

August 20, 2019

**Hand Delivered**

The Honorable Ricardo Lara  
Insurance Commissioner  
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**Bill Mudge**  
**President**  
**& Chief Executive Officer**

**RE: California Workers' Compensation Insurance  
Advisory Pure Premium Rates  
Effective January 1, 2020  
CDI File No. REG-2019-00020**

Dear Commissioner Lara:

The Workers' Compensation Insurance Rating Bureau of California (WCIRB), a licensed rating organization and the designated statistical agent of the Insurance Commissioner, is submitting the proposed advisory pure premium rates contained in the enclosed filing pursuant to Article 2 of Chapter 2, and Articles 2 and 3 of Chapter 3, Part 3, Division 2, of the Insurance Code of the State of California. The proposed advisory pure premium rates contained in this filing were authorized by the WCIRB's Governing Committee for submission to you for review and approval.

**Advisory Pure Premium Rates**

The advisory pure premium rates contained in Section A are proposed to become effective January 1, 2020 for workers' compensation insurance policies with an effective date on or after January 1, 2020. The pure premium rates, which reflect loss costs including loss adjustment expenses per unit of exposure, are only advisory in that an insurer is not required to use either the proposed or the approved pure premium rates in establishing the rates it will charge.

The proposed advisory pure premium rates reflect the changes to the *California Workers' Compensation Uniform Statistical Reporting Plan—1995* (USRP) that were proposed in the WCIRB's Regulatory Filing submitted on June 26, 2019 (CDI File No. REG-2019-00019) to take effect on January 1, 2020. If some of these regulatory changes are not approved, the WCIRB may need to amend the pure premium rates proposed in this filing for consistency with the Commissioner's Decision on the January 1, 2020 Regulatory Filing.

The advisory pure premium rates for the 497 standard classifications proposed to be effective January 1, 2020 are on average 5.4% less than average of the current approved January 1, 2019 advisory pure premium rates. The average of the January 1, 2020 advisory pure premium rates proposed by the WCIRB, including the impact of the payroll limitation adopted by the Commissioner to be effective January 1, 2020 for five classifications as part of the January 1, 2019 Regulatory Filing, is \$1.58 per \$100 of payroll.<sup>1</sup>

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<sup>1</sup> The average of the January 1, 2019 advisory pure premium rates approved by the Insurance Commissioner in the pure premium rate decision was \$1.63 per \$100 of payroll. Reflecting updated payroll weights by classification and the impact of the new payroll limitations on the five classifications, the updated average approved January 1, 2019 advisory pure premium rate is \$1.67 per \$100 of payroll. Using the same updated payroll weights and applying the impact of the new payroll limitations, the average insurer filed pure premium rate as of July 1, 2019 is \$1.99 per \$100 of payroll.

The Honorable Dave Jones  
California Department of Insurance  
August 20, 2019

The proposed January 1, 2020 advisory pure premium rates shown in Section A are based on (1) insurer losses incurred during accident year 2018 and prior accident years valued as of March 31, 2019, (2) insurer loss adjustment expenses for 2018 and prior years, (3) classification payroll and loss experience reported for policies incepting in 2016 and prior years and (4) the 2020 experience rating off-balance correction factor. These components are discussed in Section B of this filing as well as Section C of the WCIRB's January 1, 2020 Regulatory Filing.

The proposed pure premium rates are based on loss experience valued as of March 31, 2019. The WCIRB will be reviewing accident year experience valued as of June 30, 2019 once it is received and, if authorized by the WCIRB Governing Committee, will amend the pure premium rates proposed in this filing. Further, if legislative or regulatory changes are adopted or a significant judicial decision is issued prior to the public hearing on this filing, the WCIRB will evaluate the estimated cost impact of these actions and, to the extent appropriate, modify the pure premium rates proposed in its filing.

The proposed January 1, 2020 advisory pure premium rates are, on average, 5.4% below the average of the approved January 1, 2019 pure premium rates. The improvement from the average approved January 1, 2019 pure premium rate is largely driven by:

1. Favorable loss development on 2017 and prior accident years;
2. Continued acceleration in indemnity claim settlement rates;
3. Continued decline in pharmaceutical costs and lien filings;
4. Favorable loss emergence on the 2018 accident year, which was not available at the time of the January 1, 2019 Pure Premium Rate Filing;
5. Increases in forecast wage growth as the California economy continues to expand.

These factors are summarized in the Executive Summary. Other factors such as a high frequency of cumulative trauma claims, rising claim severities and continued high levels of loss adjustment expenses continue to be areas of concern. These areas of concern are also discussed in the Executive Summary.

As in prior WCIRB pure premium rate filings, a number of alternative pure premium rate projections based on methodologies and assumptions that differ from those used to develop the proposed January 1, 2020 advisory pure premium rates are included in Section B, Appendices A, B, and C for informational purposes. The results of these alternative projections are also summarized in the Executive Summary. In addition, the Executive Summary includes information regarding insurer rates, system costs and the insurance market.

We will endeavor to provide you with any additional information you may require.

Sincerely,



Bill Mudge  
President & CEO

BM:smd  
Enclosures

Workers' Compensation Insurance  
Rating Bureau of California

January 1, 2020 Pure Premium Rate Filing  
REG-2019-00020

Submitted: August 20, 2019

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# WCIRB January 1, 2020 Pure Premium Rate Filing

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## Executive Summary

### **A. Introduction**

Continued downward loss development on 2017 and prior accident years, acceleration in the rate of claim settlements, continued decline in pharmaceutical costs and lien filings, lower than projected losses emerging on the 2018 accident year, and forecasts of higher than average wage level growth have continued to reduce the indicated pure premium rate level. As a result, the WCIRB's proposed January 1, 2020 advisory pure premium rates are on average 5.4% below the current advisory pure premium rates adopted by the Insurance Commissioner effective January 1, 2019. If adopted, these proposed advisory pure premium rates would represent the ninth consecutive advisory pure premium rate decrease since early 2015, totaling approximately 45%.

While these trends continue to drive down advisory pure premium rates, there remain areas of concern that are moderating the decline and could cause advisory pure premium rates to increase in the future. These include a high frequency of cumulative trauma claims, rising claim severities and continued high levels of loss adjustment expenses. The WCIRB is continuing to monitor these areas but, on balance, is recommending a further decrease to advisory pure premium rates.

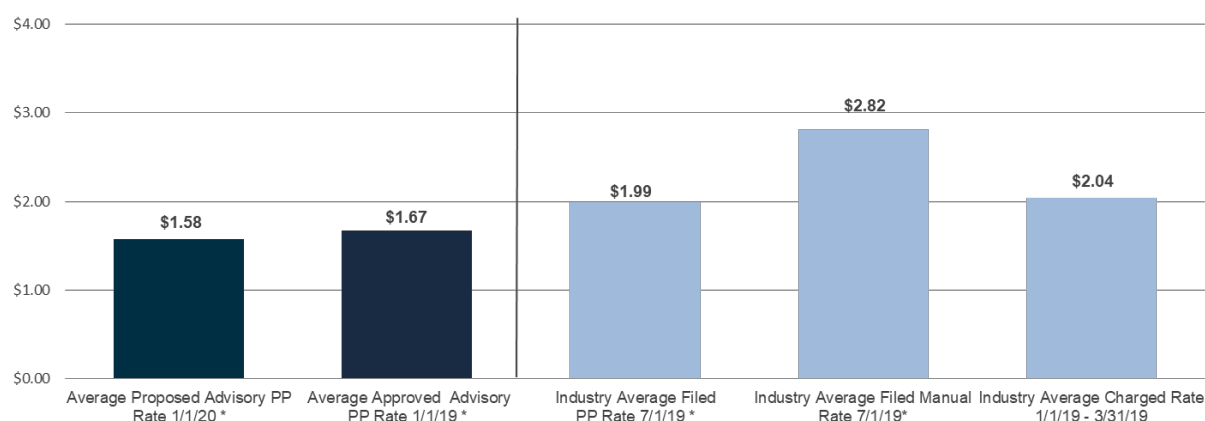
The pure premium rates approved by the Insurance Commissioner are only advisory in that insurers may, and often do, file and use rates other than those approved by the Insurance Commissioner.

## B. Rates

The proposed January 1, 2020 advisory pure premium rates average \$1.58 per \$100 of payroll,<sup>1</sup> which is 5.4% less than the average of the approved January 1, 2019 advisory pure premium rates of \$1.67<sup>2</sup> and 20.7% less than the industry average filed pure premium rate of \$1.99 as of July 1, 2019.<sup>3</sup> In the January 1, 2019 Pure Premium Rate Filing, the indicated average pure premium rate was \$1.74 per \$100 of payroll.<sup>4</sup>

Chart 1 shows (1) the average of the proposed January 1, 2020 advisory pure premium rates, (2) the average of the approved January 1, 2019 advisory pure premium rates, (3) the industry average filed pure premium rate as of July 1, 2019, (4) the industry average filed manual rate as of July 1, 2019 and (5) the industry average charged rate for the first quarter of 2019 after the application of most insurer rating plan adjustments.<sup>5</sup> The methodologies used to compute the industry average filed and charged rates shown in Chart 1 are described in Exhibit 1 of this Executive Summary.

Chart 1 – Advisory Pure Premium Rates and Industry Average Rates per \$100 of Payroll



\* Includes adjustment for the new payroll limitation adopted to be effective in 2020 applicable to five classifications.

Sources: WCIRB pure premium rate filings, insurer rate filings submitted to the CDI, and insurer data submitted in WCIRB data calls.

<sup>1</sup> This includes the impact of new payroll limitations applicable to five classifications that were approved by the Insurance Commissioner to be effective in 2020. Without the impact of the new payroll limitations, the average of the WCIRB's proposed advisory pure premium rates would be \$1.50 per \$100 of payroll.

<sup>2</sup> Updated from \$1.63 in the CDI Decision on the January 1, 2019 Pure Premium Rate Filing based on updated exposure weights by classification and the impact of the new payroll limitations for the five classifications adopted to be effective in 2020. Without adjustment for the impact of these payroll limitations, the updated average approved pure premium rate would be \$1.59 per \$100 of payroll.

<sup>3</sup> This has been adjusted to reflect the new payroll limitations for the five classifications adopted to be effective in 2020 in order to be comparable to the average of the proposed January 1, 2020 advisory pure premium rates. Without adjustment for the impact of these payroll limitations, the industry average filed rate as of July 1, 2019 is \$1.89 per \$100 of payroll.

<sup>4</sup> Updated from \$1.70 indicated in the January 1, 2019 Pure Premium Rate Filing based on updated exposure weights by classification and the impact of the new payroll limitations for the five classifications adopted to be effective in 2020. Without adjustment for the impact of these payroll limitations, the updated average filed pure premium rate would be \$1.66 per \$100 of payroll.

<sup>5</sup> This computation is based on reported premium at the insurer rate level, which includes the impact of all insurer rating plan adjustments except for the application of deductible credits, retrospective rating plan adjustments and terrorism charges.

Exhibit 2 shows the advisory pure premium rate proposed by the WCIRB to be effective January 1, 2020 for each standard classification, the corresponding approved January 1, 2019 advisory pure premium rate and the percentage difference between these two pure premium rates. Exhibit 2 also shows the industry average filed pure premium rate as of July 1, 2019 and the percentage difference between the WCIRB's proposed January 1, 2020 advisory pure premium rate and the industry average filed pure premium rate as of July 1, 2019 for each classification.

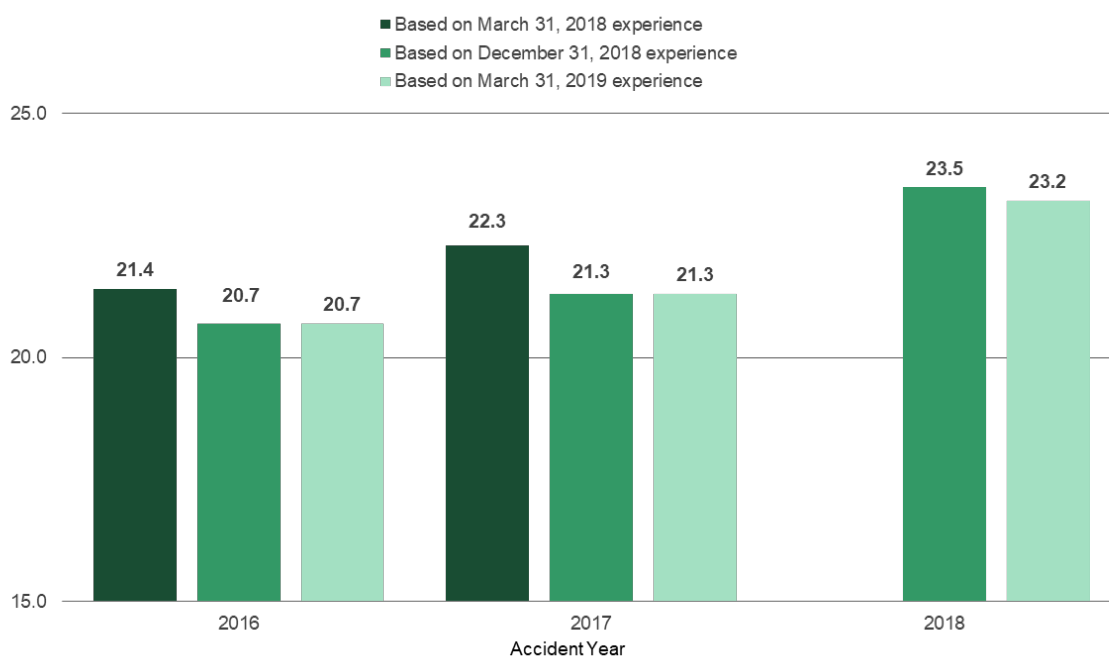


### C. System Cost Drivers

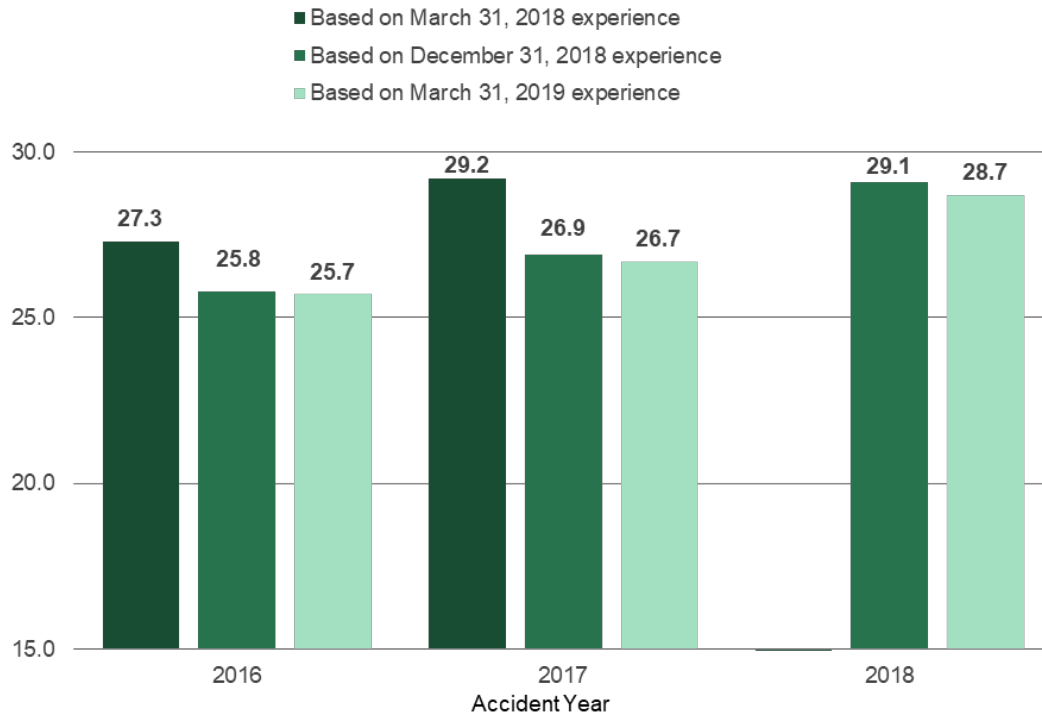
The indicated average January 1, 2020 pure premium rate of \$1.58 per \$100 of payroll represents a decrease of 5.4% from the average January 1, 2019 advisory pure premium rate approved by the Insurance Commissioner. Since early 2015, the approved advisory pure premium rates have declined by 42%. In recent pure premium rate filings, the WCIRB has attributed this improvement to a number of factors including downward loss development, acceleration in claim settlement, modest claim severity trends, the latest accident year emerging below the projected level, reduced pharmaceutical costs and lien filings and increasing wage inflation. As noted below, most of these factors have continued to drive down the indicated pure premium rate level.

- Loss Development.** Since the WCIRB's January 1, 2019 Pure Premium Rate Filing, loss development has continued to improve, although at a more modest rate than in recent prior years. While the WCIRB has refined its recommended loss development methodology to address this improvement, further improvement in loss development has lowered estimates of ultimate historical accident year loss ratios and resultant future year projections. Chart 2 shows projected ultimate accident year indemnity loss ratios as of March 31, 2018, December 31, 2018 and March 31, 2019 adjusted to a common loss development projection methodology. Chart 3 shows similar information for medical loss ratios. As shown in Charts 2 and 3, the pattern of downward loss development has continued over the last year, although downward loss development, particularly in the latest quarter, has moderated.

**Chart 2 – Change in Projected Ultimate Indemnity Loss Ratio**



Source: WCIRB projections based on reported loss development patterns. For consistency of comparison, projections are based on a common loss development methodology and do not reflect refinements made by the WCIRB to the methodology over time.

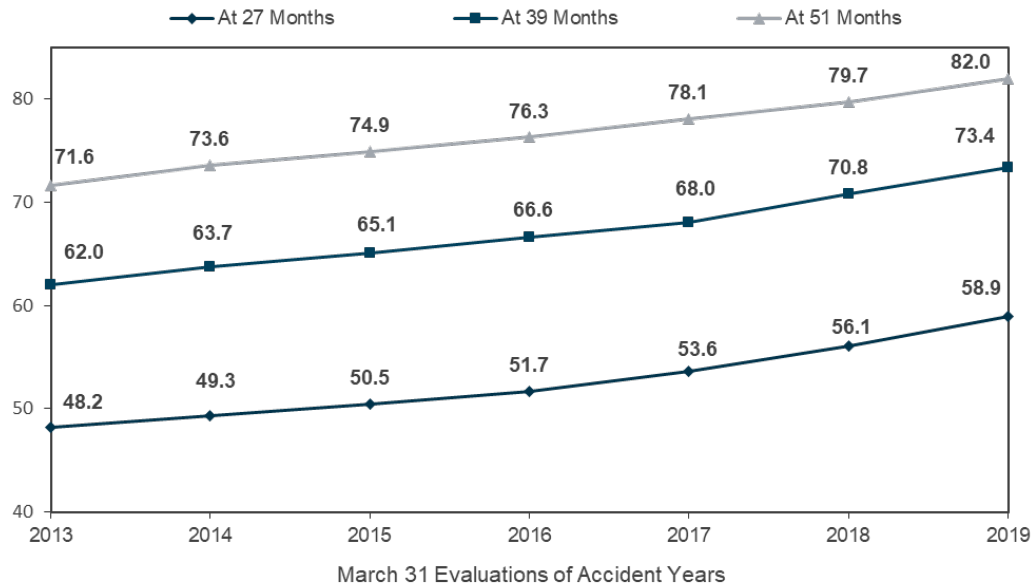
**Chart 3 – Change in Projected Ultimate Medical Loss Ratio**

Source: WCIRB projections based on reported loss development patterns. For consistency of comparison, projections are based on a common loss development methodology and do not reflect refinements made by the WCIRB to the methodology over time.

- Rate of Claim Settlement.** Since the implementation of Senate Bill No. 863 (SB 863) beginning in 2013, claim settlement rates have been increasing. SB 863 has contributed to an accelerated rate at which claims have settled through quicker medical treatment dispute resolution resulting from independent medical review (IMR), reduction in the volume of liens, and a significant decrease in the number of spinal surgeries following the elimination of the duplicate reimbursement for these procedures. Reduced opioid use, anti-fraud efforts and further reductions in liens attributable to Senate Bill No. 1160 (SB 1160) and Assembly Bill No. 1244 (AB 1244) have also contributed to this acceleration in claim settlement.

A speed-up in claim settlement can reduce both future loss development and loss adjustment expenses. Chart 4 shows the continued acceleration in claim settlement rates since 2013. In particular, over the last year, claim settlement rates have increased significantly.

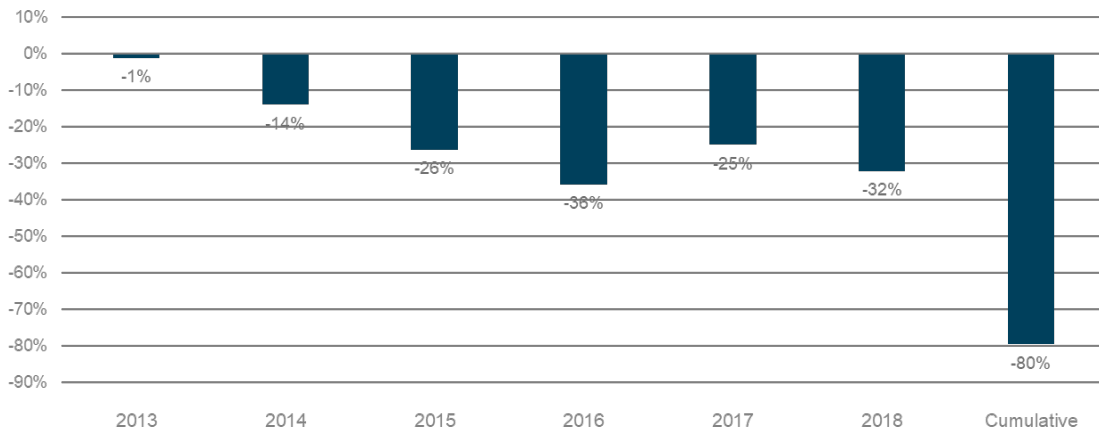
Chart 4 – Indemnity Claim Settlement Ratios



Source: WCIRB projections of ultimate indemnity claim counts and reported claim count information as of March 31, 2019.

- Pharmaceutical Costs.** Since the enactment of SB 863, pharmaceutical costs in California have declined dramatically. Chart 5 shows the cost of pharmaceuticals per claim by year of service. In addition to SB 863 reforms such as those related to IMR and spinal surgeries, other factors such as changes in federal government upper limit pricing levels, anti-fraud efforts, the reaction to the national opioid epidemic and the new drug formulary implemented in 2018 have also contributed to this decline in pharmaceutical costs. This 80% decline in pharmaceutical costs per claim has significantly contributed to the decline in average medical cost severity through 2016 and has moderated increases in medical severity since 2016.

Chart 5 – Change in Pharmaceutical Costs per Claim by Service Year

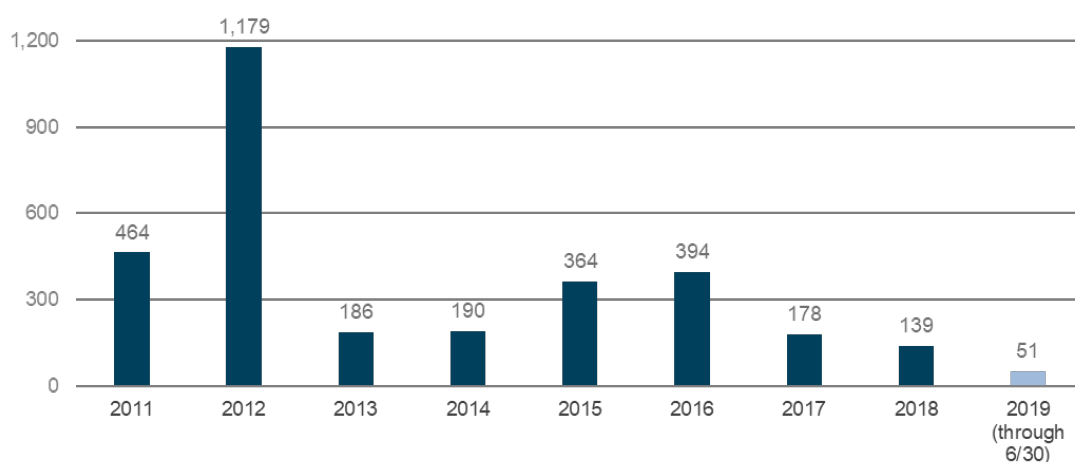


Source: WCIRB medical transaction data as of April 7, 2019.

- Lien Filings.** Lien reforms were one of the cornerstones of SB 863. The WCIRB has estimated that the SB 863 lien reforms reduced system costs by approximately \$0.5 billion annually.<sup>6</sup> However, in 2015 and 2016, the volume of lien filings increased. In 2016, SB 1160 and AB 1244 were enacted to be effective January 1, 2017<sup>7</sup> with the intent of further reducing the number of lien filings.<sup>8</sup>

Chart 6 shows the annual number of lien filings through June 30, 2019 based on data provided by the Division of Workers' Compensation (DWC). As shown on Chart 6, following the enactment of SB 1160 and AB 1244, lien filing volumes dropped sharply. This sharp decline has a significant impact on medical loss development and allocated loss adjustment expenses.

**Chart 6 – Lien Filings by Calendar Year (in Thousands)**



Source: DWCEAMS lien filings

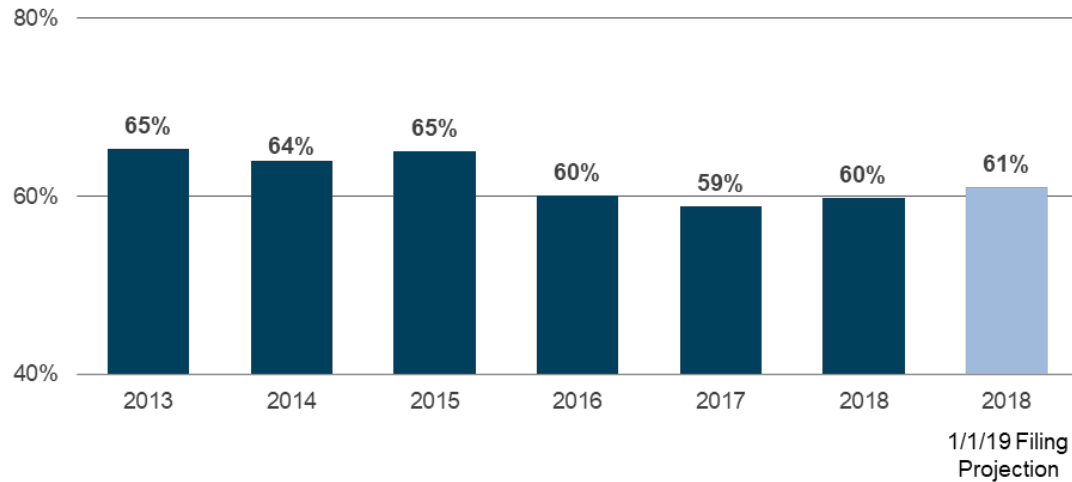
- 2018 Accident Year Losses.** The January 1, 2019 Pure Premium Rate Filing reflected accident year experience through 2017. In this filing, accident year 2018 experience evaluated as of 15 months is now available. In part due to the downward indemnity and medical loss development discussed above, 2018 accident year losses are emerging at a cost level slightly below that projected in the January 1, 2019 Pure Premium Rate Filing.

Chart 7 shows the WCIRB projected ultimate combined indemnity and medical loss ratios valued as of March 31, 2019 for the last several accident years adjusted for the factors that the WCIRB is able to directly measure (e.g., benefit changes, fee schedule changes and wage inflation) to a current or “on-level” basis. Also shown is the on-level loss ratio projected for 2018 in the January 1, 2019 Pure Premium Rate Filing. The WCIRB’s methodology for determining the indicated pure premium rate is responsive to the experience level of the latest two accident years (2017 and 2018) and, as a result, lower than projected loss experience for accident year 2018 has lowered the indicated January 1, 2020 pure premium rate level.

<sup>6</sup> Senate Bill No. 863 WCIRB Cost Monitoring Report – 2016 Retrospective Evaluation, WCIRB, November 17, 2016.

<sup>7</sup> These include provisions related to a stay on liens filed by providers indicted for fraud, requiring a declaration under penalty of perjury to be accompanied with each lien filing, and restricting the assignment of liens to third parties.

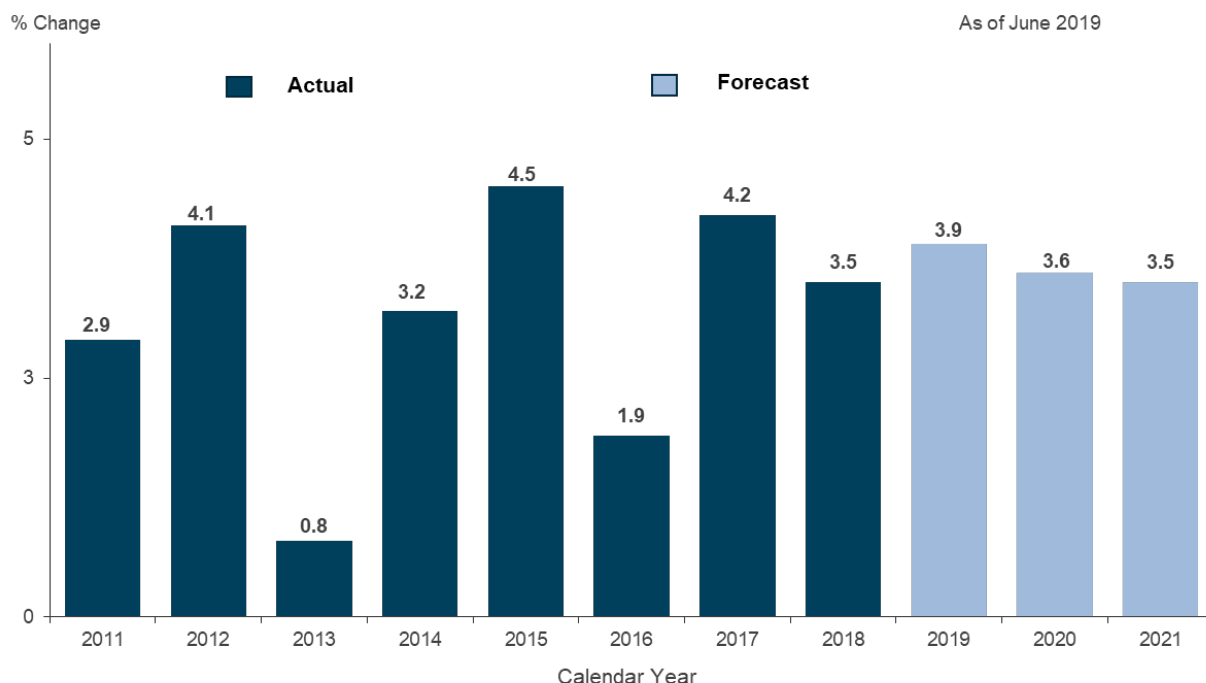
<sup>8</sup> The estimated impact of SB 1160 and AB 1244 was reflected in the January 1, 2017 and subsequent pure premium rate filings.

**Chart 7 – Projected Indemnity and Medical Combined On-Level Loss Ratios**

Source: WCIRB projections as of 3/31/2019 are based on reported and indemnity medical loss development patterns. Premiums are on-leveled to the industry average filed pure premium rate level as of July 1, 2019.

- Wage Inflation.** Pure premium rates are expressed in relation to payroll. As a result, growth in average wage levels mitigates inflation in loss and loss adjustment expense levels and can reduce the pure premium rate level indication. As in the last several pure premium rate filings, forecasts of future wage inflation in this filing are generally based on an average of forecasts produced by the UCLA Anderson School of Business and those of the California Department of Finance. Chart 8 shows the changes in average California wage levels. As shown, the average of the latest UCLA and Department of Finance forecasts for 2019 through 2021 exceed the average wage inflation for recent prior years and are also significantly higher than the combined loss trends projected in this filing, thereby lowering the indicated January 1, 2020 pure premium rate level.

Chart 8 – Historical and Forecast Wage Level Growth



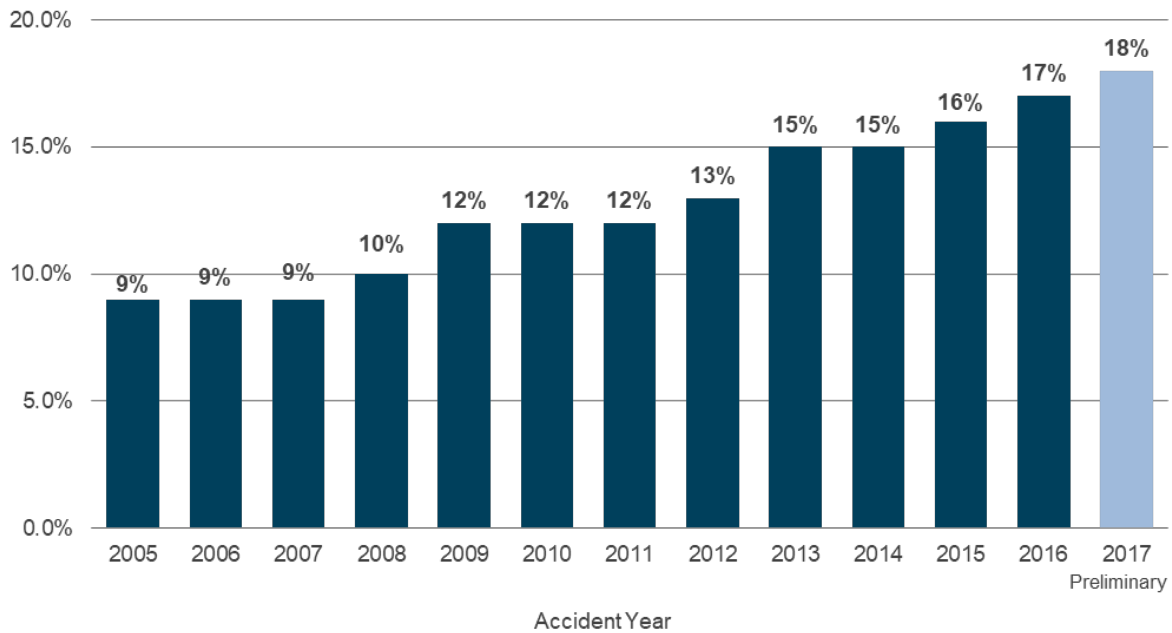
Source: Derived from information provided by UCLA Anderson School of Business as of June 2019 and the California Department of Finance as of April 2019. The figures shown for 2019-2021 are forecasts of future wage level growth used in the January 1, 2020 Pure Premium Rate Filing and generally reflect an average of UCLA forecasts and those of the California Department of Finance.

As discussed, downward loss development, acceleration in claim settlement, reduced pharmaceutical costs and lien filings, lower than projected accident year 2018 experience, and relatively high projected wage levels have lowered the indicated advisory pure premium rate level. However, several system components have moderated pure premium rate declines and warrant continued monitoring.

- Cumulative Trauma Claims.** Although overall indemnity claim frequency has been relatively flat to modestly declining for the last several years, the frequency of cumulative trauma claims has been steadily increasing. Cumulative trauma claims often involve multiple injuries, are very frequently litigated, are filed disproportionately in Southern California, are often initially denied in part or in whole and are often filed on a post-termination basis.<sup>9</sup>

Chart 9 shows the proportion of indemnity claims that involve cumulative trauma. The proportion of indemnity claims involving cumulative trauma has increased from approximately 9% in 2005 to approximately 18% in 2017. Increases in the number of cumulative trauma claims impact the loss development, frequency and loss adjustment expense components of this filing.

<sup>9</sup> See *The World of Cumulative Trauma Claims* (WCIRB, October 2018) for the WCIRB's most recent published report on cumulative trauma claims in California.

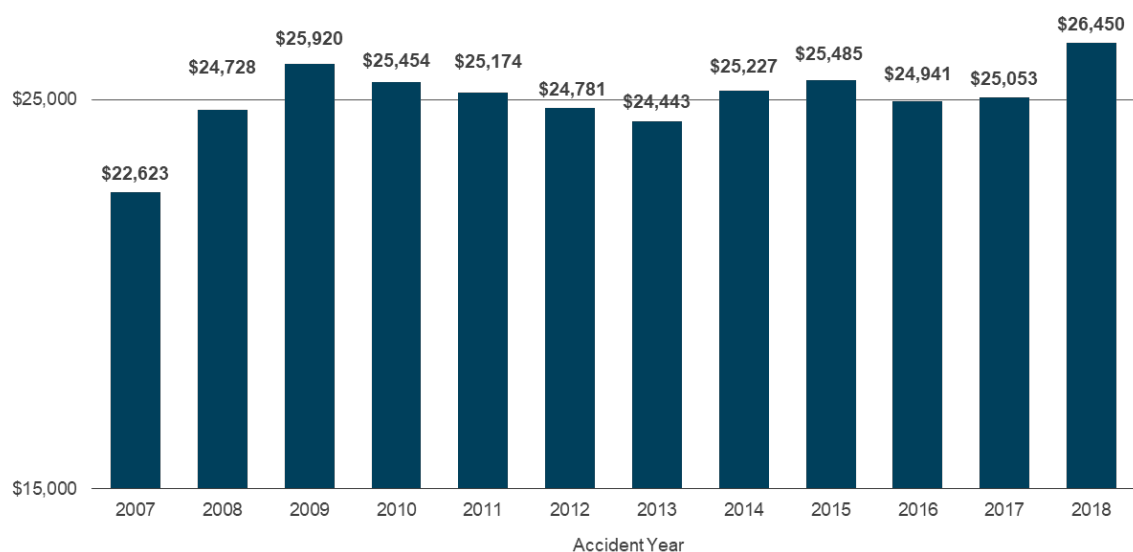
**Chart 9 – Cumulative Trauma Claims as a Proportion of All Indemnity Claims**

Source: WCIRB unit statistical data developed to an ultimate level.

- Claim Severities.** Following the enactment of SB 863, average claim severities have until recently generally declined in California. Chart 10 shows the estimated ultimate indemnity loss per indemnity claim as of March 31, 2019. Chart 11 shows analogous information for the average medical loss per indemnity claim.

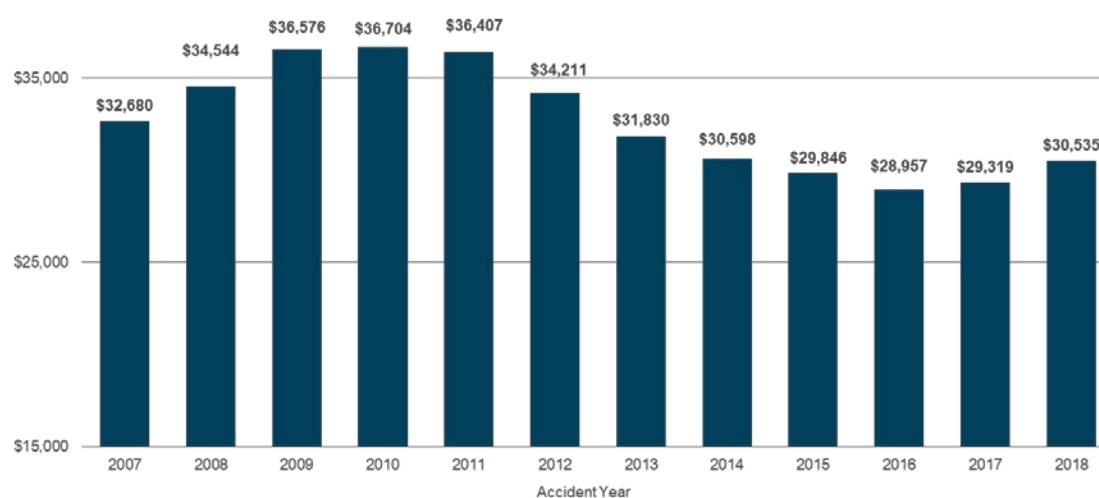
As shown on Charts 10 and 11, until 2017, the estimated average indemnity and medical claim severities had been generally flat or declining. After modest increases for accident year 2017, the indicated increases for accident year 2018 as of March 31, 2019 are the highest in a number of years. The estimated ultimate severities for accident year 2018 are based on relatively immature experience (15 months) and early indicators of recent prior accident year severity growth have moderated as the year matures. However, there are indicators that 2018 severity growth estimates may not moderate to the same extent (see Charts 2 and 3 above) and if severity growth begins to approach its historical pre-reform levels, advisory pure premium rates will likely increase.

Chart 10 – WCIRB Estimated Ultimate Indemnity Loss per Indemnity Claim



Source: WCIRB projections of ultimate indemnity losses and claims as of 3/31/19 based on reported loss and claim patterns.

Chart 11 – WCIRB Estimated Ultimate Medical Loss per Indemnity Claim



Source: WCIRB projections of ultimate medical losses and indemnity claims as of 3/31/19 based on reported loss and claim patterns. Cost amounts exclude the cost of medical cost containment programs.

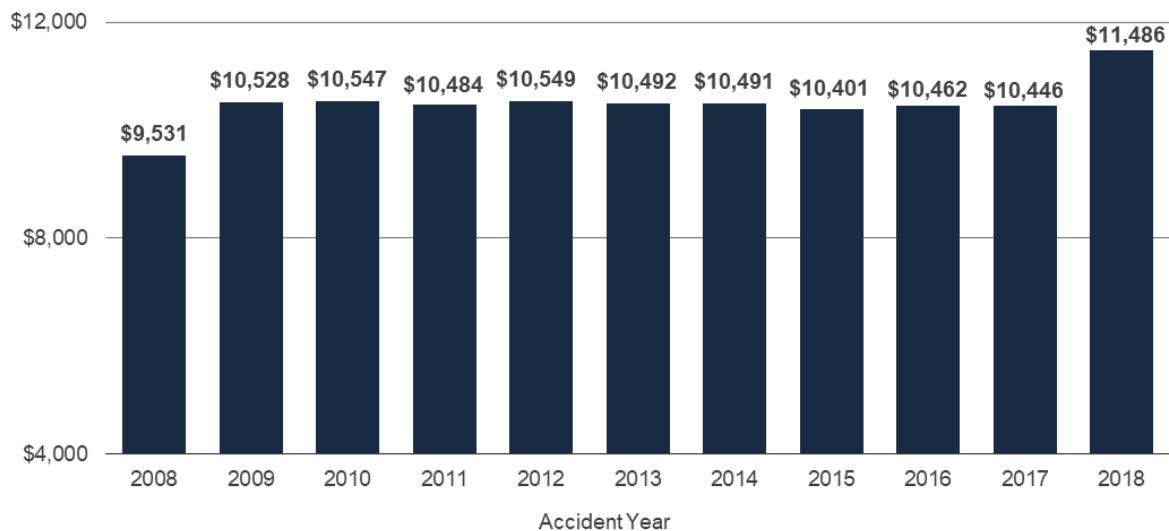
- Loss Adjustment Expenses.** SB 863 was intended to significantly reduce frictional costs while increasing permanent disability benefits for injured workers. A key measure of frictional costs in the system is loss adjustment expenses (LAE). LAE are costs incurred by insurers for investigating, administering, defending and settling workers' compensation claims. These



expenses include the costs associated with handling claims that can be directly allocated to a particular claim (allocated loss adjustment expenses or ALAE) as well as costs associated with handling claims that cannot be directly allocated to a particular claim (unallocated loss adjustment expenses or ULAE).

Chart 12 shows the estimated ultimate ALAE (excluding medical cost containment program costs) per reported indemnity claim by accident year for private insurers.<sup>10</sup> As shown in Chart 12, despite the SB 863 reforms reducing average indemnity and medical costs, the average ALAE per claim has stayed relatively flat. The 10% increase shown for accident year 2018 is the highest in a number of years but is based on relatively immature experience (15 months) and may moderate as the year matures. As discussed in Section B, Appendix C of this filing, ULAE costs and the cost of medical cost containment programs also increased in 2018.

**Chart 12 – Estimated Ultimate ALAE per Indemnity Claim – Private Insurers**



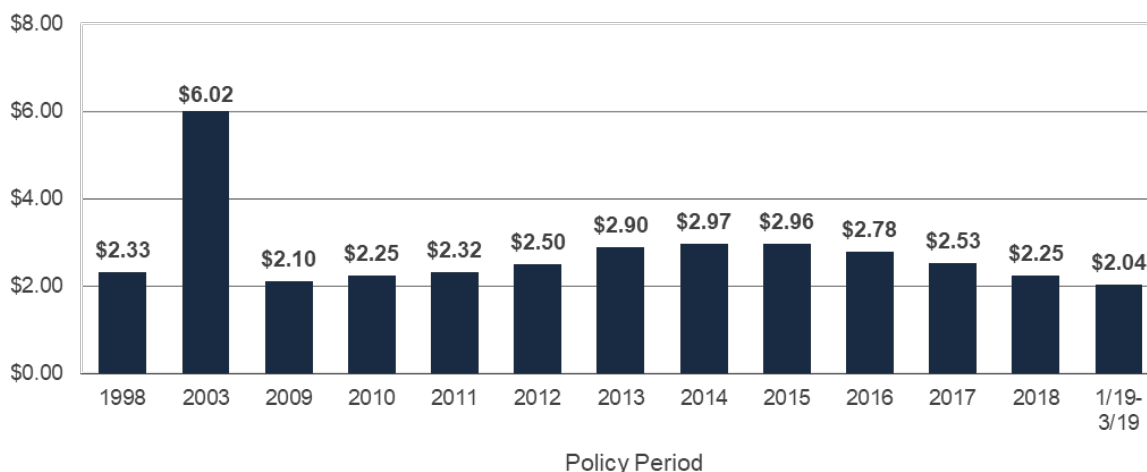
Source: Based on reported private insurer paid ALAE and indemnity claim counts by accident year evaluated as of March 31, 2019 developed to an ultimate level. Cost amounts exclude the cost of medical cost containment programs.

<sup>10</sup> For a number of years, private insurer ULAE and ALAE have formed the basis of the WCIRB's LAE projections in pure premium rate filings.

## D. Supplemental Insurance Market Information

Chart 13 shows the industry average charged rate by year. After a period of decline and following significant increases in underlying cost drivers, the industry average charged rates began to increase in 2010 and continued to grow through 2014. Subsequently, with favorable post-SB 863 medical trends emerging, average charged rates began to decline. As shown in Chart 13, the average rate charged during the first quarter of 2019 is 31% less than the average charged rate for 2014.

