003	1.007	1.005	1.006	1.006	1.012	1.009	1.010	1.006	1.006	1.006	1.006	1.005						
81/78	1.005	1.002	1.003	1.004	1.004	1.005	1.006	1.010	1.009	1.007	1.007	1.006	1.006	1.007	1.005						
84/81	1.003	1.003	1.005	1.003	1.006	1.006	1.007	1.008	1.005	1.009	1.006	1.004	1.007	1.004	1.007						
87/84	1.003	1.003	1.002	1.003	1.004	1.002	1.007	1.010	1.007	1.004	1.005	1.006	1.004	1.006							
90/87	1.001	1.003	1.003	1.003	1.003	1.004	1.008	1.008	1.008	1.008	1.004	1.005	1.005	1.005							
93/90	1.001	1.002	1.004	1.003	1.002	1.005	1.006	1.008	1.006	1.007	1.006	1.003	1.004	1.005							
96/93	1.002	1.003	1.001	1.004	1.002	1.006	1.006	1.003	1.002	1.003	1.004	1.004	1.003	1.003							

Source: WCIRB accident year experience calls

Quarterly Incurred Medical Loss Development Factors *
Through December 31, 2018

Age in	Accident Year																				
Months	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
6/3									2.584	2.662	2.782	2.892	2.992	2.757	2.853	2.843	2.921	2.863	3.019	3.199	2.891
9/6									1.650	1.744	1.717	1.807	1.800	1.827	1.833	1.819	1.840	1.884	1.755	1.741	1.819
12/9									1.453	1.443	1.466	1.454	1.488	1.521	1.484	1.500	1.482	1.451	1.487	1.448	1.462
15/12	1.144	1.168	1.201	1.207	1.203	1.197	1.132	1.145	1.138	1.182	1.167	1.199	1.206	1.228	1.211	1.207	1.199	1.206	1.215	1.185	
18/15	1.093	1.116	1.123	1.144	1.151	1.126	1.086	1.087	1.103	1.106	1.126	1.135	1.129	1.141	1.136	1.117	1.114	1.094	1.095	1.087	
21/18	1.078	1.086	1.101	1.122	1.116	1.093	1.055	1.061	1.073	1.081	1.090	1.097	1.101	1.103	1.085	1.088	1.077	1.082	1.069	1.069	
24/21	1.074	1.072	1.080	1.083	1.082	1.060	1.040	1.052	1.070	1.074	1.067	1.074	1.080	1.080	1.067	1.064	1.055	1.059	1.057	1.047	
27/24	1.044	1.061	1.070	1.080	1.075	1.042	1.034	1.048	1.055	1.058	1.053	1.071	1.066	1.072	1.058	1.048	1.046	1.048	1.041		
30/27	1.044	1.052	1.058	1.070	1.051	1.038	1.039	1.049	1.046	1.054	1.057	1.048	1.063	1.052	1.046	1.037	1.044	1.037	1.032		
33/30	1.035	1.047	1.051	1.059	1.035	1.018	1.032	1.030	1.041	1.045	1.045	1.051	1.055	1.045	1.046	1.031	1.033	1.033	1.026		
36/33	1.037	1.042	1.035	1.040	1.029	1.016	1.024	1.034	1.042	1.033	1.042	1.040	1.041	1.037	1.028	1.026	1.027	1.021	1.021		
39/36	1.029	1.032	1.034	1.037	1.018	1.012	1.028	1.025	1.027	1.029	1.033	1.031	1.040	1.039	1.027	1.021	1.023	1.022			
42/39	1.025	1.031	1.036	1.026	1.019	1.013	1.017	1.020	1.025	1.035	1.036	1.037	1.037	1.031	1.022	1.026	1.022	1.017			
45/42	1.025	1.033	1.032	1.023	1.012	1.019	1.033	1.021	1.025	1.029	1.026	1.030	1.028	1.027	1.021	1.018	1.017	1.015			
48/45	1.028	1.023	1.026	1.017	1.008	1.013	1.025	1.018	1.022	1.025	1.029	1.034	1.022	1.023	1.020	1.018	1.014	1.009			
51/48	1.019	1.020	1.024	1.014	1.009	1.013	1.018	1.015	1.020	1.021	1.021	1.026	1.024	1.019	1.014	1.013	1.010				
54/51	1.025	1.027	1.017	1.016	1.010	1.012	1.021	1.019	1.022	1.022	1.027	1.023	1.019	1.018	1.015	1.011	1.009				
57/54	1.027	1.024	1.014	1.007	1.011	1.017	1.020	1.018	1.019	1.019	1.023	1.020	1.017	1.018	1.013	1.007	1.008				
60/57	1.021	1.021	1.015	1.009	1.008	1.014	1.020	1.019	1.018	1.017	1.019	1.016	1.015	1.014	1.012	1.007	1.007				
63/60	1.014	1.020	1.013	1.012	1.008	1.016	1.015	1.021	1.015	1.018	1.016	1.020	1.015	1.009	1.009	1.005					
66/63	1.023	1.016	1.010	1.012	1.015	1.013	1.015	1.022	1.019	1.018	1.017	1.015	1.010	1.008	1.008	1.006					
69/66	1.025	1.013	1.006	1.008	1.016	1.018	1.015	1.023	1.017	1.017	1.015	1.014	1.010	1.008	1.008	1.005					
72/69	1.020	1.009	1.007	1.009	1.015	1.010	1.014	1.015	1.013	1.014	1.012	1.011	1.010	1.007	1.005	1.005					
75/72	1.015	1.008	1.006	1.008	1.010	1.009	1.012	1.012	1.011	1.018	1.013	1.008	1.006	1.001	1.003						
78/75	1.012	1.012	1.008	1.012	1.010	1.011	1.018	1.013	1.012	1.012	1.010	1.008	1.008	1.006	1.005						
81/78	1.006	1.006	1.006	1.009	1.010	1.014	1.018	1.017	1.016	1.009	1.009	1.005	1.006	1.006	1.004						
84/81	1.008	1.006	1.009	1.014	1.009	1.007	1.012	1.011	1.008	1.010	1.008	1.007	1.005	1.001	1.003						
87/84	1.005	1.008	1.008	1.010	1.009	1.010	1.012	1.014	1.012	1.008	1.007	1.004	1.003	1.001							
90/87	1.002	1.005	1.008	1.008	1.009	1.012	1.009	1.009	1.013	1.008	1.006	1.006	1.003	1.006							
93/90	1.006	1.007	1.015	1.009	1.011	1.010	1.011	1.012	1.009	1.009	1.007	1.002	1.003	1.002							
96/93	1.007	1.007	1.010	1.012	1.008	1.010	1.011	1.009	1.005	1.006	1.005	1.003	1.002	1.001							

Source: WCIRB accident year experience calls

* Incurred medical loss development factors include the paid cost of medical cost containment programs for accident years 2011 and prior.

Quarterly Paid Indemnity Loss Development Factors
Through December 31, 2018

Age in	Accident Year																					
Months	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
6/3									4.376	4.495	4.553	4.807	4.911	4.722	4.854	5.099	5.076	5.056	5.087	5.060	4.987	
9/6									2.259	2.375	2.377	2.398	2.452	2.432	2.484	2.462	2.462	2.484	2.456	2.445	2.538	
12/9									1.812	1.834	1.810	1.825	1.861	1.869	1.877	1.866	1.879	1.910	1.882	1.892	1.893	
15/12	1.499	1.536	1.538	1.552	1.550	1.516	1.491	1.456	1.482	1.488	1.481	1.507	1.532	1.539	1.506	1.539	1.540	1.559	1.571	1.544		
18/15	1.380	1.399	1.395	1.401	1.403	1.379	1.331	1.306	1.306	1.327	1.332	1.343	1.355	1.361	1.361	1.353	1.364	1.372	1.366	1.358		
21/18	1.323	1.298	1.303	1.303	1.311	1.297	1.241	1.217	1.233	1.235	1.243	1.259	1.257	1.261	1.261	1.263	1.267	1.264	1.256	1.260		
24/21	1.259	1.257	1.256	1.258	1.260	1.244	1.183	1.181	1.195	1.191	1.194	1.206	1.209	1.215	1.213	1.204	1.216	1.211	1.206	1.206		
27/24	1.186	1.199	1.203	1.200	1.205	1.186	1.140	1.142	1.151	1.149	1.153	1.162	1.165	1.168	1.164	1.159	1.170	1.176	1.161			
30/27	1.157	1.161	1.165	1.175	1.172	1.161	1.122	1.117	1.126	1.129	1.130	1.141	1.141	1.137	1.134	1.141	1.147	1.142	1.137			
33/30	1.118	1.125	1.130	1.142	1.136	1.123	1.097	1.096	1.100	1.101	1.108	1.114	1.116	1.112	1.111	1.111	1.115	1.107	1.104			
36/33	1.102	1.103	1.103	1.115	1.111	1.097	1.085	1.081	1.080	1.084	1.092	1.094	1.098	1.091	1.091	1.096	1.092	1.089	1.088			
39/36	1.074	1.081	1.081	1.092	1.087	1.072	1.070	1.066	1.064	1.067	1.074	1.078	1.077	1.073	1.075	1.074	1.075	1.071				
42/39	1.067	1.071	1.077	1.080	1.073	1.063	1.059	1.058	1.058	1.062	1.067	1.067	1.071	1.070	1.065	1.064	1.066	1.062				
45/42	1.057	1.054	1.063	1.064	1.056	1.049	1.047	1.049	1.047	1.051	1.058	1.059	1.057	1.055	1.054	1.052	1.050	1.050				
48/45	1.049	1.050	1.055	1.053	1.046	1.044	1.041	1.044	1.043	1.047	1.049	1.051	1.050	1.048	1.048	1.048	1.045	1.041				
51/48	1.039	1.038	1.043	1.044	1.036	1.035	1.033	1.036	1.036	1.037	1.042	1.042	1.043	1.039	1.038	1.038	1.039					
54/51	1.035	1.038	1.036	1.037	1.034	1.035	1.030	1.028	1.035	1.036	1.038	1.041	1.038	1.036	1.036	1.033	1.032					
57/54	1.029	1.033	1.037	1.030	1.028	1.026	1.025	1.028	1.030	1.032	1.033	1.033	1.032	1.033	1.028	1.027	1.028					
60/57	1.025	1.030	1.027	1.026	1.024	1.024	1.024	1.024	1.028	1.029	1.029	1.032	1.027	1.030	1.028	1.025	1.025					
63/60	1.023	1.026	1.024	1.021	1.022	1.019	1.019	1.021	1.023	1.025	1.025	1.024	1.026	1.025	1.025	1.021						
66/63	1.023	1.023	1.023	1.021	1.019	1.019	1.019	1.020	1.025	1.025	1.025	1.025	1.023	1.022	1.022	1.018						
69/66	1.019	1.021	1.020	1.017	1.016	1.017	1.016	1.021	1.020	1.020	1.020	1.022	1.020	1.019	1.022	1.017						
72/69	1.018	1.016	1.018	1.016	1.016	1.015	1.017	1.015	1.020	1.019	1.019	1.019	1.019	1.019	1.016	1.014						
75/72	1.015	1.016	1.015	1.014	1.012	1.012	1.013	1.015	1.019	1.018	1.016	1.016	1.017	1.015	1.014							
78/75	1.014	1.014	1.012	1.013	1.012	1.011	1.012	1.015	1.017	1.016	1.015	1.016	1.016	1.015	1.013							
81/78	1.013	1.013	1.011	1.012	1.011	1.010	1.012	1.015	1.015	1.016	1.015	1.015	1.013	1.012	1.011							
84/81	1.011	1.011	1.013	1.010	1.010	1.009	1.011	1.013	1.015	1.014	1.013	1.012	1.013	1.013	1.011							
87/84	1.012	1.010	1.008	1.010	1.009	1.008	1.009	1.012	1.014	1.013	1.010	1.012	1.010	1.011								
90/87	1.008	1.009	1.010	1.009	1.008	1.008	1.011	1.012	1.013	1.012	1.011	1.010	1.010	1.010								
93/90	1.009	1.009	1.008	1.008	1.007	1.008	1.012	1.011	1.011	1.012	1.010	1.010	1.009	1.009								
96/93	1.008	1.009	1.006	1.007	1.007	1.007	1.008	1.011	1.011	1.008	1.010	1.010	1.009	1.010								

Source: WCIRB accident year experience calls

Quarterly Paid Medical Loss Development Factors *
Through December 31, 2018

Age in	Accident Year																				
Months	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
6/3									5.308	5.615	6.579	6.101	6.048	5.854	5.989	6.284	5.604	5.720	5.897	5.238	5.462
9/6									2.348	2.381	2.348	2.375	2.361	2.327	2.398	2.498	2.428	2.287	2.326	2.249	2.351
12/9									1.716	1.765	1.731	1.723	1.756	1.746	1.763	1.736	1.750	1.705	1.752	1.737	1.722
15/12	1.453	1.490	1.514	1.547	1.554	1.510	1.437	1.423	1.429	1.444	1.413	1.429	1.445	1.472	1.446	1.443	1.460	1.454	1.479	1.434	
18/15	1.241	1.267	1.286	1.310	1.330	1.295	1.243	1.230	1.227	1.259	1.243	1.259	1.268	1.282	1.284	1.263	1.265	1.278	1.262	1.250	
21/18	1.164	1.168	1.192	1.219	1.211	1.179	1.153	1.151	1.163	1.173	1.170	1.178	1.182	1.187	1.192	1.193	1.192	1.189	1.173	1.170	
24/21	1.132	1.124	1.149	1.159	1.154	1.125	1.115	1.118	1.127	1.133	1.132	1.137	1.144	1.153	1.154	1.148	1.146	1.146	1.141	1.131	
27/24	1.096	1.108	1.121	1.128	1.123	1.093	1.090	1.093	1.106	1.107	1.110	1.112	1.119	1.120	1.123	1.122	1.122	1.124	1.111		
30/27	1.077	1.088	1.101	1.108	1.103	1.077	1.084	1.087	1.097	1.100	1.100	1.106	1.107	1.111	1.109	1.111	1.111	1.105	1.100		
33/30	1.065	1.072	1.086	1.089	1.077	1.063	1.071	1.065	1.081	1.083	1.086	1.092	1.094	1.093	1.094	1.090	1.089	1.082	1.082		
36/33	1.055	1.066	1.069	1.076	1.061	1.055	1.062	1.062	1.071	1.072	1.072	1.077	1.083	1.082	1.078	1.080	1.076	1.071	1.067		
39/36	1.051	1.059	1.060	1.061	1.049	1.044	1.053	1.056	1.057	1.059	1.061	1.066	1.071	1.066	1.069	1.065	1.064	1.061			
42/39	1.044	1.049	1.055	1.054	1.041	1.044	1.049	1.054	1.055	1.058	1.059	1.061	1.068	1.063	1.062	1.057	1.059	1.057			
45/42	1.039	1.045	1.047	1.044	1.036	1.037	1.040	1.047	1.048	1.049	1.054	1.053	1.056	1.056	1.053	1.051	1.045	1.044			
48/45	1.035	1.039	1.044	1.037	1.032	1.035	1.037	1.043	1.043	1.046	1.047	1.050	1.051	1.046	1.045	1.046	1.041	1.040			
51/48	1.030	1.035	1.037	1.034	1.031	1.030	1.033	1.037	1.036	1.036	1.039	1.041	1.043	1.040	1.039	1.038	1.037				
54/51	1.031	1.036	1.032	1.027	1.030	1.029	1.034	1.034	1.035	1.035	1.036	1.042	1.038	1.035	1.035	1.034	1.032				
57/54	1.026	1.030	1.027	1.024	1.024	1.024	1.029	1.031	1.034	1.031	1.033	1.038	1.034	1.034	1.031	1.028	1.026				
60/57	1.026	1.028	1.026	1.021	1.023	1.026	1.028	1.029	1.028	1.032	1.032	1.035	1.030	1.030	1.030	1.023	1.022				
63/60	1.023	1.025	1.022	1.019	1.019	1.020	1.024	1.024	1.024	1.024	1.027	1.027	1.026	1.027	1.025	1.022					
66/63	1.026	1.021	1.020	1.020	1.018	1.021	1.023	1.024	1.026	1.026	1.029	1.029	1.024	1.028	1.023	1.021					
69/66	1.021	1.022	1.019	1.018	1.016	1.019	1.021	1.023	1.023	1.021	1.024	1.024	1.022	1.020	1.020	1.017					
72/69	1.022	1.018	1.016	1.017	1.018	1.016	1.021	1.021	1.022	1.022	1.023	1.021	1.020	1.019	1.016	1.015					
75/72	1.017	1.016	1.014	1.015	1.015	1.014	1.018	1.020	1.019	1.019	1.018	1.018	1.018	1.015	1.015						
78/75	1.018	1.015	1.014	1.015	1.016	1.015	1.016	1.018	1.017	1.022	1.019	1.018	1.017	1.016	1.015						
81/78	1.015	1.014	1.013	1.014	1.013	1.014	1.018	1.018	1.015	1.019	1.018	1.015	1.015	1.013	1.012						
84/81	1.013	1.012	1.013	1.012	1.012	1.013	1.016	1.016	1.015	1.018	1.015	1.015	1.015	1.013	1.013						
87/84	1.013	1.011	1.010	1.012	1.012	1.012	1.014	1.013	1.015	1.017	1.013	1.013	1.011	1.012							
90/87	1.013	1.012	1.011	1.013	1.012	1.013	1.015	1.013	1.015	1.013	1.013	1.012	1.011	1.012							
93/90	1.011	1.010	1.011	1.012	1.011	1.013	1.013	1.012	1.014	1.014	1.013	1.011	1.010	1.009							
96/93	1.010	1.010	1.008	1.010	1.010	1.009	1.013	1.015	1.016	1.011	1.012	1.010	1.009	1.009							

Source: WCIRB accident year experience calls

* Paid medical loss development factors include the paid cost of medical cost containment programs for accident years 2011 and prior.

Reported Indemnity Claim Count Development

Accident Year	Development															
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204
1993																1.000
1994															1.000	1.000
1995														1.000	1.001	1.000
1996													1.000	1.000	1.000	1.000
1997												1.000	1.000	1.000	1.000	1.000
1998											1.000	1.001	1.000	1.000	1.000	1.000
1999										1.000	1.001	1.000	1.000	1.000	1.000	1.000
2000									1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000
2001								1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002							1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003						0.998	0.999	0.999	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000
2004					0.999	1.000	0.999	0.999	0.999	1.000	1.000	1.000	1.000	1.000		
2005				1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2006			1.004	1.002	1.001	1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.000			
2007		1.013	1.006	1.004	1.002	1.000	1.001	1.000	1.000	1.000	1.000					
2008	1.145	1.022	1.011	1.005	1.003	1.001	1.001	1.001	1.000	1.000						
2009	1.189	1.028	1.011	1.006	1.004	1.001	1.001	1.001	1.001							
2010	1.215	1.029	1.011	1.006	1.002	1.002	1.001	1.001								
2011	1.229	1.032	1.013	1.005	1.003	1.002	1.001									
2012	1.244	1.034	1.010	1.006	1.003	1.001										
2013	1.248	1.025	1.012	1.006	1.002											
2014	1.215	1.032	1.012	1.004												
2015	1.246	1.031	1.005													
2016	1.255	1.027														
2017	1.212															
Latest Year																
Age-to-Age	1.212	1.027	1.005	1.004	1.002	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Age-to-Ultimate	1.266	1.044	1.017	1.011	1.007	1.006	1.005	1.004	1.003	1.002	1.002	1.001	1.002	1.002	1.002	1.002

Quarterly Reported Indemnity Claim Count Development Factors

Accident Year	Development														
	3-6	6-9	9-12	12-15	15-18	18-21	21-24	24-27	27-30	30-33	33-36	36-39	39-42	42-45	45-48
2008	2.539	1.651	1.336	1.093	1.025	1.015	1.010	1.008	1.006	1.004	1.003	1.003	1.002	1.003	1.002
2009	2.681	1.683	1.382	1.109	1.036	1.021	1.012	1.009	1.007	1.007	1.005	1.004	1.003	1.002	1.002
2010	2.688	1.708	1.407	1.124	1.037	1.021	1.015	1.011	1.008	1.005	1.005	1.003	1.004	1.003	1.001
2011	2.691	1.738	1.424	1.123	1.041	1.026	1.018	1.010	1.010	1.006	1.005	1.004	1.004	1.003	1.002
2012	2.749	1.727	1.420	1.123	1.050	1.028	1.018	1.012	1.010	1.007	1.004	1.004	1.003	1.003	1.002
2013	2.821	1.739	1.421	1.138	1.045	1.027	1.016	1.010	1.009	1.007	1.004	1.004	1.003	1.002	1.002
2014	2.778	1.723	1.421	1.130	1.045	1.025	1.017	1.012	1.010	1.005	1.004	1.004	1.003	1.002	1.002
2015	2.794	1.744	1.414	1.136	1.047	1.024	1.016	1.013	1.008	1.005	1.003	1.003	1.002	1.001	1.002
2016	2.731	1.720	1.412	1.141	1.046	1.027	1.017	1.013	1.010	1.005	1.004				
2017	2.824	1.691	1.414	1.130	1.043	1.025	1.015								
2018	2.812	1.736	1.418												

Reported Indemnity Claim Settlement Ratios

Accident	Evaluated as of (in months):																
Year	<u>12</u>	<u>24</u>	<u>36</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>84</u>	<u>96</u>	<u>108</u>	<u>120</u>	<u>132</u>	<u>144</u>	<u>156</u>	<u>168</u>	<u>180</u>	<u>192</u>	<u>204</u>
1993																	99.0%
1994																98.8%	98.9%
1995															98.4%	98.5%	98.7%
1996														98.0%	98.2%	98.4%	98.6%
1997													97.5%	97.8%	98.0%	98.2%	98.4%
1998												96.8%	97.1%	97.5%	97.8%	98.0%	98.2%
1999										96.1%	96.6%	97.0%	97.3%	97.7%	98.0%	98.2%	98.2%
2000										94.7%	95.5%	96.2%	96.7%	97.2%	97.6%	97.8%	98.0%
2001									92.3%	93.6%	94.5%	95.3%	96.1%	96.5%	97.0%	97.4%	97.7%
2002								90.8%	92.4%	93.7%	94.7%	95.8%	96.4%	96.9%	97.4%	97.7%	98.1%
2003							88.4%	90.6%	92.4%	93.7%	95.2%	95.9%	96.4%	97.1%	97.5%	97.9%	
2004						85.3%	88.3%	90.6%	92.4%	94.3%	95.4%	96.1%	96.8%	97.3%	97.8%		
2005					81.3%	85.5%	88.5%	90.8%	93.1%	94.5%	95.5%	96.4%	97.1%	97.6%			
2006				74.3%	81.0%	85.2%	88.3%	91.2%	93.1%	94.4%	95.6%	96.5%	97.2%				
2007			63.6%	73.6%	80.3%	84.7%	88.9%	91.4%	93.3%	94.9%	96.0%	96.8%					
2008		48.2%	61.8%	72.1%	79.2%	85.0%	88.9%	91.6%	93.7%	95.1%	96.3%						
2009	26.7%	46.3%	60.0%	70.7%	79.1%	84.6%	88.7%	91.9%	93.9%	95.4%							
2010	26.9%	46.8%	60.7%	72.6%	80.6%	86.0%	90.2%	92.9%	94.8%								
2011	27.6%	47.2%	62.2%	73.8%	81.8%	87.2%	91.1%	93.8%									
2012	27.5%	48.0%	63.3%	75.1%	83.1%	88.5%	92.1%										
2013	27.0%	48.3%	64.6%	76.8%	84.8%	89.9%											
2014	26.6%	49.6%	66.1%	78.2%	86.3%												
2015	27.3%	50.9%	68.5%	80.8%													
2016	28.6%	53.6%	71.3%														
2017	30.6%	56.7%															
2018	31.8%																

Estimated Ultimate Indemnity Claim Settlement Ratios

Accident	Evaluated as of (in months):																
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204
1993																	98.9%
1994																98.5%	98.6%
1995															98.0%	98.3%	98.5%
1996														97.8%	98.0%	98.2%	98.4%
1997													97.2%	97.5%	97.7%	97.9%	98.2%
1998												96.5%	96.9%	97.3%	97.5%	97.8%	98.0%
1999										95.8%	96.3%	96.8%	97.1%	97.5%	97.8%	98.0%	
2000									94.4%	95.2%	95.9%	96.4%	97.0%	97.4%	97.6%	97.9%	
2001									92.0%	93.3%	94.3%	95.0%	95.8%	96.3%	96.8%	97.2%	97.5%
2002								90.7%	92.3%	93.6%	94.5%	95.6%	96.2%	96.7%	97.2%	97.6%	97.9%
2003							88.5%	90.7%	92.4%	93.6%	95.0%	95.8%	96.3%	96.9%	97.4%	97.7%	
2004						85.4%	88.4%	90.6%	92.4%	94.2%	95.2%	95.9%	96.7%	97.2%	97.7%		
2005					81.1%	85.3%	88.4%	90.7%	93.0%	94.4%	95.4%	96.3%	96.9%	97.5%			
2006				73.8%	80.6%	84.9%	88.0%	91.0%	92.9%	94.2%	95.5%	96.3%	97.0%				
2007			62.6%	72.9%	79.8%	84.3%	88.5%	91.2%	93.0%	94.7%	95.8%	96.7%					
2008		46.0%	60.4%	71.1%	78.5%	84.5%	88.4%	91.2%	93.5%	94.9%	96.1%						
2009	21.3%	43.9%	58.5%	69.6%	78.3%	84.1%	88.2%	91.5%	93.6%	95.1%							
2010	21.0%	44.3%	59.1%	71.4%	79.9%	85.4%	89.8%	92.6%	94.5%								
2011	21.2%	44.6%	60.6%	72.7%	81.0%	86.6%	90.7%	93.4%									
2012	20.9%	45.2%	61.7%	74.0%	82.3%	88.0%	91.7%										
2013	20.6%	46.0%	63.0%	75.7%	84.2%	89.4%											
2014	20.8%	46.9%	64.6%	77.3%	85.7%												
2015	20.9%	48.6%	67.4%	79.9%													
2016	21.8%	51.3%	70.1%														
2017	24.2%	54.3%															
2018	25.1%																

Quarterly Ultimate Settlement Ratios

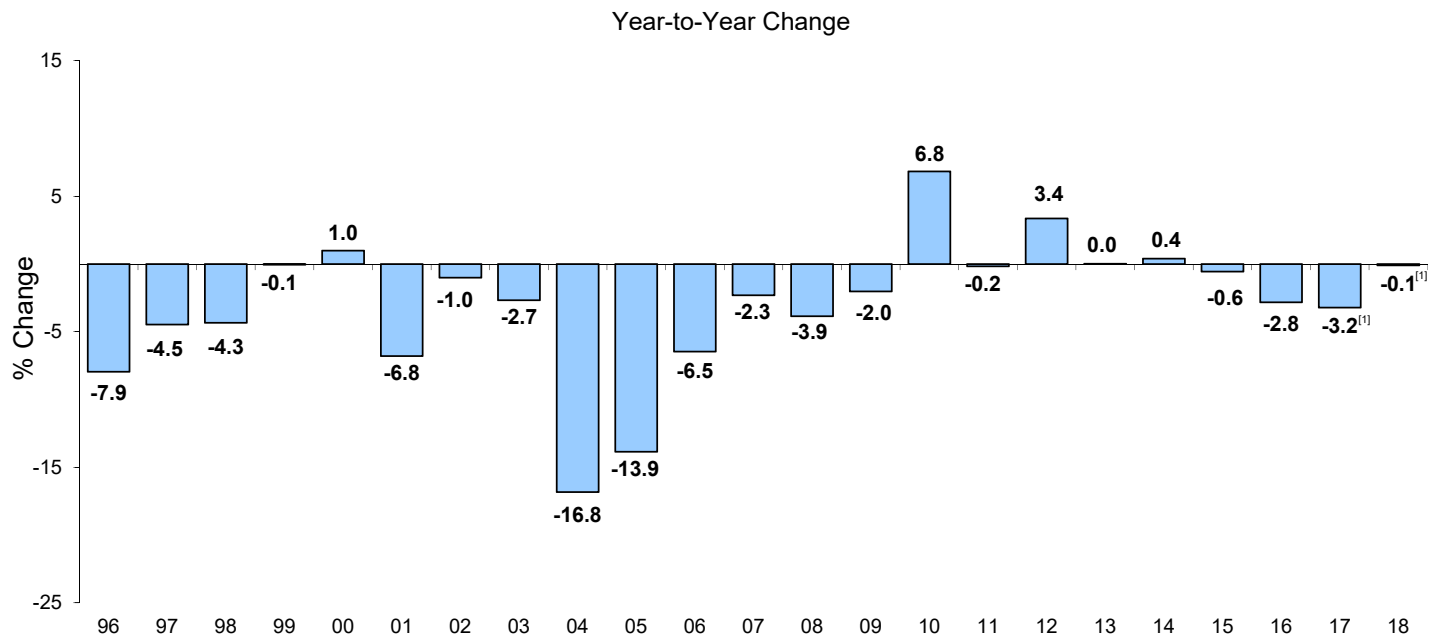
Accident Year	Evaluated as of (in months):															
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48
2009	0.7%	4.7%	12.2%	21.3%	29.6%	35.7%	40.0%	44.0%	47.6%	51.3%	55.0%	58.5%	61.5%	64.6%	67.1%	69.6%
2010	0.6%	4.7%	11.9%	21.1%	29.9%	35.9%	40.3%	44.5%	48.3%	52.3%	55.8%	59.3%	62.5%	65.9%	68.9%	71.8%
2011	0.8%	5.1%	12.0%	21.3%	29.7%	35.9%	40.4%	44.7%	48.6%	52.9%	56.8%	60.8%	64.1%	67.1%	70.2%	72.9%
2012	0.8%	5.1%	12.1%	21.2%	29.5%	35.9%	40.7%	45.6%	49.7%	54.0%	58.3%	62.1%	65.5%	68.7%	71.7%	74.4%
2013	0.9%	5.1%	11.8%	20.9%	29.3%	35.9%	41.3%	46.3%	50.9%	55.4%	59.5%	63.4%	67.0%	70.3%	73.2%	76.0%
2014	0.7%	4.8%	11.7%	20.7%	29.5%	36.2%	42.0%	47.1%	51.8%	56.3%	60.6%	64.6%	68.0%	71.5%	74.4%	77.2%
2015	0.8%	4.8%	12.1%	21.0%	30.2%	37.5%	43.2%	48.5%	53.5%	58.6%	63.0%	67.0%	70.6%	73.9%	76.8%	79.5%
2016	0.8%	5.1%	12.3%	21.8%	31.6%	39.4%	45.3%	51.1%	56.1%	61.3%	65.6%	69.9%				
2017	0.8%	5.6%	13.3%	23.8%	33.7%	41.5%	47.6%	53.4%								
2018	1.0%	5.9%	14.1%	25.0%												

Accident Year	Quarterly Incremental Change														
	3-6	6-9	9-12	12-15	15-18	18-21	21-24	24-27	27-30	30-33	33-36	36-39	39-42	42-45	45-48
2009	4.0%	7.5%	9.1%	8.3%	6.0%	4.4%	4.0%	3.7%	3.6%	3.7%	3.5%	3.0%	3.0%	2.5%	2.5%
2010	4.1%	7.2%	9.2%	8.8%	6.0%	4.3%	4.3%	3.8%	4.0%	3.5%	3.5%	3.2%	3.4%	3.0%	2.9%
2011	4.3%	6.9%	9.3%	8.5%	6.1%	4.5%	4.3%	3.9%	4.4%	3.9%	4.0%	3.3%	3.1%	3.0%	2.7%
2012	4.2%	7.1%	9.1%	8.3%	6.4%	4.8%	4.9%	4.1%	4.3%	4.2%	3.9%	3.4%	3.2%	3.0%	2.7%
2013	4.2%	6.7%	9.1%	8.4%	6.6%	5.4%	5.0%	4.5%	4.5%	4.1%	3.9%	3.5%	3.4%	2.9%	2.7%
2014	4.0%	6.9%	9.0%	8.8%	6.7%	5.8%	5.1%	4.7%	4.5%	4.2%	4.0%	3.4%	3.5%	2.9%	2.8%
2015	3.9%	7.3%	8.9%	9.2%	7.3%	5.6%	5.3%	5.1%	5.1%	4.3%	4.0%	3.6%	3.4%	2.9%	2.6%
2016	4.2%	7.2%	9.5%	9.8%	7.8%	6.0%	5.8%	5.0%	5.2%	4.3%	4.3%				
2017	4.7%	7.7%	10.6%	9.8%	7.8%	6.1%	5.8%								
2018	4.9%	8.2%	10.9%												

Notes All figures in each accident year contain information from the same combination of insurers, all of whom submitted complete data for all evaluations for that accident year. Therefore, each accident year may contain a different mix of insurers (ranging from 84% to 100% of the total California workers' compensation insured market measured using 2018 earned premium levels).

Source: WCIRB quarterly calls for experience

**California Workers' Compensation
Estimated Indemnity Claim Frequency by Accident Year**



^[1] The 2016-2017 estimate is based on partial year unit statistical data. The 2017-2018 estimates are based on comparison of claim counts based on WCIRB accident year experience as of December 31, 2018 relative to the estimated change in statewide employment. Prior years are based on unit statistical data.

Item AC19-04-01

12/31/2018 Loss Adjustment Expense Experience Review

The WCIRB's January 1, 2019 Pure Premium Rate Filing included a provision for loss adjustment expenses (LAE) of 36.5%. This amount reflected 13.6% for unallocated loss adjustment expenses (ULAE) and 22.9% for allocated loss adjustment expenses (ALAE), including the cost of medical cost containment programs (MCCP), and was based on calendar year 2017 ULAE data and accident year ALAE and MCCP data evaluated as of March 31, 2018. The updated ULAE and ALAE projections, including MCCP costs, for the July 1, 2019 to December 31, 2019 policy period are summarized separately below.

ULAE Projection

As of this time, the WCIRB does not have available calendar year 2018 ULAE information. However, staff has computed a preliminary updated ULAE projection based on updated frequency and loss projections as of December 31, 2018 using the same methodologies as those reflected in the January 1, 2019 Pure Premium Rate Filing. The projection of ULAE as a percentage of loss based on this approach, as shown in Table 1, is 15.0%.

**Table 1: ULAE to Loss Ratio Projections
for Policies Incepting July 1, 2019 through December 31, 2019**

ULAE Projection Method	ULAE Ratio
Paid ULAE per Open Indemnity Claim	16.6%
Paid ULAE to Paid Losses	13.3%
Average of Open Indemnity Claim-Based and Paid Loss-Based Projections	15.0%

ALAE Projection – Excluding MCCP

The ALAE provision reflected in the WCIRB's January 1, 2019 Pure Premium Rate Filing was based on a methodology that projects future ALAE as a function of the anticipated future number of indemnity claims and private insurer average ALAE per indemnity claim. The WCIRB has updated the ALAE projection based on ALAE data evaluated as of December 31, 2018 as well as updated frequency and loss projections. (The ALAE projection excludes MCCP costs, which are discussed separately below.)

Exhibit 1 shows paid ALAE amounts per reported indemnity claim on a private insurer basis. Exhibits 2.1 and 2.2 show statewide and private insurer annual ALAE severity growth percentages based on estimated ultimate accident year ALAE per indemnity claim, while Exhibit 3 shows private insurer annual growth percentages based on ratios of incremental calendar year paid ALAE per indemnity claims inventory.

Exhibits 4.1 through 4.4 show the ALAE projection excluding MCCP costs, which is based on statewide claim and loss projections and private insurer average ALAE per indemnity claim. The projection shown in Exhibit 4.4 was computed using a 3.5% ALAE severity trend selected based on the approximate average of the private insurer longer-term (post-2005) and shorter-term (five-year) growth rates of (a) estimated ultimate accident year ALAE per indemnity claim (Exhibit 2.2) and (b) incremental paid calendar year ALAE per open indemnity claim (Exhibit 3), which is consistent with the methodology used to select the ALAE severity trend in the last several pure premium rate filings. (The projected ALAE severity trend reflected in the January 1, 2019 Premium Rate Filing was also 3.5%.)

Effective in 2017, Senate Bill No. 1160 (SB 1160) and Assembly Bill No. 1244 (AB 1244) included several provisions related to lien filings. As discussed at prior meetings and in prior pure premium rate filings,

liens incur significant LAE costs in addition to the settlement costs paid to the lien claimant. In the January 1, 2019 Pure Premium Rate Filing, the WCIRB estimated that SB 1160 and AB 1244 would reduce lien filings by 40%, resulting in a 6.4% decrease in ALAE.¹ At the March 18, 2019 meeting, based on emerging lien filing information through the fourth quarter of 2018, the Committee recommended an adjustment factor based on a 60% reduction in lien filings resulting from SB 1160 and AB 1244, resulting in a 9.6% decrease in ALAE.

As discussed in the January 1, 2019 Pure Premium Rate Filing and at prior meetings, the Claims Working Group has noted that lien-related disputes on claims continue to occur, incurring claims-handling costs and suggesting that savings related to SB 1160 and AB 1244 in ULAE costs are not materializing. However, the reduction in the number of lien filings is expected to reduce ALAE costs. The ALAE projection is primarily predicated on accident years 2017 and 2018, which are currently valued at 12 and 24 months, respectively. Liens are typically not filed and paid on claims until much later. As a result, while some of the impact of the reforms is already reflected in the emerging paid ALAE for accident years 2017 and 2018 and the ALAE development factors, most is not yet reflected. To reflect the full impact of these reforms, consistent with the January 1, 2019 Pure Premium Rate Filing, staff recommends including a separate adjustment to the projected ALAE ratio. This adjustment, which is shown in line (g) of Exhibit 4.4, is based on the full impact of a 9.6% reduction in ALAE costs judgmentally tempered by 20% to reflect the savings that have already emerged in paid ALAE. (More information on this adjustment will be presented at the meeting.)

Based on this approach, the preliminary ALAE (excluding MCCC costs) projection is 19.1%. (This compares to a projected ALAE excluding MCCC costs to loss of 18.9% in the January 1, 2019 Pure Premium Rate Filing.)

ALAE Projection – MCCC

The ALAE provision reflected in the WCIRB's January 1, 2019 Pure Premium Rate Filing also included a provision for MCCC costs. The projection of MCCC costs was based on a methodology analogous to that used for ALAE excluding MCCC costs and using statewide claim and MCCC cost data. The WCIRB has updated the MCCC cost projection based on MCCC data evaluated as of December 31, 2018 as well as updated frequency and loss projections.

Exhibit 5 shows statewide and private insurer annual MCCC severity growth percentages based on ratios of calendar year paid MCCC costs per indemnity claims inventory. Exhibit 6 shows statewide annual MCCC severity growth percentages based on estimated accident year ultimate MCCC costs per indemnity claim. Exhibits 7.1 and 7.2 show the projection of MCCC costs in ALAE based on statewide data. A -1.0% MCCC severity trend was selected based on the approximate average rates of growth in (a) statewide calendar year MCCC per indemnity claims inventory from 2009 through 2017 (Exhibit 5) and (b) estimated ultimate accident year MCCC costs per indemnity claim from 2012 through 2018 (Exhibit 6), which is consistent with the methodology used to select the MCCC severity trend in the last several pure premium rate filings.²

The new Medical Treatment Utilization Schedule Drug Formulary (Formulary) became effective in 2018. In the July 1, 2018 Pure Premium Rate Filing, the WCIRB estimated that the Formulary would reduce total costs by 0.5%, including a 0.1% reduction for utilization review costs. This translates to an approximate 2.6% reduction in total MCCC costs. Given that the Formulary has only been effective for one year which includes a transition period for outstanding claims through July 1, 2018, staff believes the impact of the Formulary is substantially not yet reflected in the emerging MCCC costs. As a result, staff recommends including a separate adjustment to the projected MCCC ratio for the impact of the

¹ The impact of these reforms on medical costs is reflected in the loss development and on-leveling adjustments reflected in Item AC19-03-02 of this Agenda.

² The MCCC severity trend reflected in the January 1, 2019 Pure Premium Rate Filing was also -1.0%.

Formulary. This adjustment is shown in line (g) of Exhibit 7.2. (More information on this adjustment will be presented at the meeting.)

The projected ratio of M CCP to loss based on this methodology, after reflecting the impact of the Formulary, is 4.0%. The preliminary total projected LAE to loss ratio for policies incepting between July 1, 2019 and December 31, 2019 is 38.1%.

Average Paid ALAE^[1] per Reported Indemnity Claim - Private Insurers
As of December 31, 2018

Accident Year	Evaluated as of (in months):									
	12	24	36	48	60	72	84	96	108	120
1993										2,033
1994									2,007	2,037
1995								2,151	2,206	2,252
1996							2,421	2,520	2,594	2,675
1997						2,815	2,973	3,110	3,234	3,346
1998					2,944	3,216	3,440	3,668	3,828	3,945
1999				2,752	3,139	3,472	3,756	3,993	4,161	4,203
2000			2,481	3,168	3,706	4,154	4,510	4,755	4,863	5,009
2001		1,712	2,885	3,832	4,520	5,060	5,485	5,712	5,929	6,096
2002	682	1,882	3,263	4,288	5,050	5,604	5,958	6,228	6,429	6,592
2003	628	2,071	3,518	4,620	5,394	5,932	6,304	6,592	6,810	7,005
2004	538	1,909	3,277	4,367	5,045	5,557	5,935	6,212	6,426	6,622
2005	500	1,739	2,999	3,962	4,666	5,185	5,573	5,876	6,139	6,353
2006	523	1,840	3,116	4,107	4,852	5,417	5,846	6,169	6,449	6,667
2007	564	1,959	3,302	4,392	5,213	5,845	6,361	6,732	7,031	7,247
2008	607	2,105	3,603	4,863	5,792	6,507	7,043	7,451	7,735	7,949
2009	667	2,378	4,082	5,454	6,498	7,278	7,863	8,271	8,567	8,787
2010	727	2,528	4,243	5,619	6,634	7,387	7,921	8,293	8,563	
2011	747	2,523	4,203	5,584	6,625	7,318	7,824	8,190		
2012	753	2,595	4,402	5,827	6,787	7,470	7,928			
2013	798	2,827	4,680	5,982	6,893	7,474				
2014	890	3,072	4,833	6,116	6,925					
2015	983	3,131	4,922	6,106						
2016	973	3,236	4,989							
2017	1,060	3,362								
2018	1,161									

Accident Year	Annual Change									
	12	24	36	48	60	72	84	96	108	120
1994										0.2%
1995									9.9%	10.5%
1996								17.2%	17.6%	18.8%
1997							22.8%	23.4%	24.7%	25.1%
1998						14.2%	15.7%	17.9%	18.4%	17.9%
1999					6.6%	7.9%	9.2%	8.9%	8.7%	6.5%
2000				15.1%	18.1%	19.7%	20.1%	19.1%	16.9%	19.2%
2001			16.3%	21.0%	22.0%	21.8%	21.6%	20.1%	21.9%	21.7%
2002		9.9%	13.1%	11.9%	11.7%	10.8%	8.6%	9.0%	8.4%	8.1%
2003	-7.9%	10.0%	7.8%	7.7%	6.8%	5.9%	5.8%	5.8%	5.9%	6.3%
2004	-14.3%	-7.8%	-6.9%	-5.5%	-6.5%	-6.3%	-5.9%	-5.8%	-5.6%	-5.5%
2005	-7.0%	-8.9%	-8.5%	-9.3%	-7.5%	-6.7%	-6.1%	-5.4%	-4.5%	-4.1%
2006	4.6%	5.8%	3.9%	3.7%	4.0%	4.5%	4.9%	5.0%	5.0%	4.9%
2007	7.8%	6.5%	6.0%	6.9%	7.4%	7.9%	8.8%	9.1%	9.0%	8.7%
2008	7.6%	7.4%	9.1%	10.7%	11.1%	11.3%	10.7%	10.7%	10.0%	9.7%
2009	9.8%	13.0%	13.3%	12.1%	12.2%	11.8%	11.6%	11.0%	10.8%	10.5%
2010	9.0%	6.3%	3.9%	3.0%	2.1%	1.5%	0.7%	0.3%	0.0%	
2011	2.7%	-0.2%	-0.9%	-0.6%	-0.1%	-0.9%	-1.2%	-1.2%		
2012	0.8%	2.8%	4.7%	4.4%	2.5%	2.1%	1.3%			
2013	6.0%	8.9%	6.3%	2.7%	1.6%	0.0%				
2014	11.5%	8.7%	3.3%	2.2%	0.5%					
2015	10.4%	1.9%	1.8%	-0.2%						
2016	-1.1%	3.4%	1.4%							
2017	9.0%	3.9%								
2018	9.5%									

Annual Trend ^[2]										
All-Year	4.7%	4.4%	4.0%	4.4%	5.0%	5.8%	6.8%	8.0%	9.1%	9.8%
R ²	0.799	0.912	0.895	0.858	0.851	0.855	0.858	0.869	0.889	0.907
14-Year	6.5%	5.4%	4.1%	3.5%	3.5%	4.0%	4.9%	5.8%	6.8%	8.0%
R ²	0.988	0.962	0.867	0.817	0.824	0.828	0.826	0.852	0.866	0.861
6-Year	7.1%	5.0%	3.6%	2.1%	1.3%	2.2%	4.2%	6.3%	7.7%	6.4%
R ²	0.949	0.934	0.936	0.907	0.950	0.595	0.706	0.853	0.966	0.862

^[1] All paid ALAE exclude the paid cost of medical cost containment programs.

^[2] Trend is based on exponential distribution.

Source: WCIRB accident year experience calls.

Estimated Ultimate ALAE Per Indemnity Claim - Statewide

Acc. Year	Paid ALAE ^[1] @12/31/18 (in \$000) (1)	Paid ALAE Cumulative Development Factors ^[2] (2)	Estimated Ult. ALAE (in \$000) (3)=(1)x(2)	Indemnity Claim Counts @12/31/18 (4)	Cumulative Count Development Factors ^[3] (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5)	Estimated Ult. ALAE Per Indemnity Claim (7)=(3)/(6)x1000	Annual Change
1991	449,042	1.047	470,218	250,031	1.000	250,059	1,880	---
1992	349,479	1.050	366,796	198,536	1.000	198,575	1,847	-1.8%
1993	255,395	1.052	268,769	156,173	1.000	156,217	1,720	-6.9%
1994	239,809	1.057	253,397	143,765	1.000	143,828	1,762	2.4%
1995	267,852	1.061	284,219	135,214	1.000	135,272	2,101	19.3%
1996	314,087	1.067	335,287	133,140	1.001	133,225	2,517	19.8%
1997	399,059	1.074	428,428	137,314	1.001	137,435	3,117	23.9%
1998	577,673	1.080	623,630	147,475	1.001	147,615	4,225	35.5%
1999	631,084	1.087	685,939	148,676	1.001	148,856	4,608	9.1%
2000	781,722	1.094	855,334	161,991	1.001	162,213	5,273	14.4%
2001	986,541	1.102	1,087,230	185,693	1.002	185,986	5,846	10.9%
2002	1,046,053	1.112	1,162,986	194,697	1.002	195,029	5,963	2.0%
2003	1,053,713	1.121	1,180,758	184,201	1.002	184,540	6,398	7.3%
2004	888,679	1.130	1,003,828	158,913	1.002	159,202	6,305	-1.5%
2005	789,918	1.141	901,329	139,506	1.002	139,749	6,450	2.3%
2006	825,519	1.157	955,140	133,217	1.002	133,441	7,158	11.0%
2007	881,229	1.174	1,034,500	130,271	1.002	130,487	7,928	10.8%
2008	919,186	1.195	1,098,644	122,985	1.002	123,256	8,914	12.4%
2009	943,161	1.221	1,151,667	113,727	1.003	114,043	10,099	13.3%
2010	974,694	1.255	1,222,767	118,342	1.004	118,793	10,293	1.9%
2011	959,830	1.297	1,245,055	120,456	1.005	121,020	10,288	-0.1%
2012	986,622	1.360	1,341,520	127,362	1.006	128,109	10,472	1.8%
2013	984,212	1.446	1,423,123	135,145	1.007	136,145	10,453	-0.2%
2014	943,789	1.573	1,484,785	140,201	1.010	141,594	10,486	0.3%
2015	856,407	1.794	1,536,787	144,064	1.015	146,260	10,507	0.2%
2016	712,617	2.252	1,604,940	146,172	1.023	149,606	10,728	2.1%
2017	467,832	3.602	1,685,128	142,817	1.057	151,012	11,159	4.0%
2018	132,823	14.231	1,890,250	117,836	1.305	153,793	12,291	10.1%

Estimated Annual Exponential Trend Based on:

R²

2005 to 2018	3.9%	0.782
2014 to 2018	3.8%	0.814

Notes:

^[1] All paid ALAE exclude the paid cost of medical cost containment programs.

^[2] Based on private insurers latest year paid ALAE age-to-age development from Exhibit 4.2.

^[3] See Exhibit 4.1.

Estimated Ultimate ALAE Per Indemnity Claim - Private Insurers

Acc. Year	Paid ALAE ^[1] @12/31/18 (in \$000) (1)	Cumulative Development Factors ^[2] (2)	Estimated Ultimate ALAE (in \$000) (3)=(1)x(2)	Indemnity Claim Counts @12/31/18 (4)	Cumulative Count Development Factors ^[3] (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5)	Estimated Ultimate ALAE Per Indemnity Claim (7)=(3)/(6)x1000	Annual Change
1991	414,209	1.047	433,743	175,572	1.000	175,596	2,470	---
1992	318,956	1.050	334,762	142,024	1.000	142,064	2,356	-4.6%
1993	236,858	1.052	249,261	113,568	1.000	113,615	2,194	-6.9%
1994	219,788	1.057	232,241	105,453	1.001	105,525	2,201	0.3%
1995	241,873	1.061	256,652	101,368	1.001	101,442	2,530	15.0%
1996	288,814	1.067	308,307	103,178	1.001	103,286	2,985	18.0%
1997	365,084	1.074	391,952	104,754	1.001	104,899	3,736	25.2%
1998	503,583	1.080	543,646	112,455	1.001	112,619	4,827	29.2%
1999	553,866	1.087	602,008	116,383	1.002	116,590	5,163	7.0%
2000	657,689	1.094	719,622	118,434	1.002	118,678	6,064	17.4%
2001	781,264	1.102	861,002	113,981	1.002	114,250	7,536	24.3%
2002	819,644	1.112	911,268	112,974	1.003	113,272	8,045	6.8%
2003	829,172	1.121	929,145	108,340	1.003	108,670	8,550	6.3%
2004	713,101	1.130	805,500	99,402	1.003	99,714	8,078	-5.5%
2005	668,584	1.141	762,882	97,254	1.004	97,626	7,814	-3.3%
2006	735,440	1.157	850,916	104,216	1.004	104,649	8,131	4.1%
2007	809,266	1.174	950,021	107,362	1.004	107,837	8,810	8.3%
2008	856,587	1.195	1,023,822	105,575	1.005	106,134	9,646	9.5%
2009	886,513	1.221	1,082,496	100,893	1.006	101,512	10,664	10.5%
2010	928,289	1.255	1,164,551	108,622	1.008	109,470	10,638	-0.2%
2011	922,263	1.297	1,196,324	112,761	1.009	113,802	10,512	-1.2%
2012	953,485	1.360	1,296,464	120,947	1.011	122,265	10,604	0.9%
2013	945,477	1.446	1,367,113	127,290	1.013	128,977	10,600	0.0%
2014	896,452	1.573	1,410,314	129,830	1.017	132,028	10,682	0.8%
2015	817,132	1.794	1,466,309	133,814	1.024	137,069	10,698	0.1%
2016	686,719	2.252	1,546,612	137,643	1.036	142,617	10,845	1.4%
2017	453,807	3.602	1,634,611	134,973	1.075	145,089	11,266	3.9%
2018	128,546	14.231	1,829,373	110,717	1.339	148,275	12,338	9.5%

Estimated Annual Exponential Trend Based on:

		R²
2005 to 2018	2.7%	0.774
2014 to 2018	3.5%	0.788
Average:	3.1%	

Notes:

- ^[1] All paid ALAE exclude the paid cost of medical cost containment programs.
^[2] Based on the latest year paid ALAE age-to-age development from Exhibit 4.2
^[3] Based on analogous Exhibit 4.1, applicable to private insurers only.

**Ratio of Accident Year Incremental Paid ALAE^[1] to Indemnity Claims Inventory^[2]
By Payment Year - Private Insurers**

Acc. Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1989	917	1,055	923	1,167	1,027	1,221	1,236	1,525	1,530	1,368	1,669	1,811	1,518	1,707
1990	1,449	1,198	1,086	1,406	1,138	1,341	1,386	1,584	1,777	1,496	1,551	1,939	1,695	1,742
1991	1,323	1,120	1,203	1,481	1,384	1,577	1,308	1,678	1,541	1,714	1,431	2,154	2,058	1,946
1992	1,740	1,485	1,507	1,647	1,477	1,718	1,434	1,579	1,633	1,501	1,925	1,640	1,836	2,027
1993	1,532	1,630	1,677	1,945	1,450	1,732	1,788	1,932	1,934	1,802	2,095	2,286	2,095	2,245
1994	1,750	1,784	1,748	1,864	1,389	1,514	1,774	1,830	1,812	1,804	1,775	1,908	1,645	1,878
1995	1,638	1,649	1,771	1,866	1,682	2,022	1,602	1,996	2,144	1,998	2,179	2,356	1,997	2,223
1996	2,010	2,006	2,003	2,040	1,938	1,755	1,868	2,035	2,244	2,008	2,174	2,196	1,967	2,237
1997	2,276	2,503	2,463	2,343	2,268	2,196	2,281	2,489	2,350	1,951	2,303	2,196	2,414	2,134
1998	2,835	2,604	2,405	2,426	2,374	2,398	2,338	2,401	2,362	2,306	2,324	2,531	2,556	2,561
1999	2,415	2,752	2,526	2,468	2,806	2,659	2,600	2,662	2,452	2,130	2,322	2,503	2,257	2,190
2000	2,479	2,861	2,658	2,699	2,806	2,773	2,781	2,841	2,670	2,530	2,798	2,760	2,550	2,490
2001	2,332	2,618	2,918	2,644	2,756	2,707	2,730	2,841	3,113	3,290	3,044	2,876	2,662	2,944
2002	2,522	2,746	3,081	2,881	2,976	2,949	3,029	2,959	3,285	3,428	3,193	3,261	3,152	3,139
2003	2,548	2,818	3,077	3,014	3,007	3,226	3,208	3,518	3,604	3,687	3,582	3,398	3,102	3,022
2004	1,816	2,562	2,919	3,062	3,170	3,256	3,156	3,084	3,462	3,556	3,487	3,272	3,102	3,168
2005	498	1,692	2,493	2,877	3,084	3,227	3,286	3,267	3,580	3,568	3,562	3,835	3,528	3,682
2006		529	1,815	2,675	2,969	3,220	3,478	3,468	3,489	3,511	3,566	3,282	3,270	3,154
2007			572	1,987	2,752	3,155	3,398	3,572	3,756	3,671	3,745	3,608	3,567	3,617
2008				620	2,095	2,976	3,480	3,559	3,716	3,840	3,952	3,763	3,793	3,720
2009					674	2,380	3,307	3,620	3,797	3,964	4,048	3,920	3,917	3,943
2010						746	2,542	3,411	3,684	3,888	4,137	4,094	4,087	4,132
2011							766	2,569	3,342	3,825	4,120	4,003	4,168	4,311
2012								773	2,593	3,610	4,036	4,012	4,193	4,164
2013									791	2,844	3,691	3,834	4,107	4,074
2014										909	3,031	3,649	4,003	4,022
2015											923	3,037	3,825	4,001
2016												933	3,219	3,965
2017													1,060	3,361
2018														1,161
ALAE per Claim	1,852	1,915	1,979	2,047	2,160	2,318	2,480	2,563	2,639	2,797	2,906	2,868	3,011	3,069
Annual Change	-6.1%	3.4%	3.4%	3.4%	5.5%	7.3%	7.0%	3.4%	3.0%	6.0%	3.9%	-1.3%	5.0%	1.9%
Estimated Annual Exponential Trend Based on Payment Year:										R ²				
2006-2018									4.3%	0.972				
2014-2018									2.2%	0.877				
Average:									3.3%					

^[1] All paid ALAE exclude the paid cost of medical cost containment programs.