**Chart 13 – Industry Average Charged Rate per \$100 of Payroll**

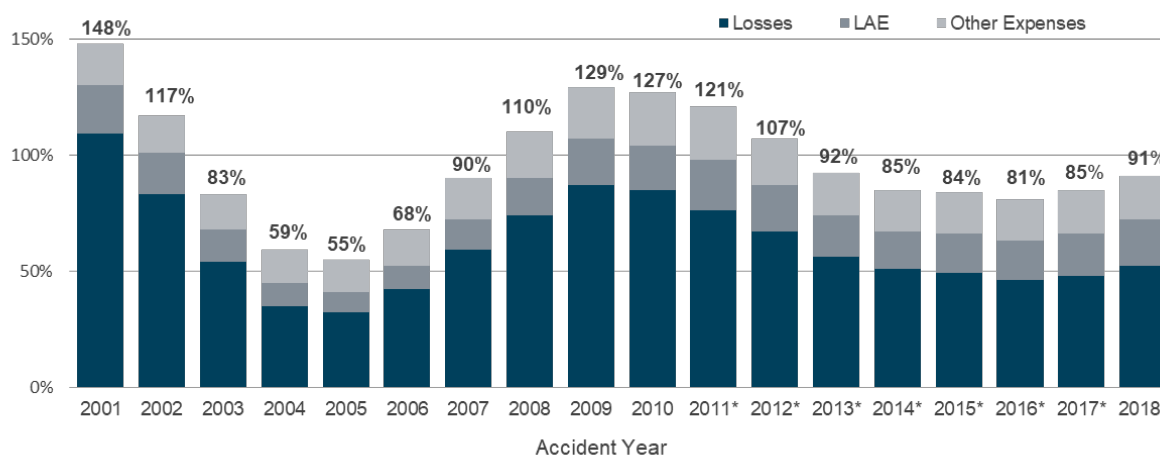


Source: Insurer unit statistical reports and WCIRB data calls.

Chart 14 shows the WCIRB's projected combined ratios of losses, loss adjustment expenses, and other insurer expenses to earned premium by accident year.<sup>11</sup> Rising claim costs, combined with relatively flat industry average charged rates, led to increasing accident year combined ratios beginning for 2006 through accident year 2009. Since 2010, higher insurer charged rates, modest claim cost trends, and lower insurer expense ratios have generally resulted in lower insurer combined loss and expense ratios. As insurer charged rates have decreased and claim severities have begun to increase, projected combined ratios have increased in each of the last two years. However, the accident year 2018 combined ratio of 91% still represents the sixth consecutive year of statewide projected combined ratios of below 100%.

<sup>11</sup> These combined ratios reflect WCIRB estimates of ultimate losses and loss adjustment expenses by accident year relative to calendar year earned premiums. Insurers also report calendar year combined ratios, which reflect their paid losses and loss adjustment expenses and changes in reserves reported during a calendar year relative to calendar year earned premium. These two measures of combined ratios may differ. Also, these are combined underwriting results and, as such, do not reflect profits, federal income taxes, or investment income returns.

**Chart 14 – WCIRB Projected Ultimate Accident Year Combined Loss and Expense Ratios as of March 31, 2019**



Source: WCIRB projections based on insurer aggregate financial data submissions to the WCIRB.

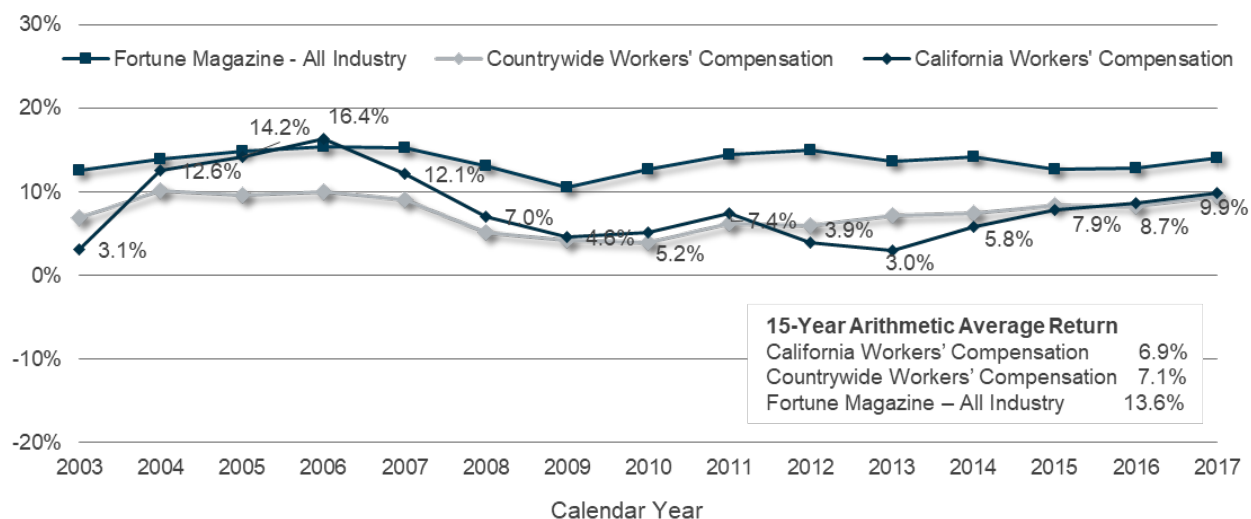
\* For accident years 2011-2018, MCCP costs are included in LAE rather than loss. For all other accident years, MCCP costs are included in loss.

The combined ratios shown in Chart 14 do not include the impact of investment income, federal income taxes or insurer profits. The National Association of Insurance Commissioners (NAIC) annually publishes a summary of total insurer profitability by line of insurance and state that reflect all these components based on calendar year information reported by each insurer to the NAIC. Chart 15 provides a summary of the information published by the NAIC over the last 15 years.

As shown in Chart 15, relatively high loss and expense ratios as well as relatively low investment returns had led to relatively modest profitability (return on net worth) since 2008. The estimated return on net worth for calendar year 2017 for California workers' compensation insurance, as reflected in the most recent NAIC report on profitability,<sup>12</sup> is 9.9%. This is generally comparable to the average countrywide workers' compensation return of 9.5%, but well below the 14.1% Fortune Magazine all-industry average return shown in the NAIC report. The long-term 15-year average return on net worth for California workers' compensation as published by the NAIC is 6.9% as compared to 7.1% for countrywide workers' compensation and 13.5% for the Fortune Magazine all-industry average.

<sup>12</sup> Report on Profitability by Line and State in 2017, NAIC, 2018.

Chart 15 – NAIC Estimates of Average Return on Net Worth



Source: NAIC Report on Profitability By Line and State in 2017.

## E. Computation of Indicated Average January 1, 2020 Pure Premium Rate and Proposed Pure Premium Rates

The average proposed January 1, 2020 pure premium rate of \$1.58 per \$100 of payroll is based on the losses and LAE projected to be incurred on policies incepting in 2020 as compared to the premium that would be generated on those policies using the industry average filed pure premium rates as of July 1, 2019.

The proposed advisory pure premium rates for policies incepting in 2020 are based on an evaluation of the loss, LAE and premium experience of calendar and accident years through 2018, valued as of March 31, 2019. The principal methodologies and projections used by the WCIRB in calculating the average proposed pure premium rate as detailed in Section B of this filing are summarized below.

### Loss Development Methodology

The proposed 2020 pure premium rates reflect the estimated final, or ultimate, cost of losses and LAE on all accidents that arise on policies incepting in 2020. Since workers' compensation claims incurred in a particular year will be paid out over many years, the losses reported for each historical accident year are adjusted, or developed, to reflect the ultimate cost of all accidents that occurred during that year. This process is known as "loss development".

Consistent with WCIRB pure premium rate filings for many years, the WCIRB is again recommending projecting statewide insured losses paid for each accident year as of March 31, 2019 through 255 months of maturity based on historical development patterns of losses paid as the claims mature.

Since the implementation of SB 863, the rate at which claims have settled in California has accelerated (see Chart 4). Changing settlement rates can distort projections based on historical paid loss development. As a result, as in the last several pure premium rate filings, the WCIRB has adjusted the paid development projections for the impact of the changes in claim settlement rates by adjusting historical paid patterns to a common rate of claim settlement.<sup>13</sup>

Based on a 2014 WCIRB analysis of long-term loss development<sup>14</sup> and as in the last several pure premium rate filings, the WCIRB is projecting development beyond 255 months based on historical incurred loss development patterns, which are less affected by the shift in payment pattern that occurred following the 1996 *Minniear*<sup>15</sup> decision. Incurred loss development beyond 411 months is based on fitting an inverse power curve to historical development factors from 111 to 351 months.<sup>16</sup>

Over the last several years, insurer reported case reserve levels have declined sharply. Chart 16 shows the changes in total medical case reserves by year. With the impact of SB 863 and despite an increase in the number of claims, paid medical loss amounts have been relatively flat since 2013. Conversely, as shown in Chart 16, medical case reserves continued to rise in the first 2 years following SB 863 as there was apparent delay in the recognition of the impacts of SB 863 in average insurer case reserves. However, since 2015, medical case reserves have dropped by approximately \$2 billion. Conversely, medical payments by year have remained relatively flat, as calendar year medical losses declined by only \$0.2 billion from 2015 until 2018.<sup>17</sup> While impacting incurred development patterns at early and mid-level maturity levels, these sharply declining medical case reserves have also significantly impacted incurred development patterns beyond 255 months, which is the period reflected in the WCIRB's loss development projection. As a result, as in the last several pure premium rate filings, the WCIRB has refined its loss

<sup>13</sup> See Item AC17-03-03 of the March 21, 2017 and June 16, 2017 WCIRB Actuarial Committee Agendas for a discussion of the methodology used to adjust loss development projections for the impact of changing claim settlement rates.

<sup>14</sup> See Item AC14-03-03 of the June 11, 2014 WCIRB Actuarial Committee Agenda for a complete discussion of this analysis.

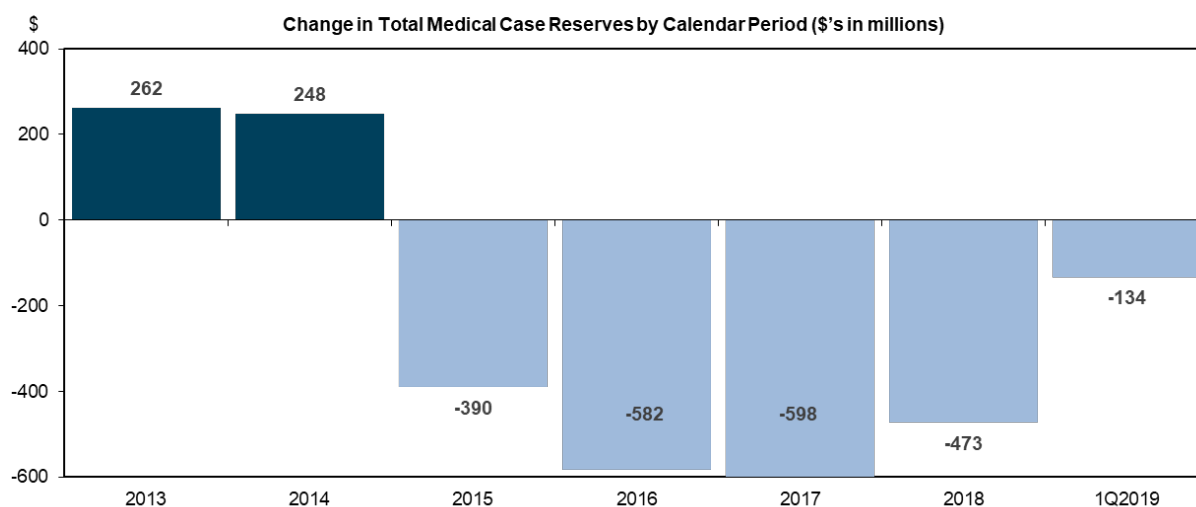
<sup>15</sup> *Minniear v. Mount San Antonio Community College District* (1996) 61 Cal. Comp. Cases 1055 (Appeals Board en banc opinion).

<sup>16</sup> See Item AC16-03-03 of the April 5, 2016 WCIRB Actuarial Committee Agenda for a complete discussion of this methodology.

<sup>17</sup> *2018 California Workers' Compensation Losses and Expenses*, WCIRB, June 2019.

development projection for 255 months and later to mitigate the impact of this sharp reduction in case reserves on indemnity loss development.<sup>18</sup>

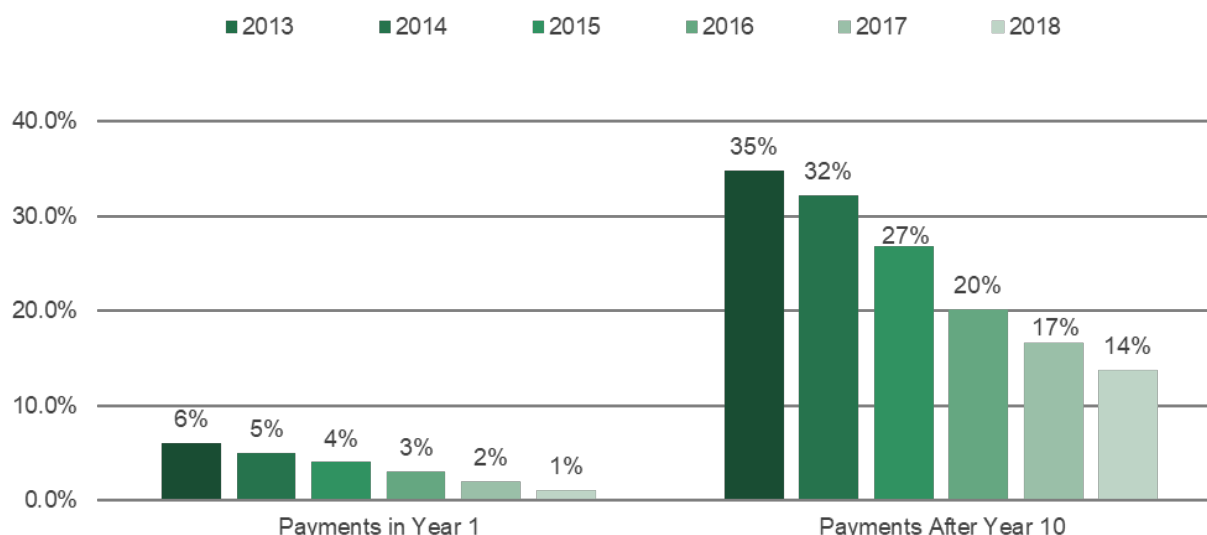
**Chart 16 – Change in Medical Case Reserves by Calendar Period**



Source: WCIRB Quarterly Calls for Experience

As shown in Chart 5, pharmaceutical costs have dropped dramatically since 2013. Chart 17 compares the pharmaceutical share of total medical payments in the first year for an accident year and the share of payments made after 10 years for evaluation years 2013 to 2018. As shown in Chart 17, while there have been dramatic declines in the pharmaceutical cost share at early and later maturity levels, the impact on the later years is much more significant since pharmaceutical costs comprise a much larger share of medical costs for later development periods.

<sup>18</sup> See Items AC17-08-04 of the August 2, 2017 WCIRB Actuarial Committee Agenda and AC18-03-02 of the April 3, 2018 Actuarial Committee Agenda for a complete discussion of this adjustment.

**Chart 17 – Pharmaceutical Share of Medical Losses by Maturity Level**

Source: WCIRB medical transaction data

Earlier this year, the WCIRB studied the impact of the recent pharmaceutical cost declines on paid medical loss development.<sup>19</sup> Since pharmaceuticals represent a much higher proportion of payments made later in the life of a claim, if no adjustment to medical loss development is made, more recent paid medical development emerging for older accident years may be distorted as the numerator of the age-to-age paid medical development factor will contain a much smaller volume of pharmaceutical payments than the denominator. In order to correct for the distortion in the projected development factors due to the variation in the paid pharmaceutical share by maturity level, the WCIRB has adjusted medical payments in the loss development factor computation made prior to 2018 to be at the estimated 2018 pharmaceutical cost level. Section B, Appendix A provides a more complete discussion of this adjustment to paid medical development.

As discussed, SB 1160 and AB 1244, which took effect in 2017, included a number of provisions related to lien filings. As shown in Chart 6, the volume of lien filings declined following the enactment of SB 1160 and AB 1244. To avoid potential distortions in loss development as medical development factors will include a mix of both pre and post SB 1160 and AB 1244 data, historical medical loss development has been adjusted for the impact of SB 1160 and AB 1244 on future lien filings.<sup>20</sup> In the January 1, 2019 Pure Premium Rate Filing, the WCIRB reflected adjustments to medical losses and ALAE based on an estimated 40% reduction in lien filings resulting from SB 1160 and AB 1244.<sup>21</sup> Based on the updated information on lien filings shown in Chart 6, the WCIRB reflected an assumed 60% reduction in lien filings in the projections included in this filing.

Some of the provisions of SB 1160 and AB 1244 also affected liens that had already been filed prior to the effective date of the legislation. In July 2017, the DWC dismissed approximately 292,000 liens which did not comply with provisions of SB 1160 and AB 1244. In 2018, the WCIRB analyzed the potential

<sup>19</sup> See Item AC19-06-03 of the June 14, 2019 WCIRB Actuarial Committee Agenda.

<sup>20</sup> See Item AC18-03-03 of the March 19, 2018 WCIRB Actuarial Committee Agenda.

<sup>21</sup> In the Decision on the January 1, 2019 Pure Premium Rate Filing, based on additional updated lien filing information presented at the hearing, the CDI assumed a 50% reduction in lien filings.

impact of the DWC lien dismissals on medical loss development patterns and found that the dismissed liens will have a significant impact on paid medical development emerging after July 2017. As a result and as in the last several filings, the WCIRB adjusted pre-July 1, 2017 medical payments to reflect the impact of the DWC lien dismissals in the medical loss development projection.<sup>22</sup>

For informational purposes, the WCIRB has computed a series of alternative January 1, 2020 loss ratio projections over a wide range of alternative loss development methodologies (see Exhibit 3). The resultant indicated policy year 2020 ratios of losses to the industry average filed pure premium rate level as of July 1, 2019 range from 0.533 to 0.649, compared to 0.583 based on the methodology reflected in this filing. The assumptions underlying these alternative loss development methodologies as well as the methodology reflected in this filing are discussed in detail in Section B, Appendix A.

### Trending Methodology

The proposed pure premium rates reflect the estimated cost of losses and LAE incurred on all accidents that arise on policies incepting in 2020. As a result, ultimate cost (loss) information on historical accident years is adjusted, or “trended”, to reflect the ultimate cost of claims covered by policies incepting in 2020. First, losses are adjusted to a current, or “on-level”, basis by adjusting for wage inflation, statutory benefit changes and reforms, and fee schedule changes.

The Medical Treatment Utilization Schedule (MTUS) Drug Formulary, promulgated by the DWC pursuant to Assembly Bill No. 1124, became effective on January 1, 2018. The WCIRB’s initial estimate of a 10% reduction in pharmaceutical costs attributable to the new formulary was included in the July 1, 2018 and January 1, 2019 pure premium rate filings. Earlier this year, the WCIRB re-evaluated the impact of the MTUS Drug Formulary based on pharmaceutical costs emerging as December 31, 2018. Based on this retrospective evaluation, the WCIRB continues to believe a 10% reduction in pharmaceutical costs reasonably reflects the impact of the new formulary and has included this estimate in the projection of on-level medical costs included in this filing.<sup>23</sup>

As with accident year losses, each historical year’s earned premium is adjusted to a current, or on-level, basis by adjusting for wage level changes, rate changes and other factors impacting premiums. The methodologies used to adjust premium levels to an on-level basis are consistent with those of recent WCIRB pure premium rate filings.

The loss ratios shown for historical accident years, once adjusted to an ultimate and on-level basis, are used to project the policy year 2020 loss ratio at the industry average filed pure premium rate level as of July 1, 2019. As in pure premium rate filings and CDI pure premium rate filing decisions for a number of years, the WCIRB projects future loss trends based on separate projections of indemnity claim frequency and claim severity.

The WCIRB forecasts frequency changes using an econometric model developed based on a long-term, forty-year history of California frequency changes in relation to changes in economic and other claims-related factors.<sup>24</sup> After a long period of steady decline, coming out of the Great Recession indemnity claim frequency increased sharply in 2010 and since that time has remained relatively flat compared to the historical long-term rate of decline. The WCIRB’s frequency forecast reflects a balance between long-term and shorter-term trends. The frequency forecasts reflected in the WCIRB’s policy year 2020 projection average approximately -2% annually for the 2019 through 2021 period.

Chart 18 shows the WCIRB’s estimated ultimate indemnity losses per indemnity claim adjusted to a current on-level basis for the impact of wage inflation, statutory benefit changes and reforms. Over the long-term, on-level indemnity severities have grown at a moderate rate. However, as shown in Chart 18,

<sup>22</sup> See Item AC18-03-03 of the March 19, 2018 WCIRB Actuarial Committee Agenda.

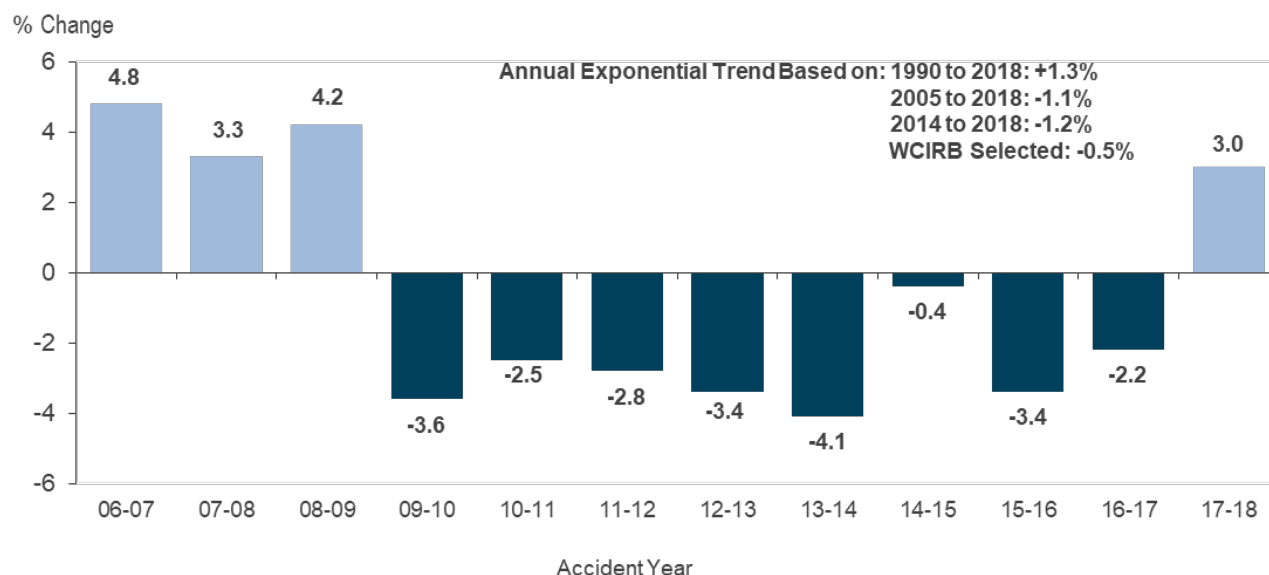
<sup>23</sup> See Item AC17-12-02 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>24</sup> Brooks, Ward, “California Workers Compensation Benefit Utilization – A Study of Changes in Frequency and Severity in Response to Changes in Statutory Workers Compensation Benefit Levels,” *Proceedings of the Casualty Actuarial Society*, Volume LXXXVI, 1999, pp. 80-262.



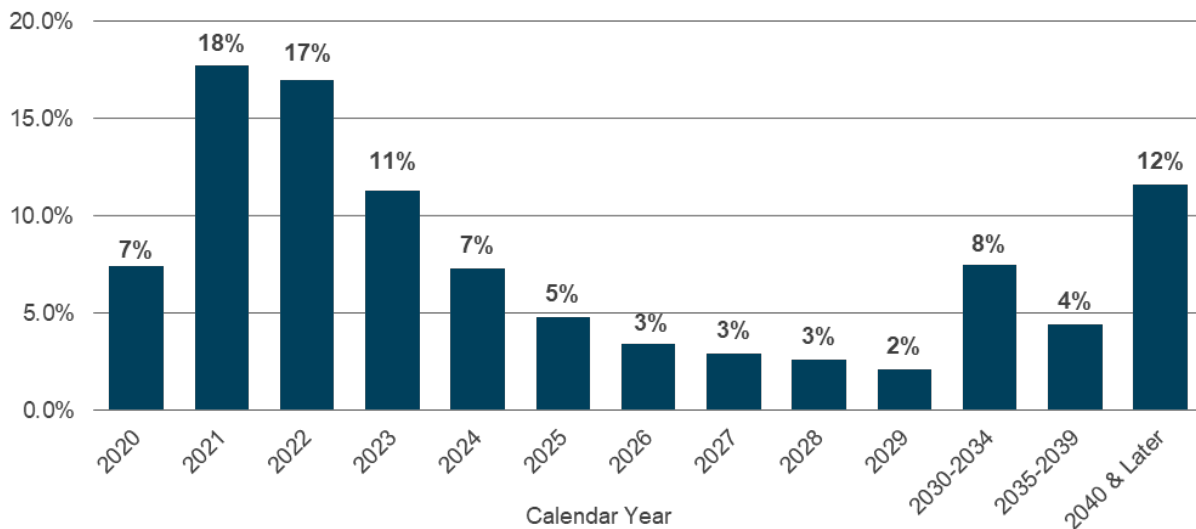
on-level indemnity severity growth had not been above 0% for a number of years. While some of these declines are likely related to the Great Recession and the subsequent economic recovery, on-level indemnity severity showed modest declines for 2015 through 2017 before increasing to 3% for accident year 2018. Although this estimate is preliminary in that 2018 indemnity costs are projected from 15 months which mostly reflects temporary disability costs, indemnity loss development has begun to moderate, suggesting the 3% increase projected for 2018 may not develop downward significantly. Given these considerations, the WCIRB selected an on-level indemnity severity trend of -0.5% annually, which is consistent with the indemnity severity trend reflected in the January 1, 2019 Pure Premium Rate Filing.

**Chart 18 – WCIRB Estimated Change in Indemnity On-Level Severity  
Based on Experience as of March 31, 2019**



Source: WCIRB projections of ultimate indemnity losses based on reported loss and claim patterns adjusted to an on-level basis.

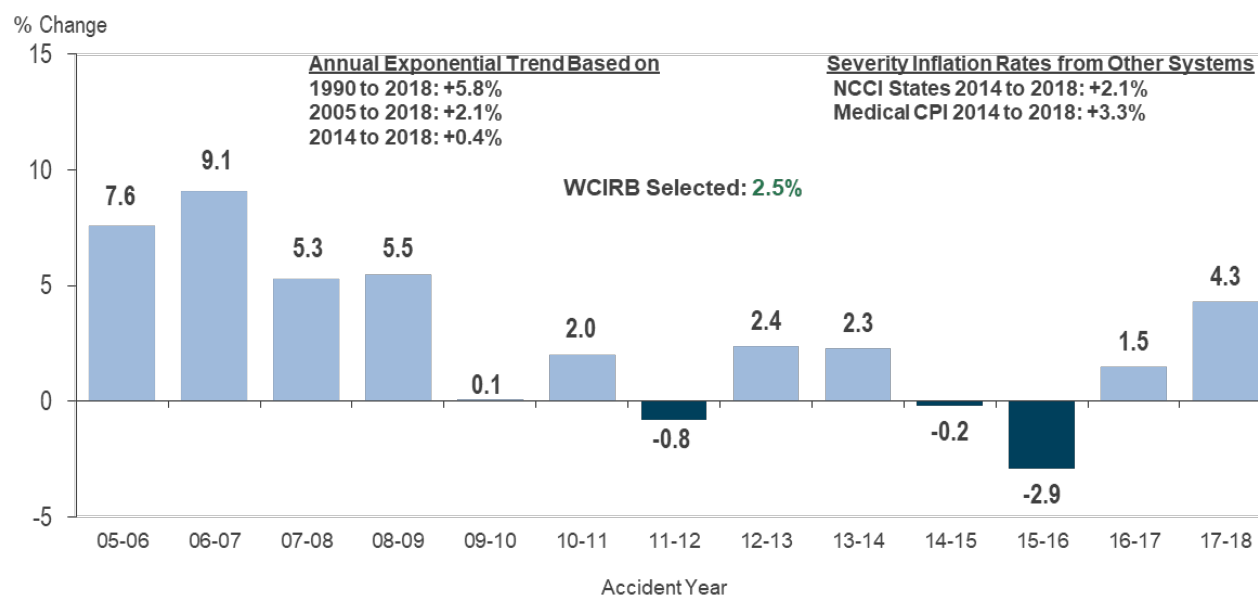
While indemnity losses tend to be impacted by the wage level and statutory benefits in effect when the injury is incurred, most changes impacting medical cost levels apply when the medical services are provided. The medical losses on injuries incurred against 2020 policies will be paid out over many years. Chart 19 shows the estimated payout by calendar year of medical losses incurred against 2020 policies. As shown, only a small proportion of medical losses will be paid in 2020, approximately half will be paid between 2021 and 2024 and about one-quarter will be paid in 2030 or later. Given this extended duration of medical loss payout and that medical cost levels are related to when the services are provided rather than when the injury occurred, the WCIRB believes it is essential to balance short-term and long-term inflationary trends in projecting future medical inflation.

**Chart 19 – Policy Year 2020 Paid Medical by Calendar Year**

Source: WCIRB aggregate financial data and projections of paid medical as of December 31, 2018.

Chart 20 shows changes in the WCIRB's estimated ultimate medical losses per indemnity claim adjusted to a current on-level basis for the impact of fee schedule changes and legislative reforms. Recent changes in on-level medical cost per indemnity claim have been modest as medical cost trends have been significantly impacted by SB 863, significant anti-fraud efforts, the dramatic decline in pharmaceutical costs and the lien reforms of SB 1160 and AB 1244. Conversely, the long-term medical severity trend in California has averaged approximately 6% per year and recent average medical trends in other systems have averaged about 2% to 3% annually.

**Chart 20 – WCIRB Estimated Change in Medical On-Level Severity  
Based on Experience as of March 31, 2019**



Source: WCIRB projections of ultimate medical losses based on reported loss and claim patterns adjusted to an on-level basis. Cost amounts exclude the cost of medical cost containment programs.

The estimated on-level medical severity change for accident year 2018 projected from 15 months of 4.3% is higher than recent prior accident years. As shown on Chart 3, recent declines in medical loss development are moderating and there are other indicators that medical severities are beginning to increase at a more significant rate. In addition, recent average medical costs in other jurisdictions as well as in the medical Consumer Price Index show modest increases for 2017 and 2018, which are generally consistent with the increases shown for California. Given these considerations, the WCIRB selected an on-level medical severity trend of 2.5% per year, which is consistent with the medical severity trend reflected in the January 1, 2019 Pure Premium Rate Filing.

For informational purposes, the WCIRB has computed a series of alternative loss ratio projections over a range of alternative trending methodologies (see Exhibit 4). The resultant indicated policy year 2020 ratios of losses to the industry average filed pure premium rate level as of July 1, 2019 range from 0.553 to 0.631 compared to 0.583 based on the methodology reflected in this filing. The assumptions underlying each of these alternative trending methodologies as well as the methodology reflected in this filing are discussed in detail in Section B, Appendix B.

### Loss Adjustment Expense Projection Methodology

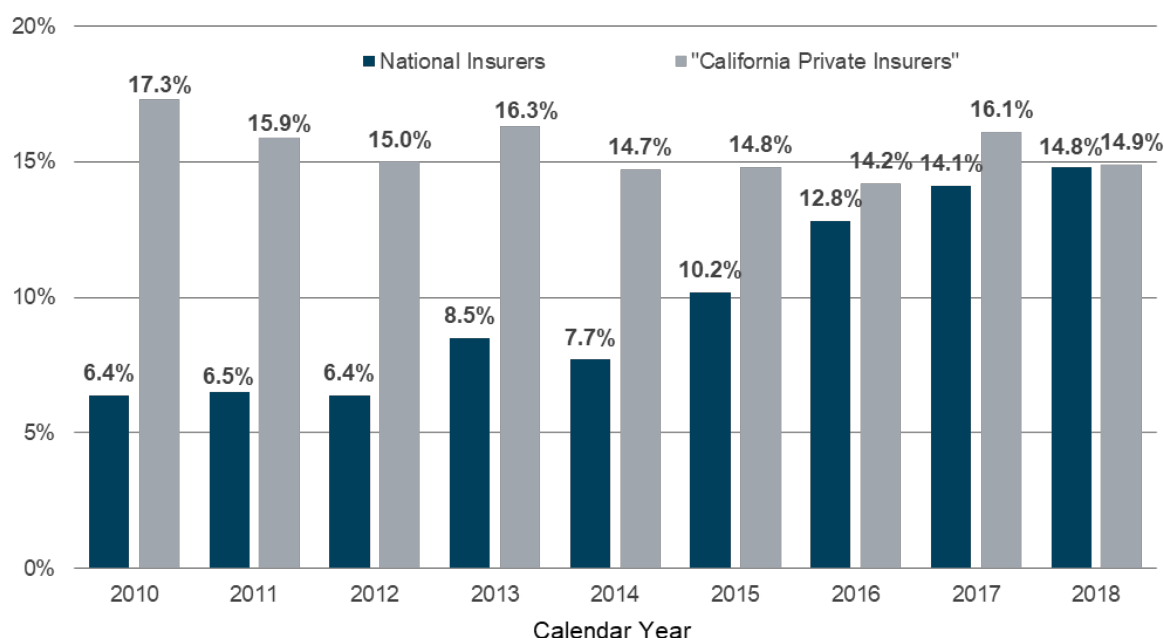
The California Insurance Code provides that the advisory pure premium rates include a provision for the cost of administering claims or LAE including both ALAE and ULAE. Additionally, beginning with policies incepting on or after July 1, 2010, the cost of medical cost containment programs (MCCP) are also included in ALAE. The WCIRB makes separate projections of ULAE, ALAE excluding MCCP costs, and MCCP costs.

Historically, the ratios of ULAE to losses of the State Compensation Insurance Fund (State Fund) and private insurers that principally write workers' compensation insurance primarily in California had been significantly higher than those for insurers that write workers' compensation insurance on a national

basis. In 2015, the WCIRB undertook a comprehensive study of insurer reported ULAE amounts.<sup>25</sup> The WCIRB found that the large differences in the ULAE amounts reported by insurers are the result of the treatment of negative adjustments to ULAE for reimbursements by policyholders for claims-related services provided to policyholders and non-reported claims handling costs on claims handled by third-party administrators (TPA), primarily on large deductible policies. Given these factors, the WCIRB modified its data call to insurers for calendar year expenses to collect additional information that allows for correction of the impact of negative adjustments to ULAE, TPA claims handling costs and other issues related to large deductible policies. Based on a follow-up study in 2017, the WCIRB further refined its data call to collect information on countrywide indemnity claim counts in order to more accurately apportion adjusted countrywide ULAE amounts to California.<sup>26</sup>

Chart 21 compares ratios of calendar year paid ULAE to calendar year paid losses for private insurers that write workers' compensation predominantly in California to private insurers that write workers' compensation on a national basis. The calendar year 2016, 2017 and 2018 ULAE ratios shown in Chart 21 reflect the information collected through the WCIRB's modified data call beginning in 2016 as well as apportionment of countrywide ULAE based on open indemnity claim counts. As shown, the 2016 through 2018 ULAE ratios for national insurers computed on this basis are relatively close to that of insurers that write most of their workers' compensation business in California.

**Chart 21 – Ratios of Reported Paid ULAE to Paid Losses**



Source: Calendar year paid losses and paid ULAE reported to the WCIRB. "California Private Insurers" include insurers that write 80% or more of their business in California (excluding the State Fund).

As in the last several pure premium rate filings, the WCIRB projected policy year 2020 ULAE based on the relationship of calendar year paid ULAE amounts to paid losses and to open indemnity claim counts. Given the unusual patterns of State Fund's ULAE experience and the unique statutory characteristics of State Fund, as in the last several pure premium rate filings, the WCIRB computed the policy year 2020 ULAE provision based solely on the ULAE experience of private insurers. The WCIRB's projected ratio of

<sup>25</sup> See Item AC15-03-07 of the March 18, 2015, June 12, 2015 and August 6, 2015 WCIRB Actuarial Committee Agendas for a more complete analysis of ULAE reporting differences.

<sup>26</sup> See Item AC17-09-02 of the September 5, 2017 Actuarial Committee Agenda.

ULAE to losses for policy year 2020 using these methodologies is 14.7%. This projection exceeds the 13.6% provision reflected in the January 1, 2019 Pure Premium Rate Filing inasmuch as ULAE levels continue to increase.

As in prior pure premium rate filings, the WCIRB's ALAE projection is based on a methodology that reflects estimated ultimate ALAE per indemnity claim. As with medical losses and as in the last several pure premium rate filings, projected ALAE losses have been adjusted to reflect the impact of SB 1160 and AB 1244 provisions related to lien filings.<sup>27,28</sup>

As shown in Chart 4, claim settlement rates have been accelerating. As with loss development, changes in claim settlement also impact paid ALAE development. Earlier this year, the WCIRB studied the impact of changing claim settlement on paid ALAE and is recommending an adjustment to paid ALAE development to reflect this acceleration.<sup>29</sup>

The projected policy year 2020 ALAE ratio, excluding both MCCP costs and State Fund's ALAE experience, computed on this basis is 17.2% of losses. Despite accident year 2018 ALAE emerging above the level of prior years as shown in Chart 12, this projection is below the ALAE provision of 18.9% reflected in the January 1, 2019 Pure Premium Rate Filing due to downward ALAE development, a reduction in the WCIRB's recommended ALAE severity trend and the adjustment to ALAE development to reflect the acceleration in claim settlement. These factors are discussed in detail in Section B, Appendix C.

The WCIRB separately projected the cost of MCCP using a similar methodology as used for the projection of ALAE excluding MCCP costs based on the cost of estimated ultimate MCCP per indemnity claim by accident year. Since MCCP costs are not affected by the factors impacting State Fund's other LAE costs, the projected policy year 2020 ratio of MCCP costs to loss is based on statewide MCCP experience. The projected policy year 2020 MCCP cost provision computed on this basis is 4.5% of losses. In the January 1, 2019 Pure Premium Rate Filing, the projected MCCP cost provision was 4.0% of losses. The increased policy year 2020 MCCP cost projection was primarily the result of higher MCCP costs emerging for accident year 2018.

For informational purposes, the WCIRB has computed a series of indicated policy year 2020 LAE provisions based on a number of alternative ULAE, ALAE and MCCP projection methodologies. Estimates of ULAE range from 13.9% to 15.7% of losses as compared to 14.7% reflected in this filing (see Exhibit 5.1). Estimates of ALAE excluding MCCP costs range from 15.8% to 18.0% of losses as compared to 17.2% reflected in this filing (see Exhibit 5.2). Estimates of MCCP costs range from 4.2% to 4.7% of losses as compared to 4.5% reflected in this filing (see Exhibit 5.2). The assumptions underlying each of the alternative LAE projection methodologies as well as the methodologies reflected in this filing are discussed in Section B, Appendix C.

### **Experience Rating Off-Balance Correction Factor**

The WCIRB annually computes the off-balance adjustment to pure premium rates to offset the anticipated lower than unity experience modification averaged based on the experience modifications of all experience rated employers in California. For 2020, the selected experience rating off-balance correction factor based on the most current available information on issued experience modifications is 1.014. This is 0.3% less than the 2019 off-balance correction factor of 1.017. The computation of the indicated 2020 experience rating off-balance correction factor is discussed in Section C, Appendix B of the WCIRB's January 1, 2020 Regulatory Filing submitted on June 26, 2019.

<sup>27</sup> See Item AC18-04-01 of the April 3, 2018 Actuarial Committee Agenda for more detail discussion of this adjustment.

<sup>28</sup> Given that lien-related disputes continue to occur on more recent claims and incur ULAE costs, no adjustment for SB 1160 and AB 1244 has been applied to the projected ULAE ratio.

<sup>29</sup> See Item AC19-08-04 of the August 1, 2019 Actuarial Committee Agenda.

**Computation of Standard Classification Pure Premium Rates**

The proposed January 1, 2020 advisory pure premium rate for each standard classification is based on the indicated average January 1, 2020 pure premium rate change of -5.4% as computed in Section B and the 2020 classification relativity for each standard classification. The computation of the 2020 classification relativities is based on the WCIRB's standard methodology and is described in detail in Section C, Appendix C of the WCIRB's January 1, 2020 Regulatory Filing submitted on June 26, 2019.

## Computation of Proposed and Industry Average Rates

A. Computation of Industry Average Filed Manual Rate as of July 1, 2019<sup>1</sup>

1. For each of the 120 largest insurers in California,<sup>2</sup> the WCIRB determined the filed manual rate for each standard classification as of July 1, 2019 based on the insurer's rate filing information submitted to the California Department of Insurance (CDI). In instances when an insurer's filed manual rates reflected a deviation from the standard classification system (e.g., by sub-classification, tier or territory), the WCIRB obtained additional information from the insurer as to the volume of business written for each of the classifications in which there was a deviation from the standard classification. This information was used to compute the insurer's average filed manual rate for the applicable standard classification.
2. For each of the 120 insurers, the payroll reported to the WCIRB on unit statistical reports (USRs) for 2017 policies<sup>3</sup> (reported payroll) for each standard classification was extended by the insurer's applicable filed manual rate.<sup>4</sup> For each classification, the resulting premium for all 120 insurers was summed and divided by the total reported payroll for the classification for all 120 insurers to produce an industry average filed manual rate for the classification.
3. The total reported payroll for each classification for all insurers was extended by the industry average filed manual rate for the classification. The resulting premium for each classification was summed and divided by the total reported payroll for all classifications for all insurers to produce the industry average filed manual rate.

B. Computation of Industry Average Filed Pure Premium Rate as of July 1, 2019<sup>5</sup>

1. For each of the 120 largest insurers in California, the WCIRB determined the filed pure premium rate for each classification as of July 1, 2019 by adjusting each insurer's filed manual rate by classification, derived as described in paragraph A-1 above, to remove the applicable underwriting expense loading factor reflected in the insurer's rate filing information.
2. For each of the 120 insurers, the reported payroll for each classification was extended by the insurer's applicable filed pure premium rate. For each classification, the resulting pure premium for all 120 insurers was summed and divided by the total reported payroll for the classification for all 120 insurers to produce an industry average filed pure premium rate for the classification.
3. The total reported payroll for each classification for all insurers was extended by the industry average filed pure premium rate for the classification. The resulting pure premium for each classification was summed and divided by the total reported payroll for all classifications for all insurers to produce the industry average filed pure premium rate.

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<sup>1</sup> The average filed manual rate varies dramatically across insurers for a variety of reasons, including the mix of classifications written, underwriting practices, and use of rating plan adjustments. For example, an insurer with relatively high manual rates may, as a matter of underwriting practice, apply bigger schedule rating credits than an insurer with lower manual rates.

<sup>2</sup> In total, these insurers wrote in excess of 97% of the California workers' compensation insurance market in 2018.

<sup>3</sup> The most current USRs available were for policies incepting November 2016 through October 2017. To facilitate consistency of comparison with the proposed January 1, 2020 advisory pure premium rates, the five classifications with new maximum payroll limitations adopted to be effective January 1, 2020 had their payroll weights and industry average filed rates adjusted to a basis to reflect the new payroll limitations.

<sup>4</sup> If an insurer filed deviations from standard classifications, the average filed manual rate for the applicable standard classification, derived as described in paragraph A-1 above, was used instead.

<sup>5</sup> An insurer's filed pure premium rates are a function of the set of advisory pure premium rates referenced in its rate filing as well as the manner in which the rate filing was developed. An insurer with an average filed pure premium rate greater than the industry average filed pure premium rate may or may not have higher than average filed manual rates, as the insurer may choose to apply a relatively small expense loading to develop the manual rates filed with the CDI.

## C. Computation of Proposed Average Pure Premium Rate

The industry average filed pure premium rate as of July 1, 2019 derived as described in paragraph B-3 above, is adjusted by the “Indicated Difference from Industry Average Filed Pure Premium Rate per \$100 of Payroll as of July 1, 2019” (line 5 of Section B, Exhibit 8) to produce the proposed average pure premium rate per \$100 of payroll for policies incepting in 2020.

## D. Computation of Industry Average Charged Rate for the First Quarter of 2019

1. The average advisory pure premium rate for the first quarter of 2019 is estimated by extending the January 1, 2019 advisory pure premium rate for each classification by the reported payroll for the classification for all insurers. The resulting products by classification are summed and then divided by the total reported payroll for all classifications for all insurers.
2. The industry average charged rate for the first quarter of 2019 is estimated by multiplying (a) the average advisory pure premium rate for the first quarter of 2019, derived as described in paragraph D-1 above, by (b) the average policy year 2019 ratio of premium written at the industry average charged rate level to premium written at the advisory pure premium rate level based on the WCIRB’s quarterly calls for experience<sup>6</sup> through March 31, 2019.

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<sup>6</sup> Premiums reported on the WCIRB’s quarterly calls for experience exclude the impact of deductible credits, retrospective rating plan adjustments and terrorism charges.



**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019**

NOTE: THE INDUSTRY AVERAGE FILED PURE PREMIUM RATE SHOWN BELOW FOR EACH CLASSIFICATION REFLECTS THE MIX OF INSURERS WRITING BUSINESS IN THAT CLASSIFICATION AS WELL AS THEIR UNDERWRITING AND RATE FILING PRACTICES. THE DIFFERENCES SHOWN BELOW ARE NOT NECESSARILY INDICATIVE OF FUTURE CHANGES IN ANY INDIVIDUAL INSURER'S FILED PURE PREMIUM RATE OR THE RATE IT WILL CHARGE ITS POLICYHOLDERS AS INSURERS MAY, AND OFTEN DO, FILE AND USE RATES OTHER THAN THOSE PROPOSED OR APPROVED BY THE COMMISSIONER.