^[2] Indemnity claims inventory is the sum of indemnity claims open as of January 1 of Year N and newly-reported indemnity claims between January 1 of year N and December 31 of year N.

Source: WCIRB quarterly calls for experience

Reported Indemnity Claim Count Development - Statewide

Accident Year	Age-to-Age Development (in months):														
	<u>12-24</u>	<u>24-36</u>	<u>36-48</u>	<u>48-60</u>	<u>60-72</u>	<u>72-84</u>	<u>84-96</u>	<u>96-108</u>	<u>108-120</u>	<u>120-132</u>	<u>132-144</u>	<u>144-156</u>	<u>156-168</u>	<u>168-180</u>	<u>180-192</u>
1989														1.001	1.001
1990													1.001	1.001	1.000
1991												1.001	1.001	1.000	1.004
1992											1.001	1.001	1.001	1.001	1.000
1993										1.001	1.001	1.001	1.001	1.000	1.000
1994									1.001	1.001	1.001	1.001	1.000	1.000	1.000
1995								1.002	1.001	1.001	1.001	1.000	1.001	1.000	1.001
1996							1.002	1.002	1.001	1.001	1.001	1.001	1.000	1.000	1.000
1997						1.002	1.002	1.002	1.001	1.001	1.000	1.000	1.000	1.000	1.000
1998					1.004	1.003	1.002	1.001	1.001	1.000	1.000	1.001	1.000	1.000	1.000
1999				1.003	1.005	1.002	1.002	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000
2000			0.997	1.009	1.004	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001		1.024	1.019	1.007	1.004	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.252	1.031	1.010	1.006	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.202	1.018	1.010	1.001	0.999	0.998	0.999	0.999	1.000	0.999	1.000	1.000	1.000	1.000	1.000
2004	1.149	1.021	1.003	1.001	0.999	1.000	0.999	0.999	0.999	1.000	1.000	1.000	1.000	1.000	
2005	1.162	1.010	1.003	1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2006	1.126	1.011	1.005	1.002	1.001	1.000	1.001	1.001	1.000	1.000	1.000	1.000			
2007	1.122	1.014	1.006	1.004	1.002	1.000	1.001	1.000	1.000	1.000	1.001				
2008	1.146	1.022	1.011	1.005	1.003	1.001	1.001	1.001	1.000	1.001					
2009	1.192	1.029	1.011	1.006	1.003	1.001	1.001	1.001	1.001						
2010	1.217	1.030	1.011	1.006	1.002	1.002	1.001	1.001							
2011	1.233	1.032	1.013	1.005	1.003	1.002	1.001								
2012	1.243	1.035	1.011	1.006	1.003	1.002									
2013	1.248	1.026	1.012	1.006	1.003										
2014	1.214	1.032	1.012	1.005											
2015	1.246	1.031	1.008												
2016	1.255	1.033													
2017	1.234														

I. Age-to-Age (Latest Year)

1.234 1.033 1.008 1.005 1.003 1.002 1.001 1.001 1.001 1.001 1.001 1.001 1.000 1.000 1.000 1.000

II. Age-to-Ultimate

1.305 1.057 1.023 1.015 1.010 1.007 1.006 1.005 1.004 1.003 1.002 1.002 1.002 1.002 1.002 1.002

Accident Year	Age-to-Age Development (in months):													
	<u>192-204</u>	<u>204-216</u>	<u>216-228</u>	<u>228-240</u>	<u>240-252</u>	<u>252-264</u>	<u>264-276</u>	<u>276-288</u>	<u>288-300</u>	<u>300-312</u>	<u>312-324</u>	<u>324-336</u>	<u>336-348</u>	<u>348-360</u>
1989	1.001	1.002	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1997	1.000	1.000	1.000	1.000	1.000	1.000								
1998	1.000	1.000	1.000	1.000	1.000									
1999	1.000	1.000	1.000	1.000										
2000	1.000	1.000	1.000											
2001	1.000	1.000												
2002	1.000													

I. Age-to-Age (Latest Year)

1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000

II. Age-to-Ultimate

1.002 1.002 1.002 1.002 1.001 1.001 1.001 1.001 1.001 1.000 1.000 1.000 1.000 1.000 1.000

Source: WCIRB quarterly calls for experience

Paid Allocated Loss Adjustment Expense Development - Private Insurers
As of December 31, 2018

Accident Year	Age-to-Age Development (in months):																
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216
1985							1.067	1.003	1.014	1.013	1.010	1.009	1.008	1.004	1.011	1.003	1.004
1986						1.068	1.038	1.001	1.018	1.014	1.010	1.008	1.009	1.010	1.005	1.006	1.005
1987					1.100	1.056	1.035	1.024	1.016	1.013	1.009	1.012	1.009	1.006	1.006	1.005	1.005
1988				1.173	1.096	1.055	1.035	1.023	1.016	1.011	1.010	1.014	1.005	1.004	1.004	1.005	1.004
1989			1.354	1.179	1.110	1.063	1.062	1.029	1.017	1.012	1.008	1.004	1.006	1.005	1.006	1.005	1.005
1990		1.821	1.337	1.169	1.085	1.068	1.034	1.020	1.015	1.010	1.007	1.006	1.006	1.006	1.005	1.006	1.005
1991	4.164	1.713	1.300	1.130	1.081	1.052	1.026	1.018	1.012	1.017	1.008	1.005	1.005	1.005	1.007	1.004	1.000
1992	3.520	1.633	1.249	1.132	1.079	1.048	1.028	1.020	1.023	1.010	1.008	1.006	1.007	1.005	1.006	0.998	1.003
1993	3.175	1.633	1.276	1.147	1.081	1.052	1.034	1.034	1.021	1.015	1.013	1.010	1.011	1.010	0.998	1.006	1.007
1994	3.203	1.645	1.284	1.125	1.085	1.055	1.046	1.027	1.020	1.017	1.015	1.017	1.014	0.999	1.008	1.007	1.008
1995	3.403	1.700	1.264	1.182	1.088	1.065	1.045	1.040	1.031	1.021	1.020	1.017	1.003	1.012	1.012	1.008	1.009
1996	3.178	1.610	1.331	1.144	1.094	1.073	1.064	1.048	1.033	1.028	1.022	1.002	1.014	1.010	1.009	1.010	1.009
1997	3.071	1.678	1.256	1.151	1.111	1.088	1.071	1.042	1.035	1.027	1.002	1.017	1.013	1.012	1.012	1.010	1.008
1998	3.629	1.644	1.273	1.176	1.126	1.093	1.071	1.045	1.032	1.007	1.021	1.017	1.014	1.014	1.012	1.012	1.010
1999	3.413	1.743	1.335	1.189	1.134	1.086	1.066	1.045	1.017	1.029	1.021	1.018	1.016	1.013	1.013	1.010	1.010
2000	4.244	1.779	1.357	1.208	1.121	1.091	1.057	1.030	1.033	1.025	1.021	1.019	1.015	1.014	1.012	1.011	1.009
2001	4.001	1.797	1.384	1.182	1.121	1.084	1.044	1.039	1.028	1.024	1.020	1.017	1.017	1.014	1.011	1.009	1.009
2002	3.822	1.805	1.318	1.177	1.109	1.064	1.047	1.032	1.026	1.021	1.018	1.017	1.014	1.012	1.009	1.008	
2003	3.950	1.705	1.329	1.171	1.101	1.063	1.045	1.034	1.029	1.023	1.020	1.017	1.013	1.010	1.008		
2004	4.073	1.734	1.339	1.161	1.101	1.069	1.048	1.036	1.030	1.025	1.020	1.016	1.012	1.010			
2005	3.932	1.740	1.330	1.181	1.113	1.079	1.056	1.044	1.035	1.027	1.022	1.016	1.014				
2006	3.976	1.727	1.330	1.186	1.120	1.081	1.060	1.046	1.035	1.025	1.019	1.015					
2007	3.956	1.716	1.340	1.194	1.126	1.088	1.060	1.045	1.032	1.023	1.018						
2008	4.015	1.758	1.367	1.199	1.126	1.085	1.060	1.040	1.029	1.022							
2009	4.322	1.775	1.354	1.199	1.126	1.083	1.054	1.037	1.027								
2010	4.300	1.737	1.342	1.190	1.120	1.075	1.049	1.034									
2011	4.233	1.728	1.350	1.195	1.109	1.072	1.048										
2012	4.323	1.765	1.343	1.173	1.105	1.063											
2013	4.504	1.704	1.296	1.160	1.088												
2014	4.282	1.629	1.284	1.141													
2015	4.028	1.628	1.255														
2016	4.223	1.599															
2017	3.951																

<u>Latest Year</u>																	
Age-to-Age	3.951	1.599	1.255	1.141	1.088	1.063	1.048	1.034	1.027	1.022	1.018	1.015	1.014	1.010	1.008	1.008	1.009
Cumulative	14.231	3.602	2.252	1.794	1.573	1.446	1.360	1.297	1.255	1.221	1.195	1.174	1.157	1.141	1.130	1.121	1.112
<u>3-Year Arithmetics Average</u>																	
Age-to-Age	4.067	1.619	1.278	1.158	1.101	1.070	1.050	1.037	1.029	1.023	1.020	1.015	1.013	1.011	1.010	1.009	1.009
Cumulative	15.837	3.894	2.405	1.882	1.625	1.476	1.379	1.313	1.266	1.230	1.202	1.179	1.161	1.146	1.134	1.123	1.113
<u>Average Excluding High & Low</u>																	
Age-to-Age	3.893	1.709	1.318	1.171	1.106	1.071	1.050	1.033	1.025	1.019	1.015	1.013	1.011	1.009	1.008	1.007	1.007
Cumulative	16.196	4.161	2.435	1.848	1.577	1.427	1.332	1.268	1.228	1.198	1.175	1.158	1.143	1.131	1.121	1.112	1.104

Accident Year	Age-to-Age Development (in months):															
	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-408
1985	1.006	1.005	1.003	1.005	1.005	0.999	1.036	1.004	1.004	1.004	1.004	1.006	1.004	1.003	1.003	1.003
1986	1.005	1.005	1.006	1.005	0.999	1.039	1.005	1.005	1.006	1.006	1.007	1.006	1.005	1.004	1.003	
1987	1.005	1.006	1.007	0.998	1.024	1.006	1.005	1.004	1.005	1.006	1.005	1.004	1.004	1.003		
1988	1.005	1.005	1.009	1.008	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.003	1.003			
1989	1.004	1.002	1.003	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.003	1.003				
1990	1.001	1.002	1.003	1.003	1.003	1.003	1.003	1.002	1.003	1.002	1.002					
1991	1.002	1.003	1.003	1.003	1.003	1.003	1.002	1.003	1.003	1.002						
1992	1.005	1.004	1.003	1.003	1.003	1.003	1.003	1.003	1.003							
1993	1.006	1.006	1.006	1.005	1.005	1.005	1.004	1.004								
1994	1.007	1.006	1.006	1.006	1.005	1.004	1.004									
1995	1.009	1.008	1.008	1.008	1.006	1.006										
1996	1.008	1.007	1.007	1.006	1.006											
1997	1.008	1.007	1.007	1.006												
1998	1.010	1.008	1.007													
1999	1.008	1.007														
2000	1.007															

<u>Latest Year</u>																
Age-to-Age	1.007	1.007	1.007	1.006	1.006	1.006	1.004	1.004	1.003	1.002	1.002	1.003	1.003	1.003	1.003	1.003
Cumulative	1.102	1.094	1.087	1.080	1.074	1.067	1.061	1.057	1.052	1.050	1.047	1.044	1.041	1.039	1.036	1.034
<u>3-Year Arithmetic Average</u>																
Age-to-Age	1.008	1.007	1.007	1.006	1.006	1.005	1.004	1.003	1.003	1.003	1.003	1.003	1.004	1.004	1.003	1.003
Cumulative	1.103	1.094	1.086	1.078	1.072	1.066	1.060	1.056	1.053	1.050	1.047	1.044	1.041	1.039	1.036	1.034
<u>Average Excluding High & Low</u>																
Age-to-Age	1.006	1.005	1.005	1.005	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.003		
Cumulative	1.096	1.090	1.084	1.078	1.073	1.068	1.063	1.059	1.055	1.051	1.047	1.044	1.041	1.039	1.036	1.034

Note: Factors in italics are based on an inverse power curve fit to the "3-Year Arithmetic Average" factors using the 108-to-120 through 324-to-336 valuations.
Source: WCIRB accident year experience calls. Excludes MCPP costs.

Quarterly Paid ALAE Loss Development Factors^[1] - Private Insurers

Age in Months	Accident Year																
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
3 - 6						7.976	7.570	5.434	9.136	8.769	8.693	8.584	6.324	9.970	8.970	8.932	8.255
6 - 9					2.427	3.016	2.765	2.630	3.023	3.176	3.213	3.058	3.169	3.182	3.155	3.050	3.134
9 - 12					2.022	2.078	2.021	2.034	2.077	2.165	2.115	2.133	2.161	2.111	2.100	2.130	2.076
12 - 15					1.653	1.627	1.687	1.724	1.737	1.701	1.713	1.784	1.738	1.712	1.771	1.699	
15 - 18					1.415	1.486	1.494	1.509	1.482	1.486	1.510	1.495	1.491	1.473	1.488	1.450	
18 - 21				1.318	1.357	1.328	1.289	1.326	1.334	1.343	1.338	1.361	1.330	1.306	1.307	1.309	
21 - 24				1.249	1.255	1.234	1.237	1.255	1.253	1.248	1.249	1.241	1.239	1.223	1.226	1.226	
24 - 27				1.192	1.187	1.191	1.190	1.197	1.189	1.186	1.205	1.188	1.170	1.182	1.167		
27 - 30				1.151	1.165	1.167	1.172	1.170	1.158	1.163	1.164	1.158	1.145	1.141	1.132		
30 - 33			1.127	1.145	1.128	1.119	1.135	1.138	1.133	1.131	1.138	1.124	1.113	1.110	1.109		
33 - 36			1.113	1.110	1.107	1.103	1.111	1.114	1.113	1.108	1.107	1.102	1.093	1.088	1.092		
36 - 39			1.093	1.087	1.093	1.090	1.097	1.094	1.091	1.095	1.094	1.082	1.083	1.073			
39 - 42			1.076	1.083	1.083	1.086	1.096	1.082	1.083	1.083	1.083	1.074	1.070	1.062			
42 - 45		1.063	1.077	1.068	1.063	1.069	1.069	1.074	1.069	1.073	1.071	1.059	1.056	1.054			
45 - 48		1.059	1.057	1.058	1.057	1.059	1.063	1.064	1.062	1.061	1.058	1.053	1.050	1.046			
48 - 51		1.049	1.039	1.050	1.050	1.050	1.052	1.053	1.053	1.052	1.048	1.046	1.040				
51 - 54		1.043	1.044	1.048	1.049	1.050	1.049	1.050	1.048	1.050	1.044	1.041	1.036				
54 - 57	1.038	1.045	1.037	1.037	1.038	1.043	1.045	1.043	1.040	1.044	1.037	1.034	1.030				
57 - 60	1.037	1.025	1.032	1.034	1.037	1.038	1.039	1.039	1.036	1.037	1.034	1.030	1.028				
60 - 63	1.031	1.027	1.028	1.030	1.032	1.032	1.034	1.034	1.032	1.030	1.030	1.024					
63 - 66	1.029	1.025	1.025	1.030	1.030	1.031	1.033	1.031	1.032	1.028	1.028	1.023					
66 - 69	1.027	1.023	1.022	1.026	1.027	1.029	1.028	1.028	1.028	1.024	1.023	1.020					
69 - 72	1.018	1.021	1.022	1.023	1.025	1.028	1.026	1.026	1.023	1.022	1.020	1.018					
72 - 75	1.014	1.017	1.018	1.021	1.022	1.023	1.023	1.022	1.021	1.020	1.018						
75 - 78	1.018	1.018	1.019	1.020	1.020	1.023	1.022	1.022	1.020	1.019	1.016						
78 - 81	1.017	1.013	1.015	1.019	1.019	1.020	1.020	1.020	1.017	1.017	1.015						
81 - 84	1.015	1.013	1.015	1.017	1.018	1.019	1.018	1.017	1.016	1.014	1.013						
84 - 87	1.014	1.011	1.013	1.015	1.016	1.016	1.016	1.015	1.014	1.013							
87 - 90	1.013	1.012	1.012	1.014	1.015	1.015	1.016	1.014	1.012	1.012							
90 - 93	1.010	1.011	1.011	1.013	1.014	1.014	1.014	1.012	1.012	1.011							
93 - 96	1.010	1.011	1.011	1.013	1.013	1.013	1.013	1.012	1.010	1.011							
96 - 99	1.007	1.009	1.010	1.012	1.012	1.011	1.011	1.010	1.010								
99 - 102	1.008	1.009	1.009	1.012	1.012	1.012	1.011	1.009	1.009								
102 - 105	1.007	1.008	1.008	1.010	1.012	1.011	1.009	1.009	1.008								
105 - 108	1.008	1.008	1.008	1.010	1.010	1.010	1.008	1.008	1.007								
108 - 111	1.007	1.007	1.008	1.009	1.009	1.009	1.008	1.008									
111 - 114	1.007	1.008	1.008	1.009	1.009	1.008	1.007	1.007	1.007								
114 - 117	1.006	1.007	1.007	1.009	1.008	1.007	1.007	1.007	1.007								
117 - 120	1.006	1.007	1.007	1.008	1.008	1.007	1.006	1.006									
120 - 123	1.006	1.006	1.007	1.006	1.007	1.006	1.006										

[1] All paid allocated loss adjustment expense exclude the paid cost of medical cost containment programs.

Source: WCIRB quarterly calls for experience.

Projected Ratio of ALAE^[1] to Losses - Statewide

Based on Estimated Accident Year Indemnity Claim Frequency and Private Insurers ALAE Severity
For Policies with Effective Dates between July 1, 2019 and December 31, 2019

Acc. Year	Indemnity Claim Counts @12/31/18	Cumulative Count Development Factors ^[2]	Estimated Ultimate Ind. Counts (3)=(1)x(2)	Estimated Ult. ALAE Per Indemnity Claim ^[3]	Estimated Ult. ALAE (in \$000) (5)=(3)x(4)
	(1)	(2)		(4)	
1991	250,031	1.000	250,059	2,470	617,678
1992	198,536	1.000	198,575	2,356	467,924
1993	156,173	1.000	156,217	2,194	342,725
1994	143,765	1.000	143,828	2,201	316,539
1995	135,214	1.000	135,272	2,530	342,244
1996	133,140	1.001	133,225	2,985	397,676
1997	137,314	1.001	137,435	3,736	513,523
1998	147,475	1.001	147,615	4,827	712,581
1999	148,676	1.001	148,856	5,163	768,610
2000	161,991	1.001	162,213	6,064	983,603
2001	185,693	1.002	185,986	7,536	1,401,610
2002	194,697	1.002	195,029	8,045	1,569,006
2003	184,201	1.002	184,540	8,550	1,577,843
2004	158,913	1.002	159,202	8,078	1,286,055
2005	139,506	1.002	139,749	7,814	1,092,045
2006	133,217	1.002	133,441	8,131	1,085,023
2007	130,271	1.002	130,487	8,810	1,149,558
2008	122,985	1.002	123,256	9,646	1,188,986
2009	113,727	1.003	114,043	10,664	1,216,116
2010	118,342	1.004	118,793	10,638	1,263,727
2011	120,456	1.005	121,020	10,512	1,272,203
2012	127,362	1.006	128,109	10,604	1,358,433
2013	135,145	1.007	136,145	10,600	1,443,083
2014	140,201	1.010	141,594	10,682	1,512,494
2015	144,064	1.015	146,260	10,698	1,564,627
2016	146,172	1.023	149,606	10,845	1,622,402
2017	142,817	1.057	151,012	11,266	1,701,338
2018	117,836	1.305	153,793	12,338	1,897,452

Projected Based on 2-Year Average of 2017 and 2018:

	Ult. Ind. Counts ^[4]	Ult. ALAE per Ind. Counts ^[5]	Ultimate ALAE ^[6]
2019	148,336	12,419	1,842,200
4/1/2020	146,027	12,744	1,860,925

(a) Projected ALAE Incurred (\$000):	1,860,925
(b) Calendar Year 2018 Earned Premium ^[7] (\$000):	17,425,149
(c) Projected Loss to Industry Average Filed Pure Premium Ratio ^[8] :	0.532
(d) Premium Adjustment Factor for Calendar Year 2018 ^[9] :	0.969
(e) Projected Losses (\$000): (b) x (c) x (d)	8,978,537
(f) Ratio of ALAE to Losses Prior to Impact of SB 1160 and AB 1244: (a) / (e)	20.7%
(g) Impact of SB 1160 and AB 1244 ^[10]	-7.7%
(h) Projected Ratio of ALAE to Losses after Impact of SB 1160 and AB 1244: (f) x [1.0 + (g)]	19.1%

Notes:

- [1] All paid ALAE exclude the paid cost of medical cost containment programs.
- [2] Based on the latest year indemnity claim count age-to-age development from Exhibit 4.1.
- [3] Based on estimated ultimate ALAE per indemnity for private insurers from Exhibit 2.2.
- [4] Estimated based on projected frequency trends for accident years 2018 to 2020. The estimated frequency changes are based on the projected growth in overall indemnity claim frequency. These frequency trends were then applied to the ultimate indemnity claim counts estimated from averaging 2017 and 2018.
- [5] Severity is projected by applying an annual growth rate of 3.5%, which is based on the approximate average of the private insurers selected rate of growth in (i) estimated ultimate accident year ALAE severities from Exhibit 2.2 and (ii) paid ALAE per open indemnity claim from Exhibit 3, to the ultimate ALAE severity estimated from averaging 2017 and 2018.
- [6] Column(6) x Column(7) / 1,000.
- [7] Based on the reported earned premium for calendar year 2018 from the same group of insurers that reported the paid ALAE in column (1) and the indemnity claim counts in column (4) by accident year as of December 31, 2018.
- [8] See Exhibit 8 of Agenda Item AC19-03-02.
- [9] See Exhibit 8 of Agenda Item AC19-03-02.
- [10] Based on the WCIRB's most recent evaluation of SB 1160 and AB 1244 reflecting a 60% reduction in lien filings, offset by 20% to reflect the impact of the reforms in the emerging ALAE data.

Paid M CCP per Indemnity Claims Inventory^[1] by Calendar Year

Calendar Year	Private Insurer		Statewide	
	Paid M CCP per Indemnity Claim Adjusted to Remove IMR/IBR Fees	Year-to-Year Change	Paid M CCP per Indemnity Claim Adjusted to Remove IMR/IBR Fees	Year-to-Year Change
2005	\$469	---	---	---
2006	\$559	19.3%	---	---
2007	\$631	12.8%	\$433	---
2008	\$953	51.0%	\$673	55.4%
2009	\$830	-13.0%	\$665	-1.2%
2010	\$888	7.0%	\$733	10.2%
2011	\$931	4.8%	\$786	7.1%
2012	\$983	5.6%	\$842	7.1%
2013	\$1,013	3.1%	\$893	6.1%
2014	\$912	-10.0%	\$818	-8.3%
2015	\$999	9.6%	\$901	10.1%
2016	\$1,012	1.3%	\$906	0.6%
2017	\$948	-6.3%	\$821	-9.4%

Estimated Annual Exponential Trend Based on:

2005-2017	5.3%	---
R ²	0.635	---
2009-2017	1.7%	2.9%
R ²	0.445	0.587

^[1] Indemnity claims inventory is the sum of indemnity claims open as of January 1 of Year N and newly-reported indemnity claims between January 1 of year N and December 31 of year N.

Source: WCIRB expense calls, aggregate indemnity and medical cost calls, and quarterly calls for experience.

Estimated Ultimate M CCP Per Indemnity Claim - Statewide

Accident Year	Paid MCCP @12/31/18 (in \$000) (1)	Cumulative Development Factors ^[1] (2)	Estimated Ultimate MCCP (3)=(1)x(2)	Indemnity Claim Counts @12/31/18 (4)	Cumulative Count Development Factors ^[2] (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5)	Estimated Ultimate MCCP Per Indemnity Claim (7)=(3)/(6) x 1000	Annual change
2011	313,571	1.365	428,073	120,456	1.005	121,020	3,537	---
2012	290,436	1.424	413,539	127,362	1.006	128,109	3,228	-8.7%
2013	276,447	1.473	407,179	135,145	1.007	136,145	2,991	-7.3%
2014	263,540	1.550	408,618	140,201	1.010	141,594	2,886	-3.5%
2015	239,735	1.681	402,924	144,064	1.015	146,260	2,755	-4.5%
2016	199,617	1.916	382,566	146,172	1.023	149,606	2,557	-7.2%
2017	151,805	2.476	375,884	142,817	1.057	151,012	2,489	-2.7%
2018	71,876	5.772	414,863	117,836	1.305	153,793	2,698	8.4%

Estimated Annual Exponential Trend Based on:

2012 to 2018	-3.6%
2014 to 2018	-2.3%

Notes:

- [1] Based on MCCP development through 84 months from Exhibit 7.1. 96-to-ultimate and 84-to-ultimate development factors are based on selected paid medical development factors from Exhibit 3.2 of Agenda Item AC18-03-02.
- [2] Based on the latest year indemnity claim count age-to-age development from Exhibit 4.1.

Paid MCCP Development Factors - Statewide

Quarterly Development							
Age in Months	Accident Year						
	2012	2013	2014	2015	2016	2017	2018
3 - 6	5.635	5.813	6.035	5.594	6.065	5.480	5.760
6 - 9	2.381	2.423	2.362	2.447	2.387	2.389	2.315
9 - 12	1.762	1.768	1.737	1.740	1.713	1.776	1.835
12 - 15	1.474	1.412	1.443	1.468	1.477	1.440	
15 - 18	1.280	1.252	1.278	1.279	1.241	1.254	
18 - 21	1.170	1.155	1.179	1.174	1.169	1.151	
21 - 24	1.128	1.119	1.117	1.117	1.124	1.121	
24 - 27	1.084	1.098	1.117	1.095	1.085		
27 - 30	1.077	1.081	1.089	1.072	1.074		
30 - 33	1.050	1.067	1.068	1.061	1.053		
33 - 36	1.044	1.054	1.052	1.045	1.053		
36 - 39	1.047	1.053	1.043	1.040			
39 - 42	1.035	1.043	1.036	1.038			
42 - 45	1.035	1.035	1.033	1.028			
45 - 48	1.031	1.027	1.026	1.027			
48 - 51	1.031	1.023	1.025				
51 - 54	1.025	1.023	1.022				
54 - 57	1.022	1.019	1.018				
57 - 60	1.017	1.016	1.016				
60 - 63	1.015	1.015					
63 - 66	1.016	1.013					
66 - 69	1.013	1.012					
69 - 72	1.011	1.012					
72 - 75	1.010						
75 - 78	1.009						
78 - 81	1.007						
81 - 84	1.008						
Annual Development							
Age in Months	Accident Year						
	2012	2013	2014	2015	2016	2017	
12 - 24	2.491	2.282	2.429	2.462	2.409	2.331	
24 - 36	1.279	1.333	1.367	1.301	1.292		
36 - 48	1.156	1.169	1.145	1.140			
48 - 60	1.097	1.084	1.084				
60 - 72	1.056	1.053					
72 - 84	1.034						
	<u>12-24</u>	<u>24-36</u>	<u>36-48</u>	<u>48-60</u>	<u>60-72</u>	<u>72-84</u>	<u>84-Ult.</u>
Age-to-Age ^[1]	2.331	1.292	1.140	1.084	1.053	1.034	
Age -to-Ult. ^[2]	5.772	2.476	1.916	1.681	1.550	1.473	1.424

Notes:

[1] Based on Latest Year.

[2] 84-to-Ult. is based on selected paid medical 84-to-ultimate development factor on Exhibit 3.2 of Agenda Item AC19-03-02.

Source: WCIRB quarterly calls for experience.

Projected Ratio of M CCP to Losses - Statewide
Based on Estimated Accident Year Indemnity Claim Frequency and M CCP Severity
For Policies with Effective Dates between July 1, 2019 and December 31, 2019

Accident Year	Paid M CCP @12/31/18 (in \$000) (1)	Cumulative Development Factors ^[1] (2)	Estimated Ultimate M CCP (3)=(1)x(2) (4)	Indemnity Claim Counts @12/31/18 (5)	Cumulative Count Development Factors ^[2] (6)	Estimated Ultimate Ind. Counts (7)=(6)x(5) (8)	Estimated Ultimate M CCP Per Indemnity Claim (9)=(8)/(6) x 1000	Annual change
2011	313,571	1.365	428,073	120,456	1.005	121,020	3,537	---
2012	290,436	1.424	413,539	127,362	1.006	128,109	3,228	-8.7%
2013	276,447	1.473	407,179	135,145	1.007	136,145	2,991	-7.3%
2014	263,540	1.550	408,618	140,201	1.010	141,594	2,886	-3.5%
2015	239,735	1.681	402,924	144,064	1.015	146,260	2,755	-4.5%
2016	199,617	1.916	382,566	146,172	1.023	149,606	2,557	-7.2%
2017	151,805	2.476	375,884	142,817	1.057	151,012	2,489	-2.7%
2018	71,876	5.772	414,863	117,836	1.305	153,793	2,698	8.4%

Projected Based on 2-Year Average of 2017 and 2018:

	Ultimate M CCP ^[5]	Ult. Ind. Counts ^[3]	Ult. M CCP per Ind. Counts ^[4]
2019	379,009	148,336	2,555
4/1/2020	370,307	146,027	2,536

(a) Projected M CCP (\$000):	370,307
(b) Calendar Year 2018 Earned Premium ^[6] (\$000):	17,425,149
(c) Projected Loss to Industry Average Filed Pure Premium Ratio ^[7] :	0.532
(d) Premium Adjustment Factor for Calendar Year 2018 ^[8] :	0.969
(e) Projected Losses (\$000): (b) x (c) x (d)	8,978,537
(f) Ratio of M CCP to Losses Prior to Impact of Drug Formulary: (a) / (e)	4.1%
(g) Impact of Drug Formulary ^[9]	-2.6%
(h) Projected Ratio of ALAE to Losses after Impact of Drug Formulary: (f) x [1.0 + (g)]	4.0%

Notes:

- [1] Based on M CCP development through 84 months from Exhibit 7.1. 96-to-ultimate and 84-to-ultimate development factors are based on selected paid medical development factors from Exhibit 3.2 of Agenda Item AC19-03-02.
- [2] Based on the latest year indemnity claim count age-to-age development from Exhibit 4.1.
- [3] Estimated based on projected frequency trends for accident years 2018 to 2020. The estimated frequency changes are based on the projected growth in total or overall indemnity claim frequency. These frequency trends were then applied to the ultimate indemnity claim counts estimated from averaging 2017 and 2018.
- [4] Severity is projected by applying an annual growth rate of -1.0% to the ultimate M CCP severity estimated from averaging 2017 and 2018.
- [5] Column(6) x Column(7) / 1,000.
- [6] Based on the reported earned premium for calendar year 2018 from the same group of insurers that reported the paid M CCP in column (1) and the indemnity claim counts in column (4) by accident year as of December 31, 2018.
- [7] See Exhibit 8 of Agenda Item AC19-03-02.
- [8] See Exhibit 5.2 of Agenda Item AC19-03-02.
- [9] Based on the WCIRB's prospective evaluation of the Drug Formulary impacting M CCP (UR) costs.

Item AC19-04-02

12/31/2018 Experience – Alternative Loss Projections

For a number of years, the WCIRB has included alternative loss development and trending methodology projections in its pure premium rate filing submissions.

Loss Development Methodologies

The loss development projections based on the methodology reflected in the WCIRB's summary analysis of December 31, 2018 experience, included in Item AC19-03-02 of this Agenda, were based on a combination of (a) latest year reform-adjusted paid loss development factors through 108 months with adjustments for changes in claim settlement rates applied through 84 months, (b) three-year average reform-adjusted paid loss development factors from 108 months through 252 months, and (c) six-year average (unadjusted) incurred loss development factors after 252 months. Attached for the Committee's review are a number of alternative loss development projections based on methodologies that have been included, for informational purposes, in prior pure premium rate filing materials or have been discussed at prior meetings. Specifically, alternative loss ratio projections, based on December 31, 2018 experience, derived using the following loss development methodologies and the trending methodology reflected in the analysis included in Item AC19-03-02 of this Agenda are included:¹

1. 3-Year Average Unadjusted Incurred Loss Development – Exhibits 1.1 through 1.3
2. Latest Year Unadjusted Incurred Loss Development – Exhibits 2.1 through 2.3
3. 3-Year Average Incurred Loss Development Adjusted for Changes in Case Reserve Levels – Exhibits 3.1 through 3.11
4. 3-Year Average Unadjusted Paid Loss Development – Exhibits 4.1 through 4.3
5. Latest Year Unadjusted Paid Loss Development – Exhibits 5.1 through 5.3
6. Latest Year Paid Loss Development Adjusted for Reforms – Exhibits 6.1 and 6.2
7. 3-Year Average Paid Loss Development Adjusted for Changes in Claim Settlement Rates and Reforms – Exhibits 7.1 through 7.3

A summary of the July 1, 2019 through December 31, 2019 policy period loss ratio projections based on the alternative loss development methodologies described above is shown in Table 1.

¹ All paid loss development methodologies reflect three-year average loss development factors applied after 108 months and six-year average incurred loss development factors applied after 252 months. All incurred loss development methodologies reflect six-year average loss development factors applied after 108 months. Methodologies adjusted for reforms include the impacts of SB 1160 and AB 1244.

**Table 1: Projected Loss Ratios for Policies Incepting between July 1, 2019 and December 31, 2019
Based on Alternative Loss Development Methodologies**

Loss Development Methodologies	Indemnity Loss Ratio	Medical Loss Ratio ²	Total Loss Ratio
1/1/2019 Filing Methodology			
Latest Year Paid Adjusted for Reforms and Changes in Claim Settlement Rates	0.238	0.296	0.534
Alternative Methodologies			
<u>Incurred Methodologies</u>			
3-Year Average (Unadjusted)	0.243	0.282	0.525
Latest Year (Unadjusted)	0.235	0.264	0.499
3-Year Average Adjusted for Changes in Case Reserve Levels	0.245	0.288	0.533
<u>Paid Methodologies</u>			
3-Year Average (Unadjusted)	0.268	0.345	0.613
Latest Year (Unadjusted)	0.256	0.321	0.577
Latest Year Adjusted for Reforms	—	0.312	0.568
3-Year Average Adjusted for Changes in Claim Settlement Rates and Reforms	0.249	0.315	0.564
75% Applied to Latest Year Paid Adjusted for Reforms and Claim Settlement Rates and 25% Applied to 3-Year Average Unadjusted Incurred (for Medical) ³	—	0.293	0.531

Trending Methodologies

The trending projections reflected in the summary analysis of December 31, 2018 experience, included in Item AC19-03-02 of this Agenda, were based on the average of the latest two years' on-level loss ratios with separate projections of claim frequency and claim severity growth applied. The claim frequency growth estimates were based on the preliminary 12-month frequency change for accident year 2018 and the WCIRB's claim frequency model forecasts for accident years 2019 and 2020. The severity growth estimates of -0.5% for indemnity and 2.5% for medical were based on a review of longer-term and more recent indemnity and medical severity growth rates.

Attached for the Committee's review are a number of alternative trending projections based on methodologies that have been included, for informational purposes, in prior advisory pure premium rate filing materials or have been discussed at prior meetings. Specifically, alternative loss ratio projections, based on December 31, 2018 experience, derived using the loss development methodologies reflected in the analysis included in Item AC19-03-02 of this Agenda and the following trending methodologies have been included:

² For consistency of comparison, the projected medical loss ratios shown are prior to reflecting the estimated impact of the Drug Formulary on medical costs.

³ This methodology was reflected in the California Department of Insurance (CDI) Decision on the January 1, 2019 Pure Premium Rate Filing for the medical loss development projection.

1. Separate Projections of Frequency and Severity (-0.5% Indemnity; 2.5% Medical) Growth Applied to the Latest Year Only – Exhibits 8.1 and 8.2
2. Separate Projections of Frequency and the Long-Term (1990 to 2018) Average Severity Growth Applied to the Latest Two Years – Exhibits 9.1 and 9.2
3. Separate Projections of Frequency and the Short-Term (2014 to 2018) Average Severity Growth Applied to the Latest Two Years – Exhibits 10.1 and 10.2
4. Separate Projections of Frequency and Severity (-1.0% Indemnity; 2.0% Medical) Growth Applied to the Latest Two Years – Exhibits 11.1 and 11.2⁴
5. Long-Term (1990 to 2018) On-Level Loss Ratio Exponential Trend Applied to the Latest Two Years' Loss Ratios – Exhibits 12.1 and 12.2
6. Short-Term (2014 to 2018) On-Level Loss Ratio Exponential Trend Applied to the Latest Two Years' Loss Ratios – Exhibits 13.1 and 13.2

A summary of the July 1, 2019 through December 31, 2019 policy period loss ratio projections based on the alternative trending methodologies is shown in Table 2.

Table 2: Projected Loss Ratios for Policies Incepting between July 1, 2019 and December 31, 2019 Based on Alternative Trending Methodologies

Trending Methodologies	Indemnity Loss Ratio	Medical Loss Ratio⁵	Total Loss Ratio
1/1/2019 Filing Methodology			
Separate Projections of Frequency and Severity (-0.5% Indemnity; 2.5% Medical) Applied to the Latest Two Years	0.238	0.296	0.534
Alternative Methodologies			
Separate Projections of Frequency and Severity (-0.5% Indemnity; 2.5% Medical) Applied to the Latest Year	0.242	0.295	0.537
Separate Projections of Frequency and Long-Term (1990 to 2018) Severity Applied to the Latest Two Years	0.248	0.317	0.565
Separate Projections of Frequency and Short-Term (2014 to 2018) Severity Applied to the Latest Two Years	0.236	0.279	0.515
Separate Projections of Frequency and Severity (-1.0% Indemnity; 2.0% Medical) Applied to the Latest Two Years	0.236	0.293	0.529
Long-Term (1990 to 2018) On-level Loss Ratio Exponential Trend Applied to the Latest Two Years	0.250	0.318	0.568
Short-Term (2014 to 2018) On-level Loss Ratio Exponential Trend Applied to the Latest Two Years	0.232	0.276	0.508

⁴ This trending methodology was reflected in the CDI Decision on the January 1, 2019 Pure Premium Rate Filing.

⁵ For consistency of comparison, the projected medical loss ratios shown are prior to reflecting the estimated impact of the Drug Formulary on medical costs.

**Developed Loss Ratio Unadjusted 3-Year Average Incurred Development Factors
Based on Experience as of December 31, 2018**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Indemnity				Medical				
Accident	Reported	Annual	Cumulative	Developed	Reported	Annual	Cumulative	Developed	Total
Year	Loss Ratio	Development	Development	Loss Ratio	Loss Ratio	Development	Development	Loss Ratio	Developed
	<u>Ex IBNR(a)</u>	<u>Factor(b)</u>	<u>Factor</u>	<u>Loss Ratio</u>	<u>Ex IBNR(a)</u>	<u>Factor(c)</u>	<u>Factor</u>	<u>Loss Ratio</u>	<u>Loss Ratio</u>
				(1) x (3)				(5) x (7)	(4) + (8)
2007	0.216	1.004	1.022	0.220	0.327	1.006	1.049	0.343	0.564
2008	0.272	1.006	1.028	0.279	0.403	1.007	1.055	0.426	0.705
2009	0.313	1.007	1.034	0.324	0.464	1.008	1.064	0.494	0.818
2010	0.298	1.011	1.045	0.311	0.445	1.012	1.076	0.478	0.790
2011	0.274	1.013	1.059	0.290	0.380	1.008	1.085	0.413	0.702
2012	0.241	1.018	1.078	0.260	0.321	1.013	1.099	0.352	0.612
2013	0.201	1.024	1.103	0.222	0.254	1.019	1.119	0.285	0.507
2014	0.187	1.037	1.144	0.213	0.219	1.029	1.152	0.252	0.466
2015	0.175	1.059	1.211	0.211	0.204	1.043	1.202	0.245	0.456
2016	0.152	1.109	1.343	0.204	0.183	1.076	1.294	0.237	0.441
2017	0.127	1.261	1.694	0.216	0.170	1.143	1.478	0.251	0.467
2018	0.073	1.941	3.288	0.240	0.126	1.483	2.193	0.276	0.516

(a) Based on AC19-03-02, Exhibit 1. Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs. No adjustment has been made to MCCP costs in medical reserves.

(b) Based on AC19-03-02, Exhibit 2.1.

(c) Based on AC19-03-02, Exhibit 2.2.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Using Unadjusted 3-Year Average Incurred Development Factors
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity <u>Loss Ratio(a)</u>	(2) Composite Indemnity <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) + (3)
2007	0.220	1.478	1.145	0.285
2008	0.279	1.393	1.384	0.281
2009	0.324	1.365	1.494	0.296
2010	0.311	1.346	1.357	0.309
2011	0.290	1.325	1.239	0.310
2012	0.260	1.294	1.104	0.305
2013	0.222	1.254	0.965	0.288
2014	0.213	1.135	0.889	0.273
2015	0.211	1.106	0.850	0.275
2016	0.204	1.092	0.869	0.256
2017	0.216	1.071	0.919	0.252
2018	0.240	1.046	0.969	0.259
				Projected (d)
2019				0.247
4/1/2020				0.243

(a) See Exhibit 1.1.

(b) Based on AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from AC19-03-02, Exhibit 6.2, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Using Unadjusted 3-Year Average Incurred Development Factors
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical <u>Loss Ratio(a)</u>	(2) Composite Medical <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) + (3)
2007	0.343	0.804	1.145	0.241
2008	0.426	0.798	1.384	0.245
2009	0.494	0.787	1.494	0.260
2010	0.478	0.785	1.357	0.277
2011	0.413	0.807	1.239	0.269
2012	0.352	0.842	1.104	0.269
2013	0.285	0.923	0.965	0.273
2014	0.252	0.969	0.889	0.275
2015	0.245	0.990	0.850	0.285
2016	0.237	0.988	0.869	0.270
2017	0.251	0.985	0.919	0.268
2018	0.276	1.004	0.969	0.287
				Projected (d)
2019				0.281
4/1/2020				0.282
(a)	See Exhibit 1.1.			
(b)	Based on AC19-03-02, Exhibit 4.4.			
(c)	See AC19-03-02, Exhibit 5.2.			
(d)	These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.			
(e)	Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs. No adjustment has been made to MCCP costs in medical reserves.			

**Developed Loss Ratio Unadjusted Latest Year Incurred Development Factors
Based on Experience as of December 31, 2018**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Indemnity				Medical				
Accident Year	Reported Incurred Loss Ratio Ex IBNR(a)	Annual Development Factor(b)	Cumulative Development Factor	Developed Loss Ratio (1) x (3)	Reported Incurred Loss Ratio Ex IBNR(a)	Annual Development Factor(c)	Cumulative Development Factor	Developed Loss Ratio (5) x (7)	Total Developed Loss Ratio (4) + (8)
2007	0.216	1.004	1.022	0.220	0.327	1.006	1.049	0.343	0.564
2008	0.272	1.006	1.028	0.279	0.403	1.007	1.055	0.426	0.705
2009	0.313	1.007	1.034	0.324	0.464	1.008	1.064	0.494	0.818
2010	0.298	1.011	1.045	0.311	0.445	1.012	1.076	0.478	0.790
2011	0.274	1.012	1.058	0.289	0.380	1.008	1.085	0.413	0.702
2012	0.241	1.019	1.078	0.260	0.321	1.010	1.096	0.351	0.611
2013	0.201	1.023	1.103	0.222	0.254	1.015	1.112	0.283	0.505
2014	0.187	1.032	1.138	0.212	0.219	1.022	1.137	0.249	0.461
2015	0.175	1.059	1.205	0.210	0.204	1.035	1.176	0.240	0.450
2016	0.152	1.101	1.327	0.201	0.183	1.064	1.252	0.230	0.431
2017	0.127	1.246	1.653	0.211	0.170	1.124	1.407	0.238	0.449
2018	0.073	1.913	3.163	0.231	0.126	1.440	2.026	0.255	0.486

(a) Based on AC19-03-02, Exhibit 1. Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs. No adjustment has been made to MCCP costs in medical reserves.

(b) Based on AC19-03-02, Exhibit 2.1.

(c) Based on AC19-03-02, Exhibit 2.2.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Using Unadjusted Latest Year Incurred Development Factors
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity <u>Loss Ratio(a)</u>	(2) Composite Indemnity <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) + (3)
2007	0.220	1.478	1.145	0.285
2008	0.279	1.393	1.384	0.281
2009	0.324	1.365	1.494	0.296
2010	0.311	1.346	1.357	0.309
2011	0.289	1.325	1.239	0.310
2012	0.260	1.294	1.104	0.305
2013	0.222	1.254	0.965	0.288
2014	0.212	1.135	0.889	0.271
2015	0.210	1.106	0.850	0.274
2016	0.201	1.092	0.869	0.253
2017	0.211	1.071	0.919	0.245
2018	0.231	1.046	0.969	0.249
				Projected (d)
2019				0.239
4/1/2020				0.235

(a) See Exhibit 2.1.

(b) Based on AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from AC19-03-02, Exhibit 6.2, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Using Unadjusted Latest Year Incurred Development Factors
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical <u>Loss Ratio(a)</u>	(2) Composite Medical <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) + (3)
2007	0.343	0.804	1.145	0.241
2008	0.426	0.798	1.384	0.245
2009	0.494	0.787	1.494	0.260
2010	0.478	0.785	1.357	0.277
2011	0.413	0.807	1.239	0.269
2012	0.351	0.842	1.104	0.268
2013	0.283	0.923	0.965	0.271
2014	0.249	0.969	0.889	0.271
2015	0.240	0.990	0.850	0.279
2016	0.230	0.988	0.869	0.261
2017	0.238	0.985	0.919	0.255
2018	0.255	1.004	0.969	0.265
				Projected (d)
2019				0.263
4/1/2020				0.264
(a)	See Exhibit 2.1.			
(b)	Based on AC19-03-02, Exhibit 4.4.			
(c)	See AC19-03-02, Exhibit 5.2.			
(d)	These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.			
(e)	Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs. No adjustment has been made to MCCP costs in medical reserves.			

**Incurred Indemnity Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

A. Indemnity Case Reserves Per Open Claim

Accident Year	Evaluated as of (in months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2000														31,057	
2001													30,154	30,684	
2002												25,259	25,853	25,469	
2003											33,878	35,014	35,137	38,053	
2004										29,515	30,717	32,425	35,373	36,521	
2005									25,817	27,663	28,474	31,110	33,861	36,390	
2006								24,851	26,715	27,665	30,960	32,061	35,449		
2007							23,795	26,483	28,221	31,368	32,718	35,412			
2008						20,715	23,157	25,878	29,882	32,905	35,880				
2009					18,871	21,187	22,870	26,161	29,376	32,255					
2010				16,177	17,776	19,718	21,928	24,319	27,876						
2011			14,781	17,153	18,820	20,803	22,986	26,010							
2012		12,535	14,718	16,135	18,322	20,701	24,443								
2013	8,552	12,482	14,241	15,670	17,417	19,850									
2014	8,447	12,760	14,970	17,131	20,217										
2015	8,870	13,638	16,324	19,159											
2016	9,151	14,082	16,953												
2017	9,589	15,275													
2018	10,234														

B. Average Paid Indemnity per Closed Claim

Accident Year	Evaluated as of (in months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2000														21,501	
2001													22,658	23,040	
2002												21,469	21,843	22,173	
2003												21,349	21,800	22,325	
2004										16,476	17,027	17,511	17,950	18,338	
2005									14,226	14,916	15,486	15,992	16,374	16,694	
2006								14,885	15,768	16,525	17,206	17,688	18,155		
2007							15,069	16,254	17,196	18,065	18,725	19,225			
2008						15,524	17,003	18,256	19,243	19,979	20,635				
2009					14,301	16,412	18,114	19,462	20,419	21,203					
2010				11,844	14,697	16,724	18,430	19,646	20,471						
2011			8,618	12,233	14,925	16,889	18,410	19,545							
2012		5,048	9,163	12,612	15,173	17,081	18,340								
2013	2,101	5,342	9,555	12,985	15,444	17,101									
2014	2,130	5,627	10,173	13,775	16,341										
2015	2,352	6,209	10,943	14,481											
2016	2,502	6,569	11,025												
2017	2,601	6,643													
2018	2,863														

C. Annual Change of Average Paid Indemnity per Closed Claim

Accident Year	Evaluated as of (in months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2001														7.2%	
2002													-3.6%	-3.8%	
2003												-0.6%	-0.2%	0.7%	
2004											-18.3%	-18.0%	-17.7%	-17.9%	
2005										-9.5%	-9.1%	-8.7%	-8.8%	-9.0%	
2006									10.8%	10.8%	11.1%	10.6%	10.9%		
2007								9.2%	9.1%	9.3%	8.8%	8.7%			
2008							12.8%	12.3%	11.9%	10.6%	10.2%				
2009						5.7%	6.5%	6.6%	6.1%	6.1%					
2010					2.8%	1.9%	1.7%	0.9%	0.3%						
2011				3.3%	1.6%	1.0%	-0.1%	-0.5%							
2012			6.3%	3.1%	1.7%	1.1%	-0.4%								
2013		5.8%	4.3%	3.0%	1.8%	0.1%									
2014	1.4%	5.3%	6.5%	6.1%	5.8%										
2015	10.4%	10.3%	7.6%	5.1%											
2016	6.4%	5.8%	0.7%												
2017	3.9%	1.1%													
2018	10.1%														

Source: Accident year experience of insurers with available claim count data

**Incurred Indemnity Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

D. Indemnity Case Reserves per Open Claim Adjusted by Paid Indemnity Severity Trend (a)

Accident Year	Evaluated as of (in months)													
	12	24	36	48	60	72	84	96	108	120	132	144	156	168
2000														46,867
2001													44,241	50,221
2002												39,545	42,649	48,331
2003											36,257	39,322	42,565	48,663
2004										25,064	29,608	32,253	35,048	39,972
2005									19,371	22,691	26,928	29,457	31,970	36,390
2006								19,809	21,472	25,138	29,918	32,580	35,449	
2007							20,083	21,630	23,417	27,481	32,561	35,412		
2008						18,019	22,661	24,294	26,203	30,393	35,880			
2009					17,693	19,050	24,142	25,899	27,804	32,255				
2010				15,669	18,183	19,412	24,562	26,144	27,876					
2011			13,252	16,185	18,465	19,603	24,536	26,010						
2012		11,608	14,089	16,685	18,772	19,826	24,443							
2013	7,510	12,284	14,692	17,179	19,106	19,850								
2014	7,614	12,940	15,643	18,225	20,217									
2015	8,407	14,277	16,827	19,159										
2016	8,944	15,106	16,953											
2017	9,297	15,275												
2018	10,234													

E. Indemnity Open Claim Counts

Accident Year	Evaluated as of (in months)													
	12	24	36	48	60	72	84	96	108	120	132	144	156	168
2000														4,097
2001													7,322	6,405
2002												8,172	6,999	6,054
2003											8,869	7,550	6,604	5,433
2004										9,025	7,384	6,253	5,077	4,231
2005									9,650	7,716	6,283	5,006	4,086	3,293
2006								11,693	9,252	7,511	5,864	4,724	3,786	
2007							14,488	11,158	8,751	6,652	5,196	4,176		
2008						18,312	13,668	10,316	7,706	5,971	4,611			
2009					23,560	17,414	12,831	9,233	6,945	5,271				
2010				31,853	22,631	16,327	11,465	8,285	6,092					
2011			43,629	30,684	21,424	15,064	10,525	7,382						
2012		61,499	44,816	30,713	21,043	14,392	9,820							
2013	74,453	65,775	46,129	30,681	20,160	13,398								
2014	80,124	66,906	46,436	30,173	19,027									
2015	81,121	68,215	45,101	27,662										
2016	80,981	66,010	41,929											
2017	81,769	61,842												
2018	80,415													

F. Total Indemnity Case Reserves Adjusted by Paid Indemnity Severity Trend (in \$000) (b)

Accident Year	Evaluated as of (in months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2000														192,025	
2001													323,938	321,673	
2002												323,152	298,515	292,601	
2003											321,555	296,882	281,092	264,374	
2004										226,201	218,610	201,673	177,938	169,125	
2005									186,942	175,075	169,178	147,451	130,620	119,831	
2006								231,629	198,647	188,799	175,425	153,893	134,209		
2007							290,965	241,349	204,928	182,801	169,174	147,880			
2008						329,960	309,729	250,616	201,911	181,485	165,445				
2009					416,856	331,735	309,763	239,122	193,100	170,018					
2010				499,109	411,510	316,937	281,599	216,601	169,822						
2011			578,177	496,622	395,602	295,299	258,231	192,004							
2012		713,891	631,417	512,449	395,022	285,346	240,025								
2013	559,137	807,962	677,736	527,071	385,187	265,945									
2014	610,045	865,733	726,378	549,896	384,667										
2015	681,962	973,900	758,940	529,970											
2016	724,269	997,120	710,841												
2017	760,182	944,633													
2018	822,931														

- (a) Latest evaluation of each accident year is unadjusted. Evaluations prior to the latest evaluation are determined by adjusting the latest accident year average indemnity case reserves by a different annual change applied at each individual accident year and maturity based on the change in paid losses per closed claim for that age and maturity (Item C)

- (b) Each amount is derived as the product of the indemnity open claim counts (Item E) and the adjusted average indemnity case reserves per open claim (Item D).