<u>Class Code</u>	(1) <u>Proposed January 1, 2020 Advisory Pure Premium Rates</u>	(2) <u>Approved January 1, 2019 Advisory Pure Premium Rates</u>	(3) <u>Difference Between Proposed 1/1/20 APPR &amp; Approved 1/1/19 APPR</u> (1)/(2)-1	(4) <u>Industry Average Filed Pure Premium Rates as of July 1, 2019</u>	(5) <u>Difference Between Proposed 1/1/20 APPR &amp; Industry Avg Filed PPR as of 7/1/19</u> (1)/(4)-1
0005	5.52	5.28	5%	6.72	-18%
0016	6.11	6.39	-4%	8.52	-28%
0034	6.36	6.19	3%	7.75	-18%
0035	5.34	5.70	-6%	7.30	-27%
0036	7.37	7.37	0%	9.35	-21%
0038	7.16	8.96	-20%	12.17	-41%
0040	3.85	3.95	-3%	5.05	-24%
0041	5.42	5.39	1%	6.66	-19%
0042	5.61	6.28	-11%	8.13	-31%
0044	3.24	3.78	-14%	4.49	-28%
0045	3.79	4.25	-11%	5.57	-32%
0050	6.12	5.45	12%	6.67	-8%
0079	3.64	4.40	-17%	5.52	-34%
0096	5.12	4.90	4%	6.23	-18%
0106	10.54	11.42	-8%	14.28	-26%
0171	6.04	5.99	1%	7.29	-17%
0172	4.26	4.21	1%	5.35	-20%
0251	4.28	4.28	0%	6.24	-31%
0400	2.48	2.09	19%	2.49	0%
0401	6.80	8.33	-18%	9.75	-30%
1122	3.22	4.20	-23%	5.23	-38%
1123	19.43	25.98	-25%	32.58	-40%
1124	5.41	5.97	-9%	9.95	-46%
1320	1.50	1.39	8%	1.75	-14%
1322	3.33	2.81	19%	3.29	1%
1330	2.86	3.41	-16%	3.81	-25%
1438	4.54	4.49	1%	5.03	-10%
1452	2.23	2.22	0%	2.25	-1%
1463	3.04	3.41	-11%	3.84	-21%
1624	4.98	6.39	-22%	7.51	-34%
1699	2.33	2.88	-19%	2.93	-20%
1701	3.38	4.63	-27%	4.67	-28%
1710	4.43	4.71	-6%	6.01	-26%
1741	3.59	4.52	-21%	5.48	-34%
1803	8.82	9.72	-9%	12.35	-29%
1925	9.50	8.70	9%	9.36	1%
2002	9.51	10.55	-10%	12.21	-22%
2003	6.30	6.64	-5%	7.87	-20%
2014	4.37	4.62	-5%	5.53	-21%
2030	3.86	3.96	-3%	3.93	-2%

Rates are per \$100 of payroll unless otherwise noted.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
2063	4.07	3.93	4%	4.43	-8%
2081	11.99	10.10	19%	11.35	6%
2095	7.24	9.00	-20%	10.20	-29%
2102	4.99	4.47	12%	5.49	-9%
2107	4.12	4.37	-6%	5.57	-26%
2108	5.91	5.81	2%	6.95	-15%
2109	4.36	4.89	-11%	5.86	-26%
2111	4.53	4.69	-3%	5.46	-17%
2113	8.03	9.20	-13%	11.11	-28%
2116	5.07	4.41	15%	5.27	-4%
2117	6.73	7.10	-5%	8.97	-25%
2121	2.99	3.40	-12%	3.70	-19%
2123	6.53	6.01	9%	7.10	-8%
2142	2.24	2.19	2%	2.60	-14%
2163	6.04	7.21	-16%	6.72	-10%
2211	10.84	12.85	-16%	16.14	-33%
2222	5.36	6.25	-14%	7.66	-30%
2362	16.81	14.83	13%	19.57	-14%
2402	7.65	6.62	16%	8.03	-5%
2413	4.80	4.65	3%	5.56	-14%
2501	7.69	6.86	12%	8.46	-9%
2570	10.96	12.27	-11%	13.74	-20%
2571	8.75	8.96	-2%	10.70	-18%
2576	5.58	5.88	-5%	7.78	-28%
2584	6.08	6.39	-5%	8.32	-27%
2585	7.94	8.29	-4%	9.14	-13%
2589	4.64	4.83	-4%	5.70	-19%
2660	9.07	9.03	0%	10.96	-17%
2683	5.49	5.17	6%	6.29	-13%
2688	5.61	5.11	10%	5.20	8%
2702	20.10	21.40	-6%	30.01	-33%
2710	6.47	6.56	-1%	8.77	-26%
2727	9.98	12.64	-21%	18.44	-46%
2731	4.67	4.76	-2%	6.28	-26%
2757	8.98	9.87	-9%	11.83	-24%
2759	7.21	7.51	-4%	9.12	-21%
2790	2.01	2.13	-6%	2.63	-24%
2797	8.11	8.91	-9%	9.51	-15%
2806	5.73	7.05	-19%	8.75	-35%
2812	5.82	6.91	-16%	8.50	-32%
2819	8.41	8.87	-5%	9.61	-12%
2840	4.40	5.38	-18%	5.98	-26%
2842	7.17	8.56	-16%	9.79	-27%
2852	6.18	6.20	0%	7.44	-17%
2881	7.29	7.95	-8%	9.38	-22%

Rates are per \$100 of payroll unless otherwise noted.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
2883	13.39	12.03	11%	15.14	-12%
2915	6.12	6.70	-9%	8.90	-31%
2923	4.01	4.51	-11%	5.44	-26%
3018	2.79	2.47	13%	2.79	0%
3022	4.84	4.75	2%	5.68	-15%
3030	7.45	8.01	-7%	10.12	-26%
3039	5.71	6.33	-10%	7.74	-26%
3040	7.23	7.76	-7%	10.17	-29%
3060	6.57	6.43	2%	7.48	-12%
3066	4.21	4.07	3%	4.96	-15%
3070	0.32	0.33	-3%	0.34	-6%
3076	5.16	5.66	-9%	7.27	-29%
3081	8.21	9.23	-11%	9.31	-12%
3082	14.86	15.40	-4%	18.34	-19%
3085	8.30	8.11	2%	10.09	-18%
3099	3.69	3.75	-2%	4.76	-22%
3110	6.11	5.88	4%	6.19	-1%
3131	4.38	4.57	-4%	5.54	-21%
3146	3.17	3.27	-3%	3.99	-21%
3152	3.42	3.36	2%	3.38	1%
3165	4.08	3.96	3%	4.75	-14%
3169	3.88	4.16	-7%	5.44	-29%
3175	3.51	3.58	-2%	5.00	-30%
3178	2.24	2.41	-7%	2.62	-15%
3179	3.29	3.07	7%	3.46	-5%
3180	5.95	6.29	-5%	7.88	-24%
3220	2.58	2.92	-12%	3.94	-35%
3241	3.49	3.42	2%	4.34	-20%
3257	4.88	5.14	-5%	6.75	-28%
3339	6.92	6.94	0%	7.73	-10%
3365	4.20	4.89	-14%	6.61	-36%
3372	4.93	4.89	1%	6.09	-19%
3383	3.28	3.00	9%	3.75	-13%
3400	6.82	6.60	3%	8.23	-17%
3401	4.52	5.29	-15%	6.38	-29%
3501	5.95	6.23	-4%	7.06	-16%
3507	4.20	4.27	-2%	5.40	-22%
3560	3.17	3.27	-3%	4.14	-23%
3568	2.80	2.54	10%	3.11	-10%
3569	1.85	2.14	-14%	2.82	-34%
3570	4.11	4.24	-3%	4.83	-15%
3572	0.96	0.89	8%	1.03	-7%
3573	1.35	1.47	-8%	1.71	-21%
3574	3.88	4.47	-13%	4.86	-20%
3577	1.34	1.46	-8%	1.73	-23%

Rates are per \$100 of payroll unless otherwise noted.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
3612	3.01	3.07	-2%	3.74	-20%
3620	6.44	7.23	-11%	9.00	-28%
3632	2.97	3.12	-5%	3.74	-21%
3634	3.00	2.97	1%	3.74	-20%
3643	2.81	3.19	-12%	4.00	-30%
3647	5.66	5.83	-3%	5.17	9%
3651	2.61	2.49	5%	2.97	-12%
3681	0.78	0.78	0%	0.90	-13%
3682	1.24	1.20	3%	1.38	-10%
3683	2.18	3.06	-29%	3.20	-32%
3719	1.72	1.79	-4%	1.67	3%
3724	3.85	3.99	-4%	5.01	-23%
3726	3.00	3.50	-14%	4.31	-30%
3805	0.93	0.96	-3%	0.93	0%
3808	5.14	4.33	19%	4.45	16%
3815	5.15	5.52	-7%	6.55	-21%
3821	8.15	9.54	-15%	9.44	-14%
3828	3.25	3.49	-7%	4.49	-28%
3830	1.77	2.49	-29%	3.00	-41%
3831	3.12	3.34	-7%	3.19	-2%
3840	4.29	4.41	-3%	5.44	-21%
4000	2.63	2.89	-9%	3.46	-24%
4034	5.63	6.29	-10%	7.18	-22%
4036	4.83	4.95	-2%	5.77	-16%
4038	5.82	5.77	1%	7.00	-17%
4041	3.92	4.63	-15%	4.60	-15%
4049	3.51	4.11	-15%	4.76	-26%
4111	2.65	2.66	0%	3.19	-17%
4112	0.52	0.52	0%	0.63	-17%
4114	3.01	3.42	-12%	4.41	-32%
4130	5.90	7.19	-18%	7.99	-26%
4150	2.85	3.48	-18%	3.93	-27%
4239	3.25	4.08	-20%	4.73	-31%
4240	8.43	7.85	7%	7.44	13%
4243	3.63	4.02	-10%	4.49	-19%
4244	5.06	4.82	5%	5.57	-9%
4250	4.16	4.00	4%	4.89	-15%
4251	4.45	5.02	-11%	5.36	-17%
4279	5.52	6.07	-9%	7.33	-25%
4283	3.40	3.50	-3%	3.86	-12%
4286	6.52	7.14	-9%	7.78	-16%
4295	6.17	6.16	0%	7.87	-22%
4297	0.23	0.22	5%	0.27	-15%
4299	3.89	4.24	-8%	5.09	-24%
4304	6.61	6.49	2%	7.52	-12%

Rates are per \$100 of payroll unless otherwise noted.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
4312	3.57	3.53	1%	4.69	-24%
4351	2.82	2.75	3%	3.13	-10%
4354	2.49	2.41	3%	3.01	-17%
4361	2.20	2.10	5%	2.43	-9%
4362	1.62	1.73	-6%	1.84	-12%
4410	6.89	7.33	-6%	8.83	-22%
4420	8.10	7.95	2%	10.26	-21%
4432	2.66	2.57	4%	3.26	-18%
4470	2.18	2.71	-20%	3.37	-35%
4478	5.70	5.95	-4%	6.71	-15%
4492	5.83	5.86	-1%	7.44	-22%
4494	6.41	6.31	2%	7.58	-15%
4495	4.27	4.48	-5%	5.33	-20%
4496	6.39	6.85	-7%	8.28	-23%
4497	4.69	4.80	-2%	5.70	-18%
4498	4.56	5.15	-11%	6.18	-26%
4499	7.31	6.44	14%	7.91	-8%
4511	0.53	0.61	-13%	0.74	-28%
4512	0.25	0.27	-7%	0.30	-17%
4557	3.29	3.49	-6%	4.06	-19%
4558	3.10	3.33	-7%	3.88	-20%
4611	1.26	1.46	-14%	1.67	-25%
4623	6.84	7.38	-7%	8.86	-23%
4635	2.71	2.76	-2%	2.42	12%
4665	6.24	5.99	4%	7.35	-15%
4683	4.77	5.14	-7%	5.72	-17%
4691	1.97	2.28	-14%	2.91	-32%
4692	1.52	1.57	-3%	1.77	-14%
4717	3.59	3.44	4%	4.53	-21%
4720	3.49	3.45	1%	3.90	-11%
4740	1.10	1.10	0%	1.02	8%
4771	1.53	1.47	4%	1.54	-1%
4828	3.04	2.90	5%	3.13	-3%
4829	1.64	2.12	-23%	2.55	-36%
4831	4.65	5.30	-12%	6.65	-30%
4983	3.64	3.99	-9%	4.56	-20%
5020	3.91	4.38	-11%	5.98	-35%
5027	10.84	12.68	-15%	16.62	-35%
5028	4.77	5.20	-8%	6.97	-32%
5029	5.22	4.90	7%	6.22	-16%
5040	9.50	10.08	-6%	12.24	-22%
5057	5.98	6.33	-6%	8.05	-26%
5059	9.69	9.47	2%	12.95	-25%
5102	7.28	7.29	0%	9.43	-23%
5107	4.58	5.79	-21%	7.70	-41%

Rates are per \$100 of payroll unless otherwise noted.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
5108	9.46	9.65	-2%	12.24	-23%
5128	1.41	1.50	-6%	1.82	-23%
5129*	0.73	0.84	-13%	N/A	N/A
5130*	0.98	1.08	-9%	N/A	N/A
5140	1.79	1.88	-5%	2.54	-30%
5146	4.76	5.12	-7%	6.69	-29%
5160	1.94	1.87	4%	2.00	-3%
5183	5.53	5.76	-4%	7.58	-27%
5184	2.56	2.89	-11%	3.38	-24%
5185	5.45	6.39	-15%	8.12	-33%
5186	2.25	2.15	5%	2.80	-20%
5187	2.68	2.88	-7%	3.89	-31%
5190	4.30	4.24	1%	5.72	-25%
5191	2.56	2.56	0%	2.92	-12%
5192	4.05	4.27	-5%	4.03	0%
5193*	1.45	1.55	-6%	N/A	N/A
5195	3.33	4.08	-18%	5.97	-44%
5201	7.22	7.46	-3%	9.87	-27%
5205	4.90	5.13	-4%	6.88	-29%
5212	6.54	6.68	-2%	8.52	-23%
5213	4.57	4.90	-7%	6.51	-30%
5214	4.59	4.65	-1%	6.23	-26%
5222	5.18	5.20	0%	6.00	-14%
5225	5.11	5.45	-6%	6.84	-25%
5348	4.56	4.80	-5%	6.27	-27%
5403	12.05	13.04	-8%	16.70	-28%
5432	4.42	4.74	-7%	6.52	-32%
5436	4.05	4.40	-8%	6.70	-40%
5443	5.02	5.92	-15%	7.27	-31%
5446	5.62	6.79	-17%	8.71	-35%
5447	3.02	3.39	-11%	4.56	-34%
5467	9.04	9.21	-2%	12.60	-28%
5470	3.49	3.18	10%	4.26	-18%
5473	10.66	11.57	-8%	14.77	-28%
5474	8.15	8.67	-6%	11.53	-29%
5479	5.23	5.78	-10%	7.00	-25%
5482	3.56	4.07	-13%	5.59	-36%
5484	9.56	12.25	-22%	15.72	-39%
5485	6.67	7.25	-8%	9.13	-27%
5506	4.90	5.35	-8%	7.34	-33%
5507	4.75	4.60	3%	6.03	-21%
5538	5.10	5.70	-11%	7.55	-32%
5542	3.18	3.30	-4%	4.30	-26%
5552	25.24	26.15	-3%	36.14	-30%
5553	8.81	10.10	-13%	14.42	-39%

Rates are per \$100 of payroll unless otherwise noted.

\* This classification is recently established and there is no reported payroll available yet to derive an industry average filed pure premium rate.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
5606	0.78	0.74	5%	0.96	-19%
5610	3.64	3.58	2%	4.88	-25%
5632	12.05	13.04	-8%	17.13	-30%
5633	4.42	4.74	-7%	6.26	-29%
5650	5.83	6.86	-15%	8.63	-32%
5951	0.65	0.69	-6%	0.78	-17%
6003	14.86	12.64	18%	15.81	-6%
6011	6.29	6.76	-7%	7.87	-20%
6204	7.78	8.94	-13%	11.40	-32%
6206	2.24	2.63	-15%	3.08	-27%
6213	1.82	2.07	-12%	2.45	-26%
6216	2.87	3.12	-8%	4.17	-31%
6218	5.34	5.57	-4%	7.55	-29%
6220	3.14	3.88	-19%	5.43	-42%
6233	2.02	1.93	5%	2.39	-15%
6235	3.23	3.33	-3%	4.15	-22%
6237	1.54	1.54	0%	2.01	-23%
6251	5.10	5.23	-2%	5.89	-13%
6258	6.00	6.17	-3%	7.53	-20%
6307	8.04	7.97	1%	10.98	-27%
6308	3.87	5.03	-23%	7.26	-47%
6315	4.31	5.46	-21%	6.68	-35%
6316	4.95	5.51	-10%	7.36	-33%
6325	3.07	3.48	-12%	4.77	-36%
6361	4.54	4.73	-4%	6.36	-29%
6364	5.53	5.65	-2%	7.35	-25%
6400	5.60	6.37	-12%	8.67	-35%
6504	6.31	7.10	-11%	8.60	-27%
6834	4.71	4.39	7%	5.90	-20%
7133	3.42	3.90	-12%	4.91	-30%
7198	7.11	6.61	8%	4.86	46%
7207	7.33	7.48	-2%	11.29	-35%
7219	7.36	7.85	-6%	8.87	-17%
7227	7.24	8.27	-12%	10.05	-28%
7232	9.54	11.91	-20%	14.54	-34%
7248	1.26	1.36	-7%	1.68	-25%
7272	6.21	5.65	10%	8.19	-24%
7332	3.53	3.38	4%	3.53	0%
7360	5.79	6.35	-9%	7.41	-22%
7365	5.82	6.18	-6%	7.97	-27%
7382	6.93	7.42	-7%	7.58	-9%
7392	4.77	4.99	-4%	6.38	-25%
7403	6.09	7.35	-17%	6.57	-7%
7405	1.71	1.81	-6%	1.73	-1%
7409	6.80	6.65	2%	9.70	-30%

Rates are per \$100 of payroll unless otherwise noted.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
7410	4.34	4.35	0%	6.39	-32%
7421	1.48	1.25	18%	1.34	10%
7424	1.77	1.68	5%	1.94	-9%
7428	3.44	3.30	4%	4.02	-14%
7429	2.38	2.69	-12%	3.33	-29%
7500	3.05	2.64	16%	3.36	-9%
7515	0.93	1.03	-10%	1.11	-16%
7520	3.05	2.64	16%	3.47	-12%
7538	3.35	3.76	-11%	4.47	-25%
7539	1.47	1.56	-6%	1.72	-15%
7580	2.82	2.75	3%	3.23	-13%
7600	6.83	6.55	4%	6.94	-2%
7601	4.14	5.31	-22%	4.84	-14%
7605	2.98	3.15	-5%	4.12	-28%
7607 †	0.34	0.30	13%	0.38	-9%
7610	0.43	0.39	10%	0.49	-12%
7706	5.06	5.31	-5%	8.22	-38%
7707**	265.12	317.66	-17%	512.72	-48%
7720	2.68	2.79	-4%	2.88	-7%
7721	3.28	3.41	-4%	4.49	-27%
7722 ‡	123.81	143.56	-14%	N/A	N/A
7855	3.38	3.51	-4%	4.32	-22%
8001	4.76	5.27	-10%	6.42	-26%
8004	3.73	3.67	2%	4.67	-20%
8006	3.75	3.76	0%	4.28	-12%
8008	2.38	2.47	-4%	2.77	-14%
8010*	3.08	N/A	N/A	N/A	N/A
8013	1.35	1.42	-5%	1.74	-22%
8015	3.86	4.40	-12%	5.80	-33%
8017	3.11	3.13	-1%	3.30	-6%
8018	5.35	5.16	4%	5.99	-11%
8019	2.01	1.92	5%	2.10	-4%
8021	7.88	8.22	-4%	9.81	-20%
8028	4.13	4.46	-7%	5.36	-23%
8031	4.98	5.00	0%	6.14	-19%
8032	5.30	5.82	-9%	7.30	-27%
8039	2.27	2.52	-10%	2.47	-8%
8041	7.31	7.40	-1%	8.74	-16%
8042	3.06	3.02	1%	3.94	-22%
8046	3.69	3.57	3%	3.93	-6%

Rates are per \$100 of payroll unless otherwise noted.

\* This classification is recently established and there is no reported payroll available yet to derive an industry average filed pure premium rate.

\*\* The rate for classification 7707 is per capita.

† To be comparable to the proposed rates in Column (1), the rates in Columns (2) and (4) for this classification have been adjusted to reflect payroll limitations on this classification adopted to be effective January 1, 2020.

‡ The rate for classification 7722 is per capita; this classification does not have sufficient exposure available to derive an industry average filed pure premium rate.



**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

<u>Class Code</u>	<u>(1) Proposed January 1, 2020 Advisory Pure Premium Rates</u>	<u>(2) Approved January 1, 2019 Advisory Pure Premium Rates</u>	<u>(3) Difference Between Proposed 1/1/20 APPR &amp; Approved 1/1/19 APPR (1)/(2)-1</u>	<u>(4) Industry Average Filed Pure Premium Rates as of July 1, 2019</u>	<u>(5) Difference Between Proposed 1/1/20 APPR &amp; Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1</u>
8057	4.83	6.02	-20%	7.27	-34%
8059	3.34	3.82	-13%	4.76	-30%
8060	1.83	2.04	-10%	2.49	-27%
8061	3.21	3.05	5%	3.17	1%
8062	1.20	1.40	-14%	1.53	-22%
8063	3.28	3.13	5%	3.69	-11%
8064	3.83	3.61	6%	3.77	2%
8065	2.18	2.68	-19%	3.20	-32%
8066	1.18	1.15	3%	1.36	-13%
8071	1.31	1.51	-13%	1.54	-15%
8078	1.72	2.14	-20%	2.43	-29%
8102	1.36	1.34	1%	1.55	-12%
8106	6.08	6.63	-8%	8.05	-24%
8107	2.37	2.55	-7%	2.98	-20%
8110	2.13	1.80	18%	2.11	1%
8116	3.07	3.10	-1%	3.78	-19%
8117	4.13	4.51	-8%	5.13	-19%
8209	5.81	6.29	-8%	7.68	-24%
8215	7.31	7.22	1%	9.35	-22%
8227	4.63	4.99	-7%	6.46	-28%
8232	6.15	5.97	3%	7.20	-15%
8267	6.94	6.54	6%	8.40	-17%
8278***	117.61	106.32	11%	172.00	-32%
8286	5.49	5.60	-2%	7.98	-31%
8290	2.81	2.89	-3%	3.50	-20%
8291	4.36	4.74	-8%	5.37	-19%
8292	8.42	9.36	-10%	10.14	-17%
8293	9.65	10.21	-5%	13.53	-29%
8304	7.26	8.03	-10%	10.53	-31%
8324	3.43	3.56	-4%	4.09	-16%
8350	4.68	4.96	-6%	5.63	-17%
8370*	2.86	2.87	0%	N/A	N/A
8387	3.77	4.16	-9%	5.01	-25%
8388	4.95	5.39	-8%	6.43	-23%
8389	3.55	3.93	-10%	4.49	-21%
8390	3.41	4.42	-23%	5.37	-36%
8391	2.88	3.00	-4%	3.25	-11%
8392	3.25	3.82	-15%	4.54	-28%
8393	2.59	2.97	-13%	3.57	-27%
8397	3.17	3.78	-16%	4.77	-34%
8400	2.14	2.14	0%	2.66	-20%
8500	6.63	7.50	-12%	8.81	-25%
8601	0.28	0.29	-3%	0.37	-24%
8631***	3.53	3.92	-10%	6.38	-45%
8720	1.26	1.36	-7%	1.87	-33%

Rates are per \$100 of payroll unless otherwise noted.

\* This classification is recently established and there is no reported payroll available yet to derive an industry average filed pure premium rate.

\*\*\* The rate for classification 8278 is per race. The rate for classification 8631 is per occupied stall day effective January 1, 2016.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

Class Code	(1) Proposed January 1, 2020 Advisory Pure Premium Rates	(2) Approved January 1, 2019 Advisory Pure Premium Rates	(3) Difference Between Proposed 1/1/20 APPR & Approved 1/1/19 APPR (1)/(2)-1	(4) Industry Average Filed Pure Premium Rates as of July 1, 2019	(5) Difference Between Proposed 1/1/20 APPR & Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1
8729	1.03	1.27	-19%	2.09	-51%
8740	1.05	1.35	-22%	1.70	-38%
8741	0.10	0.13	-23%	0.17	-41%
8742	0.34	0.38	-11%	0.47	-28%
8743 †	0.22	0.20	12%	0.25	-13%
8744*	0.34	0.38	-11%	N/A	N/A
8745	7.46	7.85	-5%	8.53	-13%
8746*	0.34	0.38	-11%	N/A	N/A
8748	0.83	0.81	2%	1.08	-23%
8749	0.22	0.24	-8%	0.33	-33%
8755	0.85	1.03	-17%	1.44	-41%
8800	3.01	3.19	-6%	3.71	-19%
8801	0.63	0.67	-6%	0.86	-27%
8803 †	0.13	0.14	-4%	0.16	-19%
8804	2.89	3.14	-8%	4.11	-30%
8806	4.43	5.04	-12%	5.95	-26%
8807	0.30	0.29	3%	0.36	-17%
8808	0.39	0.45	-13%	0.48	-19%
8810	0.24	0.27	-11%	0.33	-27%
8811*	0.24	0.27	-11%	N/A	N/A
8812*	0.24	0.27	-11%	N/A	N/A
8813	0.56	0.57	-2%	0.67	-16%
8818	0.69	0.67	3%	0.77	-10%
8820 †	0.42	0.45	-6%	0.51	-17%
8821	0.95	1.13	-16%	1.46	-35%
8822	0.50	0.56	-11%	0.60	-17%
8823	3.83	3.87	-1%	4.99	-23%
8827	4.10	4.18	-2%	5.05	-19%
8829	3.83	4.21	-9%	4.89	-22%
8830	1.40	1.44	-3%	1.79	-22%
8831	1.51	1.83	-17%	2.47	-39%
8834	0.77	0.83	-7%	0.98	-21%
8838	1.07	1.02	5%	1.38	-22%
8839	0.80	0.88	-9%	1.07	-25%
8840	0.40	0.42	-5%	0.42	-5%
8846	1.73	1.65	5%	2.05	-16%
8847	8.42	9.03	-7%	11.26	-25%
8850	2.49	2.90	-14%	3.72	-33%
8851	3.36	3.91	-14%	4.34	-23%
8852	2.19	2.58	-15%	3.12	-30%
8859 †	0.06	0.07	-12%	0.07	-12%
8868	0.69	0.70	-1%	0.89	-22%
8870*	0.98	1.06	-8%	N/A	N/A
8875	0.77	0.83	-7%	1.07	-28%
9007	3.05	3.00	2%	3.98	-23%

Rates are per \$100 of payroll unless otherwise noted.

\* This classification is recently established and there is no reported payroll available yet to derive an industry average filed pure premium rate.

† To be comparable to the proposed rates in Column (1), the rates in Columns (2) and (4) for this classification have been adjusted to reflect payroll limitations on this classification adopted to be effective January 1, 2020.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

<u>Class Code</u>	<u>(1) Proposed January 1, 2020 Advisory Pure Premium Rates</u>	<u>(2) Approved January 1, 2019 Advisory Pure Premium Rates</u>	<u>(3) Difference Between Proposed 1/1/20 APPR &amp; Approved 1/1/19 APPR (1)/(2)-1</u>	<u>(4) Industry Average Filed Pure Premium Rates as of July 1, 2019</u>	<u>(5) Difference Between Proposed 1/1/20 APPR &amp; Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1</u>
9008	9.05	9.16	-1%	10.73	-16%
9009	3.37	4.03	-16%	4.82	-30%
9010	4.36	4.16	5%	5.54	-21%
9011	3.75	4.33	-13%	5.34	-30%
9015	4.41	5.16	-15%	6.39	-31%
9016	3.22	3.71	-13%	4.62	-30%
9031	3.81	4.22	-10%	5.35	-29%
9033	4.31	4.57	-6%	5.98	-28%
9043	1.40	1.44	-3%	1.54	-9%
9048	3.05	2.99	2%	3.84	-21%
9050	6.92	7.14	-3%	8.04	-14%
9053	1.66	1.98	-16%	2.53	-34%
9054*	5.01	4.23	18%	N/A	N/A
9059	2.24	2.31	-3%	2.84	-21%
9060	3.88	3.67	6%	4.48	-13%
9061	2.82	2.96	-5%	3.74	-25%
9066	3.22	3.39	-5%	4.11	-22%
9067	1.74	1.70	2%	2.30	-24%
9069	4.72	4.32	9%	5.01	-6%
9070	5.91	5.57	6%	6.48	-9%
9079	3.00	3.09	-3%	3.64	-18%
9085	3.11	3.70	-16%	4.57	-32%
9092	2.18	2.19	0%	2.94	-26%
9095	3.92	4.36	-10%	6.18	-37%
9096	12.50	13.59	-8%	16.08	-22%
9097	3.75	3.94	-5%	5.15	-27%
9101	4.89	5.40	-9%	6.57	-26%
9151	0.78	0.77	1%	1.05	-26%
9154	2.36	2.33	1%	2.94	-20%
9155	1.28	1.42	-10%	1.75	-27%
9156	4.94	5.25	-6%	6.58	-25%
9180	2.83	2.70	5%	3.61	-22%
9181	10.86	10.44	4%	11.98	-9%
9182	1.33	1.37	-3%	1.75	-24%
9184	8.73	7.37	18%	10.77	-19%
9185	14.96	18.65	-20%	26.29	-43%
9220	5.83	6.18	-6%	7.63	-24%
9402	4.12	4.57	-10%	5.67	-27%
9403	6.85	7.28	-6%	7.36	-7%
9410	1.35	1.47	-8%	2.17	-38%
9420	6.34	6.33	0%	8.50	-25%
9422	1.64	1.87	-12%	2.03	-19%
9424	5.96	6.57	-9%	7.19	-17%
9426	5.38	5.67	-5%	7.65	-30%
9501	4.13	4.27	-3%	5.27	-22%

Rates are per \$100 of payroll unless otherwise noted.

\* This classification is recently established and there is no reported payroll available yet to derive an industry average filed pure premium rate.

**Comparison of Proposed January 1, 2020 Advisory Pure Premium Rates with Approved January 1, 2019  
Advisory Pure Premium Rates and Industry Average Filed Pure Premium Rates as of July 1, 2019 (continued)**

<u>Class Code</u>	<u>(1) Proposed January 1, 2020 Advisory Pure Premium Rates</u>	<u>(2) Approved January 1, 2019 Advisory Pure Premium Rates</u>	<u>(3) Difference Between Proposed 1/1/20 APPR &amp; Approved 1/1/19 APPR (1)/(2)-1</u>	<u>(4) Industry Average Filed Pure Premium Rates as of July 1, 2019</u>	<u>(5) Difference Between Proposed 1/1/20 APPR &amp; Industry Avg Filed PPR as of 7/1/19 (1)/(4)-1</u>
9507	2.37	2.52	-6%	3.48	-32%
9516	2.22	2.27	-2%	3.04	-27%
9519	6.87	7.19	-4%	8.53	-19%
9521	4.44	5.63	-21%	7.32	-39%
9522	7.59	7.82	-3%	9.45	-20%
9529	5.58	5.17	8%	6.65	-16%
9531*	2.77	2.85	-3%	N/A	N/A
9549	8.50	7.35	16%	8.99	-5%
9552	8.40	9.65	-13%	12.27	-32%
9586	1.53	1.61	-5%	2.07	-26%
9610	1.39	1.34	4%	1.65	-16%
9620	2.97	3.48	-15%	4.01	-26%

Rates are per \$100 of payroll unless otherwise noted.

\* This classification is recently established and there is no reported payroll available yet to derive an industry average filed pure premium rate.

**Projected Policy Year 2020 Loss Ratios  
Based on Alternative Loss Development Methodologies**

<b>January 1, 2020 Filing Loss Development Methodology</b>	<b>Indemnity Loss Ratio</b>	<b>Medical Loss Ratio</b>	<b>Total Loss Ratio</b>
Latest Year Paid Adjusted for SB 1160, Recent Pharmaceutical Cost Declines, and Changes in Claim Settlement Rates	<b>0.257</b>	<b>0.326</b>	<b>0.583</b>

<b>Alternative Loss Development Methodologies<sup>1</sup></b>	<b>Indemnity Loss Ratio</b>	<b>Medical Loss Ratio</b>	<b>Total Loss Ratio</b>
<b><u>Incurred Loss Development Methodologies</u></b>			
Three-Year Average (Unadjusted)	0.262	0.300	0.562
Latest Year (Unadjusted)	0.254	0.284	0.538
Three-Year Average Adjusted for Changes in Average Case Reserve Levels	0.257	0.300	0.557
Latest Year Adjusted for Changes in Insurer Mix	0.253	0.280	0.533
<b><u>Paid Loss Development Methodologies</u></b>			
Three-Year Average (Unadjusted)	0.286	0.363	0.649
Latest Year (Unadjusted)	0.273	0.340	0.613
Latest Year Adjusted for SB 1160 and Recent Pharmaceutical Cost Declines	—	0.342	—
Latest Year Adjusted for SB 1160 and Changes in Claim Settlement Rates <sup>2</sup>	—	0.316	—
3-Year Average Adjusted for SB 1160, Recent Pharmaceutical Cost Declines, and Changes in Claim Settlement Rates	0.267	0.345	0.612
Latest Year Adjusted for Changes in Insurer Mix	0.269	0.333	0.602
BF Paid to 27 Months; Latest Year SB 1160, Pharmaceutical Cost, and Claim Settlement Rate-Adjusted after 27 Months	0.255	0.324	0.579

<sup>1</sup> All loss development methodologies reflect a three-year average of paid loss development or a six-year average of incurred loss development applied from 111 months through 255 months and a six-year average of incurred loss development applied after 255 months as in the WCIRB's recommended methodology.

<sup>2</sup> Does not reflect any adjustment for the recent declines in pharmaceutical costs.

**Projected Policy Year 2020 Loss Ratios  
Based on Alternative Trending Methodologies**

<b>January 1, 2020 Filing Trending Methodology</b>	<b>Indemnity Loss Ratio</b>	<b>Medical Loss Ratio</b>	<b>Total Loss Ratio</b>
Separate Projections of Frequency and Severity, Using -0.5% Indemnity and 2.5% Medical Severity Trends, Applied to the Latest Two Years	<b>0.257</b>	<b>0.326</b>	<b>0.583</b>

<b>Alternative Trending Methodologies</b>	<b>Indemnity Loss Ratio</b>	<b>Medical Loss Ratio</b>	<b>Total Loss Ratio</b>
Separate Projections of Frequency and Severity, Using -0.5% Indemnity and 2.5% Medical Severity Trends, Applied to the Latest Year	0.259	0.326	0.585
Separate Projections of Frequency and Long-Term (1990 to 2018) Severity Applied to the Latest Two Years	0.272	0.359	0.631
Separate Projections of Frequency and Short-Term (2014 to 2018) Severity Applied to the Latest Two Years	0.252	0.306	0.558
Separate Projections of Frequency and Severity, Using -1% Indemnity and 1.5% Medical Severity, Applied to the Latest Two Years	0.254	0.317	0.571
Post-1990 On-Level Loss Ratio Exponential Trend Applied to Latest Two Years	0.274	0.356	0.630
2014 to 2018 On-Level Loss Ratio Exponential Trend Applied to Latest Two Years	0.247	0.306	0.553

## Policy Year 2020 ULAE to Loss Ratio Projections

<b>January 1, 2020 Filing ULAE Projection Methodology</b>	<b>Ratio of ULAE to Loss Based on Statewide with Private Insurer Average ULAE</b>
Paid ULAE per Open Indemnity Claim Applied to the Latest Two Years	15.6%
Paid ULAE to Paid Losses Applied to the Latest Two Years	13.8%
Average of Open Indemnity Claim-Based and Paid Loss-Based Projections	<b>14.7%</b>

<b>Alternative ULAE Projection Methodologies</b>	<b>Ratio of ULAE to Loss Based on Statewide with Private Insurer Average ULAE</b>
Paid ULAE per Open Indemnity Claim Applied to the Latest Year	15.7%
Paid ULAE to Paid Losses Applied to the Latest Year	13.9%
Paid ULAE per Weighted Open Indemnity Claim Applied to the Latest Two Years	15.1%
Latest Two Calendar Year Paid ULAE to Loss Ratios	14.6%
Latest Calendar Year Paid ULAE to Loss Ratio	14.8%

**Policy Year 2020 ALAE<sup>1</sup> to Loss Ratio Projections**

<b>January 1, 2020 Filing ALAE Projection Methodology</b>	<b>Ratio of ALAE to Loss Based on Statewide with Private Insurer Average ALAE</b>
Projected Ultimate ALAE per Indemnity Claim – Trend Based on Growth in ALAE per Indemnity Claim and WCIRB Selected Frequency Changes Applied to the Latest Two Years	<b>17.2%</b>

<b>Alternative ALAE Projection Methodologies</b>	<b>Ratio of ALAE to Loss Based on Statewide with Private Insurer Average ALAE</b>
Projected Ultimate ALAE per Indemnity Claim – Trend Applied to the Latest Year	18.0%
Latest Year Paid ALAE Ratio Development Compared to Losses – Projection Based on Latest Two Years	17.6%
Latest Year Paid ALAE to Paid Indemnity Development Compared to Losses – Projection Based on Latest Two Years	15.8%

**Policy Year 2020 M CCP Cost to Loss Ratio Projections**

<b>January 1, 2020 Filing M CCP Cost Projection Methodology</b>	<b>Statewide Ratio of M CCP to Loss</b>
Projected Ultimate M CCP per Indemnity Claim – WCIRB Selected Frequency Changes and 0% M CCP Severity Trend Applied to the Latest Two Years	<b>4.5%</b>

<b>Alternative M CCP Cost Projection Methodologies</b>	<b>Statewide Ratio of M CCP to Loss</b>
Projected Ultimate M CCP per Indemnity Claim – WCIRB Selected Frequency Changes and 0% M CCP Severity Trend Applied to the Latest Year	4.7%
Projected Ultimate M CCP per Indemnity Claim – WCIRB Selected Frequency Changes and Average Ultimate Accident Year M CCP Severity Trend (-2.1%) Applied to the Latest Two Years	4.2%
Projected Ultimate M CCP per Indemnity Claim – WCIRB Selected Frequency Changes and Average Calendar Year M CCP Severity Trend (1.9%) Applied to the Latest Two Years	4.7%

<sup>1</sup> Excludes the cost of medical cost containment programs (M CCP).



## Section A

### Proposed Pure Premium Rates

This section sets forth the calculation of the proposed pure premium rates applicable to workers' compensation policies with an effective date on or after January 1, 2020. The pure premium rates shown in this section are based on the "Selected (Unlimited) Loss to Payroll Ratio" or, if applicable, the "Selected Loss to Payroll Ratio (Restricted to 25% Change)" shown on the classification relativity review sheets that were included in Section C, Appendix C of the WCIRB's January 1, 2020 Regulatory Filing submitted on June 26, 2019 (2020 Regulatory Filing).

Specifically, in order to determine the proposed policy year 2020 pure premium rate for each classification, the selected loss to payroll ratios in Section C, Appendix C of the 2020 Regulatory Filing are adjusted to reflect (a) the overall indicated difference in the level of losses projected for 2020 policies relative to that reflected in the industry average filed pure premium rate level as of July 1, 2019 (as computed in Section B), segregated into its indemnity and medical components, (b) the inclusion of loss adjustment expenses (LAE) and (c) the impact of experience rating on pure premium.

The projected policy year 2020 indemnity loss factor of 0.957 is computed as the projected ratio of policy year 2020 indemnity losses to pure premium at the industry average filed pure premium rate level as of July 1, 2019 of 0.257 (see Section B, Exhibit 8, line 1) to the product of (a) the implied expected provision for indemnity losses in the January 1, 2019 advisory pure premium rates of 0.320<sup>1</sup> and (b) the ratio of the average January 1, 2019 advisory pure premium rate of \$1.67 per \$100 of payroll to the industry average filed pure premium rate as of July 1, 2019 of \$1.99 per \$100 of payroll. The projected policy year 2020 medical loss factor of 0.964 is computed as the projected ratio of policy year 2020 medical losses to pure premium at the industry average filed pure premium rate level as of July 1, 2019 of 0.326 (see Section B, Exhibit 8, line 1) to the product of (a) the implied expected provision for medical losses in the January 1, 2019 advisory pure premium rates of 0.403<sup>2</sup> and (b) the ratio of the average January 1, 2019 advisory pure premium rate of \$1.67 per \$100 of payroll to the industry average filed pure premium rate as of July 1, 2019 of \$1.99 of \$100 of payroll.

Shown below are the indemnity and medical composite factors, which are the projected indemnity and medical loss factors adjusted for the indicated policy year 2020 provision for loss adjustment expenses of 36.4% (see Section B, Appendix C) and the selected experience rating off-balance correction factor of 1.014 (see Section C, Appendix B of the 2020 Regulatory Filing).

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<sup>1</sup> This factor represents the loss provision in the January 1, 2019 advisory pure premium rates (i.e., 1/1.383) apportioned to indemnity based on the indemnity (0.442) and medical (0.558) split reflected in the overall selected 2020 loss to payroll ratios contained in Section C, Appendix C of the 2020 Regulatory Filing.

<sup>2</sup> This factor represents the loss provision in the January 1, 2019 advisory pure premium rates (i.e., 1/1.383) apportioned to medical based on the indemnity (0.442) and medical (0.558) split reflected in the overall selected 2020 loss to payroll ratios contained in Section C, Appendix C of the 2020 Regulatory Filing.

	<u>Indemnity</u>	<u>Medical</u>
(1) Projected Loss Factors		
(a) Projected Loss to Industry Average Filed Pure Premium Rate as of July 1, 2019	0.257	0.326
(b) Expected Loss Provision in January 1, 2019 Advisory Pure Premium Rates	0.320	0.403
(c) Ratio of Average January 1, 2019 Advisory Pure Premium Rate to Industry Average Filed Pure Premium Rate as of July 1, 2019 <sup>3</sup>	0.839	0.839
(d) Projected Loss Factors: [(a) / [(b) x (c)]]	<b>0.957</b>	<b>0.964</b>
(2) Loss Adjustment Expense Factor	<b>1.364</b>	<b>1.364</b>
(3) Experience Rating Off-Balance Factor	<b>1.014</b>	<b>1.014</b>
(4) Composite Factors: (1d) x (2) x (3)	<b>1.324</b>	<b>1.333</b>

In summary, the proposed January 1, 2020 pure premium rates contained in this section are calculated by (a) multiplying the indemnity component shown on the “Selected (Unlimited) Loss to Payroll Ratio” or, if applicable, the “Selected Loss to Payroll Ratio (Restricted to 25% Change)” line on the classification relativity review sheets contained in Section C, Appendix C of the 2020 Regulatory Filing by the indemnity composite factor of 1.324 shown above, (b) multiplying the medical component shown on the “Selected (Unlimited) Loss to Payroll Ratio” or, if applicable, the “Selected Loss to Payroll Ratio (Restricted to 25% Change)” line on the classification relativity review sheets contained in Section C, Appendix C of the 2020 Regulatory Filing by the medical composite factor of 1.333 shown above and (c) adding the resulting products.

For example, the proposed 2020 pure premium rate for Classification 4496, *Plastics – fabricated products mfg.*, of \$6.39 per \$100 of payroll is computed by multiplying the indemnity Selected (Unlimited) Loss to Payroll Ratio of 2.034 (see Section C, Appendix C of the 2020 Regulatory Filing) by the indemnity composite factor of 1.324 and adding that result to the product of the medical Selected (Unlimited) Loss to Payroll Ratio of 2.777 (Section C, Appendix C of the 2020 Regulatory Filing) and the medical composite factor of 1.333.

<sup>3</sup> The ratio of the average January 1, 2019 advisory pure premium rate of \$1.67 per \$100 of payroll to the industry average filed pure premium rate as of July 1, 2019 of \$1.99 of \$100 of payroll. These average pure premium rates both include adjustment for the impact of the payroll limitations for five classifications that were adopted to be effective January 1, 2020.

**Proposed January 1, 2020 Pure Premium Rates**  
**Effective January 1, 2020 on New and Renewal Policies**  
**Effective on or after January 1, 2020**

Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*
0005	5.52	2108	5.91	3030	7.45	3647	5.66	4410	6.89	5146	4.76	5951	0.65
0016	6.11	2109	4.36	3039	5.71	3651	2.61	4420	8.10	5160	1.94	6003	14.86
0034	6.36	2111	4.53	3040	7.23	3681	0.78	4432	2.66	5183	5.53	6011	6.29
0035	5.34	2113	8.03	3060	6.57	3682	1.24	4470	2.18	5184	2.56	6204	7.78
0036	7.37	2116	5.07	3066	4.21	3683	2.18	4478	5.70	5185	5.45	6206	2.24
0038	7.16	2117	6.73	3070	0.32	3719	1.72	4492	5.83	5186	2.25	6213	1.82
0040	3.85	2121	2.99	3076	5.16	3724	3.85	4494	6.41	5187	2.68	6216	2.87
0041	5.42	2123	6.53	3081	8.21	3726	3.00	4495	4.27	5190	4.30	6218	5.34
0042	5.61	2142	2.24	3082	14.86	3805	0.93	4496	6.39	5191	2.56	6220	3.14
0044	3.24	2163	6.04	3085	8.30	3808	5.14	4497	4.69	5192	4.05	6233	2.02
0045	3.79	2211	10.84	3099	3.69	3815	5.15	4498	4.56	5193	1.45	6235	3.23
0050	6.12	2222	5.36	3110	6.11	3821	8.15	4499	7.31	5195	3.33	6237	1.54
0079	3.64	2362	16.81	3131	4.38	3828	3.25	4511	0.53	5201	7.22	6251	5.10
0096	5.12	2402	7.65	3146	3.17	3830	1.77	4512	0.25	5205	4.90	6258	6.00
0106	10.54	2413	4.80	3152	3.42	3831	3.12	4557	3.29	5212	6.54	6307	8.04
0171	6.04	2501	7.69	3165	4.08	3840	4.29	4558	3.10	5213	4.57	6308	3.87
0172	4.26	2570	10.96	3169	3.88	4000	2.63	4611	1.26	5214	4.59	6315	4.31
0251	4.28	2571	8.75	3175	3.51	4034	5.63	4623	6.84	5222	5.18	6316	4.95
0400	2.48	2576	5.58	3178	2.24	4036	4.83	4635	2.71	5225	5.11	6325	3.07
0401	6.80	2584	6.08	3179	3.29	4038	5.82	4665	6.24	5348	4.56	6361	4.54
1122	3.22	2585	7.94	3180	5.95	4041	3.92	4683	4.77	5403	12.05	6364	5.53
1123	19.43	2589	4.64	3220	2.58	4049	3.51	4691	1.97	5432	4.42	6400	5.60
1124	5.41	2660	9.07	3241	3.49	4111	2.65	4692	1.52	5436	4.05	6504	6.31
1320	1.50	2683	5.49	3257	4.88	4112	0.52	4717	3.59	5443	5.02	6834	4.71
1322	3.33	2688	5.61	3339	6.92	4114	3.01	4720	3.49	5446	5.62	7133	3.42
1330	2.86	2702	20.10	3365	4.20	4130	5.90	4740	1.10	5447	3.02	7198	7.11
1438	4.54	2710	6.47	3372	4.93	4150	2.85	4771	1.53	5467	9.04	7207	7.33
1452	2.23	2727	9.98	3383	3.28	4239	3.25	4828	3.04	5470	3.49	7219	7.36
1463	3.04	2731	4.67	3400	6.82	4240	8.43	4829	1.64	5473	10.66	7227	7.24
1624	4.98	2757	8.98	3401	4.52	4243	3.63	4831	4.65	5474	8.15	7232	9.54
1699	2.33	2759	7.21	3501	5.95	4244	5.06	4983	3.64	5479	5.23	7248	1.26
1701	3.38	2790	2.01	3507	4.20	4250	4.16	5020	3.91	5482	3.56	7272	6.21
1710	4.43	2797	8.11	3560	3.17	4251	4.45	5027	10.84	5484	9.56	7332	3.53
1741	3.59	2806	5.73	3568	2.80	4279	5.52	5028	4.77	5485	6.67	7360	5.79
1803	8.82	2812	5.82	3569	1.85	4283	3.40	5029	5.22	5506	4.90	7365	5.82
1925	9.50	2819	8.41	3570	4.11	4286	6.52	5040	9.50	5507	4.75	7382	6.93
2002	9.51	2840	4.40	3572	0.96	4295	6.17	5057	5.98	5538	5.10	7392	4.77
2003	6.30	2842	7.17	3573	1.35	4297	0.23	5059	9.69	5542	3.18	7403	6.09
2014	4.37	2852	6.18	3574	3.88	4299	3.89	5102	7.28	5552	25.24	7405	1.71
2030	3.86	2881	7.29	3577	1.34	4304	6.61	5107	4.58	5553	8.81	7409	6.80
2063	4.07	2883	13.39	3612	3.01	4312	3.57	5108	9.46	5606	0.78	7410	4.34
2081	11.99	2915	6.12	3620	6.44	4351	2.82	5128	1.41	5610	3.64	7421	1.48
2095	7.24	2923	4.01	3632	2.97	4354	2.49	5129	0.73	5632	12.05	7424	1.77
2102	4.99	3018	2.79	3634	3.00	4361	2.20	5130	0.98	5633	4.42	7428	3.44
2107	4.12	3022	4.84	3643	2.81	4362	1.62	5140	1.79	5650	5.83	7429	2.38

\*Pure Premium Rates are per \$100 of payroll unless otherwise noted. Note that payroll limitations apply to Classifications 7607, 7610, 8743, 8803, 8820, 8859, 9151, 9156, 9181 and 9610. Refer to the classification phraseology in Part 3, Section VII of the *California Workers' Compensation Uniform Statistical Reporting Plan – 1995* for more information.