Source: Accident year experience of insurers with available claim count data

**Incurred Indemnity Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

G. Paid Indemnity Loss on All Claims

Accident Year	Evaluated as of (in months)															
	12	24	36	48	60	72	84	96	108	120	132	144	156	168		
2000														3,393,018		
2001													4,709,653	4,748,742		
2002												4,647,093	4,683,814	4,721,019		
2003											4,359,378	4,425,214	4,476,518	4,515,480		
2004										2,997,543	3,057,167	3,101,486	3,135,183	3,164,165		
2005									2,302,816	2,370,309	2,419,317	2,455,400	2,487,286	2,513,322		
2006								2,325,029	2,407,502	2,470,998	2,516,338	2,556,953	2,589,138			
2007							2,367,105	2,474,438	2,554,765	2,624,113	2,675,582	2,718,240				
2008						2,342,826	2,482,323	2,583,966	2,655,214	2,716,189	2,764,245					
2009					2,060,826	2,251,363	2,386,601	2,490,776	2,567,739	2,626,180						
2010				1,853,971	2,125,460	2,313,098	2,451,808	2,545,384	2,609,064							
2011			1,466,036	1,854,123	2,110,013	2,291,629	2,419,642	2,519,364								
2012		974,809	1,550,693	1,948,973	2,214,575	2,408,424	2,527,230									
2013	326,332	1,038,922	1,663,045	2,092,794	2,362,378	2,533,558										
2014	346,831	1,111,773	1,819,693	2,285,231	2,580,265											
2015	371,297	1,217,786	1,970,084	2,446,739												
2016	393,074	1,271,726	2,011,849													
2017	414,818	1,306,569														
2018	447,460															

H. Adjusted Total Indemnity Incurred (in \$000) (c)

Accident Year	Evaluated as of (in months)															
	12	24	36	48	60	72	84	96	108	120	132	144	156	168		
2000														3,585,043		
2001													5,033,591	5,070,416		
2002												4,970,244	4,982,329	5,013,620		
2003											4,680,933	4,722,096	4,757,610	4,779,854		
2004										3,223,744	3,275,778	3,303,158	3,313,121	3,333,290		
2005									2,489,758	2,545,385	2,588,496	2,602,850	2,617,906	2,633,154		
2006								2,556,658	2,606,149	2,659,797	2,691,763	2,710,846	2,723,346			
2007							2,658,070	2,715,787	2,759,693	2,806,914	2,844,756	2,866,119				
2008						2,672,785	2,792,051	2,834,582	2,857,126	2,897,674	2,929,690					
2009					2,477,682	2,583,098	2,696,364	2,729,898	2,760,839	2,796,199						
2010				2,353,080	2,536,970	2,630,035	2,733,407	2,761,984	2,778,887							
2011			2,044,213	2,350,744	2,505,616	2,586,929	2,677,873	2,711,368								
2012		1,688,700	2,182,110	2,461,421	2,609,597	2,693,770	2,767,255									
2013	885,469	1,846,884	2,340,781	2,619,865	2,747,565	2,799,503										
2014	956,877	1,977,505	2,546,071	2,835,128	2,964,932											
2015	1,053,258	2,191,686	2,729,024	2,976,709												
2016	1,117,342	2,268,845	2,722,690													
2017	1,175,000	2,251,202														
2018	1,270,391															

I. Indemnity Incurred Loss Development Factors Based on Adjusted Total Indemnity Incurred

Accident		Age-to-Age Development (in months):											
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001													1.007
2002												1.002	1.006
2003											1.009	1.008	1.005
2004										1.016	1.008	1.003	1.006
2005									1.022	1.017	1.006	1.006	1.006
2006								1.019	1.021	1.012	1.007	1.005	
2007							1.022	1.016	1.017	1.013	1.008		
2008						1.045	1.015	1.008	1.014	1.011			
2009					1.043	1.044	1.012	1.011	1.013				
2010				1.078	1.037	1.039	1.010	1.006					
2011			1.150	1.066	1.032	1.035	1.013						
2012		1.292	1.128	1.060	1.032	1.027							
2013	2.086	1.267	1.119	1.049	1.019								
2014	2.067	1.288	1.114	1.046									
2015	2.081	1.245	1.091										
2016	2.031	1.200											
2017	1.916												
Latest Year	1.916	1.200	1.091	1.046	1.019	1.027	1.013	1.006	1.013	1.011	1.008	1.005	1.006
3-Yr Average	2.009	1.244	1.108	1.052	1.028	1.034	1.012	1.008	1.015	1.012	1.007	1.004	1.006

(c) Each amount is the sum of the adjusted total indemnity case reserves (Item F) and the total indemnity paid losses (Item G).

Source: Accident year experience of insurers with available claim count data

**Incurred Indemnity Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

J. Indemnity Incurred Loss Development Factors (d)

Accident Year	Age-to-Age Development (in months):												
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001													1.003
2002												1.002	1.002
2003											1.006	1.004	1.003
2004										1.006	1.006	1.003	1.001
2005									1.012	1.006	1.005	1.006	1.003
2006								1.015	1.009	1.007	1.004	1.006	
2007							1.021	1.011	1.011	1.005	1.007		
2008						1.028	1.019	1.012	1.009	1.006			
2009					1.046	1.023	1.019	1.014	1.009				
2010				1.067	1.042	1.026	1.016	1.012					
2011			1.128	1.056	1.037	1.022	1.019						
2012		1.266	1.106	1.064	1.041	1.022							
2013	1.931	1.247	1.109	1.054	1.032								
2014	1.920	1.279	1.114	1.058									
2015	1.969	1.260	1.100										
2016	1.941	1.237											
2017	1.878												

K. Impact of Adjustments to Common Case Reserve Level (e)

Accident Year	Age-to-Age Development (in months):												
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001													0.43%
2002												0.01%	0.41%
2003											0.24%	0.35%	0.18%
2004										0.99%	0.22%	-0.02%	0.49%
2005									0.98%	1.13%	0.06%	0.02%	0.30%
2006								0.44%	1.14%	0.49%	0.32%	-0.09%	
2007							0.03%	0.46%	0.60%	0.89%	0.03%		
2008						1.60%	-0.33%	-0.41%	0.47%	0.52%			
2009					-0.32%	2.06%	-0.69%	-0.31%	0.40%				
2010				1.05%	-0.55%	1.31%	-0.56%	-0.55%					
2011			1.97%	0.96%	-0.39%	1.32%	-0.61%						
2012		2.06%	1.99%	-0.33%	-0.83%	0.47%							
2013	8.00%	1.61%	0.89%	-0.53%	-1.24%								
2014	7.63%	0.63%	-0.06%	-1.16%									
2015	5.67%	-1.16%	-0.83%										
2016	4.62%	-2.98%											
2017	2.03%												

L. Indemnity Incurred Loss Development Factors Adjusted for Changes in Case Reserve Adequacy (f)

Accident	Age-to-Age Development (in months):												
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001													1.007
2002												1.003	1.006
2003											1.008	1.007	1.005
2004										1.017	1.009	1.003	1.006
2005									1.022	1.017	1.006	1.006	1.006
2006								1.019	1.021	1.012	1.007	1.004	
2007							1.022	1.017	1.017	1.014	1.007		
2008						1.046	1.016	1.008	1.014	1.011			
2009					1.045	1.045	1.012	1.011	1.013				
2010				1.080	1.039	1.039	1.010	1.006					
2011			1.155	1.071	1.033	1.035	1.013						
2012		1.305	1.135	1.060	1.032	1.028							
2013	2.086	1.279	1.121	1.049	1.019								
2014	2.110	1.286	1.114	1.047									
2015	2.081	1.245	1.092										
2016	2.031	1.209											
2017	1.952												
Latest Year	1.952	1.209	1.092	1.047	1.019	1.028	1.013	1.006	1.013	1.011	1.007	1.004	1.006
3-Year Average	2.021	1.247	1.109	1.052	1.028	1.034	1.012	1.008	1.015	1.012	1.007	1.004	1.006

(d) Development factors are from the same insurer mix as those which have been adjusted for case reserve level adequacy and applied in the calculation of the development factors in Item I.

(e) Each factor represents the change in age-to-age development factors from Item J to those in Item I.

(f) Each factor is the product of [1.0 + the impact of adjustments to common case reserve level (Item K)] and [the incurred indemnity age-to-age development factors from AC19-03-02, Exhibit 2.1.1].

Source: Accident year experience of insurers with available claim count data

**Incurred Medical Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

A. Medical Case Reserves Per Open Indemnity Claim

Accident Year	Evaluated as of (in months)													
	12	24	36	48	60	72	84	96	108	120	132	144	156	168
2000														112,730
2001													100,587	109,069
2002												84,435	92,904	91,542
2003										73,396	82,339	87,871	89,312	91,806
2004										79,054	82,816	89,774	90,080	
2005									64,368	74,085	77,685	88,046	90,513	96,447
2006								56,607	65,635	71,643	77,149	80,855	92,267	
2007							51,334	60,896	69,647	77,269	89,362	94,485		
2008						42,312	51,073	60,977	70,661	77,288	87,200			
2009					35,183	42,370	49,620	59,007	66,236	75,057				
2010				28,937	34,483	40,320	46,934	52,948	60,469					
2011			24,923	30,707	37,717	43,081	49,344	56,466						
2012		20,371	24,359	28,582	33,863	40,260	46,929							
2013	15,729	19,909	22,951	27,417	32,204	37,937								
2014	15,153	18,858	22,094	26,470	31,885									
2015	15,831	19,500	24,001	29,749										
2016	16,250	20,411	25,363											
2017	17,079	21,890												
2018	18,176													

B. Average Paid Medical Loss Per Closed Indemnity Claim (a)

Accident Year	Evaluated as of (in months)													
	12	24	36	48	60	72	84	96	108	120	132	144	156	168
2000														19,131
2001													21,662	22,355
2002												21,575	22,183	22,783
2003											19,998	20,846	21,580	22,395
2004										17,199	18,273	19,139	19,914	20,635
2005									16,644	17,953	19,065	20,042	20,748	21,388
2006								17,451	18,841	20,158	21,337	22,241	23,020	
2007							18,063	19,974	21,626	23,120	24,190	25,092		
2008						18,529	20,708	22,638	24,259	25,441	26,482			
2009					17,190	20,174	22,663	24,722	26,104	27,518				
2010					17,970	20,833	23,467	25,315	26,627					
2011			9,709	13,923	17,300	20,271	22,466	24,107						
2012		5,648	10,032	13,847	17,109	19,468	21,131							
2013	2,400	5,738	10,011	13,626	16,518	18,572								
2014	2,385	5,835	10,091	13,705	16,387									
2015	2,533	6,283	10,486	13,877										
2016	2,745	6,516	10,517											
2017	2,854	6,673												
2018	2,974													

C. Annual Change of Average Paid Medical per Closed Claim (b)

Accident	Evaluated as of (in months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2001														16.9%	
2002													2.4%	1.9%	
2003													-2.7%	-1.7%	
2004											-8.6%	-8.2%	-7.7%	-7.9%	
2005										4.4%	4.3%	4.7%	4.2%	3.7%	
2006									13.2%	12.3%	11.9%	11.0%	11.0%		
2007								14.5%	14.8%	14.7%	13.4%	12.8%			
2008							14.6%	13.3%	12.2%	10.0%	9.5%				
2009						8.9%	9.4%	9.2%	7.6%	8.2%					
2010					6.2%	5.3%	5.2%	4.9%	4.5%						
2011				4.5%	3.7%	3.6%	2.8%	2.6%							
2012			-1.5%	-2.1%	-2.7%	-3.7%	-4.2%								
2013		1.6%	-0.2%	-1.6%	-3.5%	-4.6%									
2014	-0.6%	1.7%	0.8%	0.6%	-0.8%										
2015	6.2%	7.7%	3.9%	1.3%											
2016	8.3%	3.7%	0.3%												
2017	4.0%	2.4%													
2018	4.2%														

(a) Paid medical per closed claim severities for accident year 2010 and 2011 only reflect the paid cost of medical cost containment programs (MCCP) attributable to policies with effective dates prior to July 1, 2010.

(b) The annual changes for accident year 2010, 2011 and 2012 are based on paid medical per total claim for consistency and do not compare to the severities in item B.

Source: Accident year experience of insurers with available claim count data

**Incurred Medical Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

D. Medical Case Reserves per Open Claim Adjusted by Paid Medical Severity Trend (c)

Accident	Evaluated as of (in months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2000														86,268	
2001													86,824	100,805	
2002												81,243	88,911	102,737	
2003											65,849	78,496	86,494	100,987	
2004										46,912	60,169	72,068	79,818	93,047	
2005									36,904	48,970	62,777	75,468	83,160	96,447	
2006								37,048	41,775	54,983	70,257	83,750	92,267		
2007							36,083	42,403	47,950	63,062	79,654	94,485			
2008						34,770	41,367	48,060	53,789	69,392	87,200				
2009					31,081	37,857	45,271	52,484	57,880	75,057					
2010				29,014	33,013	39,870	47,626	55,034	60,469						
2011			24,559	30,333	34,220	41,296	48,962	56,466							
2012		18,526	24,194	29,685	33,289	39,766	46,929								
2013	14,669	18,821	24,142	29,210	32,139	37,937									
2014	14,577	19,139	24,337	29,380	31,885										
2015	15,485	20,610	25,290	29,749											
2016	16,775	21,375	25,363												
2017	17,444	21,890													
2018	18,176														

E. Total Medical Case Reserves Adjusted by Paid Medical Severity Trend (in \$000) (d)

Accident Year	Evaluated as of (in months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2000														353,455	
2001													635,739	645,677	
2002												663,904	622,324	621,982	
2003											584,004	592,643	571,186	548,633	
2004										423,371	444,262	450,631	405,231	393,686	
2005									356,141	377,825	394,405	377,772	339,768	317,600	
2006								433,217	386,486	412,950	411,955	395,596	349,321		
2007							522,766	473,141	419,633	419,487	413,853	394,571			
2008						636,696	565,404	495,791	414,476	414,357	402,079				
2009					732,274	659,244	580,870	484,570	401,978	395,627					
2010				924,174	747,133	650,950	546,019	455,954	368,375						
2011			1,071,490	930,741	733,137	622,074	515,301	416,831							
2012		1,139,302	1,084,256	911,718	700,508	572,322	460,843								
2013	1,092,192	1,237,957	1,113,661	896,192	647,918	508,278									
2014	1,167,966	1,280,522	1,130,114	886,493	606,672										
2015	1,256,164	1,405,898	1,140,594	822,922											
2016	1,358,483	1,410,946	1,063,428												
2017	1,426,341	1,353,707													
2018	1,461,634														

F. Paid Medical Loss on All Claims

Accident Year	Evaluated as of (in months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2000														3,400,577	
2001													4,983,893	5,093,401	
2002												5,131,698	5,224,746	5,310,916	
2003											4,663,182	4,785,325	4,874,522	4,953,759	
2004										3,623,448	3,746,556	3,836,059	3,903,385	3,962,546	
2005									3,187,667	3,311,807	3,415,433	3,487,925	3,553,227	3,604,638	
2006								3,229,627	3,366,905	3,481,626	3,568,135	3,640,960	3,695,602		
2007							3,345,526	3,536,323	3,679,992	3,794,044	3,877,242	3,953,717			
2008						3,239,744	3,472,633	3,649,051	3,777,300	3,879,531	3,948,567				
2009					2,875,648	3,175,384	3,387,258	3,542,836	3,657,028	3,742,986					
2010				2,582,422	2,976,600	3,259,238	3,475,968	3,621,460	3,723,025						
2011			2,140,934	2,668,313	3,047,513	3,333,334	3,526,195	3,667,951							
2012		1,350,778	1,981,494	2,463,650	2,811,147	3,054,130	3,220,578								
2013	553,038	1,380,614	2,019,619	2,492,986	2,814,264	3,029,380									
2014	572,642	1,431,938	2,092,950	2,562,362	2,869,884										
2015	598,128	1,515,075	2,179,411	2,655,207											
2016	636,364	1,578,082	2,229,988												
2017	693,026	1,641,135													
2018	735,549														

(c) Latest evaluation of each accident year is unadjusted. Evaluations prior to the latest evaluation are determined by adjusting the latest accident year average medical case reserves by a different annual change applied at each individual accident year and maturity based on the change in paid losses per closed claim for that age and maturity (Item C)

(d) Each amount is derived as the product of the indemnity open claim counts (Exhibit 3.2, Item E) and the adjusted average medical case reserves per open claim (Item D).

Source: Accident year experience of insurers with available claim count data

**Incurred Medical Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

G. Adjusted Total Medical Incurred (in \$000) (e)

Accident Year	Evaluated as of (in months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	
2000														3,754,032	
2001													5,619,632	5,739,078	
2002												5,795,602	5,847,070	5,932,898	
2003										5,247,186	5,377,968	5,445,708	5,502,392		
2004									3,543,808	4,046,820	4,190,818	4,286,690	4,308,616	4,356,233	
2005								3,662,844	3,753,391	3,689,632	3,809,838	3,865,697	3,892,995	3,922,237	
2006										3,894,577	3,980,090	4,036,556	4,044,923		
2007							3,868,293	4,009,464	4,099,625	4,213,531	4,291,096	4,348,288			
2008						3,876,440	4,038,037	4,144,842	4,191,776	4,293,888	4,350,646				
2009					3,607,923	3,834,629	3,968,128	4,027,407	4,059,006	4,138,614					
2010						3,723,733	3,910,188	4,021,987	4,077,414	4,091,400					
2011			3,212,425	3,506,596	3,780,650	3,955,408	4,041,497	4,084,782							
2012		2,490,080	3,065,750	3,599,053	3,723,733	3,910,188	4,021,987	4,077,414	4,091,400						
2013	1,645,230	2,618,571	3,133,280	3,389,178	3,462,182	3,537,658									
2014	1,740,609	2,712,460	3,223,065	3,448,855	3,476,556										
2015	1,854,293	2,920,974	3,320,005	3,478,129											
2016	1,994,847	2,989,027	3,293,416												
2017	2,119,367	2,994,842													
2018	2,197,183														

H. Medical Incurred Loss Development Factors Based on Adjusted Total Medical Incurred

Accident Year	Age-to-Age Development (in months):												
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001													1.021
2002												1.009	1.015
2003											1.025	1.013	1.010
2004										1.036	1.023	1.005	1.011
2005									1.041	1.033	1.015	1.007	1.008
2006								1.025	1.038	1.022	1.014	1.002	
2007							1.036	1.022	1.028	1.018	1.013		
2008						1.042	1.026	1.011	1.024	1.013			
2009					1.063	1.035	1.015	1.008	1.020				
2010				1.062	1.050	1.029	1.014	1.003					
2011			1.120	1.050	1.046	1.022	1.011						
2012		1.231	1.101	1.040	1.033	1.015							
2013	1.592	1.197	1.082	1.022	1.022								
2014	1.558	1.188	1.070	1.008									
2015	1.575	1.137	1.048										
2016	1.498	1.102											
2017	1.413												
Latest Year	1.413	1.102	1.048	1.008	1.022	1.015	1.011	1.003	1.020	1.013	1.013	1.002	1.008
3-Yr Average	1.496	1.142	1.066	1.023	1.034	1.022	1.013	1.008	1.024	1.018	1.014	1.005	1.010

I. Medical Incurred Loss Development Factors (f)

Accident Year	Age-to-Age Development (in months):												
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001												1.009	1.013
2002												1.003	0.998
2003											1.010	1.001	0.998
2004										1.010	1.005	1.001	0.996
2005									1.020	1.005	1.006	0.999	1.000
2006								1.021	1.011	1.000	1.001	1.005	
2007							1.031	1.017	1.004	1.008	1.002		
2008						1.039	1.026	1.010	1.004	1.002			
2009					1.056	1.028	1.016	1.007	1.005				
2010				1.072	1.043	1.025	1.011	1.008					
2011			1.118	1.068	1.033	1.016	1.010						
2012		1.180	1.087	1.055	1.031	1.013							
2013	1.560	1.144	1.083	1.039	1.021								
2014	1.508	1.158	1.078	1.034									
2015	1.512	1.146	1.066										
2016	1.498	1.126											
2017	1.433												

(e) Each amount is the sum of the adjusted total medical case reserves (Item E) and the total medical paid losses (Item F).

(f) Development factors are from the same insurer mix as those which have been adjusted for case reserve level adequacy and applied in the calculation of the development factors in Item H.

Source: Accident year experience of insurers with available claim count data

**Incurred Medical Loss Development Factors
Adjusted for Changes in Case Reserve Adequacy**

J. Impact of Adjustments to Common Case Reserve Level (g)

Accident Year	Age-to-Age Development (in months):												
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001													0.86%
2002												-0.03%	1.64%
2003											1.45%	0.97%	1.26%
2004										2.50%	1.73%	0.39%	1.47%
2005									2.12%	2.73%	0.82%	0.85%	0.77%
2006								0.34%	2.59%	2.18%	1.36%	-0.34%	
2007							0.54%	0.49%	2.34%	1.06%	1.18%		
2008						0.27%	0.07%	0.11%	1.98%	1.10%			
2009					0.62%	0.63%	-0.09%	0.06%	1.43%				
2010				-0.95%	0.70%	0.39%	0.23%	-0.42%					
2011			0.17%	-1.63%	1.29%	0.58%	0.10%						
2012		4.30%	1.26%	-1.34%	0.15%	0.20%							
2013	2.01%	4.57%	-0.13%	-1.66%	0.04%								
2014	3.37%	2.62%	-0.70%	-2.55%									
2015	4.21%	-0.86%	-1.75%										
2016	0.00%	-2.13%											
2017	-1.40%												

K. Medical Incurred Loss Development Factors Adjusted for Changes in Case Reserve Adequacy (h)

Accident	Age-to-Age Development (in months):												
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168
2001													1.022
2002												1.010	1.015
2003											1.026	1.013	1.011
2004										1.037	1.023	1.005	1.011
2005									1.042	1.033	1.014	1.007	1.008
2006								1.026	1.038	1.022	1.015	1.002	
2007							1.038	1.023	1.027	1.019	1.013		
2008						1.044	1.027	1.011	1.024	1.013			
2009					1.068	1.037	1.015	1.008	1.019				
2010				1.067	1.052	1.029	1.014	1.004					
2011			1.127	1.052	1.047	1.022	1.011						
2012		1.239	1.106	1.042	1.033	1.017							
2013	1.590	1.203	1.085	1.022	1.022								
2014	1.574	1.189	1.071	1.009									
2015	1.575	1.136	1.045										
2016	1.498	1.100											
2017	1.420												
Latest Year	1.420	1.100	1.045	1.009	1.022	1.017	1.011	1.004	1.019	1.013	1.013	1.002	1.008
3-Year Average	1.497	1.142	1.067	1.024	1.034	1.023	1.013	1.007	1.024	1.018	1.014	1.005	1.010

(g) Each factor represents the change in age-to-age development factors from Item I to those in Item H.

(h) Each factor is the product of [1.0 + the impact of adjustments to common case reserve level (Item J)] and [the incurred Medical age-to-age development factors from AC19-03-02, Exhibit 2.2.1].

Source: Accident year experience of insurers with available claim count data

**Developed Loss Ratios Using 3-Year Average Incurred Development Factors
Adjusted for Changes in Average Case Reserve Levels
Based on Experience as of December 31, 2018**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Indemnity				Medical				
Accident Year	Reported Incurred Loss Ratio Ex IBNR(a)	Annual Development Factor(b)	Cumulative Development Factor	Developed Loss Ratio (1) x (3)	Reported Incurred Loss Ratio Ex IBNR(a)	Annual Development Factor(c)	Cumulative Development Factor	Developed Loss Ratio (5) x (7)	Total Developed Loss Ratio (4) + (8)
2006	0.158	1.006	1.021	0.161	0.234	1.010	1.050	0.246	0.407
2007	0.216	1.004	1.025	0.221	0.327	1.005	1.055	0.345	0.567
2008	0.272	1.007	1.032	0.280	0.403	1.014	1.069	0.431	0.711
2009	0.313	1.012	1.045	0.327	0.464	1.018	1.088	0.505	0.833
2010	0.298	1.015	1.060	0.315	0.445	1.024	1.114	0.495	0.811
2011	0.274	1.008	1.069	0.292	0.380	1.007	1.122	0.427	0.719
2012	0.241	1.012	1.081	0.261	0.321	1.013	1.138	0.365	0.626
2013	0.201	1.034	1.118	0.225	0.254	1.023	1.163	0.296	0.521
2014	0.187	1.028	1.150	0.215	0.219	1.034	1.203	0.264	0.478
2015	0.175	1.052	1.210	0.211	0.204	1.024	1.232	0.251	0.462
2016	0.152	1.109	1.342	0.203	0.183	1.067	1.315	0.241	0.445
2017	0.127	1.247	1.673	0.213	0.170	1.142	1.501	0.254	0.468
2018	0.073	2.021	3.380	0.246	0.126	1.497	2.248	0.283	0.530

- (a) Based on AC19-03-02, Exhibit 1. Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs. No adjustment has been made to MCCP costs in medical reserves.
- (b) Age-to-age factors for developing accident years 2007 to 2018 were adjusted for changes in indemnity case reserve levels based on 3-year average selections (see Exhibit 3.4, Item L).
- (c) Age-to-age factors for developing accident years 2007 to 2018 were adjusted for changes in medical case reserve levels based on 3-year average selections (see Exhibit 3.8, Item K).

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Using 3-Year Average Incurred Development Factors
Adjusted for Changes in Indemnity Average Case Reserve Levels
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity Loss Ratio(a)	(2) Composite Indemnity Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) ÷ (3)
2006	0.161	1.526	0.896	0.274
2007	0.221	1.478	1.145	0.286
2008	0.280	1.393	1.384	0.282
2009	0.327	1.365	1.494	0.299
2010	0.315	1.346	1.357	0.313
2011	0.292	1.325	1.239	0.313
2012	0.261	1.294	1.104	0.306
2013	0.225	1.254	0.965	0.292
2014	0.215	1.135	0.889	0.274
2015	0.211	1.106	0.850	0.275
2016	0.203	1.092	0.869	0.256
2017	0.213	1.071	0.919	0.248
2018	0.246	1.046	0.969	0.266
				Projected (d)
2019				0.249
4/1/2020				0.245

(a) See Exhibit 3.9.

(b) Based on AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from AC19-03-02, Exhibit 6.2, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Using 3-Year Average Incurred Development Factors
Adjusted for Changes in Medical Average Case Reserve Levels
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical Loss Ratio(a)	(2) Composite Medical Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) ÷ (3)
2006	0.246	0.819	0.896	0.225
2007	0.345	0.804	1.145	0.242
2008	0.431	0.798	1.384	0.249
2009	0.505	0.787	1.494	0.266
2010	0.495	0.785	1.357	0.286
2011	0.427	0.807	1.239	0.278
2012	0.365	0.842	1.104	0.278
2013	0.296	0.923	0.965	0.283
2014	0.264	0.969	0.889	0.287
2015	0.251	0.990	0.850	0.293
2016	0.241	0.988	0.869	0.274
2017	0.254	0.985	0.919	0.273
2018	0.283	1.004	0.969	0.294
				Projected (d)
2019				0.287
4/1/2020				0.288

(a) See Exhibit 3.9.

(b) Based on AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs. No adjustment has been made to MCCP costs in medical reserves.

**Developed Loss Ratio Unadjusted 3-Year Average Paid Development Factors
Based on Experience as of December 31, 2018**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Indemnity				Medical			
Accident Year	Reported Paid Loss Ratio(a)	Annual Development Factor(b)	Cumulative Development Factor	Developed Loss Ratio (1) x (3)	Reported Paid Loss Ratio(a)	Annual Development Factor(c)	Cumulative Development Factor	Developed Loss Ratio (5) x (7)	Total Developed Loss Ratio (4) + (8)
2007	0.205	1.012	1.083	0.222	0.298	1.017	1.238	0.368	0.590
2008	0.256	1.016	1.100	0.282	0.366	1.020	1.263	0.462	0.744
2009	0.294	1.019	1.121	0.330	0.420	1.022	1.290	0.542	0.872
2010	0.279	1.024	1.148	0.321	0.405	1.027	1.325	0.537	0.858
2011	0.255	1.028	1.181	0.300	0.339	1.032	1.368	0.464	0.764
2012	0.221	1.041	1.229	0.271	0.281	1.043	1.428	0.401	0.673
2013	0.182	1.056	1.297	0.236	0.218	1.060	1.513	0.330	0.567
2014	0.163	1.082	1.403	0.228	0.181	1.086	1.644	0.298	0.526
2015	0.143	1.132	1.588	0.228	0.156	1.131	1.860	0.290	0.517
2016	0.112	1.254	1.991	0.223	0.124	1.227	2.282	0.283	0.506
2017	0.074	1.613	3.211	0.237	0.093	1.437	3.279	0.305	0.542
2018	0.026	3.233	10.382	0.267	0.042	2.461	8.071	0.341	0.607

(a) Based on AC19-03-02, Exhibit 1.

(b) Age-to-age factors are selected as three-year averages based on AC19-03-02, Exhibit 2.5.

(c) Age-to-age factors are selected as three-year averages based on AC19-03-02, Exhibit 2.6. These factors have not been adjusted for any reforms.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Using Unadjusted 3-Year Average Paid Development Factors
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity Loss Ratio(a)	(2) Composite Indemnity Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) ÷ (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.236	1.254	0.965	0.307
2014	0.228	1.135	0.889	0.291
2015	0.228	1.106	0.850	0.297
2016	0.223	1.092	0.869	0.280
2017	0.237	1.071	0.919	0.277
2018	0.267	1.046	0.969	0.288
				Projected (d)
2019				0.273
4/1/2020				0.268

- (a) See Exhibit 4.1.
(b) Based on AC19-03-02, Exhibit 4.1.
(c) See AC19-03-02, Exhibit 5.2.
(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from AC19-03-02, Exhibit 6.2, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Using Unadjusted 3-Year Average Paid Development Factors
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical Loss Ratio(a)	(2) Composite Medical Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.266
2009	0.542	0.787	1.494	0.285
2010	0.537	0.785	1.357	0.311
2011	0.464	0.807	1.239	0.302
2012	0.401	0.842	1.104	0.306
2013	0.330	0.923	0.965	0.316
2014	0.298	0.969	0.889	0.324
2015	0.290	0.990	0.850	0.337
2016	0.283	0.988	0.869	0.322
2017	0.305	0.985	0.919	0.326
2018	0.341	1.004	0.969	0.353
				Projected (d)
2019				0.344
4/1/2020				0.345

(a) See Exhibit 4.1.

(b) Based on AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**Developed Loss Ratio Unadjusted Latest Year Paid Development Factors
Based on Experience as of December 31, 2018**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Indemnity				Medical				
Accident	Reported	Annual	Cumulative	Developed	Reported	Annual	Cumulative	Developed	Total
Year	<u>Loss Ratio(a)</u>	<u>Factor(b)</u>	<u>Factor</u>	<u>Loss Ratio</u>	<u>Loss Ratio(a)</u>	<u>Factor(c)</u>	<u>Factor</u>	<u>Loss Ratio</u>	<u>Loss Ratio</u>
				(1) x (3)				(5) x (7)	(4) + (8)
2007	0.205	1.012	1.083	0.222	0.298	1.017	1.238	0.368	0.590
2008	0.256	1.016	1.100	0.282	0.366	1.020	1.263	0.462	0.744
2009	0.294	1.019	1.121	0.330	0.420	1.022	1.290	0.542	0.872
2010	0.279	1.024	1.148	0.321	0.405	1.027	1.325	0.537	0.858
2011	0.255	1.027	1.179	0.300	0.339	1.030	1.365	0.463	0.763
2012	0.221	1.041	1.227	0.271	0.281	1.041	1.421	0.400	0.670
2013	0.182	1.051	1.290	0.235	0.218	1.056	1.501	0.328	0.563
2014	0.163	1.072	1.383	0.225	0.181	1.077	1.616	0.293	0.517
2015	0.143	1.129	1.561	0.224	0.156	1.121	1.812	0.282	0.506
2016	0.112	1.244	1.942	0.218	0.124	1.217	2.205	0.274	0.491
2017	0.074	1.586	3.080	0.228	0.093	1.410	3.109	0.289	0.517
2018	0.026	3.186	9.814	0.252	0.042	2.372	7.375	0.311	0.563

(a) Based on AC19-03-02, Exhibit 1.

(b) Age-to-age factors are selected as latest year for the 12-to-24 month through 96-to-108 month factors and three-year average for the subsequent age-to-age factors based on AC19-03-02, Exhibit 2.5.

(c) Age-to-age factors are selected as latest year for the 12-to-24 month through 96-to-108 month factors and three-year average for the subsequent age-to-age factors based on AC19-03-02, Exhibit 2.6. These factors have not been adjusted for any reforms.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Based on Unadjusted Latest Year Paid Selections
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity Loss Ratio(a)	(2) Composite Indemnity Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) + (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.235	1.254	0.965	0.305
2014	0.225	1.135	0.889	0.287
2015	0.224	1.106	0.850	0.292
2016	0.218	1.092	0.869	0.273
2017	0.228	1.071	0.919	0.265
2018	0.252	1.046	0.969	0.272
				Projected (d)
2019				0.260
4/1/2020				0.256

(a) See Exhibit 5.1.

(b) Based on AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from AC19-03-02, Exhibit 6.2, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Based on Unadjusted Latest Year Paid Selections
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical <u>Loss Ratio(a)</u>	(2) Composite Medical <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) + (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.266
2009	0.542	0.787	1.494	0.285
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.842	1.104	0.305
2013	0.328	0.923	0.965	0.314
2014	0.293	0.969	0.889	0.319
2015	0.282	0.990	0.850	0.329
2016	0.274	0.988	0.869	0.311
2017	0.289	0.985	0.919	0.309
2018	0.311	1.004	0.969	0.323
				Projected (d)
2019				0.320
4/1/2020				0.321

- (a) See Exhibit 5.1.
- (b) Based on AC19-03-02, Exhibit 4.4.
- (c) See AC19-03-02, Exhibit 5.2.
- (d) These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.
- (e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**Developed Loss Ratios Adjusted for the Impact of SB 1160
Based on Paid Latest Year Selections
Based on Experience as of December 31, 2018**

	(1)	(2)	(3)	(4)
		Medical		
		Adjusted		
Accident Year	Paid Loss Ratio(a)	Development Factors		Developed Loss Ratio (1) x (3)
		Annual(b)	Cumulative(b)	
2007	0.298	1.017	1.238	0.368
2008	0.366	1.020	1.263	0.462
2009	0.420	1.022	1.290	0.542
2010	0.405	1.027	1.325	0.537
2011	0.339	1.030	1.365	0.463
2012	0.281	1.043	1.424	0.400
2013	0.218	1.058	1.491	0.326
2014	0.181	1.080	1.599	0.290
2015	0.156	1.124	1.777	0.277
2016	0.124	1.219	2.138	0.265
2017	0.093	1.410	2.983	0.277
2018	0.042	2.372	7.075	0.299

(a) Based on AC19-03-02, Exhibit 1. Paid MCCP costs are excluded from accident years 2011 and subsequent.

(b) Based on AC19-03-02, Exhibit 2.6.1 and includes adjustments for SB 1160. Does not reflect any adjustment for changes in claim settlement rates.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Using Latest Year Paid Development Adjusted for SB 1160
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical Loss Ratio(a)	(2) Composite Medical Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.326	0.936	0.965	0.316
2014	0.290	0.983	0.889	0.320
2015	0.277	1.006	0.850	0.328
2016	0.265	1.007	0.869	0.307
2017	0.277	1.009	0.919	0.304
2018	0.299	1.004	0.969	0.310
				Projected (d)
2019				0.311
4/1/2020				0.312

(a) See Exhibit 6.1.

(b) Based on AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

Developed Loss Ratios Adjusted for the Impact of Reforms and Changes in Claim Settlement Rates Based on 3-Year Average Selections Based on Experience as of December 31, 2018									
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Indemnity				Medical					
				Adjusted					
Accident Year	Paid Loss Ratio(a)	Development Factors		Developed Loss Ratio	Paid Loss Ratio(a)	Development Factors		Developed Loss Ratio	Total Developed Loss Ratio
		Annual(b)	Cumulative(b)	(1) x (3)		Annual(c)	Cumulative(c)	(5) x (7)	(4) + (8)
2007	0.205	1.012	1.083	0.222	0.298	1.017	1.238	0.368	0.590
2008	0.256	1.016	1.100	0.282	0.366	1.020	1.263	0.462	0.744
2009	0.294	1.019	1.121	0.330	0.420	1.022	1.290	0.542	0.872
2010	0.279	1.024	1.148	0.321	0.405	1.027	1.325	0.537	0.858
2011	0.255	1.027	1.179	0.300	0.339	1.030	1.365	0.463	0.763
2012	0.221	1.041	1.227	0.271	0.281	1.043	1.424	0.400	0.671
2013	0.182	1.044	1.282	0.233	0.218	1.050	1.480	0.323	0.557
2014	0.163	1.068	1.368	0.222	0.181	1.074	1.579	0.286	0.508
2015	0.143	1.113	1.523	0.218	0.156	1.115	1.741	0.271	0.489
2016	0.112	1.228	1.870	0.210	0.124	1.212	2.081	0.258	0.468
2017	0.074	1.583	2.960	0.219	0.093	1.427	2.940	0.273	0.492
2018	0.026	3.266	9.667	0.248	0.042	2.485	7.304	0.308	0.557

(a) Based on AC19-03-02, Exhibit 1.

(b) Age-to-age factors for developing accident years 2013 to 2018 were adjusted for changes in claim settlement rates based on 3-year average selections (see AC19-03-02, Exhibit 2.5.8, Item Q).

(c) Based on AC19-03-02, Exhibits 2.6.1 and includes adjustments for SB 1160. Age-to-age factors for developing accident years 2013 to 2018 were adjusted for changes in claim settlement rates based on 3-year average selections (see AC19-03-02, Exhibit 2.6.8, Item R).

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Adjusted for the Impact of Reforms and Changes in Claim Settlement Rates
Based on 3-Year Average Selections
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity Loss Ratio(a)	(2) Composite Indemnity Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) ÷ (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.222	1.135	0.889	0.284
2015	0.218	1.106	0.850	0.284
2016	0.210	1.092	0.869	0.263
2017	0.219	1.071	0.919	0.255
2018	0.248	1.046	0.969	0.268
				Projected (d)
2019				0.253
4/1/2020				0.249

(a) See Exhibit 7.1.

(b) Based on AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from AC19-03-02, Exhibit 6.2, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Adjusted for the Impact of Reforms and Changes in Claim Settlement Rates
Based on 3-Year Average Selections
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical Loss Ratio(a)	(2) Composite Medical Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.323	0.936	0.965	0.313
2014	0.286	0.983	0.889	0.316
2015	0.271	1.006	0.850	0.321
2016	0.258	1.007	0.869	0.299
2017	0.273	1.009	0.919	0.300
2018	0.308	1.004	0.969	0.320
				Projected (d)
2019				0.313
4/1/2020				0.315

(a) See Exhibit 7.1.

(b) Based on AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, the actual frequency trend for accident year 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 to 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Severity Trends
Applied to Accident Year 2018
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity <u>Loss Ratio(a)</u>	(2) Composite Indemnity <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Indemnity to Industry Average Filed <u>Pure Premium Ratio</u> (1) x (2) ÷ (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.221	1.135	0.889	0.282
2015	0.217	1.106	0.850	0.282
2016	0.207	1.092	0.869	0.260
2017	0.213	1.071	0.919	0.248
2018	0.235	1.046	0.969	0.253
				Projected(d)
2019				0.246
4/1/2020				0.242

(a) See AC19-03-02, Exhibit 3.1.

(b) See AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from AC19-03-02, Exhibit 6.2, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2018 on-level ratio.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Severity Trends
Applied to Accident Year 2018
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical <u>Loss Ratio(a)</u>	(2) Composite Medical <u>Adjustment Factor(b)</u>	(3) Composite Medical <u>Adjustment Factor(c)</u>	(4) On-Level Medical to Industry Average Filed <u>Pure Premium Ratio(e)</u> (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.324	0.936	0.965	0.314
2014	0.285	0.983	0.889	0.315
2015	0.269	1.006	0.850	0.318
2016	0.254	1.007	0.869	0.295
2017	0.263	1.009	0.919	0.289
2018	0.283	1.004	0.969	0.294

Projected(d)

2019	0.294
4/1/2020	0.295

(a) See AC19-03-02, Exhibit 3.2.

(b) See AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from AC19-03-02, Exhibit 6.4, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2018 on-level ratio.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Long-Term Severity Trends
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity <u>Loss Ratio(a)</u>	(2) Composite Indemnity <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Indemnity to Industry Average Filed <u>Pure Premium Ratio</u> (1) x (2) ÷ (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.221	1.135	0.889	0.282
2015	0.217	1.106	0.850	0.282
2016	0.207	1.092	0.869	0.260
2017	0.213	1.071	0.919	0.248
2018	0.235	1.046	0.969	0.253
				Projected(d)
2019				0.249
4/1/2020				0.248

(a) See AC19-03-02, Exhibit 3.1.

(b) See AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on the 1990-2018 annual indemnity severity trend of 1.3%, the actual frequency change for 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Long-Term Severity Trends
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical <u>Loss Ratio(a)</u>	(2) Composite Medical <u>Adjustment Factor(b)</u>	(3) Composite Medical <u>Adjustment Factor(c)</u>	(4) On-Level Medical to Industry Average Filed <u>Pure Premium Ratio(e)</u> (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.324	0.936	0.965	0.314
2014	0.285	0.983	0.889	0.315
2015	0.269	1.006	0.850	0.318
2016	0.254	1.007	0.869	0.295
2017	0.263	1.009	0.919	0.289
2018	0.283	1.004	0.969	0.294

Projected(d)

2019	0.309
4/1/2020	0.317

(a) See AC19-03-02, Exhibit 3.2.

(b) See AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on the 1990-2018 annual medical severity trend of 5.7%, the actual frequency change for 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Short-Term Severity Trends
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity <u>Loss Ratio(a)</u>	(2) Composite Indemnity <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Indemnity to Industry Average Filed <u>Pure Premium Ratio</u> (1) x (2) ÷ (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.221	1.135	0.889	0.282
2015	0.217	1.106	0.850	0.282
2016	0.207	1.092	0.869	0.260
2017	0.213	1.071	0.919	0.248
2018	0.235	1.046	0.969	0.253
				Projected(d)
2019				0.241
4/1/2020				0.236

(a) See AC19-03-02, Exhibit 3.1.

(b) See AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on the 2014-2018 annual indemnity severity trend of -0.9%, the actual frequency change for 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Short-Term Severity Trends
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical <u>Loss Ratio(a)</u>	(2) Composite Medical <u>Adjustment Factor(b)</u>	(3) Composite Medical <u>Adjustment Factor(c)</u>	(4) On-Level Medical to Industry Average Filed <u>Pure Premium Ratio(e)</u> (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.324	0.936	0.965	0.314
2014	0.285	0.983	0.889	0.315
2015	0.269	1.006	0.850	0.318
2016	0.254	1.007	0.869	0.295
2017	0.263	1.009	0.919	0.289
2018	0.283	1.004	0.969	0.294

Projected(d)

2019	0.284
4/1/2020	0.279

(a) See AC19-03-02, Exhibit 3.2.

(b) See AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on the 2014-2018 annual medical severity trend of -0.1%, the actual frequency change for 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Severity Trends
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity Loss Ratio(a)	(2) Composite Indemnity Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) ÷ (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.221	1.135	0.889	0.282
2015	0.217	1.106	0.850	0.282
2016	0.207	1.092	0.869	0.260
2017	0.213	1.071	0.919	0.248
2018	0.235	1.046	0.969	0.253
				Projected(d)
2019				0.241
4/1/2020				0.236

(a) See AC19-03-02, Exhibit 3.1.

(b) See AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated indemnity severity trend of -1.0%, the actual frequency change for 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Separate Applications of Frequency and Severity Trends
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical Loss Ratio(a)	(2) Composite Medical Adjustment Factor(b)	(3) Composite Medical Adjustment Factor(c)	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.324	0.936	0.965	0.314
2014	0.285	0.983	0.889	0.315
2015	0.269	1.006	0.850	0.318
2016	0.254	1.007	0.869	0.295
2017	0.263	1.009	0.919	0.289
2018	0.283	1.004	0.969	0.294

Projected(d)

2019	0.293
4/1/2020	0.293

(a) See AC19-03-02, Exhibit 3.2.

(b) See AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated medical severity trend of 2.0%, the actual frequency change for 2018 from AC19-03-02, Exhibit 12, and projected frequency trends for accident years 2019 and 2020 from AC19-03-02, Exhibit 6.1; these trends were then separately applied to the 2017 and 2018 on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Long-Term Exponential Loss Ratio Trend
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity Loss Ratio(a)	(2) Composite Indemnity Adjustment Factor(b)	(3) Composite Premium Adjustment Factor(c)	(4) On-Level Indemnity to Industry Average Filed Pure Premium Ratio (1) x (2) ÷ (3)
1987	0.347	1.522	2.129	0.248
1988	0.332	1.500	1.863	0.267
1989	0.344	1.478	1.792	0.284
1990	0.399	1.184	1.666	0.284
1991	0.426	0.976	1.507	0.276
1992	0.351	1.029	1.373	0.263
1993	0.289	1.249	1.325	0.272
1994	0.329	1.305	1.500	0.286
1995	0.475	1.209	1.970	0.292
1996	0.532	1.130	2.037	0.295
1997	0.603	1.011	1.978	0.308
1998	0.655	0.933	1.987	0.308
1999	0.689	0.864	1.888	0.316
2000	0.596	0.807	1.493	0.322
2001	0.494	0.808	1.278	0.312
2002	0.368	0.828	0.984	0.310
2003	0.243	0.826	0.700	0.286
2004	0.145	1.137	0.630	0.262
2005	0.124	1.544	0.697	0.275
2006	0.161	1.526	0.896	0.273
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.221	1.135	0.889	0.282
2015	0.217	1.106	0.850	0.282
2016	0.207	1.092	0.869	0.260
2017	0.213	1.071	0.919	0.248
2018	0.235	1.046	0.969	0.253
				Projected(d)
2019				0.250
4/1/2020				0.250

(a) See AC19-03-02, Exhibit 3.1.

(b) See AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected by separately applying an exponential trend of approximately -0.2% based on the 1990 to 2018 on-level indemnity to industry average filed pure premium ratios to each of the 2017 and 2018 on-level indemnity to industry average filed pure premium ratios. Each stated projection is equal to the average of the corresponding trended on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Long-Term Exponential Loss Ratio Trend
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical Loss Ratio(a)	(2) Composite Medical Adjustment Factor(b)	(3) Composite Medical Adjustment Factor(c)	(4) On-Level Medical to Industry Average Filed Pure Premium Ratio(e) (1) x (2) ÷ (3)
1987	0.323	0.772	2.129	0.117
1988	0.314	0.743	1.863	0.125
1989	0.335	0.722	1.792	0.135
1990	0.378	0.585	1.666	0.132
1991	0.395	0.500	1.507	0.131
1992	0.329	0.527	1.373	0.126
1993	0.275	0.631	1.325	0.131
1994	0.319	0.661	1.500	0.141
1995	0.469	0.652	1.970	0.155
1996	0.501	0.643	2.037	0.158
1997	0.562	0.637	1.978	0.181
1998	0.680	0.562	1.987	0.192
1999	0.746	0.487	1.888	0.192
2000	0.679	0.447	1.493	0.203
2001	0.602	0.408	1.278	0.192
2002	0.468	0.423	0.984	0.202
2003	0.300	0.444	0.700	0.191
2004	0.205	0.671	0.630	0.219
2005	0.201	0.780	0.697	0.225
2006	0.261	0.819	0.896	0.238
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.324	0.936	0.965	0.314
2014	0.285	0.983	0.889	0.315
2015	0.269	1.006	0.850	0.318
2016	0.254	1.007	0.869	0.295
2017	0.263	1.009	0.919	0.289
2018	0.283	1.004	0.969	0.294

Projected(d)

2019	0.309
4/1/2020	0.318

- (a) See AC19-03-02, Exhibit 3.2.
- (b) See AC19-03-02, Exhibit 4.4.
- (c) See AC19-03-02, Exhibit 5.2.
- (d) These on-level ratios were projected by separately applying an exponential trend of approximately 4.0% based on the 1990 to 2018 on-level medical to industry average filed pure premium ratios (including MCCP costs) to each of the 2017 and 2018 on-level medical to industry average filed pure premium ratios. Each stated projection is equal to the average of the corresponding trended on-level ratios.
- (e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.
- (f) Medical costs include the paid cost of medical cost containment programs (MCCP) for all accident years for selecting the loss ratio trend.

**Projected On-Level Accident Year
Indemnity Loss to Industry Average Filed Pure Premium Ratios
Short-Term Exponential Loss Ratio Trend
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Indemnity <u>Loss Ratio(a)</u>	(2) Composite Indemnity <u>Adjustment Factor(b)</u>	(3) Composite Premium <u>Adjustment Factor(c)</u>	(4) On-Level Indemnity to Industry Average Filed <u>Pure Premium Ratio</u> (1) x (2) ÷ (3)
2007	0.222	1.478	1.145	0.286
2008	0.282	1.393	1.384	0.284
2009	0.330	1.365	1.494	0.302
2010	0.321	1.346	1.357	0.318
2011	0.300	1.325	1.239	0.321
2012	0.271	1.294	1.104	0.318
2013	0.233	1.254	0.965	0.303
2014	0.221	1.135	0.889	0.282
2015	0.217	1.106	0.850	0.282
2016	0.207	1.092	0.869	0.260
2017	0.213	1.071	0.919	0.248
2018	0.235	1.046	0.969	0.253
				Projected(d)
2019				0.238
4/1/2020				0.232

(a) See AC19-03-02, Exhibit 3.1.

(b) See AC19-03-02, Exhibit 4.1.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected by separately applying an exponential trend of approximately -3.4% based on the 2014 to 2018 on-level indemnity to industry average filed pure premium ratios to each of the 2017 and 2018 on-level indemnity to industry average filed pure premium ratios. Each stated projection is equal to the average of the corresponding trended on-level ratios.

**Projected On-Level Accident Year
Medical Loss to Industry Average Filed Pure Premium Ratios
Short-Term Exponential Loss Ratio Trend
Based on Experience as of December 31, 2018**

Accident Year	(1) Developed Medical <u>Loss Ratio(a)</u>	(2) Composite Medical <u>Adjustment Factor(b)</u>	(3) Composite Medical <u>Adjustment Factor(c)</u>	(4) On-Level Medical to Industry Average Filed <u>Pure Premium Ratio(e)</u> (1) x (2) ÷ (3)
2007	0.368	0.804	1.145	0.259
2008	0.462	0.798	1.384	0.267
2009	0.542	0.787	1.494	0.286
2010	0.537	0.785	1.357	0.311
2011	0.463	0.807	1.239	0.301
2012	0.400	0.852	1.104	0.309
2013	0.324	0.936	0.965	0.314
2014	0.285	0.983	0.889	0.315
2015	0.269	1.006	0.850	0.318
2016	0.254	1.007	0.869	0.295
2017	0.263	1.009	0.919	0.289
2018	0.283	1.004	0.969	0.294

Projected(d)

2019	0.281
4/1/2020	0.276

(a) See AC19-03-02, Exhibit 3.2.

(b) See AC19-03-02, Exhibit 4.4.

(c) See AC19-03-02, Exhibit 5.2.

(d) These on-level ratios were projected by separately applying an exponential trend of approximately -2.4% based on the 2014 to 2018 on-level medical to industry average filed pure premium ratios to each of the 2017 and 2018 on-level medical to industry average filed pure premium ratios. Each stated projection is equal to the average of the corresponding trended on-level ratios.

(e) Accident years 2011 and subsequent do not reflect the paid cost of medical cost containment programs (MCCP). Accident years 2010 and prior do reflect paid MCCP costs.

Item AC19-04-03
Early Indicators of High-Risk Opioid Use and Potential Alternative Measures

In 2018, the WCIRB published a study on opioid use which focused on chronic opioid use and weaning. Based on the input and suggestions of the Medical Analytics Working Group, staff has undertaken a follow-up analysis on high-risk opioid use and potential alternative measures being used in lieu of heavy use of opioids.

Staff has completed a preliminary analysis of the early indicators of high-risk opioid use and potential alternative treatments and will share the study findings at the meeting. Slides summarizing the research methodology and the preliminary findings are attached.