**Proposed January 1, 2020 Pure Premium Rates**  
**Effective January 1, 2020 on New and Renewal Policies**  
**Effective on or after January 1, 2020**  
(Continued)

Legend:

(A) See below

Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*	Class Code	P.P. Rate*
7500	3.05	8032	5.30	8291	4.36	8755	0.85	8859	0.06	9097	3.75	9610	1.39
7515	0.93	8039	2.27	8292	8.42	8800	3.01	8868	0.69	9101	4.89	9620	2.97
7520	3.05	8041	7.31	8293	9.65	8801	0.63	8870	0.98	9151	0.78		
7538	3.35	8042	3.06	8304	7.26	8803	0.13	8875	0.77	9154	2.36		
7539	1.47	8046	3.69	8324	3.43	8804	2.89	9007	3.05	9155	1.28		
7580	2.82	8057	4.83	8350	4.68	8806	4.43	9008	9.05	9156	4.94		
7600	6.83	8059	3.34	8370	2.86	8807	0.30	9009	3.37	9180	2.83		
7601	4.14	8060	1.83	8387	3.77	8808	0.39	9010	4.36	9181	10.86		
7605	2.98	8061	3.21	8388	4.95	8810	0.24	9011	3.75	9182	1.33		
7607	0.34	8062	1.20	8389	3.55	8811	0.24	9015	4.41	9184	8.73		
7610	0.43	8063	3.28	8390	3.41	8812	0.24	9016	3.22	9185	14.96		
7706	5.06	8064	3.83	8391	2.88	8813	0.56	9031	3.81	9220	5.83		
7707	(A)	8065	2.18	8392	3.25	8818	0.69	9033	4.31	9402	4.12		
7720	2.68	8066	1.18	8393	2.59	8820	0.42	9043	1.40	9403	6.85		
7721	3.28	8071	1.31	8397	3.17	8821	0.95	9048	3.05	9410	1.35		
7722	(A)	8078	1.72	8400	2.14	8822	0.50	9050	6.92	9420	6.34		
7855	3.38	8102	1.36	8500	6.63	8823	3.83	9053	1.66	9422	1.64		
8001	4.76	8106	6.08	8601	0.28	8827	4.10	9054	5.01	9424	5.96		
8004	3.73	8107	2.37	(A)	8829	3.83	9059	2.24	9426	5.38			
8006	3.75	8110	2.13	8720	1.26	8830	1.40	9060	3.88	9501	4.13		
8008	2.38	8116	3.07	8729	1.03	8831	1.51	9061	2.82	9507	2.37		
8010	3.08	8117	4.13	8740	1.05	8834	0.77	9066	3.22	9516	2.22		
8013	1.35	8209	5.81	8741	0.10	8838	1.07	9067	1.74	9519	6.87		
8015	3.86	8215	7.31	8742	0.34	8839	0.80	9069	4.72	9521	4.44		
8017	3.11	8227	4.63	8743	0.22	8840	0.40	9070	5.91	9522	7.59		
8018	5.35	8232	6.15	8744	0.34	8846	1.73	9079	3.00	9529	5.58		
8019	2.01	8267	6.94	8745	7.46	8847	8.42	9085	3.11	9531	2.77		
8021	7.88	8278	(A)	8746	0.34	8850	2.49	9092	2.18	9549	8.50		
8028	4.13	8286	5.49	8748	0.83	8851	3.36	9095	3.92	9552	8.40		
8031	4.98	8290	2.81	8749	0.22	8852	2.19	9096	12.50	9586	1.53		

Per Capita  
Classifications

Firefighters, Police, Police Deputies, etc.

Class Code	P.P. Rate*
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Firefighting Operations - volunteers

7707 265.12

Police, Sheriffs - volunteers

7722 123.81

Horse Racing  
Classifications

Horse Racing

Class Code	P.P. Rate*
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Jockeys or Harness Racing Drivers (per race)

8278 117.61

Racing Stables (per occupied stall day)

8631 3.53

\*Pure Premium Rates are per \$100 of payroll unless otherwise noted. Note that payroll limitations apply to Classifications 7607, 7610, 8743, 8803, 8820, 8859, 9151, 9156, 9181 and 9610. Refer to the classification phraseology in Part 3, Section VII of the *California Workers' Compensation Uniform Statistical Reporting Plan – 1995* for more information.

## Section B

## Computation of Indicated Average Pure Premium Rate for 2020 Policies

The projected policy year 2020 ratio of losses to premium at the industry average filed pure premium rate level as of July 1, 2019 based on experience through March 31, 2019 is 58.3%. The projected provision for loss adjustment expenses (LAE) is 36.4% of losses. In total, the projected loss and LAE as a percentage of premium at the industry average filed pure premium rate level as of July 1, 2019 is 79.5%. After reflecting a 0.3% indicated decrease in the experience rating off-balance correction factor for 2020, the result is an indicated -20.7% difference from the industry average filed pure premium rate as of July 1, 2019 of \$1.99 per \$100 of payroll.<sup>1</sup> The resulting indicated policy year 2020 average pure premium rate is \$1.58 per \$100 of payroll.

**Computation of Projected Loss to Pure Premium Ratio**

The projected policy year 2020 ratio of loss to premium at the industry average filed pure premium rate level as of July 1, 2019 of 58.3% has been derived based on the experience and actuarial methodologies described below.

**A. Calendar Accident Year Experience**

The projected loss to pure premium ratio is based on an evaluation of calendar and accident year experience through 2018, valued as of March 31, 2019. A summary of the 1986 through 2018 calendar year premiums and accident year losses is shown in Exhibit 1. The experience contained in this summary reflects the data reported by insurers representing approximately 100% of the California workers' compensation insurance market in 2018. (The March 31, 2019 experience of a number of insurers that were in liquidation by the first quarter of 2019 but may have written a significant portion of the market in prior years has not been reported to the WCIRB and is, therefore, not included in this analysis.)

Exhibit 1 shows the earned premium, the indemnity paid losses and case reserves, and the medical paid losses and case reserves as of March 31, 2019 for accident years 1986 through 2018. Beginning with policies incepting on or after July 1, 2010, the *California Workers' Compensation Uniform Statistical Reporting Plan—1995* requires that the cost of medical cost containment programs (MCCP) be reported as allocated loss adjustment expense (ALAE) rather than as medical loss. As a result, portions of accident year 2010 and accident year 2011 MCCP costs are reported in medical loss and portions are reported in ALAE. In order to provide for a consistent comparison across more recent accident years, as in prior pure premium rate filings, the paid medical losses shown in Exhibit 1 for accident year 2011 have been adjusted to exclude all MCCP paid costs including the portion of MCCP costs reported in medical losses.<sup>2</sup> The paid medical losses shown in Exhibit 1 for accident years 2010 and prior continue to include all MCCP costs including the MCCP costs for the 2010 accident year reported as ALAE.<sup>3</sup> (A discussion of the projection of policy year 2020 MCCP costs is included in Appendix C.)

Exhibit 1 also shows, for informational purposes, the incurred but not reported (IBNR) losses reported by insurers as of March 31, 2019, the total incurred losses including IBNR losses, and the total loss ratio reported for each accident year.

**B. Loss Development**

The indemnity and medical losses paid and incurred (paid plus case reserves) shown in Exhibit 1 for each accident year are valued as of March 31, 2019. However, the amount of losses reported for the accidents that occur in a particular year will change over time, and the final cost of these accidents will not be known for many years.

<sup>1</sup> This reflects adjustment for the impact of the payroll limitations that were approved to be effective January 1, 2020 for five classifications.

<sup>2</sup> The amount of MCCP paid costs estimated to be reported in medical losses and excluded from the paid medical amount shown in Exhibit 1 for accident year 2011 is \$41,333,191.

<sup>3</sup> The amount of MCCP paid costs reported as ALAE, but included in the paid medical amount for accident year 2010 is \$56,624,007.

In general, the pure premium rates are intended to reflect the estimated final, or ultimate, cost of losses and loss adjustment expenses on all accidents that will occur during the period that the rates will be in effect. Consequently, the losses reported for each historical accident year as of March 31, 2019 are adjusted, or developed, to reflect the estimated ultimate cost of all accidents that have occurred during that year.

The historical incurred age-to-age development factors for each annual evaluation period are shown in Exhibits 2.1.1 and 2.1.2 for indemnity and in Exhibits 2.2.1 and 2.2.2 for medical. The historical paid age-to-age development factors for each annual evaluation period are shown in Exhibits 2.3.1 and 2.3.2 for indemnity and Exhibits 2.4.1 and 2.4.2 for medical. These factors represent the historical year-to-year growth in the incurred and paid losses reported at consecutive March 31 evaluation periods.<sup>4</sup>

The methodologies used to develop each year's reported losses to its ultimate level in this pure premium rate filing are primarily based on paid loss development with adjustments for changes in claim settlement rates. Medical loss development is also adjusted for the impact of Senate Bill No. 1160 (SB 1160) and Assembly Bill No. 1244 (AB 1244) reforms related to liens and for sharp decreases in pharmaceutical costs since 2013. These methodologies, which are discussed in detail in Appendix A, are summarized below.

#### Indemnity Loss Development

For many years, the WCIRB has been projecting future indemnity loss development primarily based on the latest historical paid indemnity age-to-age loss development factors. Exhibits 2.3.1 and 2.3.2 show the historical annual paid indemnity loss development factors.

Changes in the rate claims are settled can affect paid loss development patterns. As shown in Appendix A, Exhibit 4.1, since the implementation of Senate Bill No. 863 (SB 863) in 2013 indemnity claim settlement rates in California have sharply accelerated. If no adjustment to loss development is made, projections of future loss development for more current accident years may be distorted. In 2017, the WCIRB conducted a retrospective study of the standard actuarial approach for adjusting paid loss development for changes in claim settlement rates and found that the methodology improved the accuracy of the projection during periods of significant claim settlement rate change.<sup>5</sup> As in the last several pure premium rate filings, the WCIRB believes adjusting for the continued significant increase in indemnity claim settlement rates will enhance the accuracy of the loss development projection. Exhibits 2.5.3 through 2.5.8 show the adjustment for changes in claim settlement rates applied to paid indemnity loss development through 75 months. (See Appendix A for a more complete discussion of this adjustment.)

In 2014, the WCIRB performed an analysis on the differences between paid and incurred loss development methodologies. This analysis showed that a significant shift occurred in the ratio of incurred losses to paid losses during the mid-1990s.<sup>6</sup> Further analysis showed there was a fundamental shift in the payment pattern in the mid-1990s, particularly for medical, following the 1996 Minniear<sup>7</sup> decision that dramatically slowed paid development. If no adjustment was made, use of paid loss development factors from accident years prior to the dramatic shift in paid development to project future development of later accident years may distort loss development projections and significantly understate projected future development. Since incurred development on these older claims, which reflects current insurer claim adjuster case estimates of claim costs, is much less affected by the post-Minniear payment pattern shift, the WCIRB is recommending, as in the last several pure premium rate filings, transitioning to incurred loss development at 255 months, which corresponds to development on 1998 and earlier accident years.

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<sup>4</sup> Incurred and paid medical loss development factors for accident years 2012 and later shown in Exhibits 2.2 and 2.4 do not include MCCP costs while, for consistency of comparison, medical loss development factors for accident years 2011 and prior continue to include all MCCP costs since these costs cannot be completely segregated from other medical costs.

<sup>5</sup> See Item AC17-03-03 of the March 21, 2017 WCIRB Actuarial Committee Agenda.

<sup>6</sup> See Item AC14-03-03 of the March 19, 2014 and June 11, 2014 WCIRB Actuarial Committee Agendas.

<sup>7</sup> Minniear v. Mount San Antonio Community College District (1996) 61 Cal. Comp. Cases 1055 (Appeals Board en banc opinion).

Exhibits 2.5.1 and 2.5.2 show the WCIRB's projected indemnity loss development factors. Indemnity development is based on the latest paid indemnity age-to-age development factor adjusted for changes in claim settlement rates through 75 months and the latest paid indemnity age-to-age development factor from 75 months through 111 months. Prior WCIRB studies have shown that loss development at later maturities can be more volatile than at earlier maturities and a longer-term average of age-to-age development factors reduces this volatility. As a result, the WCIRB has based the projected indemnity development from 111 months through 255 months on the average of the latest three paid indemnity age-to-age development factors. In addition, a 2017 WCIRB study of longer-term loss development showed that incurred loss development patterns can be significantly more volatile than paid loss development patterns and utilizing a longer-term average of incurred loss development significantly reduces this volatility.<sup>8</sup> As a result, the WCIRB has based the projected indemnity development from 255 months through 411 months on the average of the latest three ratios of incurred losses to paid losses at 255 months (to convert paid indemnity development to an incurred basis), and the average of the latest six incurred indemnity age-to-age development factors from 255 months through 411 months.<sup>9</sup>

Incurred losses continue to develop even after 411 months of maturity. To reflect this long-term development, an additional factor, or tail development factor, is applied to adjust the losses to an ultimate basis. This tail development factor applied to indemnity losses is based on an approach that fits an inverse power curve to a six-year average of the 111-to-123 through 339-to-351 incurred indemnity age-to-age factors and extrapolating the fitted factors to approximately 80 development years. During recent WCIRB reviews of loss development methodologies, the WCIRB found that, particularly for incurred medical development, the most recent three calendar periods of significantly lower incurred medical development was anomalous and did not fit well to the inverse power curve. As a result, the WCIRB has excluded the most recent three calendar periods of incurred loss development from the six-year average of factors to use in the inverse power curve fit.<sup>10</sup>

#### Medical Loss Development

For many years, the WCIRB has been relying on historical paid medical loss development to project future medical loss development for at least the 1999 and later accident years. Exhibits 2.4.1 and 2.4.2 show the historical annual accident year paid medical loss development factors valued at successive March 31 evaluations.

SB 1160 and AB 1244, which took effect in 2017, included a number of provisions related to liens which have reduced the number of lien filings by approximately 60% based on the WCIRB's most recent review.<sup>11</sup> A 2018 WCIRB study showed that liens have represented a significant proportion of paid medical loss development, particularly at mid-maturities.<sup>12</sup> As a result, the age-to-age development factors shown in Exhibits 2.6.1 and 2.6.2 for these periods include payments from liens in significantly greater volumes than are expected to emerge for more recent accident year claims. The WCIRB believes relying on the paid medical development from these periods without adjusting for the reductions in future lien filings will overstate the loss development projection. As a result and as in the January 1, 2019 Pure Premium Rate Filing, the WCIRB has adjusted the cumulative loss development factors projected for 2012 to 2018 to reflect the estimated impact of the SB 1160 and AB 1244 lien-related provisions. These adjustments were based on a review of medical development with and without any lien payments using the WCIRB's medical transaction data and assuming 60% weight given to the projected medical development with no lien payments (to represent the 60% estimated reduction in lien filings) and 40% weight given to the projected medical development with lien payments. (See Appendix A for a more complete discussion of this adjustment.)

Some SB 1160 provisions also affected liens that had already been filed prior to the January 1, 2017 effective date of SB 1160. In July 2017, the Division of Workers' Compensation (DWC) dismissed

<sup>8</sup> See Item AC17-08-04 of the August 2, 2017 WCIRB Actuarial Committee Agenda.

<sup>9</sup> Inasmuch as six loss development factors at 387 months, 399 months, and 411 months are not available, a five-year, four-year, and three-year average is used for those periods, respectively.

<sup>10</sup> See Item AC19-03-02 of the April 2, 2019 WCIRB Actuarial Committee Minutes.

<sup>11</sup> See Item AC18-03-03 of the March 18, 2019 WCIRB Actuarial Committee Agenda.

<sup>12</sup> See Item AC18-03-03 of the March 19, 2018 WCIRB Actuarial Committee Agenda.

approximately 292,000 liens which did not comply with the provisions of SB 1160. In 2018, the WCIRB analyzed the potential impact of the DWC lien dismissals on medical loss development patterns and found that the dismissed liens should have a significant impact on paid medical development emerging after July 2017.<sup>13</sup> If no adjustment to loss development is made, paid medical development emerging in the third quarter of 2017 and later may be distorted as the numerator of the age-to-age paid medical development factor will contain a smaller volume of lien payments than the denominator. In order to correct for this potential distortion in the projected age-to-age factors, the WCIRB has adjusted medical payments in the age-to-age factor computation made prior to July 1, 2017 to reflect the impact of the DWC lien dismissals. Given that the lien dismissals are only expected to significantly impact paid medical development through mid-term development periods for which lien payments are most significant, the WCIRB is applying these adjustments only to development emerging on accident years 2011 to 2016. (See Appendix A for a more complete discussion of this adjustment.)

Since 2013, pharmaceutical costs have decreased significantly. The recent decreases in pharmaceutical costs have been attributed to a number of factors including implementation of independent medical review and independent bill review as a result of SB 863, reductions in the number of spinal surgeries, reaction to the national opioid epidemic, changes in pharmaceutical reimbursement rates from the Medi-Cal based fee schedule, anti-fraud efforts, and the new drug formulary implemented in 2018. Earlier this year, the WCIRB studied the impact of the recent pharmaceutical cost declines on paid medical loss development which showed that pharmaceutical costs represent a much larger proportion of later period development compared to earlier periods.<sup>14</sup> If no adjustment to loss medical development is made, more recent paid medical development emerging for older accident years may be distorted as the numerator of the age-to-age paid medical development factor will contain a much smaller volume of pharmaceutical payments than the denominator. In order to correct for this distortion in the projected age-to-age factors, the WCIRB has adjusted medical payments in the age-to-age factor computation made prior to 2018 to be at the estimated 2018 pharmaceutical cost level. (See Appendix A for a more complete discussion of this adjustment.)

As discussed above, changes in claim settlement rates can distort paid loss development patterns if no adjustment is made. As a result and in response to the recent increases in indemnity claim settlement rates, as with indemnity loss development, the WCIRB has also adjusted paid medical loss development through 75 months for changes in claim settlement rates. Exhibits 2.6.3 through 2.6.8 show the adjustment for changes in claim settlement rates applied to the paid medical loss development factors through 75 months. (See Appendix A for a more complete discussion of this adjustment.)

The WCIRB's recommended age-to-age and cumulative medical loss development factors, which have been adjusted for the SB 1160 and AB 1244 lien reforms, the recent decreases in pharmaceutical costs, as well as for changes in indemnity claim settlement rates through 75 months, are shown in Exhibits 2.6.1 and 2.6.2. As with indemnity, age-to-age paid medical development after 111 months and through 255 months was projected using an average of the latest three factors rather than the latest year's factor. Also similar to indemnity, as shown in Exhibits 2.6.1 and 2.6.2, medical losses are converted to an incurred basis at 255 months based on a three-year average of ratios of incurred medical losses to paid medical losses, with six-year average incurred medical age-to-age factors applied after 255 months.<sup>15</sup> Finally, incurred medical loss development beyond 411 months of maturity is estimated by applying an inverse power curve to the average of six historical incurred medical development factors excluding the three most recent calendar periods of anomalous incurred medical loss development.

#### Estimated Ultimate Loss Ratios

The historical accident year loss ratios are developed to their projected ultimate values in Exhibits 3.1 (for indemnity) and 3.2 (for medical). Column 1 of Exhibit 3.1 shows the historical reported (undeveloped) paid indemnity losses as a ratio to calendar year earned premium for accident years 1999 and subsequent, and incurred indemnity losses as a ratio to calendar year earned premium for accident years

<sup>13</sup> See Item AC18-03-03 of the March 19, 2018 WCIRB Actuarial Committee Agenda.

<sup>14</sup> See Item AC19-06-03 of the June 14, 2019 WCIRB Actuarial Committee Agenda.

<sup>15</sup> Inasmuch as six loss development factors at 387 months, 399 months, and 411 months are not available, a five-year, four-year, and three-year average is used for those periods, respectively.



1998 and prior. Column 2 of Exhibit 3.1 shows the age-to-age paid or incurred indemnity development factor selected for each evaluation period from Exhibits 2.5.1 and 2.5.2. Column 3 of Exhibit 3.1 shows the cumulative indemnity development factor for each period. Column 4 of Exhibit 3.1 shows the projected ultimate indemnity loss ratio for each accident year based on the cumulative paid or incurred indemnity loss development projection factor shown in column 3 and the reported paid or incurred indemnity loss ratio shown in column 1.

Column 1 of Exhibit 3.2 shows the historical reported (undeveloped) paid medical losses as a ratio to calendar year earned premium for accident years 1999 and subsequent, and incurred medical losses as a ratio to calendar year earned premium for accident years 1998 and prior. As discussed above, medical loss ratios shown for accident years 2011 and subsequent do not include M CCP costs while those for accident years 2010 and prior include M CCP costs. Column 2 of Exhibit 3.2 shows, for accident years 1999 and subsequent, the historical paid medical loss ratios as of March 31, 2019 estimated at a 2018 pharmaceutical cost level by adjusting the medical payments made prior to 2018 for the estimated decrease in pharmaceutical costs through 2018. These loss ratios form the basis to which the age-to-age and cumulative medical loss development factors, which are also adjusted to a 2018 pharmaceutical cost level, are applied. Column 3 of Exhibit 3.2 shows the age-to-age paid or incurred medical development factor selected for each evaluation period, adjusted for the impact of the DWC dismissed liens pursuant to SB 1160 and the recent decreases in pharmaceutical costs. Column 4 of Exhibit 3.2 shows the cumulative medical development factor for each period, prior to the adjustment for the impact of SB 1160 and AB 1244 lien reforms impacting future lien filings. Column 5 of Exhibit 3.2 shows the cumulative medical development factor for each period after the adjustment for the impact of SB 1160 and AB 1244 lien reforms and the impact of the decreased level of pharmaceutical costs. Column 6 of Exhibit 3.2 shows the developed medical loss ratio for each accident year adjusted to a 2018 pharmaceutical cost level based on the adjusted cumulative medical loss development factor shown in column 5 and the adjusted paid or incurred medical loss ratio shown in column 2. These loss ratios are used for the sole purpose of computing the indicated January 1, 2020 pure premium rate level and do not reflect the actual WCIRB estimates of projected ultimate loss ratios for those years. Column 7 of Exhibit 3.2 shows, for informational purposes, the projected ultimate medical loss ratios for accident years 1999 and subsequent based on combining the unadjusted paid medical loss ratio from column 1 and the projected medical development derived from columns 2 and 6.

The proposed January 1, 2020 pure premium rates are based on statewide loss and loss adjustment experience evaluated as of March 31, 2019 and is, in large part, predicated on the March 31, 2019 paid loss experience of the 2017 and 2018 accident years projected to an ultimate cost level. Given the inherent volatility involved in projecting ultimate losses for accident year 2018 (currently valued at 15 months) and accident year 2017 (currently valued at 27 months), the WCIRB will be reviewing experience through June 30, 2019 when it is received. If the experience through June 30, 2019 produces indications that are significantly different from those based on experience through March 31, 2019, the WCIRB may amend the pure premium rate recommendations contained in this filing.

### **C. Cost Level Adjustments to Losses**

Each year's historical losses, once developed to an ultimate basis, are adjusted to reflect various measurable economic or claims-related changes that have occurred since the time that year's claims were incurred. In this way, each year's adjusted, or "on-level", ratios of losses to premium are on a more comparable basis and can be used to project future ratios of losses to premium. These adjustments are described in detail in Appendix B.

Exhibits 4.1 through 4.4 show the adjustments made to losses to reflect the changes in the cost of selected loss components that can be specifically measured. Exhibit 4.1 displays the average impact on indemnity benefits of legislative and regulatory changes as well as wage inflation. Specifically, column 1 of Exhibit 4.1 shows the impact of legislative, regulatory or judicial actions on indemnity claim severities, while column 2 of Exhibit 4.1 shows the estimated impact of these actions on indemnity claim frequencies. As detailed in Appendix B, the factors shown in column 1 of Exhibit 4.1 include updates to

reflect the WCIRB's estimated impact of SB 863 on overall indemnity cost levels for accident years 2012 through 2015.<sup>16</sup>

Even without statutory benefit changes, wage inflation will impact the cost of indemnity benefits. Column 3 of Exhibit 4.1 shows the impact of wage inflation on indemnity benefits. These estimated wage inflation effects are based on (a) the most current historical and average of the UCLA Anderson School of Business and California Department of Finance forecast changes in California annual wages as shown in Exhibit 5.1, (b) the distribution of the weekly wages of injured workers, and (c) the schedule of statutory benefits in effect for each year. As detailed in Appendix B, these include the impact of a 2019 WCIRB reassessment of the methodology of applying these on-level adjustments to more accurately reflect the impact of wage inflation on indemnity benefit levels.<sup>17</sup> Column 4a of Exhibit 4.1 shows the total annual cost impact of statutory benefit changes and wage inflation on indemnity losses. Column 5a of Exhibit 4.1 shows the factor to adjust each historical accident year's estimated ultimate indemnity losses to a policy year 2020 level.

Exhibits 4.2 through 4.4 show the adjustment of medical losses to a current, or on-level, basis. Exhibit 4.2 shows the impact of non-legislative factors on medical costs. For many years, a number of medical service components, such as physician services, inpatient and outpatient facility fees, pharmaceuticals, and medical-legal costs, have been subject to fee schedules. As shown in column 1 of Exhibit 4.2, over 90% of medical costs are currently subject to fee schedules. Column 3 of Exhibit 4.2 shows the average impact of regulatory changes in fee schedules on total medical costs by accident year based on the WCIRB's cost analysis of the fee schedule changes.

Some workers' compensation medical costs are not subject to fee schedules. As a result, the portion of each historical accident year's medical losses that is not subject to fee schedules is adjusted to reflect the anticipated general medical cost level during the period in which the proposed pure premium rates will be in effect. The cost adjustments used in this analysis are shown in column 4 of Exhibit 4.2. The historical values are based on the "Medical Care" component of the Consumer Price Index (CPI) as published by the U.S. Bureau of Labor Statistics and the California Department of Finance. Projected values are based on the average of California Department of Finance forecasts of medical inflation for the Los Angeles and San Francisco regions. Column 6 of Exhibit 4.2 shows the combined impact of fee schedule changes and general medical inflation on non-legislative medical cost components by accident year.

Legislative and regulatory changes and judicial actions also impact the cost of medical benefits. Exhibit 4.3 shows the impact of legislative, regulatory and judicial activity on medical costs. The factors in column 1 of Exhibit 4.3 reflect the impact on medical costs per claim of (a) statutory reforms and (b) legislative or regulatory changes or judicial action not otherwise reflected. These factors include the WCIRB's estimated impact of SB 863, SB 1160 and AB 1244, and the Medical Treatment Utilization Schedule Drug Formulary (Formulary) effective in 2018 on medical costs.

In 2019, the WCIRB re-evaluated the impact of the Formulary based on pharmaceutical costs emerging as December 31, 2018. Based on this retrospective evaluation, the WCIRB continues to believe the 10% reduction in pharmaceutical costs that was reflected in the July 1, 2018 and January 1, 2019 Pure Premium Rate Filings reasonably reflects the impact of the Formulary and has included this estimate in the projection of on-level medical costs included in this filing.<sup>18</sup>

In 2019, the WCIRB also evaluated the impact of the Medicare Geographic Practice Cost Index (GPCI) that was adopted by the DWC effective January 1, 2019. The WCIRB's analysis showed that while the cost impact of the GPCI on California workers' compensation medical costs varied by region and medical procedure, the overall impact was not significant and, as a result, no adjustment to advisory pure premium rates was necessary.<sup>19</sup>

<sup>16</sup> See Item AC17-12-02 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>17</sup> See Item AC19-03-03 of the March 18, 2019 WCIRB Actuarial Committee Agenda.

<sup>18</sup> See Item AC17-12-02 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>19</sup> See Item AC19-04-04 of the April 2, 2019 WCIRB Actuarial Committee Agenda.

The factors shown in column 1 of Exhibit 4.3 do not include the impact of SB 1160 lien reforms and reductions in medical utilization resulting from SB 863 related to the recent decreases in pharmaceutical costs, which are reflected in the adjustments to paid medical loss development shown in Exhibits 2.6.1 and 2.6.2 (see Appendix B for more information). The factors in column 2 of Exhibit 4.3 reflect the impact on medical costs of the changes in the frequency of indemnity claims as a result of statutory benefit changes.

The combined impact of both measurable legislative and non-legislative changes on medical costs is shown in Exhibit 4.4. Column 4 of Exhibit 4.4 shows the medical on-level factor used to adjust each historical accident year's estimated ultimate medical losses to a policy year 2020 level.

#### **D. Wage and Premium Adjustments**

As with accident year losses, each historical year's earned premium is adjusted to a common, or on-level, basis. The adjustments made to historical premium amounts are also discussed in detail in Appendix B.

Exhibit 5.1 displays the adjustment made to historical premiums to reflect changes in wage levels. Pure premium rates are expressed as a percentage of payroll. Consequently, the reported premium for each year reflects the wages paid during that year. To determine the level of pure premium needed to fund the cost of losses and loss adjustment expenses incurred on policies incepting in 2020, the premium reported for each year is adjusted to reflect the wages anticipated to be paid during the period these policies will be in effect. As in the January 1, 2019 Pure Premium Rate Filing, the estimated changes in annual California wages shown in Exhibit 5.1 are based on average of those produced by the UCLA Anderson School of Business (as of June 2019) and California Department of Finance (as of April 2019) forecasts.<sup>20</sup>

The amount of premium generated during a particular year is based on the rates in effect during that year. The earned premium amounts shown in Exhibit 1 and reflected in the loss ratios shown in Exhibits 3.1 and 3.2 reflect the actual rates charged by insurers including the impact of most rating plan adjustments such as schedule rating.<sup>21</sup> To determine the indicated difference from the industry average filed pure premium rate as of July 1, 2019, the earned premium generated for each year is adjusted to reflect the premium that would have been generated had the industry average filed pure premium rates as of July 1, 2019 been charged during that year. This adjustment is shown in columns 2a, 2b and 2c of Exhibit 5.2.

Column 2a of Exhibit 5.2 shows the ratio of the industry average charged rate to the average advisory pure premium rate for each calendar year subsequent to the implementation of competitive rating in 1995. Column 2b of Exhibit 5.2 shows the factors needed to adjust the earned premium for each calendar year to the industry average filed pure premium rate level as of July 1, 2019. The factors reflect both the historical changes in advisory pure premium rates that are needed to adjust each year's earned premium to the current (January 1, 2019) advisory pure premium rate level and an additional factor to adjust from the January 1, 2019 average advisory pure premium rate level to the industry average filed pure premium rate level as of July 1, 2019. Column 2c of Exhibit 5.2 shows the combined effect of the rate adjustments in columns 2a and 2b, which are the factors needed to adjust each year's earned premium to the premium that would have been earned had the industry average filed pure premium rates as of July 1, 2019 been charged during that year.

In addition to the adjustment to a common wage and pure premium rate level, the premium reported for each year is adjusted for (a) the surcharge premium generated under the Minimum Rate Law through 1995, (b) the average experience modification for each year, (c) the current experience rating off-balance correction factor and (d) the impact of the recession on audit premium for the 2007 through 2010 years for which there were very atypical levels of audit premiums collected. These adjustment factors are shown in Exhibit 5.2, columns 3, 4, 5, and 6, respectively. Column 7 of Exhibit 5.2 shows the combined on-level factor for each year that reflects the impact of all the premium adjustment factors applied by the WCIRB.

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<sup>20</sup> Due to a data anomaly in the 2019 wage change forecast by the UCLA Anderson School of Business, only the California Department of Finance forecast was used to project the 2019 wage level change in Exhibit 5.1.

<sup>21</sup> These premiums do not reflect the impact of deductible credits, retrospective rating plan adjustments, or terrorism charges.

### E. Trending of On-Level Ratios

The loss ratios shown for historical accident years, once adjusted to an ultimate and on-level basis, are used to project the policy year 2020 loss ratio at the industry average filed premium rate level as of July 1, 2019. As in recent pure premium rate filings, the WCIRB has used a trending methodology based on applying separate projections of growth in claim frequency and claim severity to the average of the latest two years' on-level loss ratios. In 2017, the WCIRB conducted a retrospective review of trending methodologies which found that methods based on separate frequency and severity projections have continued to be generally more accurate than the alternative approaches reviewed.<sup>22</sup> A follow-up study conducted in 2018 found that methods which apply trends to the latest two accident years are generally more accurate and stable than those which apply trends only to the latest year, particularly during periods of transition or when the latest accident year is projected from 12 months or 15 months of maturity.<sup>23</sup>

Exhibits 6.1 through 6.4 show the information upon which the separate frequency and severity projections are based. Exhibits 7.1 through 7.4 summarize the computation of the projected on-level loss to pure premium ratio for policies incepting in 2020. Separate projections are made for the indemnity and medical components. These trending methodologies are also discussed in detail in Appendix B.

#### Trended On-Level Indemnity Loss Ratio

Column 1 of Exhibit 7.1 displays the indemnity loss to pure premium ratios developed to an estimated ultimate level as shown in Exhibit 3.1. These developed loss ratios are then adjusted for (a) the impact of changes in statutory benefit levels and wage inflation on indemnity benefits shown in Exhibit 4.1 and (b) the premium level adjustments shown in Exhibit 5.2 to produce the on-level indemnity ratios shown for 2018 and prior accident years in column 4 of Exhibit 7.1. These on-level loss ratios reflect the ratio of estimated ultimate indemnity losses to premium for each year as though (a) the policy year 2020 statutory benefit level and projected wages had been in effect for each historical year and (b) the premium for each historical year had been generated at the industry average filed pure premium rate level as of July 1, 2019 and at the average wage level projected for the 2020 policy period.

The WCIRB's forecast frequency changes are primarily based on an econometric model developed using a long-term forty-year history of frequency changes in relation to changes in economic and other claims-related factors. However, in a 2012 WCIRB analysis of trending methodologies, it was noted that frequency changes using a full year of preliminary actual frequency information were more predictive of the actual frequency change for that year than the change forecast based on the WCIRB's frequency model.<sup>24</sup> As a result, based on the approach used in the last several pure premium rate filings, the projected frequency change for accident year 2018 is based on the preliminary 2018 frequency change of 0.1%, estimated as a ratio of changes in reported indemnity claim counts from accident year 2017 to accident year 2018 as of March 31, 2019 relative to changes in statewide employment (see Appendix B, Exhibit 1).

Projected frequency changes for accident years 2019 through 2021 are based on the WCIRB's econometric indemnity claim frequency model. Exhibit 6.1 shows the WCIRB's indemnity claim frequency model forecasts. The model is based on a forty-year history of frequency changes which have resulted in a steady long-term decline in claim frequency. The forecasts project an average annual decline of approximately 2.0% from 2019 through policy year 2020.

Exhibit 6.2 shows estimated ultimate and on-level indemnity severity by accident year. The WCIRB projects future on-level indemnity severity growth based on a review of both longer-term and short-term patterns of historical on-level indemnity severity growth. Historically, over the long-term, on-level indemnity severities have grown at a moderate rate. However, as shown in Exhibit 6.2, on-level indemnity severity growth has not been above 0% for eight of the last nine years. Some of these declines are likely related to the Great Recession of 2008 and 2009 and the subsequent economic recovery and recent accelerations in claim settlement rates that have reduced temporary disability duration and permanent

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<sup>22</sup> See Item AC12-12-02 of the August 2, 2017 WCIRB Actuarial Committee Agenda.

<sup>23</sup> See Item AC12-12-02 of the March 19, 2018 WCIRB Actuarial Committee Agenda.

<sup>24</sup> See Item AC12-12-02 of the March 20, 2013 WCIRB Actuarial Committee Agenda.

disability costs. The on-level average indemnity severity projected for accident year 2018 is approximately 3% higher than that for 2017 which is the highest change since 2009. This estimate for accident year 2018 is preliminary in that 2018 indemnity costs are projected based on paid losses as of 15 months, which mostly includes temporary disability costs. However, indemnity loss development has begun to moderate, suggesting the 3% increase projected for 2018 may not develop downward as sharply as in recent prior accident years. With consideration given to the recent sustained period of on-level indemnity severity declines up through 2017, the longer-term trend of modest annual growth in on-level indemnity severities and the increase estimated for 2018, the WCIRB has selected an on-level indemnity severity trend of -0.5% annually, which is consistent with the indemnity severity trend reflected in the January 1, 2019 Pure Premium Rate Filing.<sup>25</sup>

Column 4 of Exhibit 7.1 shows the projected policy year 2020 indemnity loss ratio based on the average of the latest two accident year (2017 and 2018) on-level indemnity ratios adjusted by the WCIRB's selected frequency projections and a -0.5% annual on-level indemnity severity trend projection. As shown in Exhibits 7.1 and 7.2, the policy year 2020 indemnity loss ratio projected on this basis is 0.257.

#### Trended On-Level Medical Loss Ratio

Exhibit 7.3 shows accident year on-level medical loss to industry average filed pure premium ratios, which have been computed in a manner similar to those for indemnity. These on-level ratios are also displayed graphically in Exhibit 7.4. (As discussed above, projections of on-level medical loss ratios for accident years 2011 and subsequent do not include MCCP costs while those for accident years 2010 and prior include MCCP costs. As a result, comparisons between the ratios shown in Exhibits 7.3 and 7.4 for 2010 and prior with those for 2011 and subsequent cannot be made on a consistent basis.)

As with indemnity, the WCIRB recommends projecting the policy year 2020 on-level medical loss ratio based on the average of the latest two accident year (2017 and 2018) on-level medical ratios adjusted separately for frequency and severity trends. The projected policy year 2020 on-level medical loss ratios shown in column 4 of Exhibit 7.3 reflect the same frequency change projections used in the indemnity loss projection.

Exhibit 6.3 shows estimated ultimate medical severities by accident year. As discussed above, medical losses shown for accident years 2011 and subsequent do not include MCCP costs while those for accident years 2010 and prior do include MCCP costs. In order to compare medical severity trends on a consistent basis, Exhibit 6.4 shows estimated ultimate medical severities with MCCP costs included in all years. Additionally, Exhibit 6.4 also shows for accident years 2005 and later estimated ultimate medical severities exclusive of MCCP costs for all years with estimated MCCP costs excluded from accident years 2010 and prior based on calendar year MCCP paid costs from WCIRB aggregate financial data calls.

As with indemnity, the WCIRB is basing projected average on-level medical severity growth based on a review of historical medical severity trends. For medical in particular, policy year 2020 losses will be paid over a very extended period (e.g., over half of policy year 2020 losses will be paid in 2023 or later and over one-quarter will be paid in 2029 or later) and medical cost levels are impacted by when services are provided rather than by when the injury occurred. As a result, it is particularly important to consider long-term medical severity trends in addition to short-term trends.

Since 1990, on-level medical severity growth in California has averaged approximately 6%. As shown in Exhibit 6.4, over the 2005 to 2018 period, the average on-level medical severity trend excluding MCCP costs is approximately 2.1%, which includes sharp growth from 2005 through 2009 and modestly declining to modestly increasing on-level medical severities from 2010 through 2017. The estimated on-level medical severity change for accident year 2018 projected from 15 months of 4.3% is significantly higher than that of recent prior accident years and the highest since 2009. However, as a result of continued declines in medical loss development, estimates of on-level medical severity changes for recent prior accident have historically declined from those projected at 15 months. As discussed in the Executive Summary and Appendix A, there is evidence that the recent declines in medical loss

<sup>25</sup> In the Decision on the January 1, 2019 Pure Premium Rate Filing, the CDI reflected a projected indemnity severity growth rate of -1.0% annually.

development are moderating. In addition, average medical costs in other jurisdictions as well as in the medical CPI show modest increases for 2017 and 2018 not unlike the increases shown in Exhibit 6.4 for California. As discussed above, the WCIRB has historically recommended balancing both long-term and short-term severity information when selecting an on-level medical severity trend. Given these considerations, the WCIRB has selected an on-level medical severity trend of 2.5% per year, which is consistent with the medical severity trend reflected in the January 1, 2019 Pure Premium Rate Filing.<sup>26</sup>

Column 4 of Exhibit 7.3 shows the projected policy year 2020 medical loss ratio based on the average of the latest two accident year (2017 and 2018) on-level medical ratios adjusted by the WCIRB's selected frequency projections and an annual medical severity trend projection of 2.5% per year. As shown in Exhibits 7.3 and 7.4, the policy year 2020 medical loss ratio projected on this basis is 0.326.

#### **Computation of Projected Loss Adjustment Expenses**

The WCIRB's projection of the cost of loss adjustment expenses on policies incepting in 2020 is discussed in Appendix C. As indicated in Appendix C, the WCIRB estimates that the policy year 2020 ratio of total loss adjustment expenses to losses is 36.4%.

#### **Computation of Experience Rating Off-Balance Factor**

The WCIRB's projection of the indicated experience rating off-balance factor for 2020 is discussed in Section C, Appendix B of the WCIRB's January 1, 2020 Regulatory Filing submitted on June 26, 2019. As indicated in that filing, the WCIRB projects a 2020 experience rating off-balance factor of 1.014, which is 0.3% lower than the 2019 experience rating off-balance factor.

#### **Computation of the Indicated 2020 Average Pure Premium Rate**

Line 1 of Exhibit 8 displays the estimated policy year 2020 ratios of ultimate indemnity and medical losses to premium at the industry average filed pure premium rate level as of July 1, 2019 as computed in Exhibits 7.1 and 7.3. The projected policy year 2020 ratio of total losses to premium at the industry average filed pure premium rate level as of July 1, 2019 is 0.583.

Line 2 of Exhibit 8 shows the estimated policy year 2020 loss adjustment expenses as 36.4% of losses (see Appendix C). Line 3 of Exhibit 8 shows the estimated policy year 2020 ultimate loss and loss adjustment expense ratio at the industry average filed pure premium rate level as of July 1, 2019 of 0.795. Line 4 of Exhibit 8 shows the -0.3% indicated change in the experience rating off-balance correction factor for 2020 (see Section C, Appendix B of the WCIRB's January 1, 2020 Regulatory Filing). Line 5 of Exhibit 8 shows the -20.7% difference in the indicated pure premium rate level from the industry average filed pure premium rate level as of July 1, 2019. Line 6 of Exhibit 8 shows the industry average filed pure premium rate as of July 1, 2019 of \$1.99 per \$100 of payroll, which is computed as described in Exhibit 1 of the Executive Summary. Line 7 of Exhibit 8 shows the indicated average January 1, 2020 pure premium rate of \$1.58 per \$100 of payroll.

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<sup>26</sup> In the Decision on the January 1, 2019 Pure Premium Rate Filing, the CDI reflected a projected medical severity growth rate of 1.5% annually.

**California Workers' Compensation**  
**Accident Year Experience as of March 31, 2019**

<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	1,383,116,214	4,696,354	1,141,069,438	32,902,227	18,852,369	2,580,636,602	0.736
1987	4,374,085,383	1,505,867,310	6,185,596	1,332,314,887	39,173,789	57,912,715	2,941,454,297	0.672
1988	5,173,049,472	1,702,887,219	6,411,903	1,539,553,177	35,082,864	38,394,980	3,322,330,143	0.642
1989	5,676,279,371	1,939,834,674	8,364,069	1,794,847,180	50,360,007	39,588,930	3,832,994,860	0.675
1990	5,705,878,797	2,260,136,023	8,187,178	2,041,092,148	48,404,287	60,232,828	4,418,052,464	0.774
1991	5,872,566,346	2,479,929,463	14,313,664	2,197,221,205	54,477,997	61,907,918	4,807,850,247	0.819
1992	5,692,939,950	1,978,495,103	12,429,314	1,761,651,468	52,721,173	62,035,351	3,867,332,409	0.679
1993	5,942,544,967	1,694,480,879	13,707,161	1,511,590,704	71,795,669	41,193,634	3,332,768,047	0.561
1994	5,034,831,820	1,627,162,824	20,470,114	1,462,799,902	86,145,428	44,558,857	3,241,137,125	0.644
1995	3,790,122,732	1,763,757,976	26,907,658	1,614,050,035	100,551,537	54,054,205	3,559,321,411	0.939
1996	3,748,266,525	1,952,710,231	33,327,458	1,709,419,534	104,902,971	71,295,292	3,871,655,486	1.033
1997	3,928,295,572	2,314,769,584	42,246,558	2,005,310,421	137,495,048	102,063,629	4,601,885,240	1.171
1998	4,333,560,338	2,769,276,578	53,719,836	2,625,405,204	224,719,529	202,348,036	5,875,469,183	1.356
1999	4,551,546,853	3,050,289,815	55,050,181	3,018,397,503	195,608,979	247,279,793	6,566,626,271	1.443
2000	5,923,031,823	3,421,624,057	72,139,293	3,543,359,836	227,664,515	413,299,589	7,678,087,290	1.296
2001	10,120,534,867	4,826,547,365	108,553,634	5,325,276,765	392,601,045	620,105,914	11,273,084,723	1.114
2002	13,434,933,190	4,757,722,120	100,074,490	5,446,737,719	348,299,064	891,962,884	11,544,796,277	0.859
2003	19,476,317,174	4,524,176,610	155,298,113	5,012,853,957	366,359,195	1,266,351,826	11,325,039,701	0.581
2004	23,096,787,993	3,187,898,211	131,037,417	4,013,933,588	314,579,553	1,383,892,211	9,031,340,980	0.391
2005	21,398,213,516	2,510,240,239	115,621,027	3,609,067,188	308,377,144	1,119,040,723	7,662,346,321	0.358
2006	17,232,800,048	2,593,393,462	125,477,916	3,712,607,028	336,396,264	780,014,540	7,547,889,210	0.438
2007	13,275,649,610	2,727,274,188	145,040,143	3,975,419,488	378,326,001	861,011,214	8,087,071,034	0.609
2008	10,764,323,955	2,770,334,825	162,837,358	3,965,808,413	384,893,373	534,172,787	7,818,046,756	0.726
2009	8,896,709,168	2,635,951,007	159,132,232	3,763,038,281	375,169,585	526,737,802	7,460,028,907	0.839
2010	9,398,228,398	2,638,896,065	167,628,893	3,834,022,165	372,090,950	606,343,669	7,618,981,742	0.811
2011	10,129,285,077	2,598,490,238	181,088,413	3,456,673,655	397,352,825	816,031,403	7,449,636,534	0.735
2012	11,692,134,220	2,607,277,617	226,624,384	3,315,563,021	437,395,736	1,009,801,100	7,596,661,858	0.650
2013	14,149,827,161	2,609,019,076	254,410,788	3,126,537,115	491,123,538	1,742,570,108	8,223,660,625	0.581
2014	15,997,914,039	2,654,684,051	359,773,250	2,957,257,972	570,848,001	2,842,633,281	9,385,196,555	0.587
2015	17,059,168,432	2,533,728,675	489,211,212	2,736,789,782	766,863,317	3,471,587,166	9,998,180,152	0.586
2016	17,952,877,787	2,148,412,575	649,240,851	2,348,478,166	976,318,486	3,881,776,066	10,004,226,144	0.557
2017	17,672,417,401	1,513,575,313	910,934,330	1,818,962,435	1,281,400,143	4,617,739,953	10,142,612,174	0.574
2018	17,420,199,712	682,690,511	961,605,325	1,044,242,404	1,568,577,049	5,814,092,079	10,071,207,368	0.578

\* 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	27/15	39/27	51/39	63/51	75/63	87/75	99/87	Age-to-Age (in months)						147/135	159/147	171/159	183/171	195/183	207/195
1993																			0.999
1994																			1.001
1995																			1.001
1996																			1.001
1997																			1.001
1998																			1.001
1999																			1.001
2000																			1.000
2001																			1.000
2002																			1.001
2003																			1.002
2004																			1.002
2005																			1.002
2006																			1.002
2007																			1.002
2008																			1.002
2009																			1.002
2010																			1.002
2011																			1.002
2012																			1.002
2013																			1.002
2014																			1.002
2015																			1.002
2016																			1.002
2017																			1.002
Selected (a)	1.588	1.187	1.085	1.049	1.030	1.022	1.016	1.011	1.010	1.006	1.007	1.003	1.002	1.002	1.002	1.002	1.002	1.002	1.001
Cumulative	2.424	1.526	1.286	1.185	1.130	1.097	1.073	1.056	1.045	1.035	1.028	1.021	1.018	1.014	1.014	1.014	1.014	1.014	1.011

(a) Selections are latest year for the 15-to-27 month through 99-to-111 month factors and six-year average for the subsequent age-to-age factors.



## Incurred Indemnity Loss Development Factors (Continued)

Accident Year	219/207	231/219	243/231	255/243	267/255	279/267	291/279	303/291	315/303	327/315	339/327	351/339	363/351	375/363	387/375	399/387	411/399	ULT/411Inc.(b)
1983				1.001	1.002	1.002	1.000	1.001	1.000	1.000	1.001	1.001	1.001	1.001	1.000	1.001	1.001	1.001
1984			1.001	1.001	1.000	1.001	1.000	1.000	1.001	1.001	1.000	1.001	1.001	0.999	1.000	1.000	1.001	
1985		1.001	1.001	1.000	1.001	1.000	1.000	1.000	1.001	1.001	1.000	1.001	1.001	1.000	1.000	1.000	1.000	
1986	1.001	1.000	1.001	0.999	1.000	1.000	1.001	1.000	1.002	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	
1987	1.002	1.002	1.000	0.999	1.000	1.000	1.000	1.002	1.001	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1988	1.001	1.001	1.000	1.001	1.000	1.002	1.002	1.001	1.000	1.000	1.000	1.001	1.000	1.001	1.000	1.000	1.000	
1989	1.001	1.000	1.000	1.001	1.001	1.001	1.000	1.000	1.000	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.001	
1990	1.000	1.001	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.001	1.000	1.000	1.000	1.000	
1991	1.001	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.001	1.000	1.000	1.001	
1992	1.000	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	
1993	1.000	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	1.001	1.002	1.001	1.001	1.001	1.001	1.000	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1995	1.002	0.999	0.999	1.001	1.000	1.001	1.001	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1996	1.002	1.001	1.000	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	
1997	1.000	1.000	1.000	0.999	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1998	1.002	1.002	1.001	1.000	1.000	1.000	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	1.000	1.000	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	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
2001	1.001																	
Selected (a)	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.001	
Cumulative	1.011	1.009	1.009	1.008	1.008	1.007	1.007	1.007	1.007	1.007	1.006	1.006	1.005	1.005	1.005	1.005	1.004	1.004

(b) The ULT/411Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 111-to-123 through 339-to-351 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>27/15</u>	<u>39/27</u>	<u>51/39</u>	<u>63/51</u>	<u>75/63</u>	<u>87/75</u>	<u>99/87</u>	<u>111/99</u>	<u>123/111</u>	<u>135/123</u>	<u>147/135</u>	<u>159/147</u>	<u>171/159</u>	<u>183/171</u>	<u>195/183</u>	<u>207/195</u>
1993								1.033	1.027	1.020	1.017	1.013	1.006	1.008	1.021	1.008
1994							1.033	1.042	1.023	1.019	1.011	1.020	1.027	1.016	1.005	1.011
1995							1.055	1.024	1.013	1.021	1.017	1.020	1.015	1.013	1.012	1.008
1996						1.043	1.067	1.038	1.015	1.024	1.023	1.018	1.009	1.010	1.005	1.004
1997					1.065	1.032	1.022	1.022	1.035	1.021	1.020	1.010	1.010	1.013	1.007	1.012
1998					1.086	1.047	1.032	1.025	1.028	1.018	1.017	1.014	1.009	1.012	1.003	1.000
1999			1.113	1.098	1.047	1.031	1.041	1.022	1.019	1.022	1.016	1.017	1.012	1.005	0.998	0.995
2000		1.187	1.125	1.061	1.030	1.031	1.039	1.035	1.030	1.020	1.018	1.018	1.006	0.998	0.999	0.996
2001	1.489	1.225	1.083	1.045	1.038	1.045	1.034	1.028	1.027	1.020	1.013	1.007	0.998	0.999	0.999	0.999
2002	1.503	1.140	1.050	1.039	1.056	1.038	1.040	1.036	1.025	1.019	1.009	1.001	0.999	1.000	1.001	
2003	1.362	1.087	1.060	1.060	1.051	1.043	1.038	1.032	1.026	1.008	1.004	0.999	0.998	0.999		
2004	1.235	1.130	1.094	1.078	1.056	1.062	1.037	1.032	1.026	1.005	1.003	1.003	0.998			
2005	1.275	1.141	1.077	1.080	1.074	1.057	1.040	1.027	1.018	1.005	1.003	1.003	0.998			
2006	1.333	1.164	1.095	1.076	1.061	1.049	1.037	1.018	1.007	1.003	1.002	1.003				
2007	1.357	1.171	1.114	1.078	1.069	1.041	1.028	1.015	1.005	1.004	1.003					
2008	1.378	1.189	1.116	1.087	1.058	1.035	1.020	1.009	1.004	1.002						
2009	1.431	1.182	1.133	1.080	1.049	1.025	1.014	1.006	1.004							
2010	1.431	1.212	1.117	1.068	1.036	1.023	1.011	1.010								
2011	1.452	1.185	1.103	1.059	1.026	1.016	1.008									
2012	1.391	1.153	1.078	1.051	1.025	1.014										
2013	1.353	1.119	1.077	1.031	1.023											
2014	1.325	1.135	1.064	1.033												
2015	1.313	1.117	1.050													
2016	1.287	1.093														
2017	1.260															
Selected (a)	1.260	1.093	1.050	1.033	1.023	1.014	1.008	1.010	1.011	1.007	1.006	1.005	1.002	1.002	1.001	1.001
Cumulative	1.686	1.338	1.224	1.166	1.128	1.103	1.088	1.079	1.068	1.057	1.050	1.044	1.039	1.037	1.035	1.033

(a) Selections are latest year for the 15-to-27 month through 99-to-111 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	Age-to-Age (in months)													
	219/207	231/219	243/231	255/243	267/255	279/267	291/279	303/291	315/303	327/315	339/327	351/339	363/351	375/363
1983			1.009	1.011	0.997	1.000	1.008	1.004	1.004	1.003	1.003	1.005	1.003	1.003
1984		1.005	1.004	1.006	1.003	1.003	1.001	1.004	1.002	1.004	1.003	1.000	1.004	0.999
1985	1.004	1.007	1.008	1.006	1.005	1.001	1.001	1.002	1.004	1.004	1.003	1.004	1.000	0.999
1986	1.008	1.005	1.003	1.001	1.005	1.003	1.006	1.006	1.005	1.005	1.004	1.002	1.001	0.999
1987	1.001	0.999	1.003	1.001	1.005	1.010	0.999	1.006	1.003	1.005	1.003	1.001	0.999	1.004
1988	1.003	1.005	1.002	1.006	1.005	1.005	1.001	1.005	1.002	1.003	1.002	1.000	0.998	1.000
1989	1.003	1.006	1.005	1.008	1.005	1.006	1.007	1.000	1.002	0.999	0.999	1.000	0.999	
1990	1.003	1.006	1.008	1.005	1.003	1.002	1.004	0.997	1.001	1.001	0.999	0.998		
1991	1.007	1.006	1.005	1.002	1.004	1.001	1.003	1.001	0.999	0.999	0.998			
1992	1.009	1.001	1.003	1.005	1.003	1.003	0.999	1.000	1.002	0.998				
1993	1.005	1.013	1.013	1.001	1.001	0.999	0.996	1.000	1.000					
1994	1.011	1.005	1.006	1.004	1.001	0.996	0.997	0.998						
1995	1.012	0.996	1.007	1.000	0.997	0.998	0.999							
1996	1.007	1.003	1.000	1.001	0.998	0.996								
1997	1.000	0.995	0.997	0.998	1.000									
1998	0.999	1.000	0.996	1.000										
1999	0.998	0.997	1.002											
2000	0.997	0.998												
2001	1.002													
Selected (a)	1.001	0.998	1.001	1.001	1.000	0.999	1.000	0.999	1.001	1.001	1.001	1.001	1.000	1.000
Cumulative	1.032	1.032	1.034	1.032	1.032	1.032	1.033	1.033	1.034	1.033	1.032	1.031	1.030	1.030
														1.029

(c) The ULT/411Inc factor was calculated based on an inverse power curve fit to a six-year average of the 111-to-123 through 339-to-351 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

## Paid Indemnity Loss Development Factors

Accident Year	<u>27/15</u>	<u>39/27</u>	<u>51/39</u>	<u>63/51</u>	<u>75/63</u>	<u>87/75</u>	<u>99/87</u>	Age-to-Age (in months)										<u>159/147</u>	<u>171/159</u>	<u>183/171</u>	<u>195/183</u>	<u>207/195</u>
1993																						
1994																						
1995																						
1996																						
1997																						
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2014																						
2015																						
2016																						
2017																						
Selected (a)	2.390	1.459	1.202	1.109	1.063	1.047	1.038	1.024	1.023	1.017	1.015	1.011	1.009	1.007	1.006	1.005	1.005	1.006	1.007	1.008	1.007	1.007
Cumulative	6.251	2.616	1.793	1.491	1.345	1.265	1.208	1.164	1.137	1.111	1.092	1.076	1.064	1.054	1.047	1.040	1.040	1.047	1.054	1.068	1.077	1.087

(a) Selections are latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent age-to-age factors.

## Paid Indemnity Loss Development Factors (Continued)

Accident Year	219/207	231/219	243/231	255/243	267/255	279/267	291/279	303/291	315/303	327/315	339/327	351/339	363/351	375/363	387/375	399/387	411/399	411Inc/411Pd (b)	UL/T/411Inc (c)
1983		1.001	1.001	1.001	1.003	1.003	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001		
1984	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	1.001	1.001	1.005	
1985	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	1.001	1.001	1.000	1.005	
1986	1.002	1.001	1.001	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	1.000	1.005	
1987	1.003	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	1.000	1.000	1.005	
1988	1.001	1.001	1.002	1.001	1.001	1.001	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.003	
1989	1.002	1.002	1.001	1.001	1.001	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001			1.003	
1990	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					
1991	1.002	1.002	1.001	1.001	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001						
1992	1.001	1.002	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001							
1993	1.002	1.003	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001								
1994	1.004	1.002	1.003	1.003	1.002	1.002	1.002	1.001	1.001	1.001									
1995	1.005	1.004	1.003	1.002	1.003	1.002	1.002	1.002	1.001	1.001									
1996	1.005	1.004	1.003	1.003	1.002	1.002	1.002	1.002	1.001	1.001									
1997	1.004	1.003	1.002	1.002	1.002	1.002	1.002	1.001	1.001	1.001									
1998	1.005	1.004	1.003	1.003	1.003	1.002	1.002	1.001	1.001	1.001									
1999	1.004	1.003	1.003	1.002	1.002	1.002	1.001	1.001	1.001	1.001									
2000	1.004	1.003	1.003	1.003	1.002	1.002	1.001	1.001	1.001	1.001									
2001	1.005																		
Selected (a)	1.004	1.004	1.003	1.003	1.003	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.004	
Cumulative	1.036	1.031	1.027	1.025	1.022	1.019	1.017	1.015	1.014	1.013	1.012	1.012	1.011	1.010	1.009	1.008	1.008	1.004	1.004

(b) Three-year averages of the 411Inc/411Pd factors are selected.

(c) The UL/T/411Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 111-to-123 through 339-to-351 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

## Paid Medical Loss Development Factors

Unadjusted (a)																					
Accident Year	27/15	39/27	51/39	63/51	75/63	87/75	99/87	Age-to-Age (in months)												195/183	207/195
1993																					
1994																					
1995																					
1996																					
1997																					
1998																					
1999																					
2000																					
2001																					
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2015																					
2016																					
2017																					
Adjusted (b)																					
Accident Year	27/15	39/27	51/39	63/51	75/63	87/75	99/87	Age-to-Age (in months)												195/183	207/195
2000																					
2001																					
2002																					
2003																					
2004																					
2005																					
2006																					
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2014																					
2015																					
2016																					
2017																					
Adjusted (c)																					
Selected (c)	1.844	1.344	1.190	1.112	1.074	1.056	1.038	1.028	1.027	1.022	1.021	1.018	1.015	1.013	1.012	1.011					
Cumulative Unadjusted																					
for Impact of SB 1160	5.318	2.884	2.146	1.803	1.622	1.510	1.430	1.377	1.340	1.305	1.276	1.250	1.229	1.210	1.195	1.180					
Cumulative Adjusted																					
for Impact of SB 1160(d)	5.063	2.745	2.066	1.758	1.597	1.499															

- (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%, -0.9%, and -0.1% to accident years 2011 to 2016, respectively, for the SB 1160 lien reforms. Factors are also adjusted for the impact of pharmaceutical cost reductions to bring the historical payments to the current pharmaceutical cost level.
- (c) Selections are latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent age-to-age factors.
- (d) The cumulative factors for 27, 39, 51, 63, and 75 months are adjusted by -4.8%, -3.7%, -2.5%, -1.5%, and -0.7%, respectively, for the impact of the SB 1160 reductions in future lien filings.

## Paid Medical Loss Development Factors (Continued)

Unadjusted (a) Accident Year	219/207	231/219	243/231	255/243	267/255	279/267	291/279	303/291	315/303	327/315	339/327	351/339	363/351	375/363	387/375	399/387	411/399	411Inc/411Pd (e)	ULT/411Inc (f)
1983				1.006	1.006	1.005	1.004	1.004	1.004	1.005	1.004	1.004	1.004	1.004	1.003	1.003	1.004	1.033	
1984				1.005	1.004	1.004	1.003	1.003	1.003	1.004	1.004	1.003	1.003	1.002	1.003	1.002	1.001	1.035	
1985		1.006	1.004	1.005	1.005	1.006	1.004	1.004	1.003	1.004	1.004	1.003	1.003	1.002	1.003	1.002	1.002	1.030	
1986	1.006	1.006	1.006	1.004	1.004	1.004	1.005	1.005	1.005	1.005	1.005	1.006	1.004	1.006	1.004	1.003	1.002	1.027	
1987	1.007	1.007	1.006	1.008	1.005	1.005	1.005	1.005	1.005	1.006	1.005	1.003	1.003	1.002	1.003	1.002	1.001	1.018	
1988	1.006	1.005	1.008	1.005	1.005	1.006	1.006	1.004	1.004	1.004	1.003	1.003	1.003	1.004	1.003	1.002	1.002	1.019	
1989	1.005	1.006	1.006	1.005	1.005	1.008	1.006	1.006	1.005	1.003	1.003	1.003	1.003	1.004	1.003	1.002	1.003		
1990	1.005	1.005	1.005	1.005	1.006	1.004	1.004	1.004	1.003	1.002	1.002	1.003	1.003	1.004	1.003	1.002	1.003		
1991	1.006	1.006	1.006	1.005	1.006	1.006	1.005	1.004	1.003	1.002	1.004	1.003	1.002	1.004	1.003	1.002	1.003		
1992	1.007	1.007	1.000	1.007	1.007	1.005	1.005	1.005	1.005	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006		
1993	1.011	1.011	1.009	1.013	1.010	1.008	1.005	1.006	1.008	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007		
1994	1.009	1.009	1.012	1.010	1.008	1.008	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007		
1995	1.012	1.016	1.013	1.011	1.013	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007		
1996	1.014	1.014	1.010	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007		
1997	1.013	1.010	1.006	1.006	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007		
1998	1.013	1.010	1.007	1.008	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007		
1999	1.012	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009		
2000	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008	1.008		
2001	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010		
Adjusted (b) Accident Year	219/207	231/219	243/231	255/243	267/255	279/267	291/279	303/291	315/303	327/315	339/327	351/339	363/351	375/363	387/375	399/387	411/399	411Inc/411Pd (e)	ULT/411Inc (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	1.010	1.009	1.007	1.005	1.006	1.004	1.003	1.003	1.003	1.004	1.004	1.003	1.002	1.027	
Cumulative	1.168	1.156	1.146	1.136	1.127	1.116	1.105	1.098	1.092	1.086	1.081	1.078	1.075	1.071	1.066	1.062	1.059	1.029	

(e) Six-year averages of the 411Inc/411Pd factors are selected.

(f) The ULT/411Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 111-to-123 through 339-to-351 factors, excluding most recent three evaluations, and extrapolated to 80 development years.

## Selected Indemnity Development Factors - Paid to Age 255, Incurred from Age 255 to Ultimate

Accident Year	27/15	39/27	51/39	63/51	75/63	87/75	99/87	111/99	123/111	135/123	147/135	159/147	171/159	183/171	195/183	207/195	219/207	231/219	243/231	255/243	255Inc/255Pd (b)
1992																	1.001	1.002	1.002	1.002	1.012
1993																1.002	1.002	1.003	1.002	1.002	1.013
1994																1.003	1.004	1.002	1.003	1.003	1.017
1995																1.004	1.005	1.004	1.003	1.002	1.022
1996																1.005	1.004	1.004	1.003	1.003	1.021
1997																1.006	1.005	1.003	1.002	1.002	1.020
1998																1.007	1.006	1.004	1.003	1.003	1.019
1999																1.008	1.006	1.004	1.003	1.003	
2000																1.009	1.005	1.004	1.003	1.004	
2001																1.010	1.004	1.004	1.003	1.004	
2002																1.011	1.005	1.005	1.003	1.005	
2003																1.012	1.007	1.008	1.004	1.005	
2004																1.013	1.008	1.007	1.004	1.007	
2005																1.014	1.009	1.007	1.005	1.008	
2006																1.015	1.010	1.009	1.008	1.007	
2007																1.016	1.011	1.008	1.008	1.008	
2008																1.017	1.012	1.009	1.009	1.011	
2009																1.018	1.013	1.010	1.009	1.008	
2010																1.019	1.014	1.011	1.008	1.008	
2011																1.020	1.015	1.010	1.009	1.008	
2012																1.021	1.016	1.011	1.009	1.008	
2013																1.022	1.017	1.012	1.009	1.008	
2014																1.023	1.018	1.013	1.009	1.007	
2015																1.024	1.019	1.014	1.010	1.008	
2016																1.025	1.020	1.015	1.011	1.007	
2017																1.026	1.021	1.016	1.012	1.008	
Selected (a)	2.384(c)	1.434(c)	1.180(c)	1.093(c)	1.055(c)	1.047	1.038	1.024	1.023	1.017	1.015	1.011	1.009	1.007	1.006	1.005	1.004	1.004	1.003	1.003	1.020
Cumulative	5.920	2.483	1.732	1.467	1.343	1.273	1.216	1.171	1.144	1.118	1.099	1.083	1.071	1.061	1.053	1.047	1.042	1.037	1.034	1.031	

(a) Selections are latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent paid age-to-age factors. Paid development factors are selected to age 255, 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 255Inc/255Pd 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 255, Incurred from Age 255 to Ultimate (Continued)

Accident Year	Age-to-Age (in months)															
	<u>267/255</u>	<u>279/267</u>	<u>291/279</u>	<u>303/291</u>	<u>315/303</u>	<u>327/315</u>	<u>339/327</u>	<u>351/339</u>	<u>363/351</u>	<u>375/363</u>	<u>387/375</u>	<u>399/387</u>	<u>411/399</u>	<u>ULT/411Inc (d)</u>		
1983						1.000	1.001	1.001	1.001	1.001	1.000	1.001	1.001			
1984					1.001	1.001	1.000	1.001	1.001	0.999	1.000	1.000	1.001			
1985				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	1.002	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000			
1987		1.000	1.000	1.002	1.001	1.000	1.000	1.001	1.000	1.001	1.000	1.000	1.000			
1988	1.000	1.002	1.002	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000			
1989	1.001	1.001	1.000	1.000	1.000	1.001	1.001	1.000	1.000	1.001	1.000	1.000	1.000			
1990	1.001	1.000	1.000	1.000	1.000	1.001	1.001	1.000	1.001	1.000	1.000	1.000	1.000			
1991	1.000	1.001	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000			
1992	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			
1993	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			
1994	1.001	1.001	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1995	1.000	1.001	0.999													
1996	1.001	1.000														
1997	1.001															
Selected (a)	1.001	1.001	1.000	1.000	1.000	1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.001			
Cumulative	1.008	1.007	1.007	1.007	1.007	1.007	1.006	1.006	1.005	1.005	1.005	1.005	1.005	1.004		

(d) The ULT/411Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 111-to-123 through 339-to-351 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>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						117,260
2011					117,817	118,059
2012				123,988	124,553	124,854
2013			131,398	132,372	132,916	133,098
2014		135,175	137,778	138,876	139,367	
2015	128,733	141,546	143,811	144,486		
2016	131,171	144,370	147,154			
2017	133,390	145,143				
2018	135,849					

B. Development of Total Reported Indemnity Claim Counts

Accident Year	Age-to-Age Development (in months):					
	<u>15-27</u>	<u>27-39</u>	<u>39-51</u>	<u>51-63</u>	<u>63-75</u>	<u>75-Ultimate</u>
2011					1.002	
2012				1.005	1.002	
2013			1.007	1.004	1.001	
2014		1.019	1.008	1.004		
2015	1.100	1.016	1.005			
2016	1.101	1.019				
2017	1.088					
Latest Year	1.088	1.019	1.005	1.004	1.001	
Cumulative	1.125	1.034	1.014	1.010	1.006	1.005

Acc. Year	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>
Ult. Claim Counts	152,826	150,060	149,260	145,870	140,206	133,716

C. Closed Indemnity Claim Counts

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						102,249
2011					98,064	104,137
2012				95,688	105,187	111,619
2013			89,082	104,487	114,606	120,841
2014		72,458	95,318	111,796	121,882	
2015	43,771	78,191	103,252	119,602		
2016	46,923	83,728	109,606			
2017	50,824	88,430				
2018	52,750					

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)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						86.7%
2011					82.7%	87.8%
2012				76.3%	83.9%	89.0%
2013			66.6%	78.1%	85.7%	90.4%
2014		51.7%	68.0%	79.7%	86.9%	
2015	30.0%	53.6%	70.8%	82.0%		
2016	31.4%	56.1%	73.4%			
2017	33.9%	58.9%				
2018	34.5%					

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

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						106,562
2011					103,125	107,206
2012				102,846	109,040	113,356
2013			98,191	109,637	116,240	120,841
2014		82,623	102,957	114,958	121,882	
2015	50,349	85,961	107,116	119,602		
2016	51,519	87,959	109,606			
2017	51,795	88,430				
2018	52,750					

F. Average Paid Indemnity per Closed Claim

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						17,217
2011					15,546	17,331
2012				13,293	15,614	17,373
2013			10,517	13,682	15,897	17,421
2014		6,728	11,160	14,533	16,786	
2015	3,011	7,371	11,895	15,218		
2016	3,254	7,706	12,017			
2017	3,348	7,808				
2018	3,575					

- (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)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						18,679
2011					17,020	18,318
2012				15,007	16,646	17,876
2013			12,288	14,768	16,283	17,421
2014		8,426	12,614	15,205	16,786	
2015	3,573	8,550	12,608	15,218		
2016	3,624	8,287	12,017			
2017	3,422	7,808				
2018	3,575					
2019						

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

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						1,990,476
2011					1,755,181	1,963,770
2012				1,543,430	1,815,039	2,026,307
2013			1,206,527	1,619,112	1,892,797	2,105,196
2014		696,192	1,298,676	1,747,932	2,045,904	
2015	179,914	735,006	1,350,541	1,820,060		
2016	186,728	728,918	1,317,134			
2017	177,266	690,492				
2018	188,564					

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

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						586,444
2011					637,689	521,246
2012				748,589	625,289	499,869
2013			851,808	743,827	591,414	460,088
2014		815,536	891,810	751,074	588,448	
2015	447,077	852,237	879,871	713,230		
2016	460,082	827,152	831,765			
2017	463,035	823,281				
2018	494,161					

(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)					
	15	27	39	51	63	75
2010						39,068
2011					32,283	37,440
2012				26,452	32,288	37,769
2013			20,130	26,675	32,300	37,537
2014		13,003	21,004	27,735	33,654	
2015	5,262	13,452	21,694	28,662		
2016	5,461	13,640	22,152			
2017	5,608	14,517				
2018	5,947					

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)					
	15	27	39	51	63	75
2010						-168,499
2011					-163,385	-114,905
2012				-189,343	-124,406	-65,604
2013			-183,361	-137,375	-52,778	
2014		-132,180	-160,446	-87,699		
2015	-34,614	-104,520	-83,824			
2016	-25,099	-57,711				
2017	-5,445					

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

Accident Year	Evaluated as of (in months)					
	15	27	39	51	63	75
2010						417,945
2011					474,304	406,342
2012				559,246	500,883	434,265
2013			668,447	606,451	538,636	460,088
2014		683,356	731,364	663,374	588,448	
2015	412,463	747,717	796,047	713,230		
2016	434,983	769,442	831,765			
2017	457,590	823,281				
2018	494,161					

- (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)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						2,408,421
2011					2,229,485	2,370,111
2012				2,102,676	2,315,922	2,460,572
2013			1,874,974	2,225,563	2,431,433	2,565,284
2014		1,379,548	2,030,040	2,411,307	2,634,351	
2015	592,377	1,482,723	2,146,587	2,533,290		
2016	621,711	1,498,359	2,148,899			
2017	634,856	1,513,773				
2018	682,725					

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

Accident Year	Evaluated as of (in months)				
	<u>15-27</u>	<u>27-39</u>	<u>39-51</u>	<u>51-63</u>	<u>63-75</u>
2010					
2011					1.063
2012				1.101	1.062
2013			1.187	1.093	1.055
2014		1.472	1.188	1.092	
2015	2.503	1.448	1.180		
2016	2.410	1.434			
2017	2.384				
Latest Year	2.384	1.434	1.180	1.092	1.055
3-Year Average	2.432	1.451	1.185	1.095	1.060

O. Paid Indemnity Loss Development Factors (i)

Accident Year	Evaluated as of (in months)				
	<u>15-27</u>	<u>27-39</u>	<u>39-51</u>	<u>51-63</u>	<u>63-75</u>
2011					1.076
2012				1.122	1.076
2013			1.215	1.110	1.063
2014		1.501	1.215	1.109	
2015	2.468	1.476	1.202		
2016	2.403	1.459			
2017	2.391				

(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)				
	15-27	27-39	39-51	51-63	63-75
2011					-1.18%
2012				-1.86%	-1.22%
2013			-2.31%	-1.61%	-0.74%
2014		-1.95%	-2.23%	-1.47%	
2015	1.42%	-1.89%	-1.80%		
2016	0.30%	-1.73%			
2017	-0.26%				

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

Accident Year	Evaluated as of (in months)				
	15-27	27-39	39-51	51-63	63-75
2011					1.063
2012				1.102	1.063
2013			1.188	1.093	1.055
2014		1.472	1.188	1.093	
2015	2.503	1.448	1.180		
2016	2.410	1.434			
2017	2.384				
Latest Year	2.384	1.434	1.180	1.093	1.055
3-Year Average	2.432	1.451	1.185	1.096	1.060

(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 255, Incurred from Age 255 to Ultimate

Unadjusted (a) Accident Year	Age-to-Age (in months)															
	27/15	39/27	51/39	63/51	75/63	87/75	99/87	111/99	123/111	135/123	147/135	159/147	171/159	183/171	195/183	207/195
1992																
1993																
1994																
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Adjusted (b) Accident Year	27/15	39/27	51/39	63/51	75/63	87/75	99/87	111/99	123/111	135/123	147/135	159/147	171/159	183/171	195/183	207/195
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Selected (c)	1.843(e)	1.331(e)	1.173(e)	1.097(e)	1.066(e)	1.056	1.038	1.028	1.027	1.022	1.021	1.018	1.015	1.013	1.012	1.011
Cumulative Unadjusted for Impact of SB 1160	5.031	2.730	2.051	1.749	1.594	1.495	1.416	1.364	1.327	1.292	1.264	1.238	1.217	1.198	1.183	1.169
Cumulative Adjusted for Impact of SB 1160(f)	4.790	2.599	1.975	1.705	1.570	1.485	---	---	---	---	---	---	---	---	---	---

- (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. Factors are also adjusted for the impact of pharmaceutical cost reductions to bring the historical payments to the current pharmaceutical cost level.
- (c) Selections are latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent paid age-to-age factors. Paid development factors are selected to age 255, where an incurred-to-paid ratio is chosen, and subsequently, six-year average incurred loss development factors are selected until ultimate.
- (d) A three-year average of the 255Inc/255Pd factor is selected.
- (e) Based on calculations shown on Exhibits 2.6.3 to 2.6.8. Each of these selections are calculated as the latest year paid medical age-to-age factor multiplied by an adjustment for changes in claim settlement rates.
- (f) The cumulative factors for 27, 39, 51, 63, and 75 months are adjusted by -4.8%, -3.7%, -2.5%, -1.5%, and -0.7%, respectively, for the impact of the SB 1160 reductions in future lien filings.



## Selected Medical Development Factors - Paid to Age 255, Incurred from Age 255 to Ultimate (Continued)

Accident Year	Age-to-Age (in months)															
	<u>267/255</u>	<u>279/267</u>	<u>291/279</u>	<u>303/291</u>	<u>315/303</u>	<u>327/315</u>	<u>339/327</u>	<u>351/339</u>	<u>363/351</u>	<u>375/363</u>	<u>387/375</u>	<u>399/387</u>	<u>411/399</u>	<u>ULT/411Inc (g)</u>		
1983									1.003	1.003	1.002	0.997	0.999			
1984								1.000	1.004	0.999	0.999	1.001	1.000			
1985							1.003	1.004	1.000	0.999	0.999	1.000	1.001			
1986						1.005	1.004	1.002	1.001	0.998	1.004	1.004				
1987					1.003	1.005	1.003	1.001	0.999	1.001	0.999					
1988				1.005	1.002	1.003	1.002	1.000	0.998	1.000						
1989			1.007	1.000	1.002	0.999	0.999	1.000	0.999							
1990		1.002	1.004	0.997	1.001	1.001	0.999	0.998								
1991	1.004	1.001	1.003	1.001	0.999	0.999	0.998									
1992	1.003	1.003	0.999	1.000	1.002	0.998										
1993	1.001	0.999	0.996	1.000	1.000											
1994	1.001	0.996	0.997	0.998												
1995	0.997	0.998	0.999													
1996	0.998	0.996														
1997	1.000															
Selected (c)	1.000	0.999	1.000	0.999	1.001	1.001	1.001	1.001	1.000	1.000	1.001	1.001	1.000			
Cumulative	1.032	1.032	1.033	1.033	1.034	1.033	1.032	1.031	1.030	1.030	1.030	1.030	1.029	1.029		

(g) The ULT/411Inc tail factor was calculated based on an inverse power curve fit to a six-year average of the 111-to-123 through 339-to-351 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>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						117,260
2011					117,817	118,059
2012				123,988	124,553	124,854
2013			131,398	132,372	132,916	133,098
2014		135,175	137,778	138,876	139,367	
2015	128,733	141,546	143,811	144,486		
2016	131,171	144,370	147,154			
2017	133,390	145,143				
2018	135,849					

B. Development of Total Reported Indemnity Claim Counts

Accident Year	Age-to-Age Development (in months):					
	<u>15-27</u>	<u>27-39</u>	<u>39-51</u>	<u>51-63</u>	<u>63-75</u>	<u>75-Ultimate</u>
2011					1.002	
2012				1.005	1.002	
2013			1.007	1.004	1.001	
2014		1.019	1.008	1.004		
2015	1.100	1.016	1.005			
2016	1.101	1.019				
2017	1.088					
Latest Year	1.088	1.019	1.005	1.004	1.001	
Cumulative	1.125	1.034	1.014	1.010	1.006	1.005
Acc. Year	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>
Ult. Claim Counts	152,826	150,060	149,260	145,870	140,206	133,716

C. Closed Indemnity Claim Counts

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						102,249
2011					98,064	104,137
2012				95,688	105,187	111,619
2013			89,082	104,487	114,606	120,841
2014		72,458	95,318	111,796	121,882	
2015	43,771	78,191	103,252	119,602		
2016	46,923	83,728	109,606			
2017	50,824	88,430				
2018	52,750					

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)					
	15	27	39	51	63	75
2010						86.7%
2011					82.7%	87.8%
2012				76.3%	83.9%	89.0%
2013			66.6%	78.1%	85.7%	90.4%
2014		51.7%	68.0%	79.7%	86.9%	
2015	30.0%	53.6%	70.8%	82.0%		
2016	31.4%	56.1%	73.4%			
2017	33.9%	58.9%				
2018	34.5%					

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

Accident Year	Evaluated as of (in months)					
	15	27	39	51	63	75
2010						106,562
2011					103,125	107,206
2012				102,846	109,040	113,356
2013			98,191	109,637	116,240	120,841
2014		82,623	102,957	114,958	121,882	
2015	50,349	85,961	107,116	119,602		
2016	51,519	87,959	109,606			
2017	51,795	88,430				
2018	52,750					

F. Average Paid Medical per Closed Indemnity Claim

Accident Year	Evaluated as of (in months)					
	15	27	39	51	63	75
2010						21,570
2011					18,109	20,808
2012				14,666	17,617	19,840
2013			10,963	14,367	17,053	18,913
2014		6,864	10,991	14,415	16,864	
2015	3,235	7,274	11,350	14,589		
2016	3,466	7,498	11,330			
2017	3,573	7,726				
2018	3,679					

- (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)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						23,843
2011					20,332	22,275
2012				16,839	18,917	20,492
2013			12,864	15,677	17,523	18,913
2014		8,463	12,464	15,142	16,864	
2015	3,777	8,350	12,044	14,589		
2016	3,817	8,021	11,330			
2017	3,645	7,726				
2018	3,679					

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

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						2,540,739
2011					2,096,773	2,388,021
2012				1,731,801	2,062,741	2,322,875
2013			1,263,127	1,718,754	2,036,825	2,285,434
2014		699,204	1,283,223	1,740,720	2,055,397	
2015	190,184	717,812	1,290,121	1,744,824		
2016	196,647	705,550	1,241,832			
2017	188,794	683,180				
2018	194,068					

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

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						886,076
2011					888,395	736,679
2012				935,110	801,111	651,898
2013			957,129	864,165	688,926	549,258
2014		877,103	934,369	793,707	624,163	
2015	522,945	888,276	885,787	734,081		
2016	554,121	866,797	838,008			
2017	569,815	857,409				
2018	598,128					

(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)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						59,028
2011					44,975	52,915
2012				33,043	41,367	49,256
2013			22,619	30,990	37,626	44,812
2014		13,985	22,006	29,310	35,697	
2015	6,155	14,021	21,839	29,500		
2016	6,577	14,294	22,318			
2017	6,901	15,118				
2018	7,198					

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)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						-254,590
2011					-227,620	-162,395
2012				-236,520	-159,387	-85,557
2013			-206,033	-159,600	-61,480	
2014		-142,158	-168,103	-92,677		
2015	-40,488	-108,940	-84,388			
2016	-30,229	-60,477				
2017	-6,701					

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

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						631,487
2011					660,776	574,284
2012				698,590	641,724	566,341
2013			751,096	704,565	627,445	549,258
2014		734,945	766,266	701,030	624,163	
2015	482,457	779,336	801,399	734,081		
2016	523,892	806,321	838,008			
2017	563,114	857,409				
2018	598,128					

- (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)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						227,488
2011					213,500	216,813
2012				216,762	221,615	225,995
2013			215,707	221,923	228,605	231,095
2014		230,330	240,129	246,897	249,602	
2015	204,649	242,436	251,805	257,238		
2016	217,848	259,031	269,106			
2017	238,198	278,463				
2018	252,103					

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

Accident Year	Evaluated as of (in months)					
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>
2010						3,445,659
2011					3,226,733	3,447,783
2012				2,647,153	2,926,080	3,115,212
2013			2,229,930	2,645,241	2,892,875	3,065,786
2014		1,664,479	2,289,618	2,688,647	2,929,163	
2015	877,290	1,739,583	2,343,325	2,736,143		
2016	938,386	1,770,901	2,348,946			
2017	990,106	1,819,052				
2018	1,044,299					

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

Accident Year	Evaluated as of (in months)				
	<u>15-27</u>	<u>27-39</u>	<u>39-51</u>	<u>51-63</u>	<u>63-75</u>
2011					1.069
2012				1.105	1.065
2013			1.186	1.094	1.060
2014		1.376	1.174	1.089	
2015	1.983	1.347	1.168		
2016	1.887	1.326			
2017	1.837				
Latest Year	1.837	1.326	1.168	1.089	1.060

(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)				
	15-27	27-39	39-51	51-63	63-75
2011					1.082
2012				1.125	1.075
2013			1.204	1.110	1.067
2014		1.385	1.194	1.104	
2015	1.955	1.359	1.185		
2016	1.876	1.340			
2017	1.838				

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

Accident Year	Evaluated as of (in months)				
	15-27	27-39	39-51	51-63	63-75
2011					-1.21%
2012				-1.78%	-1.00%
2013			-1.45%	-1.48%	-0.72%
2014		-0.66%	-1.61%	-1.36%	
2015	1.42%	-0.87%	-1.44%		
2016	0.58%	-0.98%			
2017	-0.05%				

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

Accident Year	Evaluated as of (in months)				
	15-27	27-39	39-51	51-63	63-75
2011					1.072
2012				1.113	1.071
2013			1.195	1.102	1.066
2014		1.383	1.184	1.097	
2015	1.987	1.353	1.173		
2016	1.893	1.331			
2017	1.843				
Latest Year	1.843	1.331	1.173	1.097	1.066
3-Year Average	1.908	1.356	1.184	1.104	1.070

- (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 March 31, 2019**

Accident Year	Paid or Incurred Loss Ratio(a)	Development Factors		Projected Ultimate Loss Ratio (4) = (1) x (3)
		(1)	(2)	
		Annual(b)	Cumulative	
1986	0.396	1.001	1.005	0.398
1987	0.346	1.000	1.005	0.347
1988	0.330	1.000	1.005	0.332
1989	0.343	1.000	1.005	0.345
1990	0.398	1.000	1.005	0.400
1991	0.425	1.001	1.006	0.427
1992	0.350	1.001	1.006	0.352
1993	0.287	1.000	1.007	0.289
1994	0.327	1.000	1.007	0.329
1995	0.472	1.000	1.007	0.476
1996	0.530	1.000	1.007	0.533
1997	0.600	1.001	1.007	0.604
1998	0.651	1.001	1.008	0.657
1999	0.670	1.003	1.031	0.691
2000	0.578	1.003	1.034	0.597
2001	0.477	1.004	1.037	0.495
2002	0.354	1.004	1.042	0.369
2003	0.232	1.005	1.047	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	1.071	0.161
2007	0.205	1.011	1.083	0.222
2008	0.257	1.015	1.099	0.283
2009	0.296	1.017	1.118	0.331
2010	0.281	1.023	1.144	0.321
2011	0.257	1.024	1.171	0.300
2012	0.223	1.038	1.216	0.271
2013	0.184	1.047	1.273	0.235
2014	0.166	1.055	1.343	0.223
2015	0.149	1.093	1.467	0.218
2016	0.120	1.180	1.732	0.207
2017	0.086	1.434	2.483	0.213
2018	0.039	2.384	5.920	0.232

(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 March 31, 2019**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				<b>Reform Adjusted</b>			
				<b>Development Factors</b>			
		Adjusted		<b>Cumulative</b>		Adjusted	Projected
Accident	Paid or Incurred	Paid or Incurred		Unadjusted for	Adjusted for	Developed	Ultimate
<u>Year</u>	<u>Loss Ratio(a)</u>	<u>Loss Ratio (b)</u>	<u>Annual(c)</u>	<u>Reforms(c)</u>	<u>Reforms(c)</u>	<u>Loss Ratio (d)</u>	<u>Loss Ratio</u>
						(2) x (5)	(1) + ((6) - (2))
1986	0.335	0.335	1.000	1.029	1.029	0.344	0.344
1987	0.314	0.314	1.001	1.030	1.030	0.323	0.323
1988	0.304	0.304	1.001	1.030	1.030	0.314	0.314
1989	0.325	0.325	1.000	1.030	1.030	0.335	0.335
1990	0.366	0.366	1.000	1.030	1.030	0.377	0.377
1991	0.383	0.383	1.001	1.031	1.031	0.395	0.395
1992	0.319	0.319	1.001	1.032	1.032	0.329	0.329
1993	0.266	0.266	1.001	1.033	1.033	0.275	0.275
1994	0.308	0.308	1.001	1.034	1.034	0.318	0.318
1995	0.452	0.452	0.999	1.033	1.033	0.467	0.467
1996	0.484	0.484	1.000	1.033	1.033	0.500	0.500
1997	0.545	0.545	0.999	1.032	1.032	0.563	0.563
1998	0.658	0.658	1.000	1.032	1.032	0.679	0.679
1999	0.663	0.590	1.008	1.125	1.125	0.664	0.737
2000	0.598	0.533	1.008	1.135	1.135	0.605	0.670
2001	0.526	0.471	1.009	1.145	1.145	0.539	0.594
2002	0.405	0.364	1.010	1.157	1.157	0.421	0.462
2003	0.257	0.232	1.011	1.169	1.169	0.271	0.297
2004	0.174	0.157	1.012	1.183	1.183	0.186	0.203
2005	0.169	0.152	1.013	1.198	1.198	0.183	0.199
2006	0.215	0.195	1.015	1.217	1.217	0.238	0.258
2007	0.299	0.273	1.018	1.238	1.238	0.338	0.364
2008	0.368	0.337	1.021	1.264	1.264	0.426	0.457
2009	0.423	0.390	1.022	1.292	1.292	0.503	0.537
2010	0.408	0.377	1.027	1.327	1.327	0.501	0.531
2011	0.341	0.319	1.028	1.364	1.364	0.435	0.458
2012	0.284	0.268	1.038	1.416	1.416	0.379	0.395
2013	0.221	0.211	1.056	1.495	1.485	0.313	0.323
2014	0.185	0.179	1.066	1.594	1.570	0.281	0.287
2015	0.160	0.157	1.097	1.749	1.705	0.268	0.271
2016	0.131	0.130	1.173	2.051	1.975	0.256	0.257
2017	0.103	0.103	1.331	2.730	2.599	0.266	0.267
2018	0.060	0.060	1.843	5.031	4.790	0.287	0.287

- (a) Based on Exhibit 1. Paid MCCP 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) Based on experience evaluated as of March 31, 2019. Reflects an adjustment for the pharmaceutical cost reductions to restate the historical medical paid-to-date ratios at a 2018 pharmaceutical cost level.
- (c) See Exhibits 2.6.1 and 2.6.2.
- (d) The developed medical loss ratios shown were derived based on an adjustment for pharmaceutical cost reductions. They are only for purposes of projecting future medical loss ratios and do not reflect true estimates of ultimate loss ratios for those accident years.