04

Early Indicators of High-Risk Opioid Use and Potential Alternative Measures

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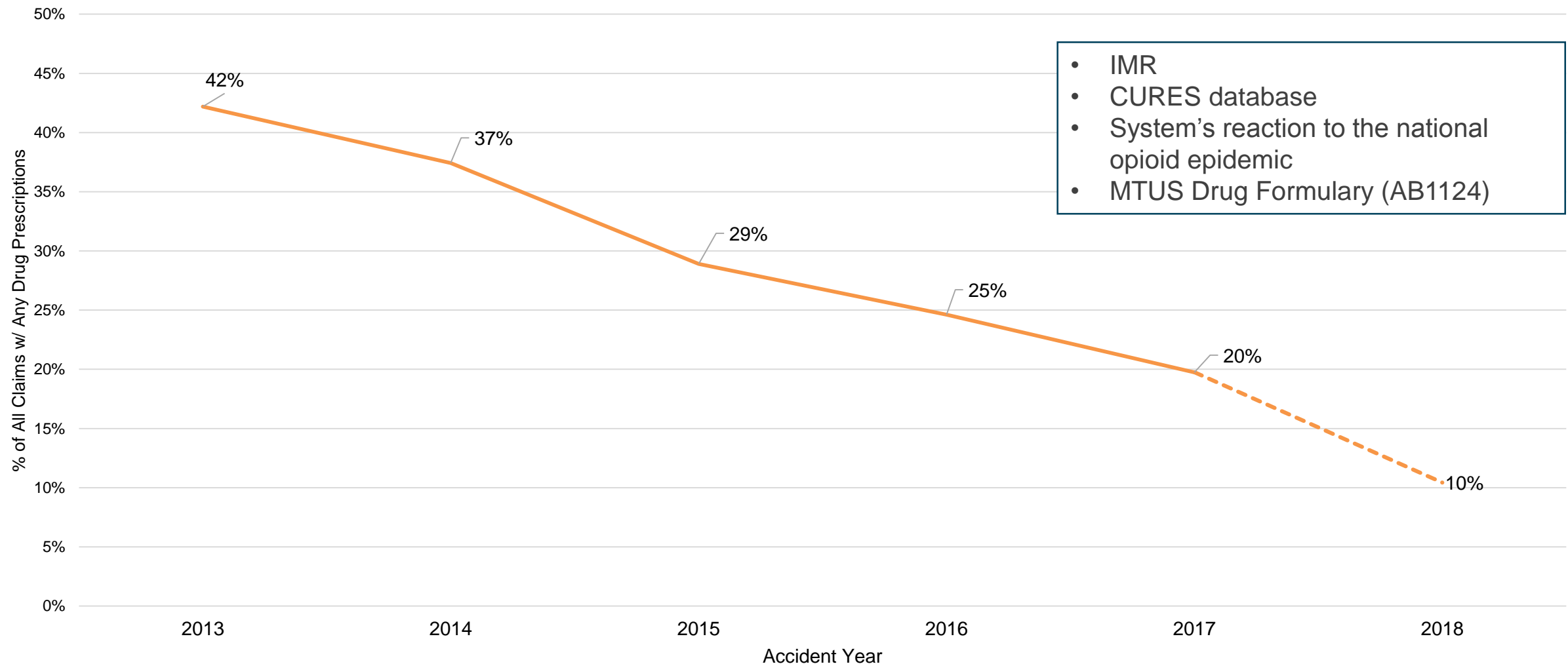
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Presentation Outline

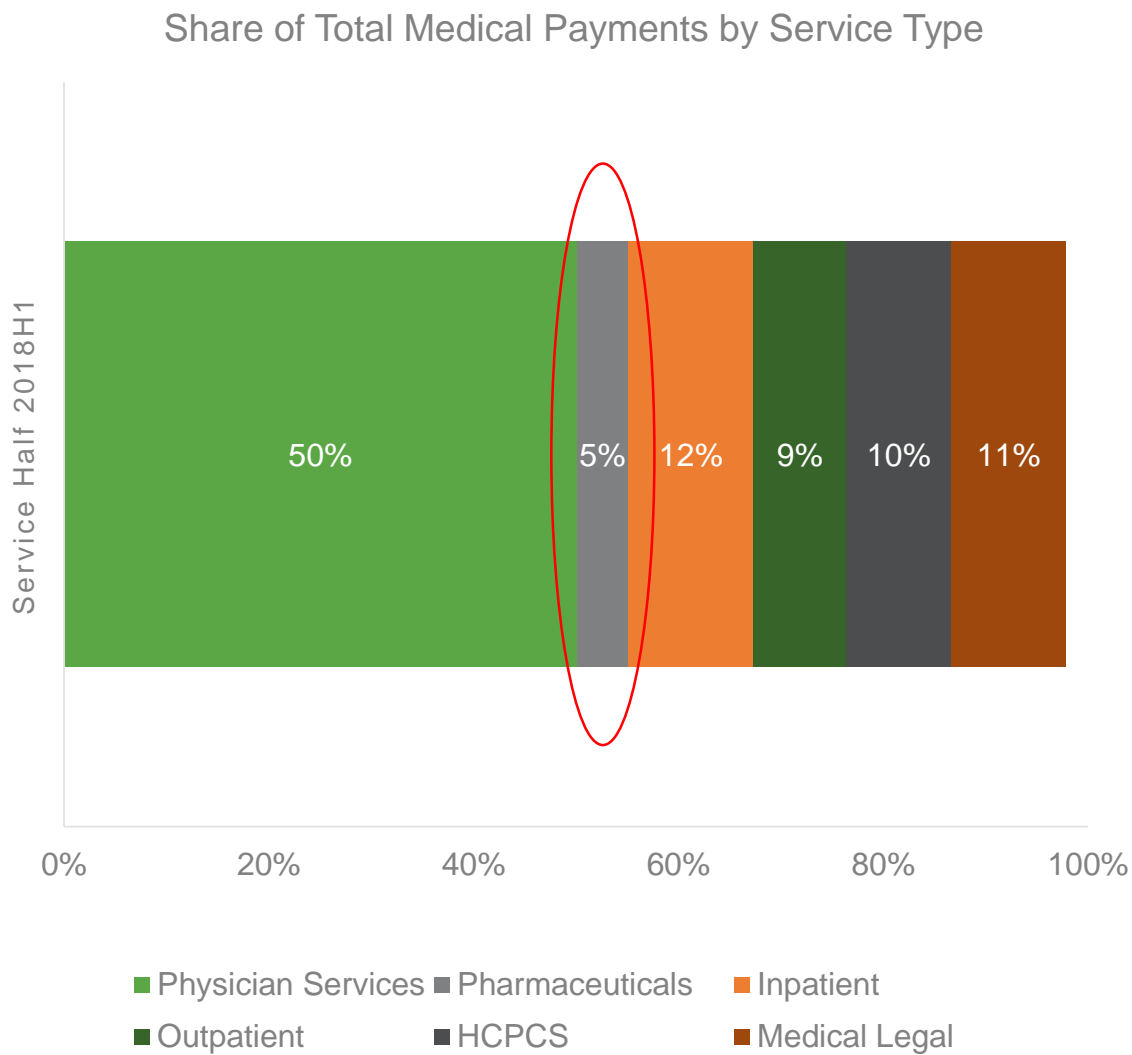
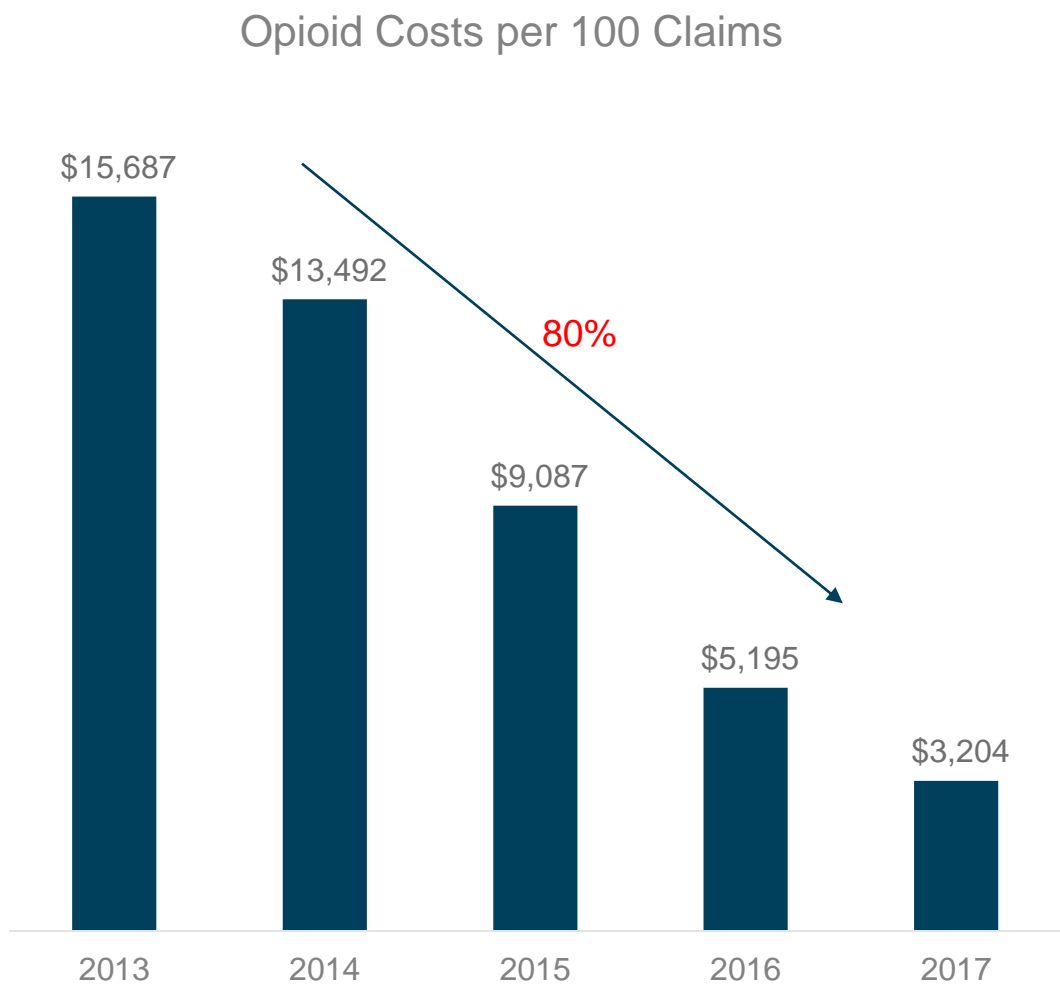
- Background
- Research Questions
- Research Methods
- Preliminary Findings
- Conclusions

Fewer Newer Workers' Compensation Claims are Receiving Opioids in California

Share of Claims with Any Opioid Prescriptions of All Claims with Any Drug Prescriptions, by Accident Year
(claims with 12-month experience)



Cost Impact of Less Opioid Use on the Workers' Compensation System



Research Questions

- What are the **characteristics** of claims involving high-risk opioid use?
- For claims involving high-risk opioid use:
 - What are the **early indicators**?
- Comparing claims involving high-risk opioid use to claims involving lower doses of opioids:
 - What are the differences in the **utilization patterns of alternative medical treatments**, including both non-opioid drugs and medical services?
- Did the patterns of alternative treatments **change over time**?

Research Methods

- WCIRB's medical transaction data
- Claims that had accidents in 2013 and 2016 with 12-month experience
- Comparison groups:
 - High-risk opioid use: claims using 50 Morphine Milligram Equivalents (MME) or more per day for at least 30 consecutive days
 - Lower-dose opioid use: claims using < 50 MME daily or for < 30 consecutive days
 - Matched on **injured worker's age** and **injury mix** (incl. pain type and major surgery type)
- Analysis of early indicators:
 - Patterns of opioid use in the first six-month treatment after the injury
- Analysis of alternative measures:
 - Non-narcotic pain medication
 - Physician services – physical medicine, durable medical equipment, counseling, etc.
 - Medical service utilization measured by # of medical transactions per claim
- Analysis of changes in treatment patterns:
 - Medical service utilization compared between newer claims and older claims

High-Risk Opioid Use Claims are Significantly Different from Lower-Dose Use Claims

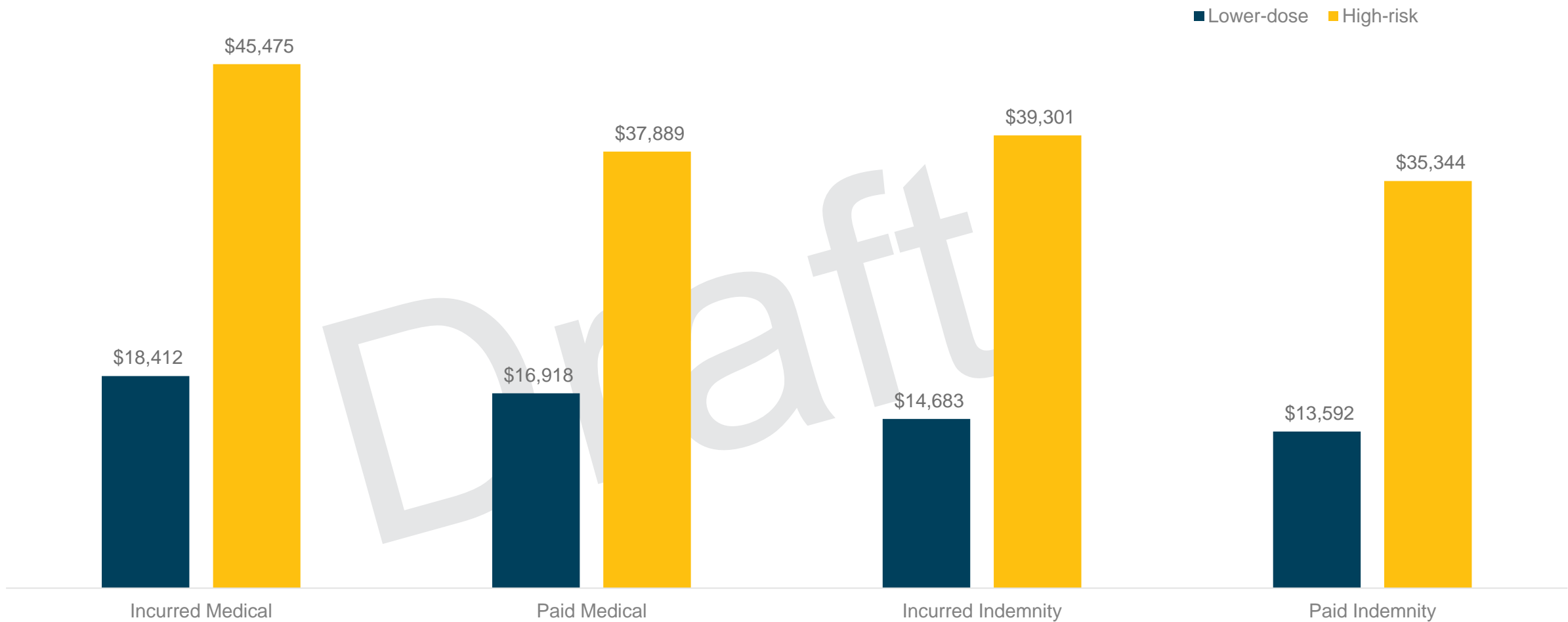
	AY2013 Claims		AY2016 Claims	
	Lower-dose opioid use	High-risk opioid use	Lower-dose opioid use	High-risk opioid use
Claim count	67,787	1,725 (2.5%)	37,408	531 (1.4%)
Age at the time of injury, mean (SD)	41.8 (12.4)	43.5 (11.7)	43.2 (12.5)	44.5 (12.1)
Pain Type (%)				
None	63.8	48.8	58.1	42.9
Acute	7.9	10.5	10.7	14.7
Chronic	7.4	8.1	5.7	4.3
Both acute and chronic	20.9	32.6	25.4	38.0
Had a major surgery (%)	21.4	46.0	30.6	53.9
Type of first major surgery (leading six) (%)				
Endoscopy/Arthroscopy Procedure on the Musculoskeletal System	39.3	32.6	42.8	30.4
Surgical Procedure on the Spine and Spinal Cord	3.3	11.5	2.6	7.6
Surgical Procedure on the Shoulder	7.0	9.1	3.9	4.5
Surgical Procedure on the Vertebral Column	0.9	6.3	1.3	4.5
Surgical Procedure on the Leg and Ankle Joint	3.7	6.1	4.6	11.5
Surgical Procedure on the Femur and Knee Joint	1.9	4.3	2.3	9.5

Note: SD refers to standard deviation. % refers to claim share. P-values of all comparisons are smaller than 0.001 except for the age comparison (p=0.02).

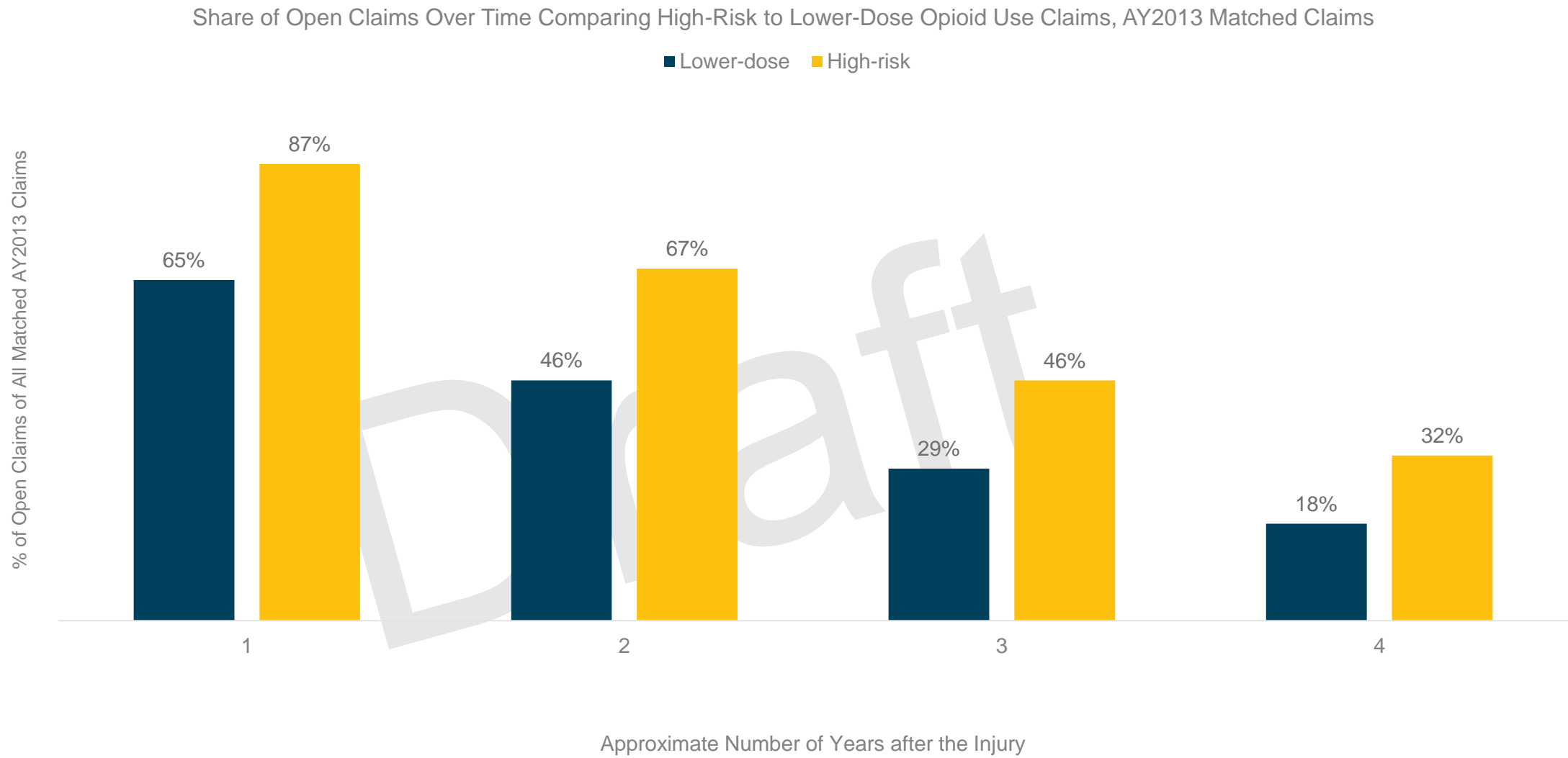
Source: WCIRB Medical Transaction Data

High-Risk Opioid Use Claims are Significantly More Costly than Similar Lower-Dose Use Claims (approximately Four Years after the Injury)

Medical and Indemnity Costs (Median) Approximately Four Years after the Injury
Comparing High-Risk to Lower-Dose Opioid Use Claims, AY2013 Matched Claims

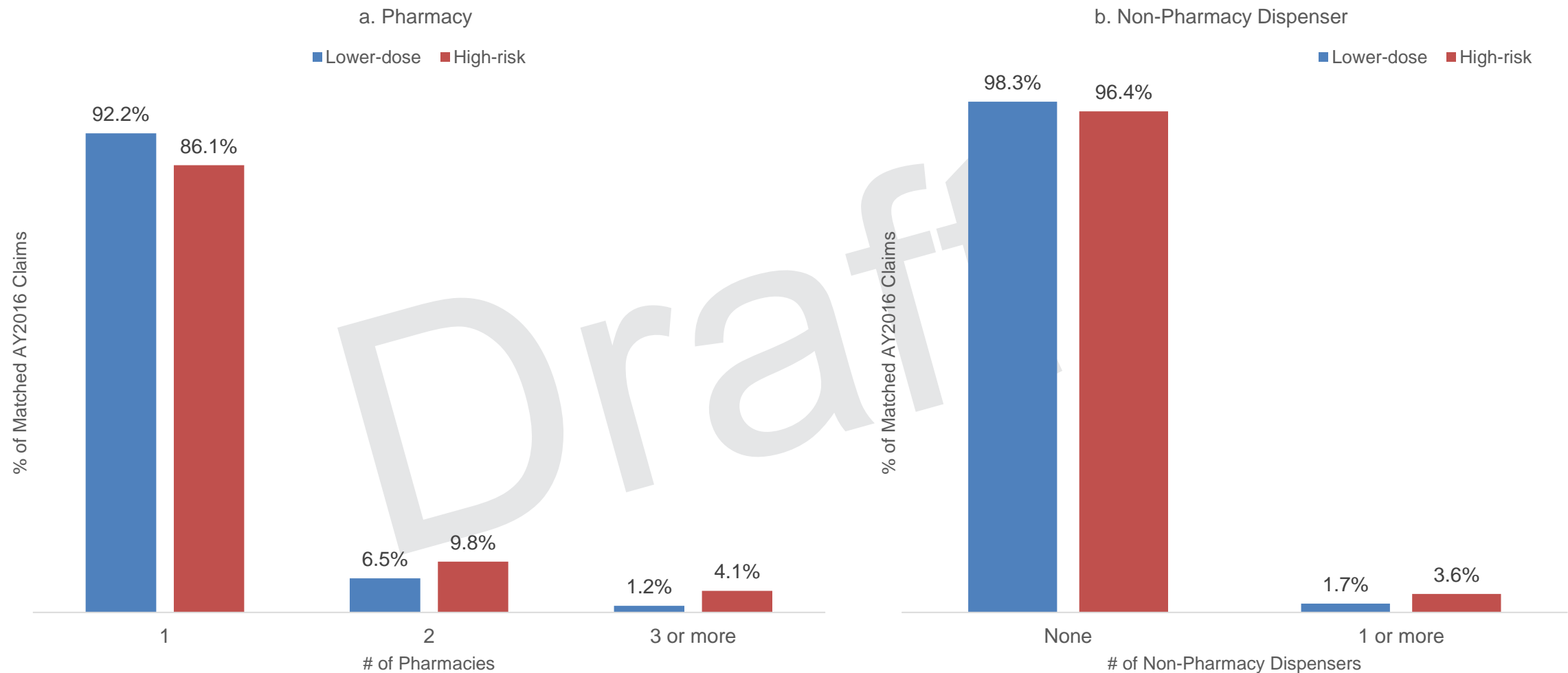


High-Risk Opioid Use Claims are More Likely to Remain Open than Similar Lower-Dose Use Claims



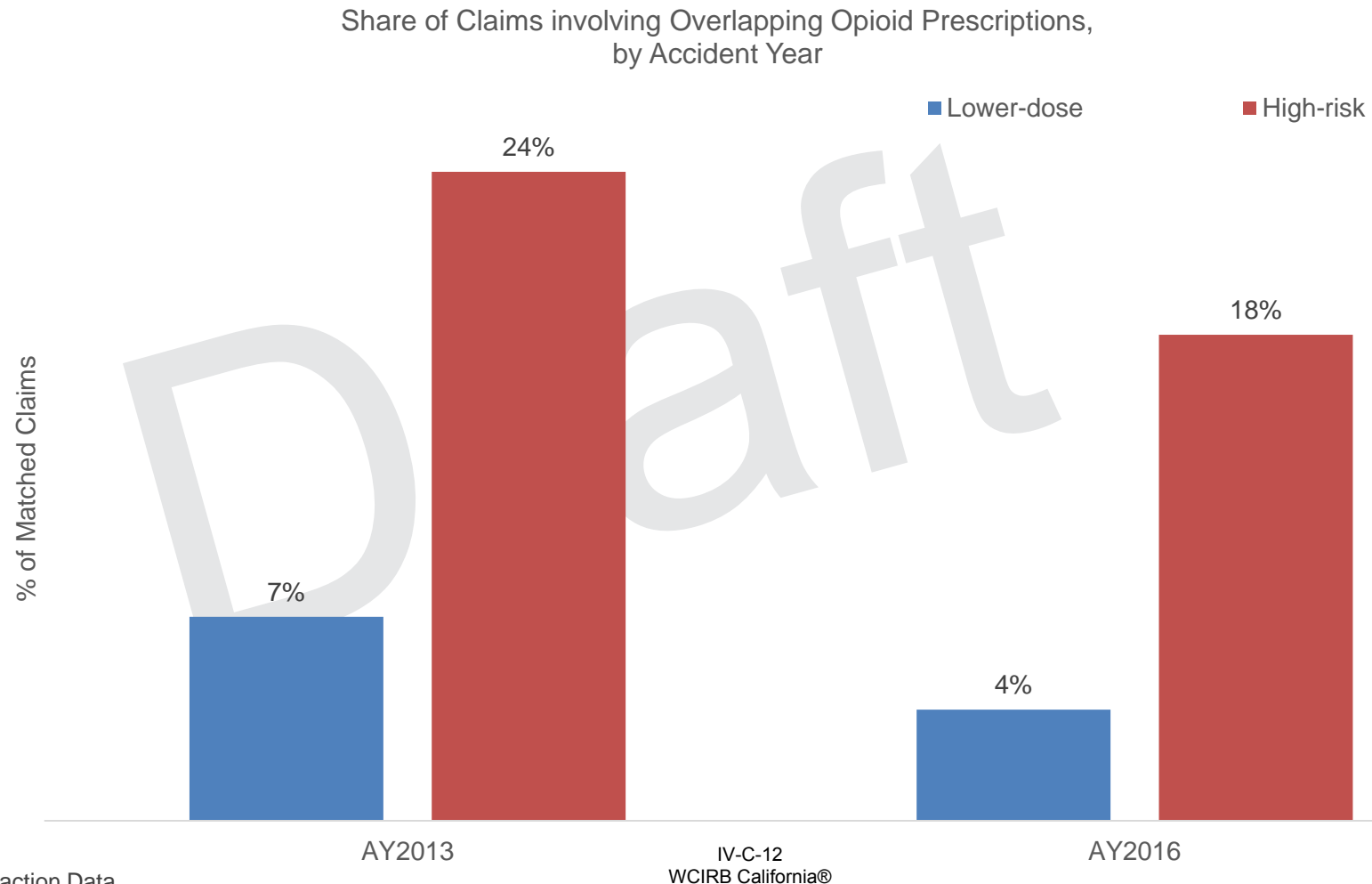
Early Indicator #1: Obtaining Similar Opioids from Multiple Dispensers (Pharmacy & Non-Pharmacy Dispenser)

- High-risk use claims: ~2X more likely to involve multiple pharmacies and non-pharmacy dispensers



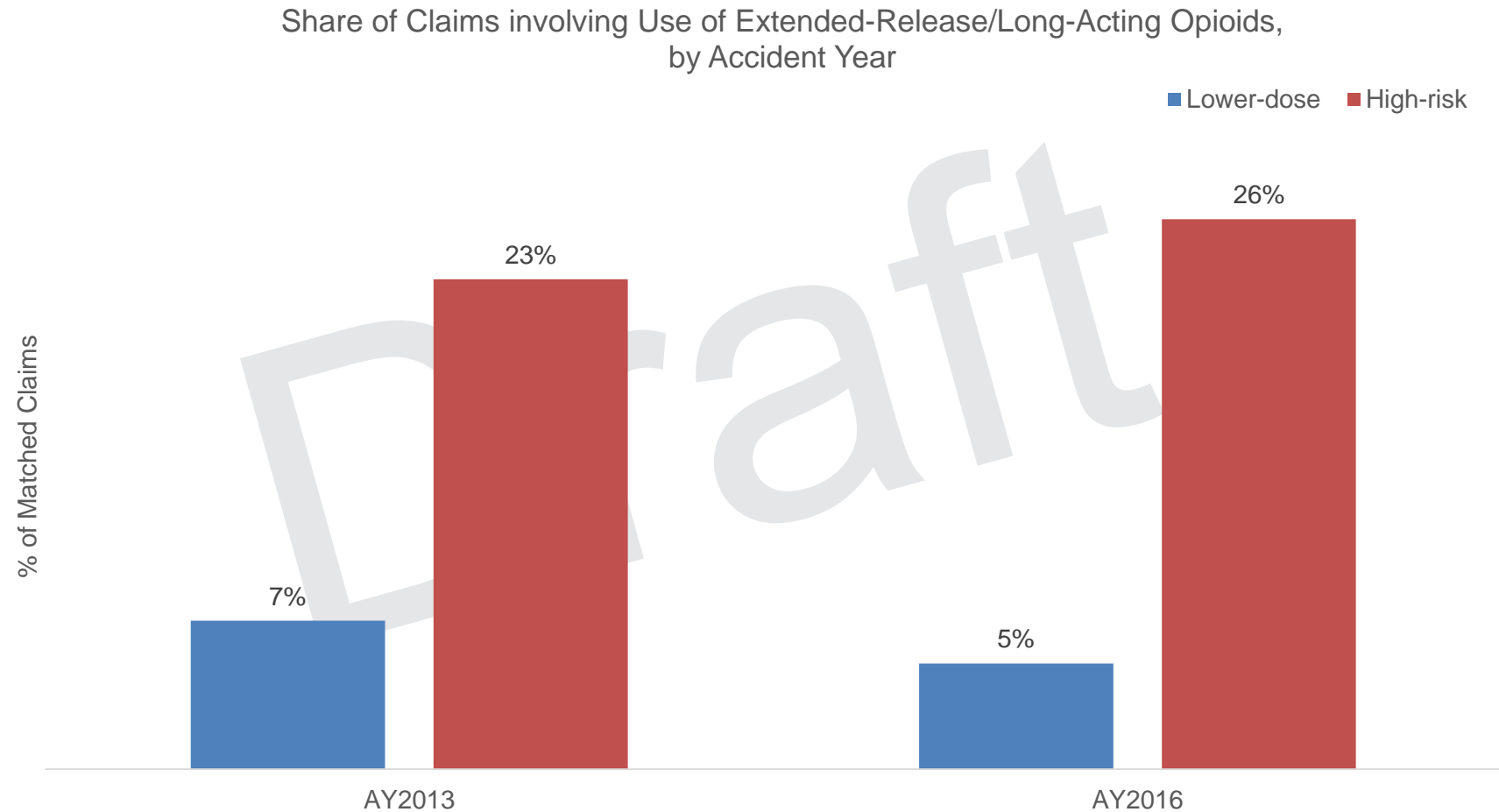
Early Indicator #2: Overlapping Opioid Prescriptions