## 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	1.567	
1987	0.0	0.0	1.9	1.9	1.538	
1988	0.0	0.0	1.5	1.5	1.515	
1989	0.0	0.0	1.5	1.5	1.493	
1990	2.3	19.9	1.7	24.7	1.197	
1991	4.9	14.8	0.8	21.4	0.986	
1992	1.8	-8.3	1.6	-5.2	1.040	
1993	0.2	-18.1	0.4	-17.6	1.262	
1994	-5.1	0.2	0.6	-4.3	1.319	
1995	6.3	0.6	1.0	8.0	1.221	
1996	5.3	0.4	1.2	7.0	1.141	
1997	9.7	0.2	1.6	11.7	1.022	
1998	6.5	0.0	1.8	8.4	0.943	
1999	5.7	0.0	2.1	7.9	0.874	
2000	3.9	0.0	3.1	7.1	0.815	
2001	-0.3	0.0	0.2	-0.1	0.816	
2002	-0.7	0.0	0.4	-0.3	0.836	(e)
2003	7.3	0.0	1.2	8.6	0.834	(e)
2004	-6.0	-13.7	2.1	-17.2	1.141	(e)
2005	-31.6	-15.3	1.6	-41.2	1.546	
2006	5.6	-5.7	2.2	1.8	1.520	
2007	1.6	0.0	2.1	3.7	1.465	
2008	4.8	0.6	1.0	6.5	1.376	
2009	0.4	1.4	0.2	2.0	1.349	
2010	0.4	0.0	1.5	1.9	1.323	
2011	0.0	0.0	1.4	1.4	1.305	
2012	-0.8	0.0	2.1	1.3	1.289	
2013	1.4	0.2	0.6	2.3	1.260	
2014	5.8	1.5	1.7	9.2	1.154	
2015	-0.8	0.0	2.3	1.4	1.138	
2016	0.3	0.0	1.0	1.3	1.124	
2017	0.5	0.0	2.2	2.7	1.094	
2018	0.4	0.0	2.1	2.5	1.067	
2019	0.4	0.0	2.3	2.7		
2020	0.5	0.0	2.2	2.7		
1/1/2021	0.2 (Annual 0.5)	0.0	1.0 (Annual 2.1)	1.2		

- (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. Values for 2017 and prior have been updated to reflect a recent WCIRB reassessment of the impact of wage inflation on indemnity benefit levels.
- (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 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	0.919	0.081	0.0%	5.4%	0.4%	0.4%
2017	0.906	0.094	0.0%	2.2%	0.2%	0.2%
2018	0.905	0.095	0.0%	2.4%	0.2%	0.2%
2019	0.905	0.095	0.0%	2.8%	0.3%	0.3%
2020	0.905	0.095	0.0%	3.1%	0.3%	0.3%
1/1/2021	0.905	0.095	0.0% (Annual 0.0%)	1.3% (Annual 2.6%)	0.1%	0.1%

(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 MCCP 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 Year	(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	-2.0%	0.0%	-2.0%
2012	-4.4%	0.0%	-4.4%
2013	-8.2%	0.2%	-8.0%
2014	-5.9%	1.3%	-4.7%
2015	-2.0%	0.0%	-2.0%
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%
2020	0.0%	0.0%	0.0%
1/1/2021	0.0%	0.0%	0.0%

- (a) Reflects the WCIRB's most recent estimates of the cost impact of legislation. Does not include the impact of the SB 1160 lien provisions on future medical costs as well as the estimated reductions to pharmaceutical costs attributable to SB 863, 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%	0.832
1987	3.8%	0.0%	3.8%	0.802
1988	3.8%	0.0%	3.8%	0.772
1989	3.0%	0.0%	3.0%	0.750
1990	3.7%	19.1%	23.5%	0.607
1991	3.6%	12.9%	16.9%	0.519
1992	3.0%	-7.9%	-5.2%	0.548
1993	2.7%	-18.7%	-16.5%	0.656
1994	-2.3%	-2.3%	-4.6%	0.687
1995	0.9%	0.5%	1.4%	0.678
1996	1.0%	0.4%	1.4%	0.668
1997	0.7%	0.2%	0.9%	0.662
1998	0.8%	12.6%	13.5%	0.583
1999	2.5%	12.6%	15.4%	0.505
2000	1.7%	7.0%	8.8%	0.465
2001	2.9%	6.6%	9.7%	0.423
2002	2.0%	-5.6%	-3.7%	0.440
2003	1.4%	-6.0%	-4.7%	0.461
2004	0.0%	-33.9%	-33.9%	0.698
2005	0.0%	-13.9%	-13.9%	0.810
2006	0.3%	-5.1%	-4.8%	0.851
2007	1.8%	0.1%	1.9%	0.835
2008	0.2%	0.5%	0.7%	0.829
2009	0.4%	1.0%	1.4%	0.818
2010	0.3%	0.0%	0.3%	0.816
2011	0.3%	-2.0%	-1.7%	0.830
2012	0.1%	-4.4%	-4.3%	0.867
2013	0.1%	-8.0%	-7.9%	0.942
2014	0.3%	-4.7%	-4.4%	0.985
2015	0.2%	-2.0%	-1.8%	1.003
2016	0.4%	-0.5%	-0.1%	1.004
2017	0.2%	-0.4%	-0.2%	1.006
2018	0.2%	-0.3%	-0.1%	1.007
2019	0.3%	0.0%	0.3%	
2020	0.3%	0.0%	0.3%	
1/1/2021	0.1%	0.0%	0.1%	

(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 1/1/2021 level.

## Annual Wage Level Changes

<u>Year</u>	<u>Annual Wage Level Change(a)</u>	<u>Factor to a 1/1/2021 Wage Level</u>
1986	4.7	3.341
1987	5.6	3.164
1988	4.4	3.030
1989	4.3	2.905
1990	5.0	2.767
1991	2.3	2.705
1992	4.7	2.583
1993	1.2	2.553
1994	1.8	2.508
1995	2.9	2.437
1996	3.4	2.357
1997	4.7	2.251
1998	5.2	2.140
1999	6.2	2.015
2000	9.0	1.848
2001	0.6	1.837
2002	1.1	1.817
2003	3.6	1.754
2004	5.0	1.671
2005	3.2	1.619
2006	4.6	1.548
2007	4.5	1.481
2008	2.1	1.451
2009	0.5	1.443
2010	3.0	1.401
2011	2.9	1.362
2012	4.1	1.308
2013	0.8	1.298
2014	3.2	1.258
2015	4.5	1.203
2016	1.9	1.181
2017	4.2	1.133
2018	3.5	1.095
Projected:		
2019	3.9	
2020	3.6	
1/1/2021	1.7	(Annual = 3.5)

(a) Historical wage changes through 2016 are based on Bureau of Labor Statistics data. 2019 wage change is based on California Department of Finance as of April 2019. Forecasts for 2017, 2018 and 2020 and forward are based on the average of wage level projections made by the UCLA Anderson School of Business as of June 2019 and those made by the California Department of Finance as of April 2019.

## 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	Factor to Adjust Insurer Premium to an Industry Average Filed Pure Premium Rate Level as of	Adjustment to Remove Surcharge	Average Experience Modification	Off-Balance Correction in Advisory January 1, 2019 Pure Premium	Factor to Adjust for Impact of Premium Resulting from	Composite Premium Adjustment
Calendar Year	Factor to a 1/1/2021 Wage Level (a)	Rates (b)	July 1, 2019 (c)	July 1, 2019 (d)	Premium (e)	Modification (f)	Rates	Audits (g)	Factor (h)
1986	3.341	---	---	0.722	0.991	0.983	1.017	---	2.391
1987	3.164	---	---	0.635	0.992	0.983	1.017	---	1.992
1988	3.030	---	---	0.568	0.993	0.963	1.017	---	1.744
1989	2.905	---	---	0.559	0.993	0.945	1.017	---	1.677
1990	2.767	---	---	0.545	0.991	0.942	1.017	---	1.560
1991	2.705	---	---	0.504	0.987	0.939	1.017	---	1.410
1992	2.583	---	---	0.484	0.982	0.940	1.017	---	1.285
1993	2.553	---	---	0.478	0.981	0.949	1.017	---	1.240
1994	2.508	---	---	0.547	0.986	0.948	1.017	---	1.404
1995	2.437	---	---	0.741	0.995	0.958	1.017	---	1.844
1996	2.357	1.023	0.787	0.769	1.000	0.935	1.017	---	1.907
1997	2.251	0.989	0.785	0.794	1.000	0.949	1.017	---	1.851
1998	2.140	0.965	0.818	0.848	1.000	0.959	1.017	---	1.860
1999	2.015	0.972	0.827	0.851	1.000	0.954	1.017	---	1.767
2000	1.848	1.005	0.750	0.746	1.000	0.970	1.017	---	1.398
2001	1.837	1.029	0.660	0.641	1.000	0.969	1.017	---	1.196
2002	1.817	1.157	0.591	0.511	1.000	0.991	1.017	---	0.921
2003	1.754	1.267	0.484	0.382	1.000	1.005	1.017	---	0.656
2004	1.671	1.397	0.492	0.352	1.000	0.981	1.017	---	0.590
2005	1.619	1.470	0.592	0.403	1.000	0.982	1.017	---	0.653
2006	1.548	1.447	0.763	0.527	1.000	0.956	1.017	---	0.839
2007	1.481	1.493	1.039	0.696	1.000	0.931	1.017	0.985	1.072
2008	1.451	1.426	1.237	0.867	1.000	0.946	1.017	0.991	1.296
2009	1.443	1.366	1.219	0.892	1.000	0.937	1.017	1.034	1.398
2010	1.401	1.384	1.195	0.863	1.000	0.941	1.017	1.005	1.271
2011	1.362	1.401	1.194	0.852	1.000	0.982	1.017	---	1.162
2012	1.308	1.223	0.984	0.805	1.000	1.000	1.017	---	1.035
2013	1.298	1.138	0.792	0.696	1.000	0.983	1.017	---	0.904
2014	1.258	1.126	0.730	0.648	1.000	0.961	1.017	---	0.834
2015	1.203	1.109	0.709	0.639	1.000	0.951	1.017	---	0.796
2016	1.181	1.148	0.764	0.666	1.000	0.949	1.017	---	0.814
2017	1.133	1.156	0.843	0.729	1.000	0.956	1.017	---	0.850
2018	1.095	1.195	0.955	0.799	1.000	0.958	1.017	---	0.898

(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, 2019 pure premium rate level and (2) an additional adjustment factor, which is the ratio of the average advisory January 1, 2019 pure premium rate (\$1.67) to the industry average filed pure premium rate as of July 1, 2019 (\$1.99).

(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, 2019.

(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 1st Set & June 2019 UCLA

AY	Annual %	Annual Log Differences						
	Changes Intra- Class Ind Freq	Intra-Class Indemnity Frequency per \$M Exposure at PY 2017 Level			AY+1	Cumulative Injury Index	Economic Variables	CalOSHA
	Total	Total	Cumulative	Non-cum.	Indemnity Benefit Level		(1st Prin. Comp.)	Dummy Variable
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	----	0.043	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	----	0.172	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	-0.081	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	0.078	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	1.0%	0.010	0.030	0.008	0.003	0.022	0.043	0.000
2012	4.6%	0.045	0.126	0.035	0.025	0.091	0.123	0.000
2013	0.5%	0.005	0.139	-0.013	0.071	0.152	0.151	0.000
2014	0.1%	0.001	0.069	-0.009	0.003	0.078	0.178	0.000
2015	-0.7%	-0.007	0.051	-0.017	0.002	0.068	0.194	0.000
2016	-3.3%	-0.034	0.035	-0.046	0.004	0.081	0.082	0.000
2017*	-1.7%	-0.017	0.079	-0.036	0.004	0.115	0.078	0.000
2018	0.1%	0.001	0.001	0.001	0.003	0.000	0.216	0.000
2019	-1.9%	-0.019	-0.019	-0.019	0.004	0.000	0.005	0.000
2020	-2.0%	-0.020	-0.020	-0.020	0.004	0.000	-0.005	0.000
2021	-2.2%	-0.022	-0.022	-0.022	0.004	0.000	-0.030	0.000

## Y = Hazardousness-Adjusted Noncumulative Indemnity Claim Frequency

Constant	-0.020
Std Err of Y Est	0.040
R Squared	0.575
No. of Observations	39
Degrees of Freedom	34

X Coefficient(s)	0.178	0.282	0.093	-0.131
Std Err of Coef.	0.072	0.061	0.043	0.076

## 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 2018; June 2019 UCLA Anderson Forecasts for 2019 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 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 March 31, 2019**

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	9,975	---	1.914	19,097	---
1991	10,915	9.4%	1.810	19,761	3.5%
1992	11,017	0.9%	1.750	19,285	-2.4%
1993	11,994	8.9%	1.740	20,870	8.2%
1994	12,957	8.0%	1.823	23,614	13.2%
1995	14,528	12.1%	1.698	24,663	4.4%
1996	16,284	12.1%	1.593	25,941	5.2%
1997	19,341	18.8%	1.429	27,644	6.6%
1998	21,205	9.6%	1.318	27,955	1.1%
1999	23,246	9.6%	1.222	28,397	1.6%
2000	24,680	6.2%	1.140	28,145	-0.9%
2001	27,157	10.0%	1.142	31,000	10.1%
2002	26,267	-3.3%	1.169	30,713	-0.9%
2003	25,889	-1.4%	1.166	30,177	-1.7%
2004	21,111	-18.5%	1.377	29,070	-3.7%
2005	19,084	-9.6%	1.581	30,167	3.8%
2006	20,801	9.0%	1.465	30,467	1.0%
2007	22,623	8.8%	1.412	31,942	4.8%
2008	24,728	9.3%	1.334	32,986	3.3%
2009	25,920	4.8%	1.326	34,369	4.2%
2010	25,454	-1.8%	1.301	33,120	-3.6%
2011	25,174	-1.1%	1.283	32,304	-2.5%
2012	24,781	-1.6%	1.267	31,406	-2.8%
2013	24,443	-1.4%	1.242	30,354	-3.4%
2014	25,227	3.2%	1.154	29,119	-4.1%
2015	25,485	1.0%	1.138	28,998	-0.4%
2016	24,941	-2.1%	1.124	28,023	-3.4%
2017	25,053	0.4%	1.094	27,414	-2.2%
2018	26,450	5.6%	1.067	28,223	3.0%

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

(7) Estimated Annual Exponential Trend Based on 2005 to 2018: -1.1%

(8) Estimated Annual Exponential Trend Based on 2014 to 2018: -1.2%

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 March 31, 2019**

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	8,776	---	0.909	7,981	---
1991	9,430	7.5%	0.892	8,413	5.4%
1992	9,521	1.0%	0.862	8,205	-2.5%
1993	10,561	10.9%	0.845	8,925	8.8%
1994	11,636	10.2%	0.888	10,333	15.8%
1995	13,320	14.5%	0.880	11,723	13.5%
1996	14,269	7.1%	0.871	12,434	6.1%
1997	16,996	19.1%	0.865	14,707	18.3%
1998	20,800	22.4%	0.762	15,858	7.8%
1999	23,583	13.4%	0.661	15,579	-1.8%
2000	26,399	11.9%	0.607	16,026	2.9%
2001	31,366	18.8%	0.553	17,359	8.3%
2002	31,663	0.9%	0.575	18,199	4.8%
2003	30,209	-4.6%	0.603	18,216	0.1%
2004	27,897	-7.7%	0.798	22,251	22.2%
2005	28,716	2.9%	0.798	22,905	2.9%
2006	31,352	9.2%	0.794	24,907	8.7%
2007	35,003	11.6%	0.780	27,289	9.6%
2008	37,848	8.1%	0.777	29,390	7.7%
2009	39,901	5.4%	0.773	30,860	5.0%
2010	40,081	0.5%	0.771	30,906	0.1%
2011	36,407 (c)	---	0.793	28,855 (c)	---
2012	34,211	-6.0%	0.837	28,634	-0.8%
2013	31,830	-7.0%	0.921	29,311	2.4%
2014	30,598	-3.9%	0.980	29,981	2.3%
2015	29,846	-2.5%	1.003	29,934	-0.2%
2016	28,957	-3.0%	1.004	29,073	-2.9%
2017	29,319	1.2%	1.006	29,495	1.5%
2018	30,535	4.1%	1.007	30,749	4.3%

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 (7).

(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 March 31, 2019**

(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	28,716	---	22,905	---	27,212	---	21,705	---
2006	31,352	9.2%	24,908	8.7%	29,396	8.0%	23,354	7.6%
2007	35,003	11.6%	27,289	9.6%	32,680	11.2%	25,478	9.1%
2008	37,848	8.1%	29,390	7.7%	34,544	5.7%	26,824	5.3%
2009	39,901	5.4%	30,860	5.0%	36,576	5.9%	28,289	5.5%
2010	40,081	0.5%	30,906	0.2%	36,704	0.4%	28,303	0.1%
2011	39,890	-0.5%	31,616	2.3%	36,407	-0.8%	28,855	2.0%
2012	37,442	-6.1%	31,338	-0.9%	34,211	-6.0%	28,634	-0.8%
2013	34,926	-6.7%	32,162	2.6%	31,830	-7.0%	29,311	2.4%
2014	33,572	-3.9%	32,895	2.3%	30,598	-3.9%	29,981	2.3%
2015	32,683	-2.6%	32,780	-0.3%	29,846	-2.5%	29,934	-0.2%
2016	31,689	-3.0%	31,816	-2.9%	28,957	-3.0%	29,073	-2.9%
2017	32,189	1.6%	32,383	1.8%	29,319	1.2%	29,495	1.5%
2018	33,743	4.8%	33,979	4.9%	30,535	4.1%	30,749	4.3%

**Estimated Annual Exponential Trend**

Trend Based on 1990 to 2018:

Trend Based on 2005 to 2018:

Trend Based on 2014 to 2018:

5.8%  
2.4%  
0.5%

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 March 31, 2019**

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	0.398	1.567	2.391	0.261
1987	0.347	1.538	1.992	0.268
1988	0.332	1.515	1.744	0.289
1989	0.345	1.493	1.677	0.307
1990	0.400	1.197	1.560	0.307
1991	0.427	0.986	1.410	0.299
1992	0.352	1.040	1.285	0.285
1993	0.289	1.262	1.240	0.294
1994	0.329	1.319	1.404	0.309
1995	0.476	1.221	1.844	0.315
1996	0.533	1.141	1.907	0.319
1997	0.604	1.022	1.851	0.334
1998	0.657	0.943	1.860	0.333
1999	0.691	0.874	1.767	0.342
2000	0.597	0.815	1.398	0.348
2001	0.495	0.816	1.196	0.338
2002	0.369	0.836	0.921	0.335
2003	0.243	0.834	0.656	0.309
2004	0.145	1.141	0.590	0.281
2005	0.124	1.546	0.653	0.295
2006	0.161	1.520	0.839	0.292
2007	0.222	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.232	1.067	0.898	0.276
				Projections (d)
2019				0.268
2020				0.261
1/1/2021				0.257

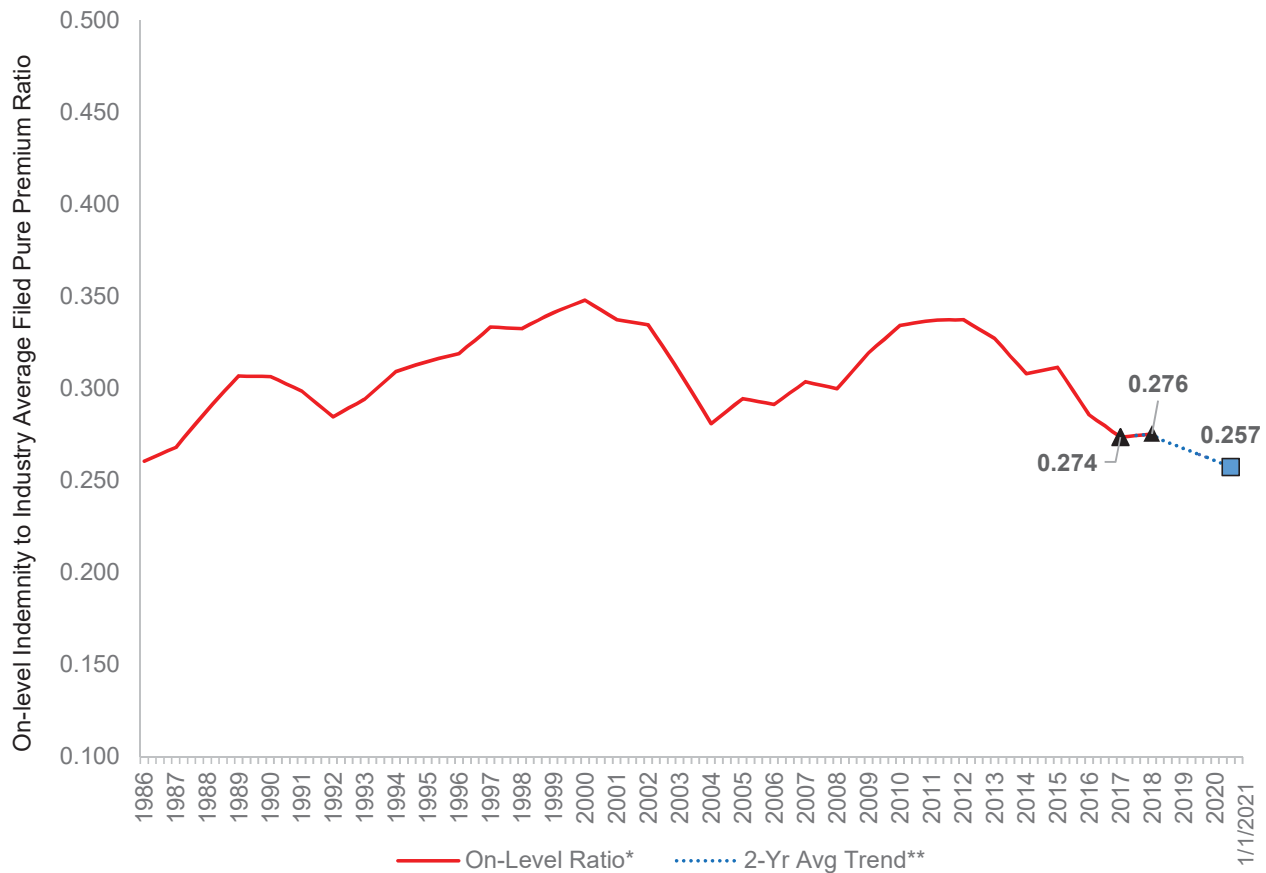
(a) See Exhibit 3.1.

(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 Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 through 2021 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 March 31, 2019**



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

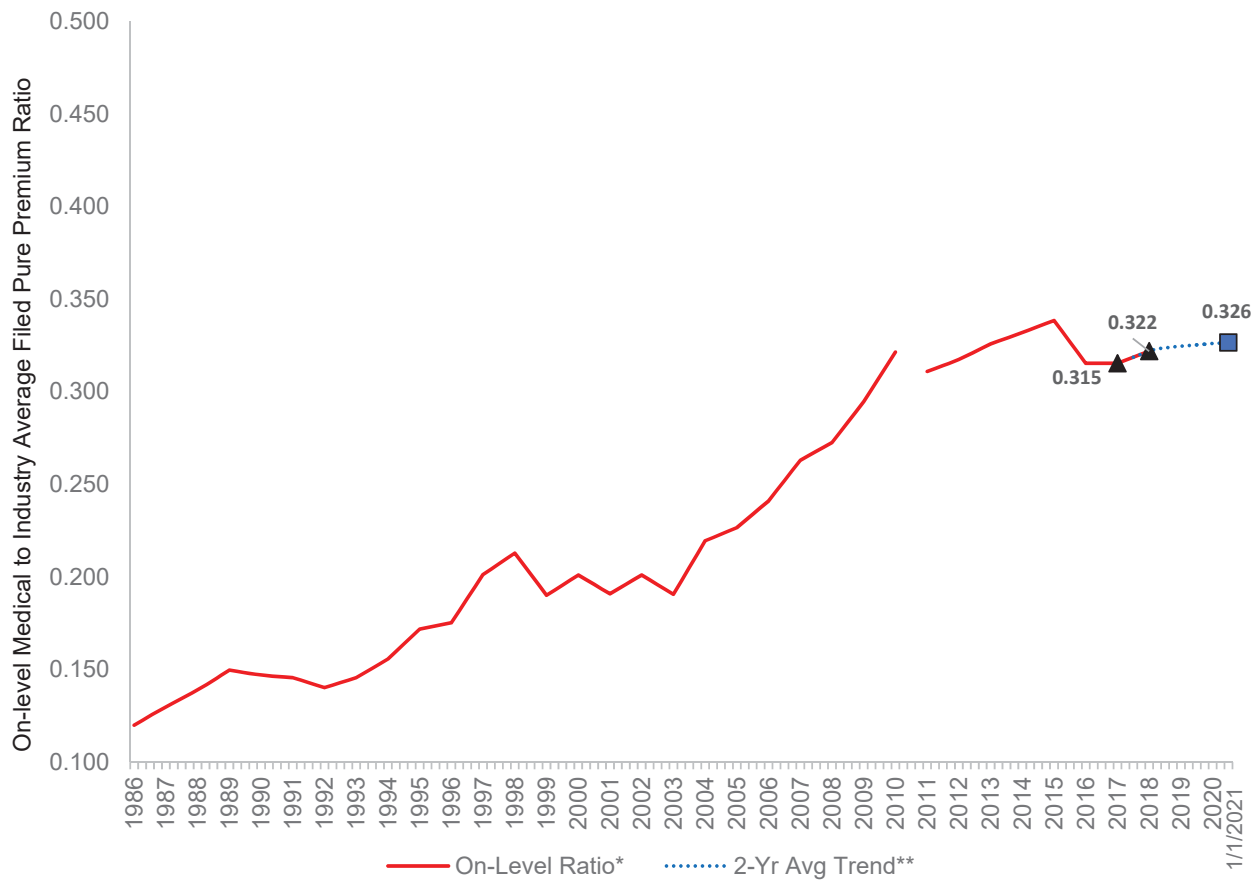
\*\* The 1/1/2021 indemnity to industry average filed pure premium ratio was calculated based on separate frequency and severity trends applied to the 2017 and 2018 years.

**Projected On-Level Accident Year  
Medical Loss to Industry Average Filed Pure Premium Ratios  
Based on Experience as of March 31, 2019**

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	0.344	0.832	2.391	0.120
1987	0.323	0.802	1.992	0.130
1988	0.314	0.772	1.744	0.139
1989	0.335	0.750	1.677	0.150
1990	0.377	0.607	1.560	0.147
1991	0.395	0.519	1.410	0.146
1992	0.329	0.548	1.285	0.140
1993	0.275	0.656	1.240	0.146
1994	0.318	0.687	1.404	0.156
1995	0.467	0.678	1.844	0.172
1996	0.500	0.668	1.907	0.175
1997	0.563	0.662	1.851	0.201
1998	0.679	0.583	1.860	0.213
1999	0.664	0.505	1.767	0.190
2000	0.605	0.465	1.398	0.201
2001	0.539	0.423	1.196	0.191
2002	0.421	0.440	0.921	0.201
2003	0.271	0.461	0.656	0.191
2004	0.186	0.698	0.590	0.219
2005	0.183	0.810	0.653	0.227
2006	0.238	0.851	0.839	0.241
2007	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.281	0.985	0.834	0.332
2015	0.268	1.003	0.796	0.338
2016	0.256	1.004	0.814	0.315
2017	0.266	1.006	0.850	0.315
2018	0.287	1.007	0.898	0.322
				Projections (d)
2019				0.325
2020				0.326
1/1/2021				0.326

- (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 Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 through 2021 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 March 31, 2019**



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

\*\* The 1/1/2021 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, 2020 and December 31, 2020  
Based on Experience as of March 31, 2019**

	<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)	0.257	0.326	0.583
2. Projected Loss Adjustment Expense Factor (ALAE + MCCP + ULAE, See Appendix C)			1.364
3. Indicated Total Loss and Loss Adjustment Expense to Industry Average Filed Pure Premium Ratio (1) x (2)			0.795
4. Difference in Off-Balance Factor (See Section C, Appendix B of the WCIRB's January 1, 2020 Regulatory Filing)			-0.3%
5. Indicated Difference from Industry Average Filed Pure Premium Rate per \$100 of Payroll as of July 1, 2019 [(3) x [(4) + 1.0] - 1.0]			-20.7%
6. Industry Average Filed Pure Premium Rate per \$100 of Payroll as of July 1, 2019			\$1.99
7. Indicated Average Pure Premium Rate per \$100 of Payroll for Policies with Effective Dates between January 1, 2020 and December 31, 2020 (6) x [1.0 + (5)]			\$1.58



Section B  
Appendix A  
Loss Development Methodology

The pure premium rates effective January 1, 2020 are intended to reflect the final or ultimate cost of losses and loss adjustment expenses on all accidents that arise on policies incepting during the 2020 year. The information shown in Section B, Exhibit 1 reflects paid and incurred (paid plus case reserves) loss amounts reported for each completed accident year as of March 31, 2019. However, since workers' compensation claims incurred in a particular year will be paid out over many years and pure premium rates are intended to reflect the ultimate cost of losses and loss adjustment expenses, the WCIRB adjusts, or develops, the reported cost of claims for each accident year that are valued as of March 31, 2019 to a final, or ultimate, cost basis. This actuarial process is known as loss development.

The WCIRB generally estimates the growth, or development, of more current accident year losses based on the historical development patterns of more mature accident years. The development of both historical paid losses and incurred losses for each accident year is reviewed. The historical incurred loss development in each evaluation period is shown in Section B, Exhibits 2.1.1 and 2.1.2 for indemnity and 2.2.1 and 2.2.2 for medical. The historical paid loss development in each evaluation period is shown in Section B, Exhibits 2.3.1 and 2.3.2 for indemnity and 2.4.1 and 2.4.2 for medical.<sup>1</sup> These factors represent the year-to-year changes, based on successive March 31 evaluations, in the reported aggregate cost of all claims that occurred during a particular year. The changes in reported incurred losses may result from (a) claims that have occurred but had not yet been reported at the time of the prior evaluation, (b) reopening of previously closed claims as further disability payments or the need for further medical treatment arises or (c) changes in the estimated cost of open claims as additional information becomes available or the claim is settled. Changes in the paid losses reported for each accident year occur as additional payments are made to injured workers for statutory indemnity benefits or for injured workers' medical treatments.

In addition to reported paid losses and case reserves, a bulk reserve for incurred but not reported (IBNR) losses is also reported to the WCIRB. This amount represents insurers' estimates of anticipated future losses that are in excess of the incurred losses reported to the WCIRB as of March 31, 2019. The WCIRB does not use reported IBNR to estimate the ultimate cost of each accident year's losses. Instead, the development of reported incurred losses (excluding IBNR reserves) and paid losses is tracked, and future loss development is projected based on these historical development patterns. This approach produces more accurate estimates of the ultimate cost of losses arising from a given accident year than estimates based solely on the IBNR amounts reported by insurers. The WCIRB has been using this method of projecting loss development based on the reported paid and incurred losses, excluding the IBNR reserves reported by insurers, for many years.

Based on a comprehensive analysis of historical loss development as well as other information relevant to estimating future development, the WCIRB projects the amount of losses reported for each accident year valued as of March 31, 2019 to a final, or ultimate, cost basis. The projected ultimate losses are derived based on selected or estimated annual loss development, or "age-to-age", factors for each evaluation period.

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<sup>1</sup> Beginning with policies incepting on or after July 1, 2010, the cost of medical cost containment programs (MCCP) is reported as allocated loss adjustment expense (ALAE) rather than as medical loss. The medical loss development factors shown in Section B, Exhibits 2.2, 2.4 and 2.6 for accident years 2009 and prior include MCCP costs reported as medical loss. The medical loss development factors shown in those exhibits for accident years 2012 and subsequent do not include any MCCP costs. Inasmuch as MCCP costs for accident years 2010 and 2011 cannot be completely separated from medical loss, for consistency of comparison, the medical loss development factors for accident years 2010 and 2011 shown in those exhibits are computed after moving the portion of MCCP paid costs reported as ALAE into medical loss.

Over the years, the WCIRB has used a number of methodologies to estimate future loss development. Since each methodology is predicated on a different set of underlying assumptions, no single methodology is appropriate for all conditions. As a result, the development methodology upon which the proposed pure premium rates are based is selected following the WCIRB's analysis of the underlying claims environment. This analysis includes a review of incurred and paid loss development and a number of system diagnostics that may impact incurred or paid loss development patterns.

Methodologies basing estimates of future loss development primarily on historical incurred age-to-age loss development factors may work well during periods of relatively consistent levels of case reserves. However, they are not appropriate when (a) there is a change in the average level of insurer case reserves, (b) incurred loss development is volatile or (c) there are significant legislative or regulatory changes.

Several prior WCIRB analyses of loss development methodologies have shown that (a) there is significantly more variability in incurred loss development patterns across insurer groups than in paid loss development patterns, (b) incurred loss development has historically been more volatile and cyclical than paid loss development, (c) retrospectively over the long term, projections based on incurred loss development are generally less accurate and less stable than those based on paid loss development, (d) while the impact of statutory reform measures on payment patterns can be estimated and paid development factors adjusted accordingly, reform impacts on case reserves and incurred development factors are much more difficult to estimate and (e) while the change in reporting requirements for MCCP costs effective on policies incepting on or after July 1, 2010 can reliably be adjusted for in paid medical losses, the impact of the change on insurer case reserves is uncertain. As a result, the WCIRB has, for many years, been estimating future loss development primarily based on historical paid age-to-age development factors.

As discussed above, Section B, Exhibits 2.1.1 through 2.4.2 show the historical incurred and paid indemnity and medical loss development factors. After several years of increases following the implementation of the reforms of 2002 through 2004, incurred and paid loss development for both indemnity and medical decreased significantly following the implementation of Senate Bill No. 863 (SB 863). Recently, incurred loss development for both indemnity and medical has decreased significantly compared to the more moderate decreases in paid loss development, particularly for the middle to late maturities. As in the last several pure premium rate filings, the WCIRB believes the recent significant decreases in incurred loss development continue to be a catch-up of case reserve levels on older claims in reaction to reforms and accelerations in claim settlement rates and, as a result, are not appropriate to project for more recent accident year losses. As shown in Section B, Exhibit 2.4.1, the decreases in paid medical loss development are more modest in the most recent calendar year, suggesting that paid development is beginning to stabilize.

### **Loss Development Methodology – Claims-Related Indicators**

To assess the validity of the assumptions underlying the various methodologies, the WCIRB reviews a number of claims-related indicators. Among the key indicators of loss development reviewed are the following:

1. Ratio of Paid Losses to Incurred Losses. Exhibits 1.1 and 1.2 show the ratios of paid to incurred indemnity and medical losses by accident year at comparable evaluation periods. Changes in ratios of paid to incurred losses can be indicative of changes in the rate at which losses are paid, changes in case reserve levels, shifts in the types of claims or any combination of these phenomena. After several years of stable ratios of paid to incurred losses, these ratios for both indemnity and medical decreased dramatically starting in the early 1990s, particularly at more mature evaluation periods, suggesting a slowdown in payment patterns. Recently, paid-to-incurred medical ratios have increased for most evaluations, which is primarily a result of the significant reductions in case reserve levels

over the last few years. However, these ratios continue to be generally well below the levels experienced prior to the early 1990s.

2. Average Case Outstanding per Open Claim: Average Paid per Closed Claim. Exhibit 2.1 shows average accident year case outstanding indemnity per open indemnity claim. Exhibit 2.2 displays, for comparison purposes, average paid indemnity per closed indemnity claim. For indemnity, average case outstanding per open indemnity claim severities are increasing at a rate generally greater than the increases in average paid per closed indemnity claim, particularly for less mature periods. This suggests that case reserve strengthening could be impacting incurred indemnity development.

Exhibit 2.3 shows the average accident year case outstanding medical per open indemnity claim while Exhibit 2.4 shows the average paid medical on closed indemnity claims.<sup>2</sup> For less mature evaluation periods, average case outstanding medical per open indemnity claim severities are increasing at a rate greater than the increases in average paid medical per closed indemnity claim. However, for more mature evaluation periods, changes in average case outstanding medical per open claim continue to be significantly lower than the changes in average paid per closed claim. This suggests that a significant shift in medical case reserve levels continues to be occurring in these more mature periods, which may distort loss development projections based on incurred development if no adjustment for this shift is made.

3. Accident Year Claim Settlement Ratios. The percentage of accident year estimated ultimate indemnity claims closed by evaluation period is shown in Exhibit 3. Following the full implementation of the 2002 through 2004 reforms in 2005, settlement ratios declined steadily. However, these ratios have increased at a steady rate over the last several years since the implementation of SB 863. Although the indemnity claim settlement rate for accident year 2018 at 15 months increased modestly over that for 2017, indemnity claim settlement rates for older accident years have continued to increase significantly. Changes in the rates that claims settle are generally a leading indicator of changes in paid loss development patterns and, if no adjustment for changes in claim settlement rates is made, paid loss development may be distorted.
4. Mix of Claims by Injury Type. Exhibit 4 shows the mix of claims by type of injury from accident year 2001 through accident year 2017 (which is based on preliminary data). After the proportion of medical-only claims dropped for a number of years, since 2013, the shares of medical-only and indemnity claims has been relatively stable. In addition, the distribution of indemnity claims among those involving permanent disability and those involving only temporary disability has also been relatively stable over the last several years. This suggests that recent loss development patterns are not being significantly impacted by shifts in the mix of injury types.
5. Quarterly Loss Development. Exhibits 5.1 through 5.4 show accident year loss development by quarter.<sup>3</sup> As shown in Exhibits 5.1 and 5.2, quarterly incurred factors declined significantly over the last several years. However, several of these factors for the most recent evaluation show signs of incurred development beginning to increase. As shown in Exhibit 5.3, paid indemnity loss development has generally declined over recent prior evaluations. However, over the most recent year, the declines in paid indemnity development have moderated. As shown in Exhibit 5.4, quarterly paid medical loss development also significantly declined, but Exhibit 5.4 also shows recent moderation in the rate of decline at the earlier maturity levels. The decline is largely attributable to provisions of SB 863 impacting medical costs, the lien reforms of Senate Bill No. 1160 (SB 1160) and Assembly Bill No. 1244 (AB 1244), increased efforts to fight workers' compensation provider fraud,

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<sup>2</sup> The amounts shown in Exhibits 2.3 and 2.4 for accident years 2010 and 2011 reflect only the amount of MCCC costs that were reported as medical losses for those years and as a result are not comparable to either each other or the amounts reported for other years.

<sup>3</sup> The medical loss development factors shown in Exhibits 5.2 and 5.4 for accident years 2012 and later exclude MCCC costs. The factors shown for accident years 2011 and prior include MCCC costs.

reductions in pharmaceutical costs, and increases in indemnity claim settlement rates. As discussed below, the WCIRB recommends several adjustments to paid medical loss development for these factors which significantly reduces the impact of these phenomena on changes in medical payment patterns.

### **Selected Loss Development Methodologies**

Based in part on a review of the diagnostic indicators discussed above, the WCIRB has estimated or developed ultimate losses for each accident year as follows:

#### Indemnity Loss Development from 15 Months to 75 Months

As discussed above, the WCIRB continues to believe that historical paid development is a more appropriate basis for projecting future indemnity loss development for these development periods than historical incurred loss development. Section B, Exhibits 2.4.1 and 2.4.2 show the historical annual accident year paid indemnity loss development factors evaluated at successive March 31 evaluations.

As discussed above, over the last few years, there has been a steady increase in the rate at which indemnity claims are settling. Some of the factors contributing to this increase are (a) a greater focus on settling of older, larger claims, (b) reduction in the number of claims remaining open to resolve outstanding liens as a result of SB 863, SB 1160 and AB 1244 provisions impacting lien filings, (c) increases in the frequency of return-to-work offers provided to injured workers in the growing California economy, (d) anti-fraud efforts directed at provider fraud, (e) reduced opioid usage and (f) other provisions of SB 863 such as independent medical review (IMR) and independent bill review (IBR) speeding up the medical treatment of injured workers. Other system diagnostics suggest the recent speed-up in claim settlement rates is greatest on permanent disability claims and is generally being experienced throughout the entire state.<sup>4</sup>

In 2017, the WCIRB studied the impact of changes in claim settlement rates on paid loss development patterns.<sup>5</sup> The WCIRB's study found that, during periods of significant claim settlement rate change, an adjustment to paid loss development based on the Berquist-Sherman approach<sup>6</sup> generally increased the accuracy of the projection. The WCIRB's 2017 study also included a test of the primary assumptions of the Berquist-Sherman method applied to workers' compensation data and found that the assumptions applied in the WCIRB's approach were reasonable.

Given the continued increases in the rate of claim settlement as discussed above, as in the last several pure premium rate filings, the WCIRB recommends basing indemnity loss development through 75 months on paid indemnity development adjusted for changing settlement rates based on the Berquist-Sherman approach. Under this approach, (a) settlement ratios are adjusted to a common level, (b) paid severities on both open and closed claims are adjusted to a level that reflects the adjusted settlement rates for the accident year at the specified evaluation, (c) paid losses on open and closed claims are restated based on the restated closed claims and restated paid severities and (d) adjusted paid development factors are recomputed at a common settlement rate.

Section B, Exhibits 2.5.3 through 2.5.8 show the computation of projected indemnity loss development from 15 months through 75 months adjusted for the impact of changing claim settlement rates. The WCIRB has projected indemnity loss development for this period based on the latest year paid age-to-age indemnity development factor adjusted for the impact of changing claim settlement rates as shown in Section B, Exhibit 2.5.8 and column 2 of Section B, Exhibit 3.1.

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<sup>4</sup> See Exhibit M5 of Item AC19-08-01 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>5</sup> See Item AC17-03-03 of the March 21, 2017 WCIRB Actuarial Committee Agenda.

<sup>6</sup> James R. Berquist and Richard E. Sherman, "Loss Reserve Adequacy Testing: A Comprehensive, Systematic Approach," *Proceedings of the Casualty Actuarial Society*, PCAS, Volume LXIV, 1977, p.123.

Indemnity Loss Development from 75 Months to 111 Months

In the WCIRB's 2017 study of the method to adjust paid loss development for changes in claim settlement rates, the WCIRB reviewed the applicability of this adjustment to more mature periods given that indemnity claim settlement rates have also increased during these periods. The WCIRB found that increases in claim settlement rates for older periods are generally not as significant as increases in less mature periods since significantly fewer claims are open during these periods, and the adjustment for changes to claim settlement rates applied to these periods was not significantly improving the accuracy of the projection. As a result and as in the last several pure premium rate filings, the WCIRB recommends that projected future indemnity development from 75 months through 111 months be based on the latest year paid age-to-age indemnity development factor. The age-to-age indemnity development factors projected on this basis are shown in Section B, Exhibit 2.5.1 and column 2 of Section B, Exhibit 3.1.

Indemnity Loss Development from 111 Months to 255 Months

A 2012 study of longer-term loss development performed by the WCIRB indicated that due to significant random variability in age-to-age development for more mature periods, a longer-term average of paid development factors can increase the stability of the projections.<sup>7</sup> Therefore, as in the last several pure premium rate filings, the WCIRB has projected paid indemnity development from 111 months to 255 months based on the average of the three most recent years' age-to-age paid indemnity loss development factors. The age-to-age indemnity development factors projected on this basis are shown in Section B, Exhibit 2.5.1 and column 2 of Section B, Exhibit 3.1.

Indemnity Loss Development from 255 Months to 411 Months

In 2014, the WCIRB performed an analysis of the differences between paid and incurred loss development methodologies, which showed that a significant shift occurred in the ratio of incurred losses to paid losses during the mid-1990s. Further analysis suggested that this shift was, at least in part, a result of a slowdown in the rate of payments made on claims that occurred after the mid-1990s, particularly for medical following the 1996 Minniear<sup>8</sup> decision. If no adjustment were made, use of paid loss development factors from accident years prior to the dramatic shift in the rate of payments to project future development of later accident years may distort loss development projections and significantly understate projected future development. As a result and as in the last several pure premium rate filings, the WCIRB believes transition to incurred loss development at an earlier age (at 255 months rather than 411 months) substantially corrects for this distortion and enhances the accuracy of the loss development projections. The last column of Section B, Exhibit 2.5.1 shows historical ratios of incurred indemnity to paid indemnity losses at 255 months. A three-year average of these ratios is used to convert paid indemnity loss development through 255 months to an incurred basis.

As discussed above and in recent pure premium rate filings, incurred loss development patterns have decreased significantly over the last few years, particularly for medical, while paid loss development has declined at a much slower rate. Some of this recent significant decrease in incurred loss development may be attributable to transitional reductions in case reserve levels to reflect the medical cost savings resulting from SB 863 and the recent increases in indemnity claim settlement rates. A 2017 WCIRB study of longer-term loss development also showed that incurred loss development patterns can be significantly more cyclical and volatile than paid loss development patterns and utilizing a longer-term average of incurred loss development significantly reduces this volatility.<sup>9</sup> As a result, the WCIRB is recommending a six-year average of incurred loss development factors be used for longer-term periods rather than the three-year average recommended for paid loss development. The age-to-age indemnity development

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<sup>7</sup> See Item AC11-12-04 of the March 20, 2012 WCIRB Actuarial Committee Agenda.

<sup>8</sup> Minniear v. Mount San Antonio Community College District (1996), 61 Cal. Comp. Cases 1055 (Appeals Board en banc opinion).

<sup>9</sup> See Item AC17-08-04 of the August 2, 2017 WCIRB Actuarial Committee Agenda.

factors projected on this basis from 255 months through 411 months are shown in Section B, Exhibit 2.5.2 and column 2 of Section B, Exhibit 3.1.<sup>10</sup>

#### Indemnity Loss Development after 411 Months

Workers' compensation losses continue to show significant development beyond 411 months. As in the last several pure premium rate filings, the WCIRB recommends using an inverse power curve fitting approach to project the indemnity loss development beyond 411 months. The WCIRB has found that this approach to compute the loss development tail compared to other methods (a) significantly improves the stability of the loss development tail while not significantly impacting its accuracy, (b) utilizes more complete data based on cumulative development from more recent years as opposed to incremental development from much later periods and (c) does not require additional adjustments applied by the WCIRB as in other approaches.<sup>11</sup> Specifically, the WCIRB recommends projecting incurred indemnity loss development after 411 months based on (a) fitting an inverse power curve to a six-year average of the 111-to-123 through 339-to-351 months incurred indemnity age-to-age factors, (b) extrapolating the fitted factors to 80 development years and (c) taking the cumulative product of the extrapolated factors after 411 months.

In 2017, the WCIRB studied this approach of computing the tail development factor and found that a six-year average of incurred age-to-age factors continues to minimize variance in the tail development factor while still being responsive to long-term trends in loss development patterns. However, the WCIRB also found that, particularly for incurred medical development, the recent period of significantly lower incurred development beginning in 2016 was anomalous and did not fit well to the inverse power curve. As a result, the WCIRB excluded the three most recent calendar periods of incurred loss development from the six-year average of factors to use in the inverse power curve fit. The projected indemnity tail development factor computed on this basis is shown in Section B, Exhibit 2.5.2.

Cumulative indemnity loss development factors projected as described above are shown in Section B, Exhibits 2.5.1 and 2.5.2, and column 3 of Section B, Exhibit 3.1.

#### Medical Loss Development from 15 Months to 75 Months

As with indemnity losses, for many years, the WCIRB has been relying on historical paid medical loss development to project ultimate medical losses for these evaluation periods. Section B, Exhibits 2.4.1 and 2.4.2 show the historical annual accident year paid medical loss development factors evaluated at successive March 31 evaluations.

SB 1160 and AB 1244, which became effective in 2017, included a number of provisions related to liens and have reduced the number of lien filings by approximately 60% below the average level of filings shortly before the reforms. A 2018 WCIRB study showed that liens historically represented a significant proportion of paid medical loss development, particularly at mid-maturities. As a result, the age-to-age development factors shown in Exhibits 2.6.1 and 2.6.2 for these periods include payments from liens in significantly greater volumes than are expected to emerge for more recent accident year claims. The WCIRB believes relying on the paid medical development from these periods without adjusting for the reductions in future lien filings will overstate the loss development projection. As a result and as in the last several pure premium rate filings, the WCIRB has adjusted the cumulative loss development factors projected for 2013 to 2017 to reflect the estimated impact of the SB 1160 and AB 1244 lien-related provisions. These adjustments, which are shown by accident year in Table 1, were based on a review of medical development with and without any lien payments using the WCIRB's medical transaction data and assuming 60% weight given to the projected medical development with no lien payments (to represent the 60% estimated reduction in lien filings) and 40% weight given to the projected medical

<sup>10</sup> Inasmuch as six loss development factors at 387 months, 399 months, and 411 months are not available, a five-year, four-year, and three-year average is used for those periods, respectively.

<sup>11</sup> See Item AC16-03-03 of the April 5, 2016 WCIRB Actuarial Committee Agenda.

development with lien payments.<sup>12</sup> For 2018, the projected cumulative loss development factor is based on the adjusted factor projected for 2017 at 27 months and the age-to-age development emerging on a post-SB 1160 and AB 1244 basis for accident year 2017.

**Table 1: Adjustment to Cumulative Paid Medical Development for SB 1160 & AB 1244 Lien Reforms**

Accident Year	Age at 3/31/2019	Adjustment to Reflect 60% Reduction in Lien Filings
2013	75	-0.7%
2014	63	-1.5%
2015	51	-2.5%
2016	39	-3.7%
2017	27	-4.8%

Many of the provisions of SB 1160 and AB 1244 also affected liens that had already been filed prior to the effective date of SB 1160 and AB 1244. In particular, SB 1160 provided that all outstanding liens filed after January 1, 2013 must have a declaration under penalty of perjury filed with the Division of Workers' Compensation (DWC) by July 1, 2017 stating that the lien is not subject to IMR or IBR and that it satisfies one of a number of other criteria. In July 2017, the DWC dismissed approximately 292,000 liens for which no declarations had been filed.

The WCIRB's 2018 study also analyzed the potential impact of the DWC lien dismissals on medical loss development patterns and found that the dismissed liens will likely have a significant impact on paid medical development emerging after July 2017. If no adjustment to loss development is made, paid medical development emerging in the third quarter of 2017 and later may be distorted as the numerator of the age-to-age paid medical development factor will contain a different volume of lien payments than the denominator. In order to correct for this potential distortion, the WCIRB is recommending that medical payments prior to July 1, 2017 be adjusted to reflect the impact of the DWC lien dismissals. Table 2 shows the adjustments made by accident year based on the WCIRB's study of their potential impact using lien information provided by the DWC. Given that the lien dismissals are only expected to significantly impact paid medical development through mid-term development periods for which lien payments are most significant, the WCIRB is applying these adjustments only to development emerging on accident years 2011 to 2016.<sup>13</sup>

**Table 2: Adjustment for DWC Lien Dismissals to Paid Medical Development**

Accident Year	Age-to-Age Factor for 3/31/19	Adjustment to Pre-July 1, 2017 Payments
2011	87-to-99	-3.6%
2012	75-to-87	-3.8%
2013	63-to-75	-3.4%
2014	51-to-63	-2.4%
2015	39-to-51	-0.9%
2016	27-to-39	-0.1%

Since 2013, pharmaceutical costs have decreased significantly. The recent decreases in pharmaceutical costs have been attributed to a number of factors including implementation of IMR and IBR as a result of

<sup>12</sup> See Item AC18-03-03 of the March 19, 2018 and March 18, 2019 WCIRB Actuarial Committee Agendas for more information on this adjustment.

<sup>13</sup> See Item AC18-03-03 of the March 19, 2018 WCIRB Actuarial Committee Agenda for more information on this adjustment.

SB 863, reductions in the number of spinal surgeries, reaction to the national opioid epidemic, anti-fraud efforts, changes in pharmaceutical reimbursement rates from the Medi-Cal based fee schedule, and the new drug formulary adopted by the DWC effective January 1, 2018. Earlier this year, the WCIRB studied the impact of the recent pharmaceutical cost declines on paid medical loss development which showed that pharmaceutical costs represent a much larger proportion of later period development compared to earlier periods.<sup>14</sup> If no adjustment to loss development is made, more recent paid medical development emerging for older accident years may be distorted as the numerator of the age-to-age paid medical development factor will contain a much smaller volume of pharmaceutical payments than the denominator.

In order to correct for this potential distortion in the projected medical age-to-age factors, the WCIRB reviewed pharmaceutical transactions from WCIRB medical transaction data for calendar years 2013 through 2018. Exhibit 6.1 shows the distribution of pharmaceutical payments by maturity level by calendar year and the difference in those shares by maturity from the calendar year 2018 level. Overall during this period, pharmaceutical costs declined from approximately 16% of medical service payments in 2013 to 4% in 2018. However, this proportion differs significantly by maturity level as, for example, the share of pharmaceutical payments for an accident year at 216 months declined from 36% in 2013 to 16% in 2018 compared to a decline of 6% to 1% at 12 months. In adjusting paid medical loss development, the WCIRB assumed 2018 as the baseline “current level” and adjusted calendar year 2013 through 2017 medical payments based on the difference between (a) the pharmaceutical share of medical service payments for that calendar year and (b) the pharmaceutical share for calendar year 2018 at the same maturity. As shown in Exhibit 6.1, the differences in the pharmaceutical share from 2018 increase gradually by maturity up through approximately 96 months. After 96 months, the differences are somewhat volatile in large part due to the relative sparsity of payments at these maturities. As a result, the WCIRB based the adjustment after 96 months on the cumulative difference for all maturities older than 96 months.

The process shown in Exhibit 6.1 and described above contemplates calendar years 2013 and forward—periods for which the WCIRB has collected medical transaction data. To adjust payments made in calendar years 2012 and prior, the WCIRB assumed the 2013 pharmaceutical payment pattern approximated that for the earlier calendar years. Exhibit 6.2 shows the adjustment for earlier calendar years based on comparing the cumulative proportion of pharmaceutical costs for calendar year 2013 with that for calendar year 2018 at the same maturity.

The approach to correct for the potential distortion in paid medical age-to-age factors is computed similar to the methodology reflected in prior pure premium rate filings to adjust for prior reforms (such as the 2002 through 2004 reforms and SB 863). Pre-2018 medical payments are adjusted to the 2018 level by calendar year and development period based on the information shown in Exhibits 6.1 and 6.2. Once adjusted, the paid medical age-to-age factors are recomputed on an adjusted basis. The paid medical age-to-age factors adjusted on this basis are shown in Section B, Exhibits 2.4.1, 2.4.2 and 2.6.1.

Changes in claim settlement rates can also significantly affect paid medical loss development. As discussed above, indemnity claim settlement rates have increased steadily over the last several years. As with indemnity loss development, the WCIRB believes an adjustment to paid medical loss development for the recent increase in claim settlement rates is appropriate. Section B, Exhibits 2.6.3 through 2.6.8 show the adjustment to medical paid loss development for changing claim settlement rates. The methodology used for medical paid development is analogous to that for indemnity, which involves adjustments to both open and closed claims, and is applied to the age-to-age paid medical loss development factors adjusted as described above.

The WCIRB’s recommended age-to-age and cumulative paid medical development factors for development through 75 months, which have been adjusted for the impact of SB 1160 and AB 1244 provisions impacting medical losses, the recent decreases in pharmaceutical costs, and changes in claim settlement rates, are shown in Section B, Exhibit 2.6.1 and column 3 of Section B, Exhibit 3.2. The

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<sup>14</sup> See Item AC19-06-03 of the June 14, 2019 WCIRB Actuarial Committee Agenda.



WCIRB recommends projecting medical loss development from 15 months to 75 months using the latest year age-to-age paid medical loss development factor adjusted for the factors described above.

#### Medical Loss Development from 75 Months to 111 Months

The WCIRB recommends that projected future medical development from 75 months through 111 months be based on the latest year paid age-to-age medical development factor (with adjustments for the impact of SB 1160 and AB 1244 and decreases in pharmaceutical costs described above). The age-to-age medical development factors projected on this basis are shown in Section B, Exhibit 2.6.1 and column 3 of Section B, Exhibit 3.2.

#### Medical Loss Development from 111 Months to 255 Months

As with indemnity, a 2011 WCIRB study indicated that a longer-term average of paid development factors can increase the stability of paid medical loss projections for more mature periods.<sup>15</sup> Therefore, the WCIRB has projected paid medical development from 111 months to 255 months using the average of the three most recent years' age-to-age paid medical loss development factors adjusted for the impact of decreases in pharmaceutical costs described above.

#### Medical Loss Development from 255 Months to 411 Months

As discussed for indemnity losses, based on a 2014 WCIRB analysis of longer-term loss development, a significant shift in the ratio of incurred to paid medical losses occurred during the mid-1990s, which corresponded with a significant slowdown in the rate of medical payments that occurred during this time.<sup>16</sup> If no adjustment was made, use of paid medical loss development factors from accident years prior to the shift may distort future medical loss development projections. As a result and as with indemnity, the WCIRB is basing medical development after 255 months primarily on incurred loss development. The last column of Section B, Exhibit 2.6.1 shows historical ratios of incurred to paid medical losses at 255 months. A three-year average of these ratios is selected to convert paid medical loss development through 255 months to an incurred basis. Section B, Exhibit 2.6.2 shows the age-to-age incurred medical loss development factors from 255 months through 411 months.

As discussed above, incurred medical loss development patterns have decreased significantly over the last few years and the most current year pattern is the lowest of any period in the last 20 years. The WCIRB believes some of this decrease is transitional in nature resulting from a deferred recognition of the impact of SB 863 medical reforms and reductions in pharmaceutical costs and these incurred development patterns will not likely manifest in full on policy year 2020 claims. As discussed for indemnity, a WCIRB study of longer-term loss development also showed that incurred loss development patterns can be significantly more cyclical and volatile than paid loss development patterns and utilizing a longer-term average of incurred loss development significantly reduces this volatility.<sup>17</sup> As a result and as with indemnity, the WCIRB has projected incurred medical development from 255 months to 411 months based on the average of the six most recent years' age-to-age incurred medical loss development factors. The age-to-age medical development factors projected on this basis are shown in Section B, Exhibit 2.6.2 and column 3 of Section B, Exhibit 3.2.<sup>18</sup>

#### Medical Loss Development after 411 Months

As with indemnity loss development, the WCIRB recommends using the inverse power curve fitting approach to project the medical loss development tail. Specifically, the WCIRB recommends projecting incurred medical loss development after 411 months based on (a) fitting an inverse power curve to a six-

<sup>15</sup> See Item AC11-12-04 of the December 1, 2011 WCIRB Actuarial Committee Agenda.

<sup>16</sup> See Item AC14-03-03 of the March 19, 2014 and June 11, 2014 WCIRB Actuarial Committee Agendas.

<sup>17</sup> See Item AC17-08-04 of the August 2, 2017 WCIRB Actuarial Committee Agenda.

<sup>18</sup> Inasmuch as six loss development factors at 387 months, 399 months, and 411 months are not available, a five-year, four-year, and three-year average is used for those periods, respectively.

year average of the 111-to-123 through 339-to-351 months incurred medical age-to-age factors, (b) extrapolating the fitted factors to 80 development years and (c) taking the cumulative product of the extrapolated factors after 411 months. As discussed for indemnity, the WCIRB believes the three most recent evaluations of incurred medical loss development for older periods are anomalous and are not expected to continue in the long-term. In addition, these flat periods of incurred development are inconsistent with the assumptions of the inverse power curve of asymptotically decreasing age-to-age development factors across maturities, with many recent factors emerging below 1.0. As a result, the WCIRB excluded the most recent three evaluations of incurred medical development from the six-year average of factors used to fit the inverse power curve. The projected medical long-term or tail development factor computed on this basis is shown in Section B, Exhibit 2.6.2.

Cumulative medical loss development factors projected as described above are shown in Section B, Exhibits 2.6.1 and 2.6.2, and column 4 (unadjusted for reforms) and column 5 (adjusted for reforms) of Section B, Exhibit 3.2.

#### Estimated Ultimate Loss Ratios

The age-to-age development factors selected for each evaluation period are combined in Section B, Exhibits 3.1 (for indemnity) and 3.2 (for medical) to produce a cumulative development factor for each period. These factors reflect the ultimate amount of losses anticipated for each accident year relative to the reported paid or incurred losses evaluated as of March 31, 2019. These cumulative factors are then applied to the reported (undeveloped) paid indemnity and adjusted paid medical loss ratios as of March 31, 2019 for accident years 1999 and subsequent, and reported incurred indemnity and incurred medical loss ratios as of March 31, 2019 for accident years 1998 and prior to estimate an ultimate loss ratio for each accident year.<sup>19</sup> (The adjusted paid and adjusted developed medical loss ratios shown in columns 2 and 6 of Section B, Exhibit 3.2 have been adjusted for the decreases in pharmaceutical costs to be on a comparable basis with the adjusted medical loss development factors described above. These ratios are for the sole purpose of computing the indicated January 1, 2020 pure premium rate level and, as a result, do not reflect the actual WCIRB estimates of ultimate medical loss ratios for those accident years. Column 7 of Section B, Exhibit 3.2 shows, for informational purposes, the estimated ultimate medical loss ratio for each accident year.)

#### **Summary of Alternative Loss Development Projections**

As discussed above, the WCIRB is projecting future loss development primarily based on historical latest year paid development adjusted for SB 1160 and AB 1244, recent pharmaceutical cost declines and changes in claim settlement rates. For informational purposes, the WCIRB has computed alternative loss projections based on a number of alternative loss development projection methodologies that reflect underlying assumptions that differ from those reflected in the WCIRB's recommended loss development methodology. These alternative loss development projections are shown in Exhibits 7 through 17 and are discussed below.<sup>20</sup>

#### Alternative Incurred Loss Development Projections

##### Three-Year Average/Latest Year (Unadjusted) Incurred Loss Development

Exhibits 7.1 through 7.3 (average of the latest 3 years' factors) and 8.1 through 8.3 (latest year factor) reflect projected future loss development patterns based on historical unadjusted incurred development methodologies. Incurred methodologies are not impacted by changing payment and settlement patterns to the same extent as are paid projections. Also, since the reported incurred amounts far exceed reported paid amounts for relatively immature accident year loss evaluations,

<sup>19</sup> Medical loss ratios shown in Section B, Exhibit 3.2 for accident years 2011 and subsequent do not reflect MCCP costs. Ratios shown for accident years 2010 and prior do reflect MCCP costs.

<sup>20</sup> All loss development methodologies reflect a three-year average of paid loss development or a six-year average of incurred loss development applied from 111 months through 255 months and a six-year average of incurred loss development applied after 255 months.

incurred loss development is not as highly leveraged for the less mature accident years. However, incurred loss development can be distorted by changes in case reserve levels, can be significantly impacted by legislative or regulatory changes, judicial action, or changes in the definition of losses (e.g., the change in reporting requirements related to MSCP costs), shows greater variability across insurers than paid loss development, and can be significantly more volatile and cyclical than paid loss development. Furthermore, in retrospective analyses, unadjusted incurred loss development projections have generally been less accurate and less stable than the corresponding paid loss development projections.

The loss ratios projected under both unadjusted incurred loss development methodologies are significantly below those based on the corresponding paid loss development methodologies. As discussed above, the WCIRB believes paid development to be a more stable and reliable basis to project future development than incurred development. In addition, given the potential impact of SB 1160 and AB 1244, recent pharmaceutical cost declines, and the acceleration in claim settlement on medical loss development, the WCIRB believes that some adjustment for the impact of these changes is appropriate. However, reform adjustments made to paid development cannot easily be applied to incurred loss development as the specific impact of reforms on case reserve estimates and incurred patterns is less well-defined. Finally, given that some of the diagnostic indicators discussed earlier in this Appendix indicate that average case reserve levels have declined sharply while paid patterns have been relatively more stable, the unadjusted incurred projections may be distorted.

#### Three-Year Average Incurred Loss Development Adjusted for Changes in Average Case Reserve Levels

Incurred loss development projections can be distorted by changes in average case reserve levels. For a number of years, the WCIRB has included as an alternative loss development projection the results of a standard actuarial methodology which adjusts historical incurred loss development factors to a common case reserve adequacy level in computing future loss development. In 2018, the WCIRB reviewed the assumptions and approach to this methodology and developed several refinements to the traditional actuarial approach.<sup>21</sup> The WCIRB also found that although the method that adjusts incurred development to a common case reserve level should address shifts in average case reserves, it does not address the inherent volatility that has been observed in incurred loss development patterns. As a result, to mitigate this volatility, the WCIRB based this projection on the average of the three most recent age-to-age factors rather than the latest year's factor.

Exhibits 9.1 through 9.11 reflect projected future incurred loss development with adjustments to an estimated common average case reserve level based on the average of the latest three years' factors. Projections based on this methodology are generally consistent with the unadjusted incurred projections. As discussed above, recent average case reserve levels have continued to decline for more mature periods but have moderated for less mature periods, somewhat neutralizing the impact of this adjustment.

#### Latest Year Incurred Adjusted for Changes in Insurer Mix

Different insurers may have different claim reserving practices and different incurred loss development patterns. As a result, shifts in market share among insurers can impact statewide incurred loss development projections. In cases where there is clear evidence of shifting market shares impacting incurred loss development projections, an adjustment for changes in insurer mix may be appropriate. However, applying separate projections to individual insurers in an insurer mix adjustment raises several concerns including: (a) a loss of transparency in the WCIRB's projections of ultimate losses on an insurer mix-adjusted basis, (b) the appropriateness of applying a statewide methodology to individual insurer experience and (c) the appropriateness of applying current year

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<sup>21</sup> See Item AC18-08-04 of the August 1, 2018 WCIRB Actuarial Committee Agenda.

weights to older years given that significant market share shifts may change the nature of an insurer's book of business.

Exhibits 10.1 through 10.3 show incurred loss development projections in which the market shares of State Compensation Insurance Fund (State Fund) and private insurers collectively have been held constant for all years in the analysis. Projections based on the latest development factor for this methodology are generally consistent with the latest year incurred projection with no adjustment for changing insurer mix.

#### Alternative Paid Loss Development Projections

##### Three-Year Average/Latest Year (Unadjusted) Paid Loss Development

Paid projections are not dependent on case reserves and show less variability across insurers than incurred projections. In addition, unadjusted paid projections have generally over the long term shown to be more accurate and stable than the corresponding incurred projections in retrospective analyses. However, paid projections can be impacted by changing claim settlement and payment patterns, and inasmuch as a relatively small percentage of an accident year's ultimate losses are paid at early maturity levels, paid development projections for immature accident years are highly leveraged.

Exhibits 11.1 through 11.3 (average of the latest three years' factors) and 12.1 through 12.3 (latest year factor) project future loss development based on historical unadjusted paid loss development. The projections using this methodology are somewhat higher than projections using the methodology recommended by the WCIRB. As discussed, unadjusted paid projections can be significantly distorted by legislative changes and changes in claim settlement rates. Given the potential impact of SB 1160 and AB 1244, recent declines in pharmaceutical costs, and recent increases in indemnity claim settlement rates on medical loss development patterns, the WCIRB believes it is appropriate to adjust for these factors.

##### Latest Year Paid Loss Development Adjusted for Reforms

Exhibits 13.1 and 13.2 reflect the latest year paid medical projections after adjustment for the impact of SB 1160 and AB 1244 lien filing related provisions and recent declines in pharmaceutical costs but with no adjustment for changes in claim settlement rates. The projection produced by this methodology is somewhat higher than that recommended by the WCIRB. However, as discussed above, paid loss development can be significantly distorted when claim settlement rates are changing and the WCIRB believes its recommended adjustment for changes in claim settlement rates is appropriate.

##### Latest Year Paid Loss Development Adjusted for Changes in Claim Settlement Rates and Reforms (with No Adjustment for Recent Pharmaceutical Cost Declines)

Exhibits 14.1 and 14.2 reflect the latest year paid medical projections after adjustment for the impact of SB 1160 and AB 1244 and changes in claim settlement rates but with no adjustment for the recent declines pharmaceutical costs (the methodology reflected in the January 1, 2019 Pure Premium Rate Filing). The projection produced by this methodology is somewhat lower than that recommended by the WCIRB. However, based on its study earlier this year, the WCIRB believes the recent decreases in pharmaceutical costs is significantly impacting paid medical loss development patterns and recommends adjusting for this change as described above.

##### Three-Year Average Paid Loss Development Adjusted for Changes in Claim Settlement Rates and Reforms

As discussed above, the recent increases in claim settlement rates can significantly impact paid loss development patterns. However, adjustments for changes in claim settlement rates can be very volatile depending on the underlying data and the treatment of partial payments inherent in workers' compensation claims.

Exhibits 15.1 through 15.3 reflect projected future paid loss development with adjustments to an estimated common claim settlement rate as well as the adjustments for SB 1160 and AB 1244 and recent pharmaceutical cost declines recommended by the WCIRB for paid medical using the average of the latest three years' factors. The projection based on this methodology is somewhat higher than that recommended by the WCIRB which is based on the latest year factor. Given the recent sharp increase in indemnity claim settlement rates, the WCIRB recommends use of latest year factors to be responsive to the most recent trends.

#### Latest Year Paid Loss Development Adjusted for Changes in Insurer Mix

Significant shifts in market share among insurers can affect statewide paid loss development projections, suggesting an adjustment for changes in insurer mix may be appropriate when there are significant market share shifts. However, applying separate projections to individual insurers in an insurer mix adjustment raises several concerns as discussed above with respect to incurred development.

Exhibits 16.1 through 16.3 show paid loss development projections in which the market shares of State Fund and private insurers collectively have been held constant for all years in the analysis. The paid projections based on the latest development factor for this methodology are slightly below the latest year paid projection with no adjustment for changing insurer mix. The WCIRB does not recommend using this methodology unless there is clear evidence of shifts in insurer market shares significantly affecting paid loss development patterns due to the concerns discussed above with respect to the insurer mix adjustment applied to incurred loss development.

#### Paid Loss Development Based on an Expected Loss Ratio with a Bornheutter-Ferguson Adjustment

All of the loss development methodologies previously discussed rely on paid or incurred age-to-age (chain ladder) development factors. Loss development projections based on chain ladder development can be highly leveraged, particularly at earlier maturities. Alternatively, future development for an accident year can be computed based on an expected loss ratio for that year and the reported loss ratio that has emerged to date. A Bornheutter-Ferguson (BF) adjustment assigns some weight to this projection based on the cumulative chain ladder loss development factor with the remaining weight assigned to the traditional chain ladder loss development projection. This approach can be less highly leveraged at less mature evaluation periods since the expected loss ratio can be initially based on more mature accident years. Also, projecting an expected loss ratio for the projection year may require additional assumptions such as appropriate on-level and trend adjustments.

Exhibits 17.1 through 17.5 show projections based on an expected loss ratio approach with a BF adjustment based on paid losses through 27 months with latest year paid development adjusted for the impact of SB 1160 and AB 1244, recent pharmaceutical cost declines (for medical), and changes in claim settlement rates applied after 27 months. Projections based on this methodology are generally consistent with the projections based on the chain ladder methodology recommended by the WCIRB. This methodology adds significant complexity and requires additional assumptions as discussed above. In addition, a WCIRB retrospective analysis of the BF-adjusted method conducted in 2016 showed that the chain ladder methods were generally more accurate than the BF-adjusted method over the long term.<sup>22</sup>

The policy year 2020 loss ratio projections derived based on the loss development methodology recommended by the WCIRB, as well as each of the alternative loss development methodologies described above, are shown in Table 3.

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<sup>22</sup> See Item AC16-03-03 of the April 5, 2016 WCIRB Actuarial Committee Agenda.

Table 3: Projected Policy Year 2020 Loss Ratios

January 1, 2020 Filing Loss Development Methodology	Indemnity Loss Ratio	Medical Loss Ratio	Total Loss Ratio
Latest Year Paid Adjusted for SB 1160, Recent Pharmaceutical Cost Declines, and Changes in Claim Settlement Rates	0.257	0.326	0.583

Alternative Loss Development Methodologies <sup>23</sup>	Indemnity Loss Ratio	Medical Loss Ratio	Total Loss Ratio
<u>Incurred Loss Development Methodologies</u>			
Three-Year Average (Unadjusted)	0.262	0.300	0.562
Latest Year (Unadjusted)	0.254	0.284	0.538
Three-Year Average Adjusted for Changes in Case Reserve Levels	0.257	0.300	0.557
Latest Year Adjusted for Changes in Insurer Mix	0.253	0.280	0.533
<u>Paid Loss Development Methodologies</u>			
Three-Year Average (Unadjusted)	0.286	0.363	0.649
Latest Year (Unadjusted)	0.273	0.340	0.613
Latest Year Adjusted for SB 1160 and Recent Pharmaceutical Cost Declines	—	0.342	—
Latest Year Adjusted for SB 1160 and Changes in Claim Settlement Rates	—	0.316	—
Three-Year Average Adjusted for SB 1160, Recent Pharmaceutical Cost Declines and Changes in Claim Settlement Rates	0.267	0.345	0.612
Latest Year Adjusted for Changes in Insurer Mix	0.269	0.333	0.602
BF Paid to 27 Months; Latest Year SB 1160, Pharmaceutical Cost and Claim Settlement Rate- Adjusted after 27 Months	0.255	0.324	0.579

<sup>23</sup> All loss development methodologies reflect a three-year average of paid loss development or a six-year average of incurred loss development applied from 111 months through 255 months and a six-year average of incurred loss development applied after 255 months as in the WCIRB's recommended methodology.

## Ratios of Paid to Incurred Losses - Indemnity

Accident	Evaluated as of (in months):																		
Year	3	15	27	39	51	63	75	87	99	111	123	135	147	159	171	183	195	207	219
1980																			
1981									92.8%	94.6%	95.4%	96.3%	97.0%	97.7%	98.0%	98.3%	98.4%	98.7%	98.7%
1982								90.8%	93.3%	94.8%	95.8%	96.5%	97.0%	97.6%	98.0%	98.1%	98.2%	98.3%	98.3%
1983							88.0%	91.7%	94.2%	95.8%	96.7%	97.3%	97.7%	98.2%	98.3%	98.6%	98.6%	98.8%	98.8%
1984						83.7%	88.9%	92.8%	95.0%	95.8%	97.0%	97.6%	98.0%	98.3%	98.6%	98.8%	98.9%	99.0%	99.0%
1985					75.2%	83.8%	89.4%	92.9%	95.0%	96.2%	96.9%	97.5%	97.9%	98.3%	98.7%	98.8%	98.9%	99.0%	99.1%
1986				60.4%	74.4%	83.5%	89.9%	92.9%	94.8%	96.1%	97.0%	97.5%	98.2%	98.3%	98.6%	98.7%	98.9%	98.9%	99.0%
1987			38.6%	59.7%	74.7%	84.6%	89.6%	93.1%	95.0%	96.3%	97.1%	96.7%	98.1%	98.3%	98.4%	98.6%	98.7%	98.7%	98.9%
1988		19.6%	37.9%	59.9%	76.0%	84.8%	90.2%	93.5%	95.5%	96.7%	97.5%	98.1%	98.2%	98.3%	98.4%	98.7%	98.8%	98.9%	98.9%
1989	7.3%	18.2%	37.4%	61.7%	76.3%	85.7%	90.9%	93.9%	95.7%	96.6%	97.5%	97.8%	97.9%	98.1%	98.2%	98.2%	98.3%	98.6%	98.6%
1990	7.6%	21.1%	42.8%	64.4%	79.5%	87.4%	92.3%	94.7%	96.3%	97.2%	97.7%	97.8%	98.0%	98.2%	98.5%	98.6%	98.7%	98.8%	99.0%
1991	8.1%	21.9%	43.5%	65.4%	80.2%	88.1%	92.4%	94.5%	96.2%	96.6%	96.9%	97.2%	97.5%	97.5%	97.8%	98.0%	98.1%	98.4%	98.4%
1992	7.7%	22.8%	44.5%	67.9%	81.1%	88.2%	92.1%	94.4%	95.6%	96.0%	96.4%	96.9%	97.0%	97.2%	97.3%	97.5%	97.7%	98.3%	98.4%
1993	7.8%	23.8%	48.0%	69.7%	81.4%	88.3%	91.9%	93.6%	94.6%	95.4%	95.8%	96.3%	96.5%	96.6%	96.8%	97.2%	97.7%	98.0%	98.3%
1994	7.6%	26.0%	51.9%	72.1%	82.9%	88.4%	90.5%	91.9%	92.9%	93.4%	94.0%	94.7%	95.2%	95.8%	96.2%	97.0%	97.3%	97.5%	97.8%
1995	8.1%	28.7%	54.5%	73.6%	82.9%	87.2%	88.9%	90.5%	91.7%	92.1%	93.0%	93.8%	94.5%	95.0%	95.7%	96.1%	96.4%	96.6%	96.9%
1996	9.6%	31.4%	56.2%	73.8%	81.7%	85.6%	87.7%	89.0%	89.8%	91.3%	92.4%	93.5%	94.3%	95.2%	95.8%	96.2%	96.5%	96.8%	97.1%
1997	9.5%	32.0%	56.7%	72.5%	80.1%	84.2%	86.7%	88.4%	90.2%	92.0%	93.0%	93.9%	94.8%	95.3%	95.7%	96.1%	96.5%	96.9%	97.3%
1998	9.4%	32.3%	55.4%	70.2%	78.8%	82.3%	84.9%	87.6%	90.1%	91.6%	93.0%	94.2%	94.8%	95.4%	95.8%	96.4%	96.8%	97.2%	97.5%
1999	11.8%	33.2%	54.1%	69.3%	76.9%	81.8%	85.9%	89.0%	91.0%	92.5%	93.5%	94.5%	95.3%	95.9%	96.3%	96.7%	97.1%	97.5%	97.9%
2000	11.5%	31.8%	53.0%	66.6%	75.8%	82.3%	87.1%	89.9%	91.8%	93.2%	94.2%	95.0%	95.4%	95.9%	96.5%	96.8%	97.0%	97.4%	97.7%
2001	9.7%	31.7%	51.0%	66.0%	77.1%	84.0%	88.0%	90.3%	91.8%	93.2%	93.9%	94.5%	95.1%	95.7%	96.1%	96.7%	97.0%	97.4%	97.8%
2002	9.1%	31.6%	50.5%	68.2%	79.9%	86.0%	89.2%	91.3%	93.0%	93.7%	94.5%	95.2%	95.8%	96.5%	97.0%	97.3%	97.6%	98.0%	
2003	8.8%	30.9%	52.5%	71.5%	80.8%	85.6%	88.5%	90.3%	91.1%	91.9%	92.8%	93.8%	94.4%	95.2%	95.8%	96.2%	96.7%		
2004	9.0%	32.8%	56.7%	71.1%	79.6%	84.2%	86.6%	88.1%	89.6%	91.2%	92.3%	93.3%	94.0%	94.8%	95.4%	96.0%			
2005	9.3%	39.6%	60.2%	72.6%	80.3%	83.4%	85.2%	86.7%	88.9%	90.8%	92.2%	93.5%	94.2%	94.9%	95.6%				
2006	10.9%	41.3%	60.2%	72.1%	78.4%	82.0%	84.7%	87.3%	89.4%	91.1%	92.7%	93.6%	94.5%	95.4%					
2007	13.2%	41.9%	60.2%	71.1%	78.0%	82.4%	85.5%	88.0%	89.7%	91.5%	93.0%	94.3%	95.0%						
2008	14.1%	42.7%	60.1%	70.9%	78.4%	83.6%	86.7%	89.1%	91.0%	92.3%	93.4%	94.5%							
2009	14.4%	41.2%	58.5%	71.1%	78.3%	83.4%	86.7%	89.7%	91.7%	93.1%	94.3%								
2010	14.6%	41.3%	59.6%	71.7%	79.9%	84.9%	88.5%	91.1%	92.8%	94.0%									
2011	16.0%	40.5%	59.4%	71.8%	79.6%	85.3%	89.0%	91.5%	93.5%										
2012	16.0%	41.3%	60.3%	73.0%	81.5%	86.4%	89.8%	92.0%											
2013	15.1%	40.6%	60.2%	74.8%	83.2%	88.3%	91.1%												
2014	14.8%	40.4%	61.3%	75.2%	83.3%	88.1%													
2015	14.0%	40.5%	61.3%	75.7%	83.8%														
2016	14.6%	41.7%	62.5%	76.8%															
2017	14.3%	41.5%	62.4%																
2018	14.9%	41.5%																	
2019	15.1%																		

## Ratios of Paid to Incurred Losses - Indemnity

Accident	Evaluated as of (in months):																		
Year	231	243	255	267	279	291	303	315	327	339	351	363	375	387	399	411	423	435	
1980	98.3%	98.5%	98.6%	98.6%	98.7%	98.7%	98.8%	98.9%	98.9%	99.2%	99.3%								
1981	98.8%	99.0%	98.9%	99.0%	98.8%	98.8%	98.8%	99.0%	99.1%	99.2%	99.3%								
1982	98.4%	98.6%	98.6%	98.6%	98.6%	98.8%	99.0%	99.0%	99.1%	99.2%	99.2%								
1983	98.9%	98.9%	98.9%	98.9%	99.0%	99.1%	99.2%	99.3%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.5%	99.5%	99.5%	99.6%	
1984	99.1%	99.1%	99.1%	99.2%	99.2%	99.3%	99.4%	99.4%	99.4%	99.5%	99.5%	99.5%	99.6%	99.7%	99.7%	99.7%	99.7%		
1985	99.1%	99.1%	99.3%	99.3%	99.4%	99.4%	99.5%	99.5%	99.5%	99.5%	99.5%	99.6%	99.6%	99.7%	99.7%	99.7%			
1986	99.0%	99.0%	99.2%	99.2%	99.3%	99.3%	99.4%	99.3%	99.3%	99.3%	99.4%	99.5%	99.6%	99.7%	99.7%				
1987	98.9%	99.0%	99.1%	99.2%	99.3%	99.3%	99.3%	99.3%	99.4%	99.5%	99.5%	99.5%	99.5%	99.6%					
1988	99.0%	99.1%	99.1%	99.3%	99.3%	99.3%	99.3%	99.3%	99.4%	99.5%	99.5%	99.6%	99.6%						
1989	98.8%	99.0%	99.0%	99.1%	99.2%	99.3%	99.4%	99.5%	99.5%	99.5%	99.6%	99.6%							
1990	99.0%	99.1%	99.2%	99.2%	99.3%	99.4%	99.5%	99.6%	99.6%	99.6%	99.6%								
1991	98.6%	98.7%	98.8%	98.9%	99.0%	99.1%	99.2%	99.2%	99.3%	99.4%									
1992	98.5%	98.7%	98.8%	98.9%	99.0%	99.1%	99.2%	99.3%	99.4%										
1993	98.4%	98.6%	98.7%	98.8%	99.0%	99.1%	99.1%	99.2%											
1994	97.9%	98.1%	98.3%	98.4%	98.5%	98.7%	98.8%												
1995	97.3%	97.7%	97.9%	98.1%	98.2%	98.5%													
1996	97.4%	97.7%	98.0%	98.1%	98.3%														
1997	97.5%	97.8%	98.0%	98.2%															
1998	97.7%	97.8%	98.1%																
1999	98.1%	98.2%																	
2000	97.9%																		

Source: WCIRB quarterly calls for experience

## Ratios of Paid to Incurred Losses - Medical

Accident	Evaluated as of (in months):																		
Year	3	15	27	39	51	63	75	87	99	111	123	135	147	159	171	183	195	207	219
1980																			
1981									91.8%	93.0%	92.5%	94.1%	95.1%	94.2%	94.8%	94.8%	95.8%	96.0%	95.2%
1982								90.3%	90.5%	92.5%	93.1%	93.3%	93.4%	92.6%	92.9%	93.9%	94.2%	94.9%	94.1%
1983							89.4%	89.4%	91.1%	92.7%	94.0%	94.2%	94.8%	95.3%	95.8%	95.9%	96.2%	96.1%	96.2%
1984						87.0%	89.6%	92.0%	93.0%	93.6%	94.1%	94.8%	95.6%	96.3%	96.5%	96.7%	96.7%	96.7%	96.7%
1985					83.1%	87.3%	89.9%	91.3%	92.7%	94.0%	94.1%	94.5%	95.2%	96.0%	96.3%	96.3%	96.3%	96.3%	96.5%
1986				75.4%	81.8%	86.2%	89.4%	91.5%	92.3%	93.5%	93.8%	94.2%	95.7%	95.5%	95.9%	96.0%	96.0%	95.9%	95.2%
1987			63.9%	73.8%	81.5%	86.6%	89.4%	91.1%	92.1%	92.9%	93.5%	93.5%	94.1%	94.8%	95.1%	95.1%	95.0%	93.4%	94.0%
1988		46.3%	62.7%	74.1%	82.0%	86.3%	89.2%	91.4%	92.5%	94.0%	94.8%	95.1%	95.2%	95.6%	95.5%	95.5%	95.0%	95.0%	95.3%
1989	8.9%	43.7%	62.3%	75.1%	82.7%	87.3%	89.5%	91.5%	93.1%	93.6%	94.4%	95.0%	94.5%	94.7%	94.4%	93.3%	93.9%	94.7%	94.9%
1990	7.6%	44.7%	64.1%	76.0%	83.5%	88.3%	91.4%	93.5%	94.6%	95.0%	95.5%	95.2%	95.0%	94.7%	94.7%	94.9%	95.1%	95.3%	95.5%
1991	8.6%	43.4%	62.5%	74.9%	83.2%	88.4%	92.1%	93.2%	94.5%	94.7%	94.9%	94.9%	95.0%	94.8%	94.6%	94.7%	94.5%	94.8%	94.8%
1992	9.0%	44.7%	62.9%	76.5%	84.2%	88.7%	91.3%	92.9%	93.7%	93.5%	93.3%	93.4%	92.3%	92.4%	92.7%	93.3%	93.5%	93.8%	93.7%
1993	9.8%	46.4%	66.3%	77.8%	83.6%	87.8%	90.1%	91.7%	91.4%	91.1%	90.7%	90.3%	89.8%	90.3%	90.8%	90.2%	90.1%	90.3%	90.9%
1994	9.0%	45.8%	66.4%	78.4%	84.4%	88.1%	88.8%	88.8%	88.8%	88.3%	87.8%	87.9%	88.1%	88.3%	89.4%	90.1%	89.3%	89.5%	89.6%
1995	9.7%	49.0%	67.2%	76.7%	82.3%	84.8%	85.0%	85.5%	86.0%	84.9%	85.3%	86.2%	86.4%	86.3%	86.0%	85.7%	86.0%	87.0%	87.7%
1996	10.7%	50.4%	68.0%	77.7%	81.7%	83.5%	84.2%	85.2%	83.8%	84.5%	85.8%	86.2%	86.9%	87.2%	87.8%	87.9%	88.4%	89.1%	89.7%
1997	9.8%	49.1%	68.4%	77.0%	80.3%	82.2%	82.6%	81.4%	82.2%	83.5%	84.9%	85.1%	85.3%	85.5%	86.3%	86.8%	87.7%	88.7%	89.8%
1998	9.2%	49.8%	67.6%	74.2%	78.1%	78.7%	78.0%	80.2%	81.9%	83.2%	83.2%	84.1%	84.7%	85.8%	86.5%	87.1%	88.0%	88.4%	89.7%
1999	10.3%	49.2%	65.9%	73.5%	77.0%	78.2%	80.6%	82.3%	83.7%	83.7%	84.2%	85.3%	86.0%	86.8%	87.6%	88.1%	89.5%	90.8%	92.2%
2000	10.0%	45.8%	64.5%	71.4%	75.3%	78.8%	81.9%	83.5%	83.8%	85.1%	86.1%	86.4%	86.9%	87.4%	88.2%	89.3%	90.6%	92.1%	93.1%
2001	8.0%	45.3%	62.7%	70.6%	76.9%	80.4%	83.0%	83.9%	84.4%	84.6%	84.9%	85.6%	86.4%	87.1%	88.2%	89.9%	91.1%	92.4%	93.1%
2002	7.3%	44.7%	61.8%	71.6%	78.2%	82.7%	83.9%	85.1%	85.8%	86.1%	86.5%	87.3%	88.5%	89.4%	90.9%	92.1%	93.1%	94.0%	
2003	7.4%	44.4%	61.8%	71.5%	77.8%	81.1%	82.5%	83.5%	84.0%	84.3%	85.5%	86.7%	88.2%	89.6%	91.1%	92.2%	93.2%		
2004	6.4%	42.8%	60.9%	69.9%	75.4%	78.4%	80.6%	80.9%	82.3%	83.7%	85.0%	86.9%	88.5%	90.1%	91.5%	92.7%			
2005	9.4%	43.6%	59.3%	68.2%	75.5%	78.6%	79.8%	80.5%	82.5%	84.5%	86.0%	88.0%	89.5%	90.8%	92.1%				
2006	10.0%	43.7%	58.9%	67.9%	74.1%	77.6%	80.0%	81.8%	83.4%	85.2%	87.4%	89.1%	90.6%	91.7%					
2007	9.1%	43.5%	59.4%	68.6%	74.1%	77.6%	79.8%	82.7%	84.5%	86.4%	88.4%	89.8%	91.3%						
2008	9.7%	45.0%	59.6%	68.2%	74.6%	78.3%	81.3%	83.8%	86.0%	88.0%	89.7%	91.1%							
2009	11.3%	44.1%	57.8%	68.0%	73.8%	78.6%	82.0%	85.0%	87.3%	89.3%	90.9%								
2010	11.7%	43.7%	58.7%	68.3%	75.7%	80.4%	84.3%	87.4%	89.8%	91.2%									
2011	11.3%	42.1%	57.7%	68.2%	75.5%	80.6%	85.1%	88.2%	90.5%										
2012	10.8%	41.8%	58.3%	69.6%	77.6%	82.7%	86.4%	89.2%											
2013	10.3%	41.3%	58.0%	70.8%	78.6%	84.1%	87.5%												
2014	11.7%	41.6%	59.8%	71.9%	79.9%	85.0%													
2015	12.1%	40.9%	59.5%	71.2%	79.6%														
2016	11.6%	42.0%	60.0%	72.5%															
2017	13.6%	42.6%	60.9%																
2018	12.6%	42.4%																	
2019	13.3%																		

## Ratios of Paid to Incurred Losses - Medical

Accident	Evaluated as of (in months):																	
Year	231	243	255	267	279	291	303	315	327	339	351	363	375	387	399	411	423	435
1980	95.4%	94.8%	94.8%	94.3%	94.2%	93.2%	92.8%	93.5%	93.5%	93.4%	93.1%							
1981	95.8%	95.8%	95.5%	95.3%	94.6%	94.9%	95.2%	95.7%	96.0%	96.2%	96.6%							
1982	94.1%	93.8%	93.4%	93.2%	93.2%	93.8%	94.2%	94.1%	93.9%	94.2%	94.3%							
1983	96.1%	95.8%	94.7%	95.6%	96.0%	95.7%	95.9%	95.8%	96.0%	96.1%	96.0%	96.1%	96.3%	96.4%	96.9%	97.4%	97.8%	97.6%
1984	96.7%	96.4%	96.2%	96.3%	96.4%	96.7%	96.6%	96.8%	96.8%	96.9%	97.2%	97.2%	97.5%	97.9%	98.1%	98.2%	98.4%	
1985	96.5%	96.1%	96.0%	96.0%	96.3%	96.8%	97.0%	96.9%	96.9%	97.0%	96.9%	97.1%	97.5%	97.8%	98.0%	98.2%		
1986	95.3%	95.5%	95.7%	95.7%	95.8%	95.7%	95.7%	95.6%	95.6%	95.7%	96.1%	96.4%	97.1%	97.1%	97.1%			
1987	94.8%	95.0%	95.6%	95.6%	95.1%	95.6%	95.5%	95.7%	95.9%	96.1%	96.3%	96.6%	96.7%	97.2%				
1988	95.3%	95.8%	95.7%	95.7%	95.7%	96.2%	96.2%	96.4%	96.5%	96.6%	96.9%	97.4%	97.8%					
1989	94.8%	94.8%	94.6%	94.6%	95.0%	94.9%	95.4%	95.7%	96.2%	96.6%	96.9%	97.3%						
1990	95.4%	95.1%	95.2%	95.5%	95.7%	95.8%	96.6%	96.8%	96.9%	97.3%	97.7%							
1991	94.8%	94.9%	95.2%	95.3%	95.8%	96.0%	96.3%	96.7%	97.0%	97.6%								
1992	94.2%	94.2%	94.4%	94.8%	95.0%	95.5%	96.0%	96.3%	97.1%									
1993	90.8%	90.5%	91.6%	92.4%	93.3%	94.1%	94.7%	95.5%										
1994	90.1%	90.6%	91.2%	91.8%	93.0%	93.8%	94.4%											
1995	89.4%	90.0%	91.0%	92.5%	93.4%	94.1%												
1996	90.7%	91.6%	92.1%	92.9%	94.2%													
1997	91.2%	92.1%	92.9%	93.6%														
1998	90.4%	91.4%	92.1%															
1999	93.3%	93.9%																
2000	94.0%																	

Source: WCIRB quarterly calls for experience



## Average Indemnity Case Outstanding per Open Indemnity Claim

Accident Year	Evaluated as of (in months):															Annual Change	
	15	27	39	51	63	75	87	99	111	123	135	147	159				
1996														159			
1997													35,769	33%			
1998													35,332	-5.2%			
1999													34,482	-7.0%			
2000													32,880	-5.8%			
2001													32,599	-1.9%			
2002													28,339	-14.8%			
2003													27,054	-39.2%			
2004													28,224	-1.8%			
2005													30,114	-3.8%			
2006													25,756	1.9%			
2007													33,932				
2008													35,664				
2009													33,213				
2010													32,485				
2011													36,977				
2012													32,068				
2013													28,808				
2014													26,036				
2015													23,489				
2016													24,828				
2017													20,656				
2018													20,560				

Accident Year	Annual Change															
	15	27	39	51	63	75	87	99	111	123	135	147	159			
1997														33%		
1998														-2.4%		
1999														-6.6%		
2000														-7.1%		
2001														-5.6%		
2002														-1.9%		
2003														-14.8%		
2004														-39.2%		
2005														-1.8%		
2006														-3.8%		
2007														1.9%		
2008																
2009																
2010																
2011																
2012																
2013																
2014																
2015																
2016																
2017																
2018																

Source: WCIRB quarterly calls for experience

## Average Paid Indemnity Loss per Closed Indemnity Claim\*

Accident Year	Evaluated as of (in months):														
	15	27	39	51	63	75	87	99	111	123	135	147	159		
1996													14,654		
1997												16,487	16,688		
1998											17,902	18,263	18,512		
1999										19,148	19,574	19,864	20,194		
2000										20,103	20,514	20,842	21,138		
2001										21,338	21,823	22,245	22,752		
2002								20,102	20,866	20,452	20,971	21,554	21,919		
2003							18,476	18,879	19,578	20,221	20,974	21,476	21,967		
2004							17,181	18,244	19,578	20,221	20,974	21,476	21,967		
2005				9,005	12,274	13,530	14,262	15,016	15,796	16,643	17,167	17,665	18,085		
2006				9,598	11,365	12,681	13,925	15,117	15,978	16,747	17,357	17,834	18,241		
2007				10,198	12,152	13,848	15,371	16,484	17,447	18,246	18,878	19,377			
2008	1,935	4,328	7,047	9,598	11,365	12,681	13,925	15,117	15,978	16,747	17,357	17,834	18,241		
2009	1,967	4,899	8,674	11,287	13,709	15,907	17,319	18,551	19,444	20,119	20,749				
2010	1,944	5,010	8,925	11,958	14,815	16,811	18,491	19,674	20,614	21,430					
2011	2,179	5,397	9,505	12,912	15,546	17,331	18,709	19,843	20,636						
2012	2,264	5,948	10,061	13,293	15,614	17,373	18,632								
2013	2,609	6,321	10,517	13,682	15,897	17,421									
2014	2,694	6,728	11,160	14,533	16,786										
2015	3,011	7,371	11,895	15,218											
2016	3,254	7,706													
2017	3,348	7,808													
2018	3,575														

Accident Year	Annual Change														
	15	27	39	51	63	75	87	99	111	123	135	147	159		
1997													13.9%		
1998												10.8%	10.9%		
1999												8.8%	9.1%		
2000												4.8%	4.9%		
2001												6.4%	7.6%		
2002												-3.9%	-3.1%		
2003												0.0%	0.2%		
2004												-18.2%	-17.7%		
2005												-8.8%	-8.9%		
2006												10.9%	10.7%		
2007												8.8%	8.6%		
2008		8.6%	7.6%	6.6%	10.7%	14.9%	12.7%	12.5%	11.4%	10.3%	9.9%				
2009	1.6%	4.2%	4.4%	6.3%	12.8%	9.2%	10.4%	9.0%	9.2%	6.5%					
2010	-1.2%	2.3%	2.9%	5.0%	2.5%	5.7%	6.8%	6.1%	6.0%						
2011	12.1%	7.7%	6.5%	2.9%	2.3%	0.7%	-0.2%	-0.1%	0.1%						
2012	3.9%	10.2%	5.9%	3.0%	0.4%	0.2%	-0.4%								
2013	15.2%	6.3%	4.5%	2.9%	1.8%	0.3%									
2014	3.3%	6.4%	6.1%	6.2%	5.6%										
2015	11.8%	9.6%	6.6%	4.7%											
2016	8.1%	4.5%	1.0%												
2017	2.9%	1.3%													
2018	6.8%														

Source: WCIRB quarterly calls for experience

## Average Medical Case Outstanding Loss Per Open Indemnity Claim

Accident Year	Evaluated as of (in months):															Annual Change	159
	15	27	39	51	63	75	87	99	111	123	135	147	159				
1996														83,064			
1997														101,438			
1998														107,339			
1999														105,649			
2000														103,239			
2001														105,033			
2002														92,632			
2003														90,181			
2004														87,503			
2005														92,172			
2006														83,564			
2007														95,033			
2008																	
2009																	
2010																	
2011																	
2012																	
2013																	
2014																	
2015																	
2016																	
2017																	
2018																	

Accident Year	Annual Change															159
	15	27	39	51	63	75	87	99	111	123	135	147	159			
1997														22.1%		
1998														5.8%		
1999														-1.6%		
2000														-2.3%		
2001														1.7%		
2002														-11.8%		
2003														-2.6%		
2004														-3.0%		
2005														5.3%		
2006														-2.1%		
2007														13.7%		
2008														-1.6%		
2009																
2010																
2011																
2012																
2013																
2014																
2015																
2016																
2017																
2018																

Source: WCIRB quarterly calls for experience

## Average Medical Paid per Closed Indemnity Claim

Accident Year	Evaluated as of (in months):												
	15	27	39	51	63	75	87	99	111	123	135	147	159
1998												15,583	14,096
1999											17,335	17,933	16,260
2000										19,391	20,074	20,854	18,439
2001									19,076	19,869	20,708	21,701	21,845
2002								17,218	18,147	19,048	20,224	21,033	22,304
2003							13,999	15,018	16,167	17,505	18,513	19,429	21,877
2004							13,965	15,342	17,044	18,335	19,440	20,266	20,163
2005						12,903	13,965	16,085	17,848	19,161	20,534	21,638	20,928
2006					12,630	14,430	16,190	18,622	20,360	22,048	23,408	24,504	23,226
2007				11,646	13,979	15,930	19,050	21,170	23,169	24,634	25,757	26,778	
2008			9,709	12,953	15,930	19,050	21,170	23,169	24,634	25,757	26,778		
2009		6,274	10,236	14,121	17,990	20,804	23,282	25,100	26,569	27,919			
2010*	3,219	6,559	10,750	15,195	18,755	21,570	23,940	25,587	26,850				
2011*	2,646	6,127	10,685	14,700	18,109	20,808	22,861	24,420					
2012*	2,839	6,608	11,025	14,666	17,617	19,840	21,478						
2013	2,980	6,719	10,963	14,367	17,053	18,913							
2014	2,984	6,864	10,991	14,415	16,864								
2015	3,235	7,274	11,350	14,589									
2016	3,466	7,498	11,330										
2017	3,573	7,726											
2018	3,679												

Accident Year	Annual Change													
	15	27	39	51	63	75	87	99	111	123	135	147	159	
1999												15.1%	15.4%	
2000												16.3%	13.4%	
2001											15.8%	4.1%	18.5%	
2002										2.5%	3.2%	-3.1%	2.1%	
2003									-4.9%	-4.1%	-2.3%	-7.6%	-1.9%	
2004								-12.8%	-10.9%	-8.1%	-8.5%	-7.6%	-7.8%	
2005							-0.2%	2.2%	5.4%	4.7%	5.0%	4.3%	3.8%	
2006						11.8%	15.2%	16.3%	12.4%	12.0%	11.3%	11.0%	11.0%	
2007					10.7%	12.2%	15.8%	14.1%	15.1%	14.0%	13.2%	12.8%		
2008				11.2%	14.0%	17.7%	13.7%	13.8%	11.7%	10.0%	9.3%			
2009			5.4%	9.0%	12.9%	9.2%	10.0%	8.3%	7.9%	8.4%				
2010*														
2011*														
2012*														
2013	5.0%	1.7%	-0.6%	-2.0%	-3.2%	-4.7%								
2014	0.1%	2.2%	0.3%	0.3%	-1.1%									
2015	8.4%	6.0%	3.3%	1.2%										
2016	7.1%	3.1%	-0.2%											
2017	3.1%	3.0%												
2018	3.0%													

\* Entries for accident years 2010 and 2011 only reflect the paid cost of medical cost containment programs attributable to policies with effective dates prior to July 1, 2010. Entries for accident year 2012 and forward exclude the paid cost of medical cost containment programs.