- Overlapping opioid prescriptions was shown to increase the risk of opioid overdose by 3X
- High-risk use claims: ~ **5X** more likely to have overlapping opioids



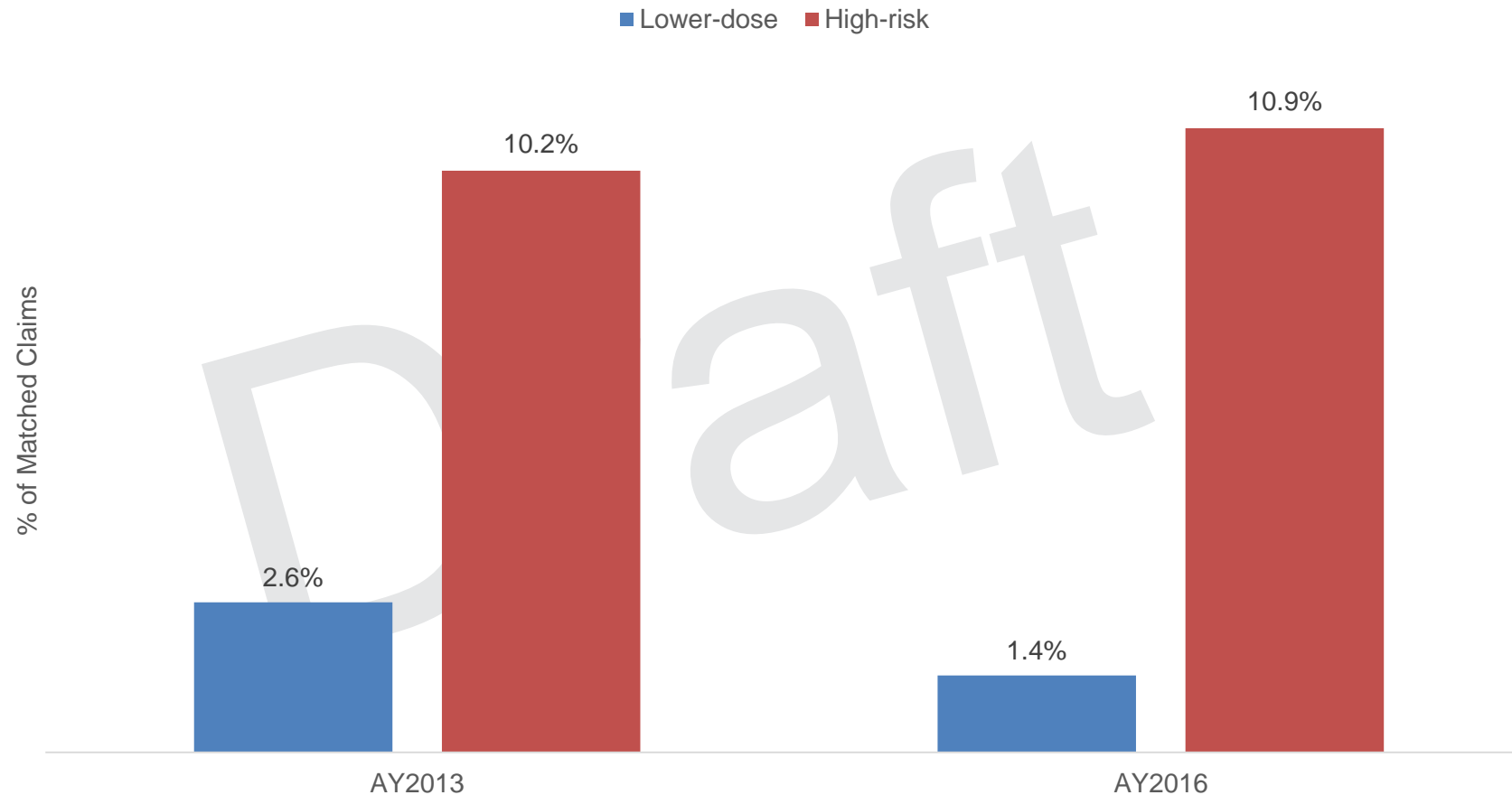
Early Indicator #3: Use of Extended-Release/Long-Acting Opioids

- Higher risk of opioid overdose among patients using ER/LA opioids
- High-risk use claims: ~**5X more likely** to use ER/LA opioids



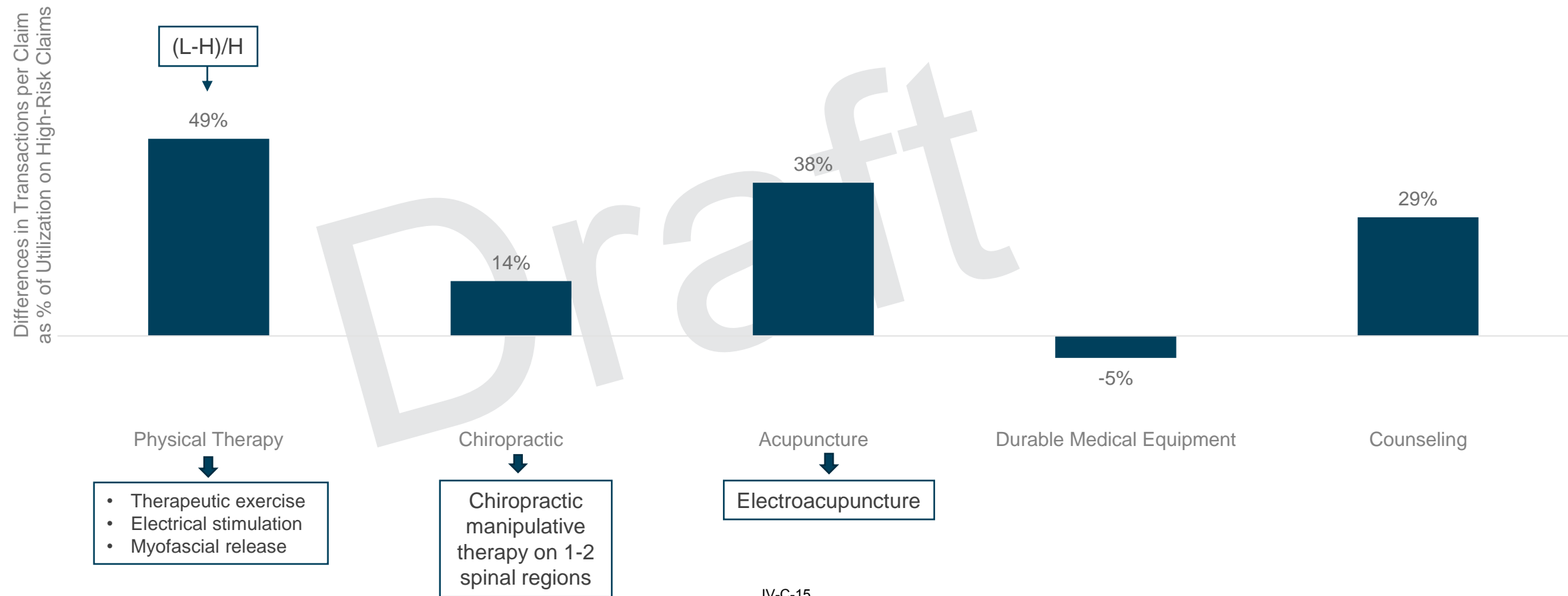
Early Indicator #4: Concurrent Use of Opioids and Benzodiazepines

- Higher risk of fatal drug overdose
- High-risk opioid use claims: **~7X more likely** to take opioids and Benzodiazepines together



Alternative Non-Drug Treatments for AY2013 Matched Claims

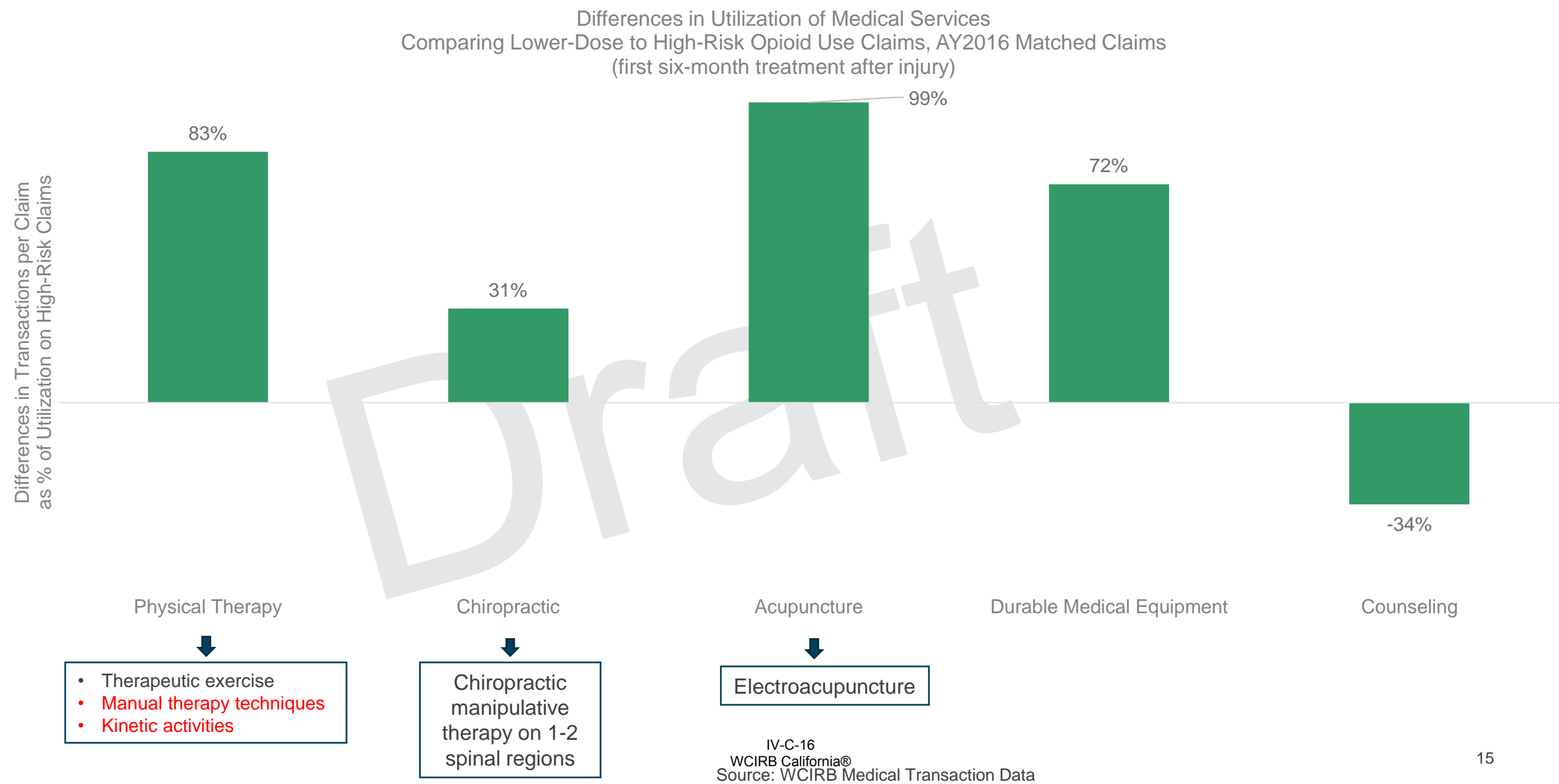
Differences in Utilization of Medical Services
Comparing Lower-Dose to High-Risk Opioid Use Claims, AY2013 Matched Claims
(first six-month treatment after injury)



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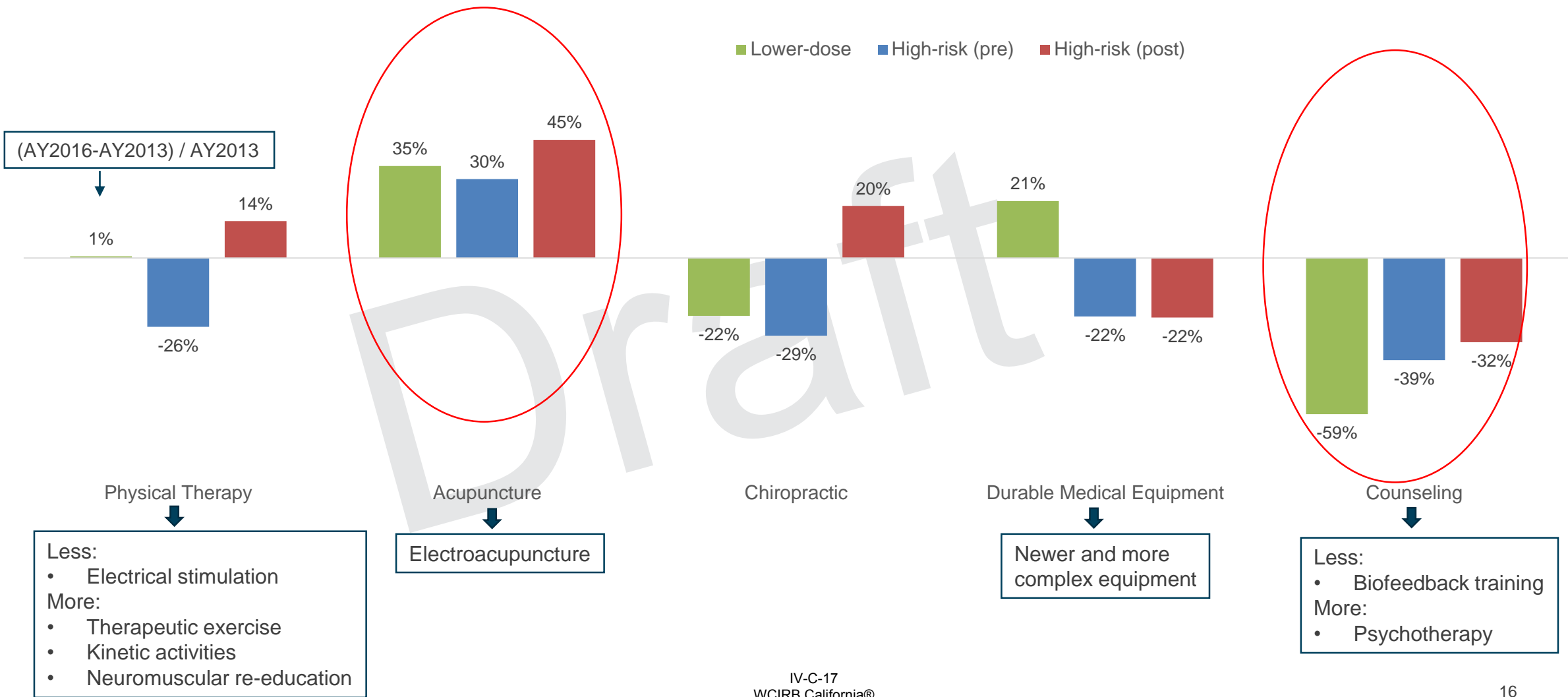
Source: WCIRB Medical Transaction Data

Alternative Non-Drug Treatments for AY2016 Matched Claims

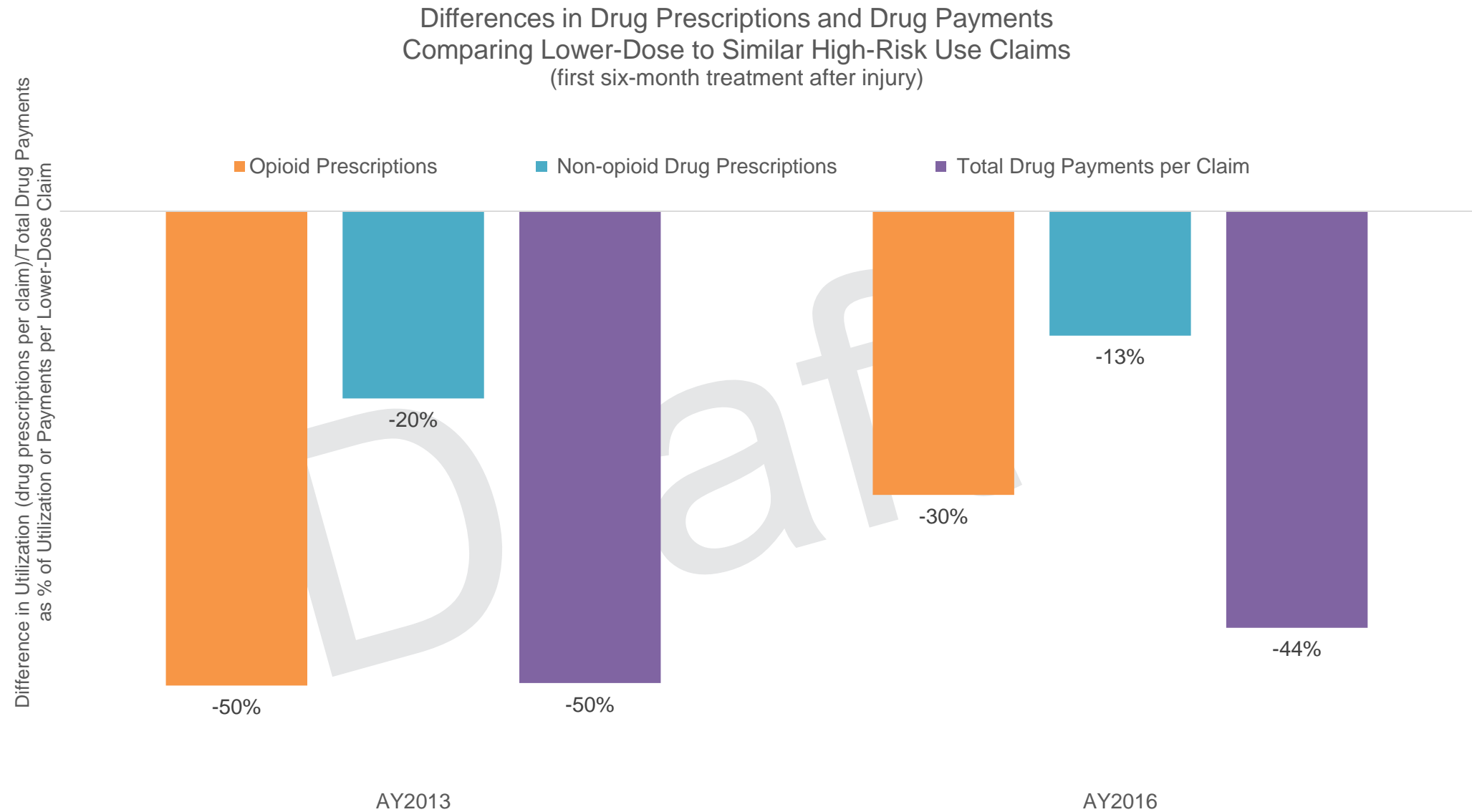


Changes in Non-Drug Treatment Patterns Over Time:

Differences in Utilization of Non-Drug Treatments
Comparing AY2016 Claims to Similar AY2013 Claims

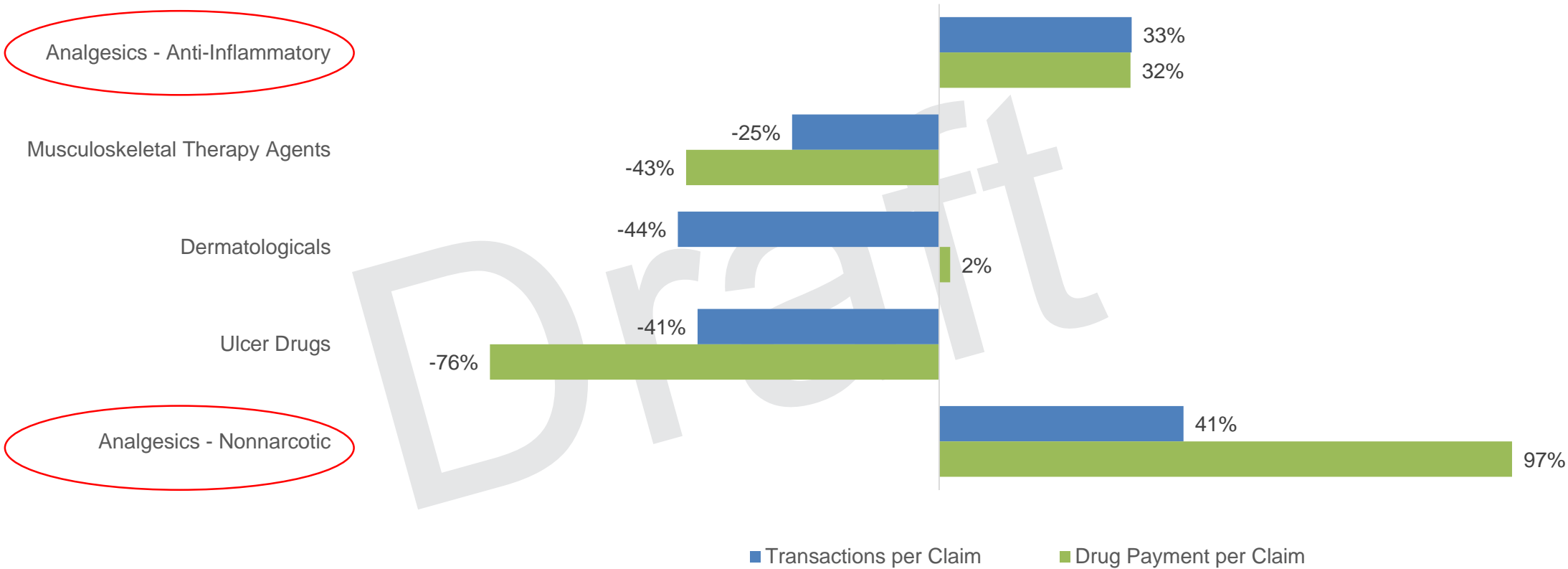


Alternative Drug Treatment: Reduced Opioid Use



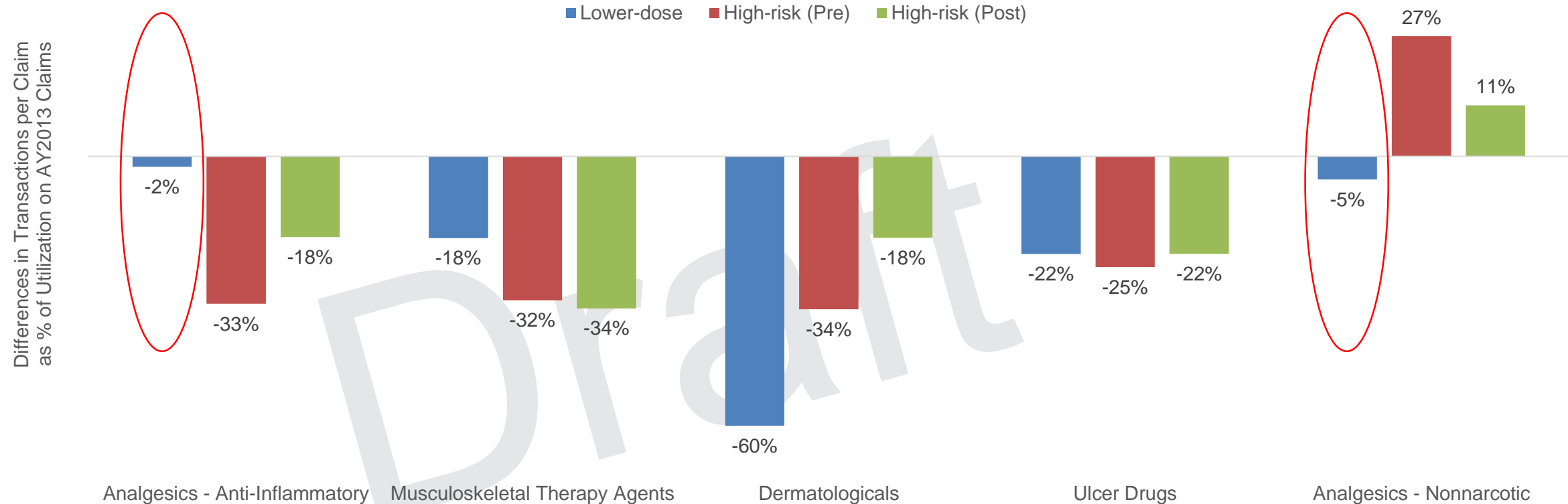
Non-Opioid Drug Treatments for AY2016 Matched Claims

Differences in Utilization and Payments to Non-Opioid Prescription Drugs
Comparing Lower-Dose Opioid Use Claims to Similar High-Risk Use Claims, AY2016 Matched Claims
(first six-month treatment after injury)



Changes in Drug Treatment Patterns Over Time

Differences in Utilization of Non-Opioid Prescription Drugs
Comparing AY2016 Claims to Similar AY2013 Claims



Conclusions

- Newer claims are 50% less likely to involve high-risk opioid use (2.5% of AY2013 claims to 1.4% of AY2016 claims).
- A smaller group of claims still involve high dosages and extended use of opioids:
 - **2X** more costly and **2X** more likely to remain open (approximately four years after the injury)
 - Get similar opioids from multiple dispensers: **2X** more likely (multiple pharmacies and non-pharmacy dispensers)
 - Overlapping opioid prescriptions: **5X** more likely
 - Use of extended-release/long-acting opioids: **5X** more likely
 - Concurrent use of opioids and benzodiazepine: **7X** more likely
- **Physical therapy, acupuncture and chiropractic services** were found to be utilized consistently and significantly more on lower-dose use claims than high-risk use claims.
- **NSAIDs** and **non-narcotics analgesics** were also found to be used significantly more in lower-dose opioid use claims than high-risk use claims.
- Newer claims used:
 - Similar amount of physical therapy but **more therapeutic exercise, kinetic activities and neuromuscular re-education**
 - **More acupuncture** treatments
 - **Relative more non-narcotics** but less of almost all types of pharmaceuticals

Item AC19-04-04
Impact of the Geographic Practice Cost Index on Physician Fees

Starting in 2017, Medicare has transitioned California payment localities to Metropolitan Statistical Areas (MSA) over a 6-year period, pursuant to the Protecting Access to Medicare Act (PAMA). The California Division of Workers' Compensation adopted the Medicare Geographic Practice Cost Index (GPCI), effective January 1, 2019, to replace the statewide geographic adjustment factor (GAF) as Medicare's MSA-based locality-specific GAF. The GPCIs divide California into 30 distinct pricing regions and are built in the calculation of base maximum physician fees.

Staff conducted a preliminary analysis on the potential cost impact of the GPCI-based fee schedule on physician fees using the WCIRB's medical transaction data with service dates from July 1, 2017 to June 30, 2018, and will summarize the analysis and findings at the meeting.