Source: WCIRB quarterly calls for experience

## Estimated Ultimate Indemnity Claim Settlement Ratios

Accident																
Year	15	27	39	51	63	75	87	99	111	123	135	147	159	171	183	195
1994																98.5%
1995															98.1%	98.3%
1996															98.0%	98.2%
1997													97.2%	97.4%	97.7%	97.9%
1998												96.5%	96.9%	97.3%	97.6%	97.8%
1999											95.8%	96.4%	96.8%	97.1%	97.6%	97.8%
2000										94.5%	95.3%	95.9%	96.5%	97.1%	97.4%	97.6%
2001									92.3%	93.5%	94.4%	95.1%	95.9%	96.4%	96.8%	97.2%
2002								91.1%	92.6%	93.8%	94.8%	95.8%	96.4%	96.8%	97.3%	97.6%
2003							89.0%	90.9%	92.6%	93.9%	95.1%	95.8%	96.4%	97.0%	97.4%	97.8%
2004						86.0%	88.8%	91.0%	92.6%	94.4%	95.3%	96.1%	96.7%	97.2%	97.7%	
2005					82.0%	86.0%	88.9%	91.1%	93.2%	94.6%	95.6%	96.4%	97.0%	97.5%		
2006				75.4%	81.7%	85.6%	88.6%	91.4%	93.1%	94.5%	95.6%	96.4%	97.1%			
2007			65.2%	74.6%	80.7%	85.1%	89.1%	91.5%	93.5%	94.9%	96.0%	96.8%				
2008		49.4%	63.1%	72.8%	79.7%	85.4%	89.1%	91.9%	93.8%	95.1%	96.2%					
2009	29.4%	47.3%	61.3%	71.6%	79.7%	85.1%	89.2%	92.0%	93.9%	95.4%						
2010	29.5%	47.9%	62.0%	73.6%	81.2%	86.7%	90.5%	93.1%	94.8%							
2011	29.4%	48.2%	63.7%	74.9%	82.7%	87.8%	91.4%	93.9%								
2012	28.9%	49.3%	65.1%	76.3%	83.9%	89.0%	92.4%									
2013	29.0%	50.5%	66.6%	78.1%	85.7%	90.4%										
2014	29.3%	51.7%	68.0%	79.7%	86.9%											
2015	30.0%	53.6%	70.8%	82.0%												
2016	31.4%	56.1%	73.4%													
2017	33.9%	58.9%														
2018	34.5%															

Source: WCIRB quarterly calls for experience

**Distribution of Estimated Ultimate Number of Claims by Injury Type****I. Distribution of Ultimate Number of Indemnity Claims**

Accident <u>Year</u>	Permanent <u>Indemnity</u>	Temporary <u>Indemnity</u>	<u>Total</u>
2001	52.8%	47.2%	100%
2002	54.5%	45.5%	100%
2003	53.9%	46.1%	100%
2004	49.7%	50.3%	100%
2005	46.3%	53.7%	100%
2006	47.4%	52.6%	100%
2007	48.6%	51.4%	100%
2008	50.8%	49.2%	100%
2009	52.2%	47.8%	100%
2010	51.7%	48.3%	100%
2011	51.5%	48.5%	100%
2012	51.0%	49.0%	100%
2013	51.2%	48.8%	100%
2014	51.7%	48.3%	100%
2015	52.7%	47.3%	100%
2016	51.8%	48.2%	100%
2017*	51.9%	48.1%	100%

**II. Distribution of Ultimate Number of All Claims**

Accident <u>Year</u>	Permanent <u>Indemnity**</u>	Temporary <u>Indemnity</u>	Medical <u>Only</u>	<u>Total</u>
2001	16.8%	15.0%	68.2%	100%
2002	18.0%	15.0%	67.0%	100%
2003	18.3%	15.7%	66.0%	100%
2004	15.7%	15.8%	68.5%	100%
2005	13.5%	15.7%	70.8%	100%
2006	13.7%	15.2%	71.1%	100%
2007	14.4%	15.2%	70.4%	100%
2008	15.1%	14.6%	70.3%	100%
2009	16.3%	14.9%	68.8%	100%
2010	16.9%	15.8%	67.3%	100%
2011	17.4%	16.3%	66.3%	100%
2012	17.6%	16.9%	65.5%	100%
2013	18.3%	17.4%	64.3%	100%
2014	18.4%	17.2%	64.4%	100%
2015	18.8%	16.9%	64.3%	100%
2016	18.5%	17.2%	64.3%	100%
2017*	18.0%	16.7%	65.3%	100%

\* Accident year 2017 experience is partial in that it only reflects experience from policy year 2016.

\*\* Permanent indemnity consists of the death, permanent total, and permanent partial injury types.

Source: WCIRB unit statistical data

Quarterly Incurred Indemnity Loss Development Factors  
Through March 31, 2019

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	1.998
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	1.578
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	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	1.138	
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	1.078	
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	1.028		
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	1.015			
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	1.010				
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	1.007					
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	1.004						
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 March 31, 2019

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	1.820
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	1.459
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	1.191
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	1.046	
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	1.036	
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	1.011		
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	1.008			
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	1.008			
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	1.009				
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	1.008				
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	1.006					
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	1.002						
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 March 31, 2019

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	1.891
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	1.527
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	1.205	
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	1.159	
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	1.068		
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	1.035			
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	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	1.012					
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	1.010						
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 March 31, 2019

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	1.719
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	1.425
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	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	1.055		
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	1.032			
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	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	1.013					
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	1.010						
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.

Age	I. Distribution of Pharma Payments by Development Year <sup>(1)</sup>										II. Difference in Pharma Payment Share Compared to Calendar Year 2018 <sup>(2)</sup>										III. Difference in Pharma Payment Share - Fixed Percentage for 108-Months & Later									
	Calendar Year										Calendar Year										Calendar Year									
	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018
12	5.8%	5.1%	4.1%	3.0%	2.3%	1.3%	4.5%	3.8%	2.8%	1.7%	1.0%	0.0%	4.5%	3.8%	2.8%	1.7%	1.0%	0.0%	4.5%	3.8%	2.8%	1.7%	1.0%	0.0%	4.5%	3.8%	2.8%	1.7%	1.0%	0.0%
24	9.0%	8.8%	6.6%	4.1%	3.2%	1.8%	7.2%	7.0%	4.7%	2.3%	1.3%	0.0%	7.2%	7.0%	4.7%	2.3%	1.3%	0.0%	7.2%	7.0%	4.7%	2.3%	1.3%	0.0%	7.2%	7.0%	4.7%	2.3%	1.3%	0.0%
36	12.3%	11.9%	9.6%	6.2%	5.0%	3.0%	9.3%	8.9%	6.6%	3.2%	2.0%	0.0%	9.3%	8.9%	6.6%	3.2%	2.0%	0.0%	9.3%	8.9%	6.6%	3.2%	2.0%	0.0%	9.3%	8.9%	6.6%	3.2%	2.0%	0.0%
48	14.7%	12.8%	10.4%	7.4%	5.9%	4.1%	10.6%	8.7%	6.3%	3.3%	1.8%	0.0%	10.6%	8.7%	6.3%	3.3%	1.8%	0.0%	10.6%	8.7%	6.3%	3.3%	1.8%	0.0%	10.6%	8.7%	6.3%	3.3%	1.8%	0.0%
60	16.4%	14.9%	11.3%	7.9%	6.4%	4.9%	11.4%	10.0%	6.4%	3.0%	1.5%	0.0%	11.4%	10.0%	6.4%	3.0%	1.5%	0.0%	11.4%	10.0%	6.4%	3.0%	1.5%	0.0%	11.4%	10.0%	6.4%	3.0%	1.5%	0.0%
72	20.0%	16.3%	13.7%	9.2%	7.1%	5.2%	14.8%	11.0%	8.5%	4.0%	1.9%	0.0%	14.8%	11.0%	8.5%	4.0%	1.9%	0.0%	14.8%	11.0%	8.5%	4.0%	1.9%	0.0%	14.8%	11.0%	8.5%	4.0%	1.9%	0.0%
84	22.7%	19.4%	15.0%	11.3%	8.3%	5.1%	17.5%	14.2%	9.8%	6.2%	3.1%	0.0%	17.5%	14.2%	9.8%	6.2%	3.1%	0.0%	17.5%	14.2%	9.8%	6.2%	3.1%	0.0%	17.5%	14.2%	9.8%	6.2%	3.1%	0.0%
96	25.8%	21.8%	17.7%	12.8%	11.1%	6.9%	18.8%	14.9%	10.7%	5.9%	4.1%	0.0%	18.8%	14.9%	10.7%	5.9%	4.1%	0.0%	18.8%	14.9%	10.7%	5.9%	4.1%	0.0%	18.8%	14.9%	10.7%	5.9%	4.1%	0.0%
108	26.9%	24.2%	18.7%	15.0%	10.6%	10.3%	16.6%	13.9%	8.4%	4.7%	0.3%	0.0%	16.6%	13.9%	8.4%	4.7%	0.3%	0.0%	16.6%	13.9%	8.4%	4.7%	0.3%	0.0%	16.6%	13.9%	8.4%	4.7%	0.3%	0.0%
120	29.7%	26.4%	22.2%	15.4%	14.0%	9.3%	20.4%	17.1%	12.9%	6.1%	4.7%	0.0%	20.4%	17.1%	12.9%	6.1%	4.7%	0.0%	20.4%	17.1%	12.9%	6.1%	4.7%	0.0%	20.4%	17.1%	12.9%	6.1%	4.7%	0.0%
132	30.5%	27.9%	22.7%	17.5%	12.9%	11.2%	19.3%	16.7%	11.5%	6.3%	1.7%	0.0%	19.3%	16.7%	11.5%	6.3%	1.7%	0.0%	19.3%	16.7%	11.5%	6.3%	1.7%	0.0%	19.3%	16.7%	11.5%	6.3%	1.7%	0.0%
144	30.7%	27.7%	24.4%	18.4%	15.7%	11.3%	19.4%	16.5%	13.1%	7.1%	4.4%	0.0%	19.4%	16.5%	13.1%	7.1%	4.4%	0.0%	19.4%	16.5%	13.1%	7.1%	4.4%	0.0%	19.4%	16.5%	13.1%	7.1%	4.4%	0.0%
156	35.4%	26.1%	23.7%	19.0%	16.9%	12.8%	22.5%	17.6%	10.8%	6.1%	4.0%	0.0%	22.5%	17.6%	10.8%	6.1%	4.0%	0.0%	22.5%	17.6%	10.8%	6.1%	4.0%	0.0%	22.5%	17.6%	10.8%	6.1%	4.0%	0.0%
168	38.5%	33.2%	22.9%	17.1%	15.7%	15.6%	22.9%	17.3%	10.8%	7.2%	0.1%	0.0%	22.9%	17.3%	10.8%	7.2%	0.1%	0.0%	22.9%	17.3%	10.8%	7.2%	0.1%	0.0%	22.9%	17.3%	10.8%	7.2%	0.1%	0.0%
180	37.5%	37.4%	29.2%	15.6%	13.6%	14.2%	23.3%	23.2%	15.0%	1.5%	-0.6%	0.0%	23.3%	23.2%	15.0%	1.5%	-0.6%	0.0%	23.3%	23.2%	15.0%	1.5%	-0.6%	0.0%	23.3%	23.2%	15.0%	1.5%	-0.6%	0.0%
192	32.2%	34.2%	31.0%	22.5%	12.1%	11.6%	20.7%	22.7%	19.5%	10.9%	0.5%	0.0%	20.7%	22.7%	19.5%	10.9%	0.5%	0.0%	20.7%	22.7%	19.5%	10.9%	0.5%	0.0%	20.7%	22.7%	19.5%	10.9%	0.5%	0.0%
204	37.3%	33.8%	28.2%	22.4%	17.4%	10.7%	26.6%	23.1%	17.5%	11.7%	6.7%	0.0%	26.6%	23.1%	17.5%	11.7%	6.7%	0.0%	26.6%	23.1%	17.5%	11.7%	6.7%	0.0%	26.6%	23.1%	17.5%	11.7%	6.7%	0.0%
216	35.7%	34.6%	27.5%	18.1%	16.8%	16.2%	19.5%	18.3%	11.3%	1.8%	0.6%	0.0%	19.5%	18.3%	11.3%	1.8%	0.6%	0.0%	19.5%	18.3%	11.3%	1.8%	0.6%	0.0%	19.5%	18.3%	11.3%	1.8%	0.6%	0.0%
228	28.1%	36.2%	31.6%	22.8%	16.0%	15.6%	12.6%	20.7%	16.0%	7.2%	0.5%	0.0%	12.6%	20.7%	16.0%	7.2%	0.5%	0.0%	12.6%	20.7%	16.0%	7.2%	0.5%	0.0%	12.6%	20.7%	16.0%	7.2%	0.5%	0.0%
240	38.1%	25.4%	30.1%	27.7%	18.4%	11.8%	26.3%	13.6%	18.3%	15.9%	6.5%	0.0%	26.3%	13.6%	18.3%	15.9%	6.5%	0.0%	26.3%	13.6%	18.3%	15.9%	6.5%	0.0%	26.3%	13.6%	18.3%	15.9%	6.5%	0.0%
252	40.4%	36.6%	20.4%	21.3%	24.5%	15.1%	25.3%	21.5%	5.4%	6.2%	9.4%	0.0%	25.3%	21.5%	5.4%	6.2%	9.4%	0.0%	25.3%	21.5%	5.4%	6.2%	9.4%	0.0%	25.3%	21.5%	5.4%	6.2%	9.4%	0.0%
264	44.0%	41.0%	33.2%	20.7%	16.2%	16.3%	27.7%	24.7%	17.0%	4.4%	-0.1%	0.0%	27.7%	24.7%	17.0%	4.4%	-0.1%	0.0%	27.7%	24.7%	17.0%	4.4%	-0.1%	0.0%	27.7%	24.7%	17.0%	4.4%	-0.1%	0.0%
276	47.6%	31.4%	28.4%	27.2%	16.7%	14.1%	33.5%	17.2%	14.3%	13.0%	2.6%	0.0%	33.5%	17.2%	14.3%	13.0%	2.6%	0.0%	33.5%	17.2%	14.3%	13.0%	2.6%	0.0%	33.5%	17.2%	14.3%	13.0%	2.6%	0.0%
288	38.4%	45.1%	27.1%	14.1%	19.9%	15.0%	23.4%	30.2%	12.1%	-0.9%	4.9%	0.0%	23.4%	30.2%	12.1%	-0.9%	4.9%	0.0%	23.4%	30.2%	12.1%	-0.9%	4.9%	0.0%	23.4%	30.2%	12.1%	-0.9%	4.9%	0.0%
300	26.9%	40.8%	45.0%	20.1%	12.8%	20.3%	6.5%	20.5%	24.6%	-0.3%	-7.5%	0.0%	6.5%	20.5%	24.6%	-0.3%	-7.5%	0.0%	6.5%	20.5%	24.6%	-0.3%	-7.5%	0.0%	6.5%	20.5%	24.6%	-0.3%	-7.5%	0.0%
312	31.0%	27.4%	34.7%	35.5%	16.5%	11.9%	19.1%	15.4%	22.8%	23.6%	4.6%	0.0%	19.1%	15.4%	22.8%	23.6%	4.6%	0.0%	19.1%	15.4%	22.8%	23.6%	4.6%	0.0%	19.1%	15.4%	22.8%	23.6%	4.6%	0.0%
324	29.6%	23.8%	23.9%	32.4%	31.5%	16.2%	13.4%	7.7%	7.7%	16.3%	15.3%	0.0%	13.4%	7.7%	7.7%	16.3%	15.3%	0.0%	13.4%	7.7%	7.7%	16.3%	15.3%	0.0%	13.4%	7.7%	7.7%	16.3%	15.3%	0.0%
336	43.4%	27.6%	22.4%	18.7%	24.8%	23.2%	20.2%	4.5%	-0.8%	-4.4%	1.7%	0.0%	20.2%	4.5%	-0.8%	-4.4%	1.7%	0.0%	20.2%	4.5%	-0.8%	-4.4%	1.7%	0.0%	20.2%	4.5%	-0.8%	-4.4%	1.7%	0.0%
348	37.0%	38.1%	31.1%	16.5%	16.8%	16.7%	20.2%	21.3%	14.3%	-0.2%	0.0%	0.0%	20.2%	21.3%	14.3%	-0.2%	0.0%	0.0%	20.2%	21.3%	14.3%	-0.2%	0.0%	0.0%	20.2%	21.3%	14.3%	-0.2%	0.0%	0.0%
360	31.1%	29.1%	25.8%	18.8%	13.7%	10.8%	20.3%	18.3%	15.0%	8.1%	2.9%	0.0%	20.3%	18.3%	15.0%	8.1%	2.9%	0.0%	20.3%	18.3%	15.0%	8.1%	2.9%	0.0%	20.3%	18.3%	15.0%	8.1%	2.9%	0.0%
372	40.7%	30.2%	27.7%	34.3%	23.0%	10.1%	30.5%	20.0%	17.6%	24.1%	12.8%	0.0%	30.5%	20.0%	17.6%	24.1%	12.8%	0.0%	30.5%	20.0%	17.6%	24.1%	12.8%	0.0%	30.5%	20.0%	17.6%	24.1%	12.8%	0.0%
384	23.1%		42.7%	33.3%	29.9%	33.8%			9.0%	-0.5%	-3.8%	0.0%				-0.5%	-3.8%	0.0%				-0.5%	-3.8%	0.0%				-0.5%	-3.8%	0.0%
396			5.4%	36.3%	34.8%	45.6%			-40.2%	-9.3%	-10.9%	0.0%				-9.3%	-10.9%	0.0%				-9.3%	-10.9%	0.0%				-9.3%	-10.9%	0.0%
408				6.0%	34.6%	35.6%				-29.6%	-1.0%	0.0%				-29.6%	-1.0%	0.0%				-29.6%	-1.0%	0.0%				-29.6%	-1.0%	0.0%
420					3.9%	24.4%					-20.5%	0.0%					-20.5%	0.0%					0.0%	0.0%					0.0%	0.0%
432						2.1%						0.0%						0.0%						0.0%						0.0%
Total	15.6%	14.0%	11.1%	7.6%	5.9%	4.1%	11.5%	9.9%	6.9%	3.4%	1.7%	0.0%	11.5%	9.9%	6.9%	3.4%	1.7%	0.0%	11.5%	9.9%	6.9%	3.4%	1.7%	0.0%	11.5%	9.9%	6.9%	3.4%	1.7%	0.0%
108+	32.7%	29.8%	24.9%	18.6%	15.1%	12.7%	20.0%	17.1%	12.2%	5.9%	2.4%	0.0%	20.0%	17.1%	12.2%	5.9%	2.4%	0.0%	20.0%	17.1%	12.2%	5.9%	2.4%	0.0%	20.0%	17.1%	12.2%	5.9%	2.4%	0.0%

Notes:

<sup>(1)</sup> Based on WCIRB medical transaction data.<sup>(2)</sup> For example, the 4.5% for 2013 at 12 months is the difference between the 5.8% for 2013 at 12 months and the 1.3% for 2018 at 12 months from Item I.

Difference in Pharma Payment Share for Calendar Years 2012 and Prior Compared to Calendar Year 2018			
Development Age	(A)	(B)	(C)
	CY2012&Prior <sup>[1]</sup>	CY2018 <sup>[2]</sup>	Difference
0-12	5.8%	1.3%	4.5%
0-24	7.5%	1.5%	6.0%
0-36	8.7%	1.8%	6.9%
0-48	9.5%	2.1%	7.4%
0-60	10.1%	2.3%	7.8%
0-72	10.7%	2.4%	8.3%
0-84	11.3%	2.5%	8.7%
0-96	11.7%	2.7%	9.1%
0-108	12.2%	2.8%	9.3%
0-120	12.6%	2.9%	9.7%
0-132	13.1%	3.0%	10.0%
0-144	13.5%	3.1%	10.4%
0-156	14.0%	3.2%	10.7%
0-168	14.3%	3.4%	10.9%
0-180	14.5%	3.5%	11.1%
0-192	14.7%	3.5%	11.2%
0-204	14.9%	3.6%	11.3%
0-216	15.0%	3.7%	11.3%
0-228	15.1%	3.8%	11.3%
0-240	15.2%	3.8%	11.3%
0-252	15.3%	3.9%	11.4%
0-264	15.3%	3.9%	11.4%
0-276	15.4%	4.0%	11.4%
0-288	15.5%	4.0%	11.5%
0-300	15.5%	4.0%	11.5%
0-312	15.5%	4.0%	11.5%
0-324	15.5%	4.1%	11.5%
0-336	15.6%	4.1%	11.5%
0-348	15.6%	4.1%	11.5%
0-360	15.6%	4.1%	11.5%
0-372	15.6%	4.1%	11.5%
0-384	15.6%	4.1%	11.5%
0-396	15.6%	4.1%	11.5%
0-408	15.6%	4.1%	11.5%
0-420	15.6%	4.1%	11.5%
0-432	15.6%	4.1%	11.5%

Notes:

<sup>[1]</sup> Based on calendar year 2013 from Exhibit 6.1, Item I.<sup>[2]</sup> Based on calendar year 2018 from Exhibit 6.1, Item I.

**Developed Loss Ratio Unadjusted 3-Year Average Incurred Development Factors  
Based on Experience as of March 31, 2019**

	(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	1.003	1.021	0.221	0.328	1.005	1.044	0.342	0.563
2008	0.272	1.007	1.028	0.280	0.404	1.006	1.050	0.424	0.705
2009	0.314	1.006	1.035	0.325	0.465	1.007	1.057	0.492	0.817
2010	0.299	1.010	1.045	0.312	0.448	1.011	1.068	0.478	0.790
2011	0.274	1.012	1.057	0.290	0.380	1.008	1.077	0.410	0.700
2012	0.242	1.016	1.074	0.260	0.321	1.011	1.089	0.350	0.610
2013	0.202	1.023	1.099	0.222	0.256	1.018	1.108	0.283	0.506
2014	0.188	1.032	1.134	0.214	0.221	1.025	1.136	0.250	0.464
2015	0.177	1.052	1.193	0.211	0.205	1.038	1.179	0.242	0.454
2016	0.156	1.092	1.302	0.203	0.185	1.064	1.254	0.232	0.435
2017	0.137	1.202	1.565	0.215	0.175	1.115	1.399	0.245	0.460
2018	0.094	1.608	2.516	0.238	0.150	1.287	1.800	0.270	0.507

- (a) Based on Section B, 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 Section B, Exhibit 2.1.
- (c) Based on Section B, 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 March 31, 2019**

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	0.221	1.465	1.072	0.302
2008	0.280	1.376	1.296	0.297
2009	0.325	1.349	1.398	0.314
2010	0.312	1.323	1.271	0.325
2011	0.290	1.305	1.162	0.326
2012	0.260	1.289	1.035	0.324
2013	0.222	1.260	0.904	0.310
2014	0.214	1.154	0.834	0.296
2015	0.211	1.138	0.796	0.302
2016	0.203	1.124	0.814	0.280
2017	0.215	1.094	0.850	0.276
2018	0.238	1.067	0.898	0.282
				Projected (d)
2019				0.272
2020				0.265
1/1/2021				0.262

(a) See Exhibit 7.1.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.342	0.802	1.072	0.256
2008	0.424	0.796	1.296	0.261
2009	0.492	0.785	1.398	0.276
2010	0.478	0.783	1.271	0.295
2011	0.410	0.805	1.162	0.284
2012	0.350	0.840	1.035	0.284
2013	0.283	0.922	0.904	0.289
2014	0.250	0.967	0.834	0.290
2015	0.242	0.988	0.796	0.301
2016	0.232	0.986	0.814	0.281
2017	0.245	0.983	0.850	0.284
2018	0.270	1.007	0.898	0.303
				Projected (d)
2019				0.299
2020				0.300
1/1/2021				0.300

(a) See Exhibit 7.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

	(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	1.003	1.021	0.221	0.328	1.005	1.044	0.342	0.563
2008	0.272	1.007	1.028	0.280	0.404	1.006	1.050	0.424	0.705
2009	0.314	1.006	1.035	0.325	0.465	1.007	1.057	0.492	0.817
2010	0.299	1.010	1.045	0.312	0.448	1.011	1.068	0.478	0.790
2011	0.274	1.011	1.056	0.290	0.380	1.010	1.079	0.411	0.701
2012	0.242	1.016	1.073	0.260	0.321	1.008	1.088	0.349	0.609
2013	0.202	1.022	1.097	0.222	0.256	1.014	1.103	0.282	0.504
2014	0.188	1.030	1.130	0.213	0.221	1.023	1.128	0.249	0.462
2015	0.177	1.049	1.185	0.210	0.205	1.033	1.166	0.239	0.449
2016	0.156	1.085	1.286	0.200	0.185	1.050	1.224	0.227	0.427
2017	0.137	1.187	1.526	0.209	0.175	1.093	1.338	0.235	0.444
2018	0.094	1.588	2.424	0.229	0.150	1.260	1.686	0.253	0.482

- (a) Based on Section B, 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 Section B, Exhibit 2.1.
- (c) Based on Section B, 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 March 31, 2019**

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	0.221	1.465	1.072	0.302
2008	0.280	1.376	1.296	0.297
2009	0.325	1.349	1.398	0.314
2010	0.312	1.323	1.271	0.325
2011	0.290	1.305	1.162	0.326
2012	0.260	1.289	1.035	0.324
2013	0.222	1.260	0.904	0.310
2014	0.213	1.154	0.834	0.295
2015	0.210	1.138	0.796	0.300
2016	0.200	1.124	0.814	0.276
2017	0.209	1.094	0.850	0.270
2018	0.229	1.067	0.898	0.272
				Projected (d)
2019				0.264
2020				0.257
1/1/2021				0.254

(a) See Exhibit 8.1.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.342	0.802	1.072	0.256
2008	0.424	0.796	1.296	0.261
2009	0.492	0.785	1.398	0.276
2010	0.478	0.783	1.271	0.295
2011	0.411	0.805	1.162	0.284
2012	0.349	0.840	1.035	0.283
2013	0.282	0.922	0.904	0.288
2014	0.249	0.967	0.834	0.288
2015	0.239	0.988	0.796	0.297
2016	0.227	0.986	0.814	0.274
2017	0.235	0.983	0.850	0.271
2018	0.253	1.007	0.898	0.283
				Projected (d)
2019				0.283
2020				0.284
1/1/2021				0.284

(a) See Exhibit 8.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 AdequacyA. Indemnity Case Reserves Per Open Claim

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													30,114
2002												25,756	25,652
2003											33,932	35,664	35,716
2004										29,240	31,336	33,213	35,056
2005									25,872	27,803	28,446	31,548	33,729
2006								25,378	26,991	27,471	30,938	32,719	34,366
2007							23,902	27,099	29,187	31,334	32,485	36,433	
2008						21,325	23,929	26,758	30,610	33,635	36,977		
2009					19,212	21,596	23,512	25,988	28,890	32,068			
2010				16,461	18,270	20,260	22,464	25,254	28,808				
2011			15,277	17,524	18,996	20,877	23,489	26,036					
2012		12,962	14,991	16,407	18,783	21,170	24,828						
2013	9,594	13,131	14,259	15,768	17,645	20,656							
2014	9,670	13,132	15,219	17,619	20,560								
2015	10,026	14,254	16,694	19,662									
2016	10,151	14,598	17,292										
2017	10,828	16,064											
2018	11,573												

B. Average Paid Indemnity per Closed Claim

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													22,752
2002												21,554	21,919
2003											20,974	21,476	21,967
2004										16,643	17,167	17,665	18,085
2005									14,446	15,101	15,652	16,106	16,467
2006								15,117	15,978	16,747	17,357	17,834	18,241
2007							15,371	16,484	17,447	18,246	18,878	19,377	
2008						15,907	17,319	18,551	19,444	20,119	20,749		
2009					14,815	16,811	18,491	19,674	20,614	21,430			
2010				12,553	15,192	17,217	18,741	19,843	20,636				
2011			9,505	12,912	15,546	17,331	18,709	19,817					
2012		5,948	10,061	13,293	15,614	17,373	18,632						
2013	2,609	6,321	10,517	13,682	15,897	17,421							
2014	2,694	6,728	11,160	14,533	16,786								
2015	3,011	7,371	11,895	15,218									
2016	3,254	7,706	12,017										
2017	3,348	7,808											
2018	3,575												

C. Annual Change of Average Paid Indemnity per Closed Claim

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2002													-3.7%
2003												-0.4%	0.2%
2004											-18.2%	-17.7%	-17.7%
2005										-9.3%	-8.8%	-8.8%	-8.9%
2006									10.6%	10.9%	10.9%	10.7%	10.8%
2007								9.0%	9.2%	8.9%	8.8%	8.6%	
2008							12.7%	12.5%	11.4%	10.3%	9.9%		
2009						5.7%	6.8%	6.1%	6.0%	6.5%			
2010					2.5%	2.4%	1.4%	0.9%	0.1%				
2011				2.9%	2.3%	0.7%	-0.2%	-0.1%					
2012			5.9%	3.0%	0.4%	0.2%	-0.4%						
2013		6.3%	4.5%	2.9%	1.8%	0.3%							
2014	3.3%	6.4%	6.1%	6.2%	5.6%								
2015	11.8%	9.6%	6.6%	4.7%									
2016	8.1%	4.5%	1.0%										
2017	2.9%	1.3%											
2018	6.8%												

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)												
	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													42,864
2002												40,527	41,295
2003											37,379	40,379	41,387
2004										24,905	30,593	33,215	34,073
2005									20,167	22,596	27,894	30,283	31,024
2006								19,862	22,306	25,060	30,933	33,533	34,366
2007							20,482	21,657	24,356	27,303	33,644	36,433	
2008						18,860	23,079	24,374	27,144	30,107	36,977		
2009					18,146	19,933	24,640	25,849	28,777	32,068			
2010				16,219	18,608	20,414	24,973	26,071	28,808				
2011			13,677	16,683	19,041	20,549	24,931	26,036					
2012		12,237	14,478	17,175	19,124	20,599	24,828						
2013	8,445	13,005	15,134	17,677	19,471	20,656							
2014	8,720	13,842	16,059	18,777	20,560								
2015	9,749	15,166	17,116	19,662									
2016	10,536	15,854	17,292										
2017	10,840	16,064											
2018	11,573												

## E. Indemnity Open Claim Counts

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													7,068
2002												7,872	6,742
2003											8,555	7,339	6,285
2004										8,608	7,042	5,956	4,935
2005									9,128	7,276	5,972	4,814	3,945
2006								11,015	8,778	7,102	5,618	4,543	3,655
2007							13,645	10,567	8,171	6,322	4,966	3,981	
2008						17,143	12,775	9,582	7,319	5,705	4,406		
2009					21,980	16,224	11,853	8,787	6,616	4,974			
2010				29,318	21,007	15,011	10,717	7,824	5,764				
2011			40,159	28,099	19,753	13,922	9,832	6,918					
2012		57,605	40,839	28,300	19,366	13,235	9,108						
2013	77,318	60,267	42,316	27,885	18,310	12,257							
2014	80,310	62,717	42,460	27,080	17,485								
2015	84,962	63,355	40,559	24,884									
2016	84,248	60,642	37,548										
2017	82,566	56,713											
2018	83,099												

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

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													302,973
2002												319,023	278,413
2003											319,781	296,350	260,120
2004										214,371	215,442	197,831	168,153
2005									184,091	164,417	166,589	145,783	122,389
2006								218,774	195,807	177,980	173,782	152,339	125,606
2007							279,491	228,860	199,022	172,610	167,074	145,040	
2008						323,329	294,834	233,551	198,666	171,759	162,923		
2009					398,839	323,395	292,058	227,140	190,387	159,508			
2010				475,499	390,890	306,431	267,639	203,981	166,050				
2011			549,245	468,770	376,108	286,077	245,118	180,120					
2012		704,906	591,249	486,052	370,363	272,623	226,137						
2013	652,968	783,751	640,406	492,932	356,516	253,177							
2014	700,302	868,107	681,862	508,486	359,486								
2015	828,291	960,816	694,215	489,262									
2016	887,632	961,441	649,269										
2017	895,007	911,057											
2018	961,665												

(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 AdequacyG. Paid Indemnity Loss on All Claims

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													4,719,807
2002												4,656,525	4,696,499
2003											4,375,661	4,439,473	4,484,835
2004										3,013,372	3,067,705	3,110,762	3,145,180
2005									2,324,045	2,383,601	2,429,034	2,463,283	2,493,192
2006								2,347,437	2,422,686	2,485,728	2,528,444	2,567,588	2,595,593
2007							2,395,037	2,495,073	2,575,740	2,640,738	2,686,140	2,728,353	
2008						2,378,763	2,506,482	2,606,076	2,670,531	2,725,327	2,774,665		
2009					2,108,947	2,287,409	2,415,766	2,510,234	2,582,717	2,642,387			
2010				1,925,419	2,172,048	2,346,880	2,471,439	2,560,081	2,622,512				
2011			1,568,289	1,920,645	2,162,154	2,326,027	2,446,957	2,539,644					
2012		1,126,733	1,661,533	2,020,569	2,267,686	2,439,036	2,553,493						
2013	503,593	1,201,836	1,788,719	2,173,395	2,413,326	2,565,284							
2014	529,821	1,303,031	1,955,583	2,375,810	2,634,351								
2015	578,889	1,428,621	2,108,054	2,533,290									
2016	612,792	1,472,384	2,148,899										
2017	633,213	1,513,773											
2018	682,725												

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

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													5,022,780
2002												4,975,548	4,974,912
2003											4,695,443	4,735,823	4,744,955
2004										3,227,743	3,283,148	3,308,593	3,313,333
2005									2,508,136	2,548,017	2,595,623	2,609,066	2,615,581
2006								2,566,211	2,618,493	2,663,708	2,702,226	2,719,927	2,721,199
2007							2,674,528	2,723,933	2,774,762	2,813,348	2,853,214	2,873,393	
2008						2,702,091	2,801,316	2,839,627	2,869,198	2,897,085	2,937,587		
2009					2,507,786	2,610,804	2,707,824	2,737,374	2,773,104	2,801,896			
2010				2,400,918	2,562,938	2,653,311	2,739,078	2,764,062	2,788,562				
2011			2,117,534	2,389,415	2,538,262	2,612,104	2,692,075	2,719,765					
2012		1,831,639	2,252,783	2,506,621	2,638,049	2,711,659	2,779,630						
2013	1,156,561	1,985,587	2,429,125	2,666,327	2,769,843	2,818,461							
2014	1,230,124	2,171,138	2,637,444	2,884,297	2,993,837								
2015	1,407,180	2,389,437	2,802,269	3,022,551									
2016	1,500,423	2,433,825	2,798,169										
2017	1,528,220	2,424,830											
2018	1,644,390												

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

Accident	Age-to-Age Development (in months):											
Year	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159
2002												1.000
2003											1.009	1.002
2004										1.017	1.008	1.001
2005									1.016	1.019	1.005	1.002
2006								1.020	1.017	1.014	1.007	1.000
2007							1.018	1.019	1.014	1.014	1.007	
2008						1.037	1.014	1.010	1.010	1.014		
2009					1.041	1.037	1.011	1.013	1.010			
2010				1.067	1.035	1.032	1.009	1.009				
2011			1.128	1.062	1.029	1.031	1.010					
2012		1.230	1.113	1.052	1.028	1.025						
2013	1.717	1.223	1.098	1.039	1.018							
2014	1.765	1.215	1.094	1.038								
2015	1.698	1.173	1.079									
2016	1.622	1.150										
2017	1.587											
Latest Year	1.587	1.150	1.079	1.038	1.018	1.025	1.010	1.009	1.010	1.014	1.007	1.000
3-Yr Average	1.636	1.179	1.090	1.043	1.025	1.029	1.010	1.011	1.011	1.014	1.006	1.001

(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 AdequacyJ. Indemnity Incurred Loss Development Factors (d)

Accident	Age-to-Age Development (in months):											
Year	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159
2002												1.002
2003											1.008	1.002
2004										1.007	1.006	1.003
2005									1.010	1.005	1.006	1.004
2006								1.012	1.008	1.008	1.005	1.002
2007							1.022	1.012	1.009	1.003	1.009	
2008						1.025	1.018	1.011	1.008	1.007		
2009					1.042	1.021	1.016	1.013	1.010			
2010				1.061	1.037	1.023	1.017	1.011				
2011			1.106	1.052	1.031	1.023	1.016					
2012		1.214	1.093	1.059	1.033	1.022						
2013	1.601	1.200	1.092	1.047	1.030							
2014	1.628	1.223	1.097	1.049								
2015	1.630	1.194	1.085									
2016	1.606	1.187										
2017	1.588											

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

Accident	Age-to-Age Development (in months):											
Year	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159
2002												-0.22%
2003											0.10%	0.02%
2004										1.00%	0.16%	-0.15%
2005									0.58%	1.36%	-0.11%	-0.17%
2006								0.78%	0.92%	0.64%	0.14%	-0.14%
2007							-0.36%	0.68%	0.51%	1.11%	-0.20%	
2008						1.17%	-0.41%	-0.08%	0.19%	0.69%		
2009					-0.10%	1.53%	-0.54%	0.02%	0.03%			
2010				0.57%	-0.19%	0.90%	-0.75%	-0.23%				
2011			2.02%	1.02%	-0.21%	0.71%	-0.53%					
2012		1.34%	1.81%	-0.62%	-0.53%	0.28%						
2013	7.27%	1.94%	0.48%	-0.80%	-1.21%							
2014	8.43%	-0.71%	-0.27%	-1.09%								
2015	4.19%	-1.82%	-0.61%									
2016	1.00%	-3.13%										
2017	-0.07%											

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

Accident	Age-to-Age Development (in months):											
Year	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159
2002												1.000
2003											1.009	1.002
2004										1.017	1.008	1.002
2005									1.016	1.019	1.005	1.002
2006								1.020	1.017	1.014	1.006	1.001
2007							1.018	1.019	1.014	1.014	1.007	
2008						1.037	1.014	1.010	1.010	1.014		
2009					1.042	1.037	1.011	1.013	1.010			
2010				1.068	1.035	1.032	1.009	1.009				
2011			1.131	1.064	1.030	1.031	1.011					
2012		1.234	1.113	1.052	1.028	1.025						
2013	1.721	1.224	1.098	1.039	1.018							
2014	1.762	1.215	1.094	1.038								
2015	1.698	1.173	1.078									
2016	1.622	1.150										
2017	1.587											
Latest Year	1.587	1.150	1.078	1.038	1.018	1.025	1.011	1.009	1.010	1.014	1.007	1.001
3-Year Average	1.636	1.179	1.090	1.043	1.025	1.029	1.010	1.011	1.011	1.014	1.006	1.001

(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 Section B, 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)												
	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													105,033
2002												85,636	92,632
2003											84,001	88,004	90,181
2004										75,031	80,407	84,225	87,503
2005									65,015	74,782	78,322	85,319	92,172
2006								59,260	67,147	71,596	78,263	83,564	92,065
2007							52,465	62,334	71,961	79,713	89,190	95,033	
2008						44,571	53,629	63,118	71,490	78,917	87,729		
2009					36,865	43,731	51,523	59,346	67,040	75,523			
2010				29,825	36,031	41,883	48,127	53,995	64,225				
2011			26,395	32,195	38,746	43,546	49,272	57,166					
2012		21,120	25,069	29,179	34,753	40,948	47,896						
2013	16,565	20,863	23,398	28,213	33,008	39,894							
2014	16,149	19,280	22,758	27,219	32,596								
2015	16,528	20,298	25,296	30,818									
2016	16,977	21,265	26,004										
2017	17,809	22,596											
2018	18,878												

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

Accident Year	Evaluated as of (in months)												
	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													21,845
2002												21,701	22,304
2003											20,224	21,033	21,877
2004										17,505	18,513	19,429	20,163
2005									17,044	18,335	19,440	20,266	20,928
2006								17,848	19,161	20,534	21,638	22,503	23,226
2007							18,622	20,360	22,048	23,408	24,504	25,379	
2008						19,050	21,170	23,169	24,634	25,757	26,778		
2009					17,990	20,804	23,282	25,100	26,569	27,919			
2010				15,195	18,755	21,570	23,940	25,587	26,850				
2011			10,685	14,700	18,109	20,808	22,861	24,420					
2012		6,608	11,025	14,666	17,617	19,840	21,478						
2013	2,980	6,719	10,963	14,367	17,053	18,913							
2014	2,984	6,864	10,991	14,415	16,864								
2015	3,235	7,274	11,350	14,589									
2016	3,466	7,498	11,330										
2017	3,573	7,726											
2018	3,679												

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

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2002													2.1%
2003												-3.1%	-1.9%
2004											-8.5%	-7.6%	-7.8%
2005										4.7%	5.0%	4.3%	3.8%
2006									12.4%	12.0%	11.3%	11.0%	11.0%
2007								14.1%	15.1%	14.0%	13.2%	12.8%	
2008							13.7%	13.8%	11.7%	10.0%	9.3%		
2009						9.2%	10.0%	8.3%	7.9%	8.4%			
2010					4.3%	3.7%	2.8%	1.9%	1.1%				
2011				4.1%	3.7%	3.3%	2.8%	2.6%					
2012			-1.3%	-2.3%	-3.0%	-3.8%	-4.3%						
2013		-1.6%	-2.2%	-2.7%	-3.9%	-4.5%							
2014	0.1%	2.2%	0.3%	0.3%	-1.1%								
2015	8.4%	6.0%	3.3%	1.2%									
2016	7.1%	3.1%	-0.2%										
2017	3.1%	3.0%											
2018	3.0%												

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

Accident Year	Evaluated as of (in months)												
	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													86,594
2002												81,259	88,411
2003											66,257	78,758	86,720
2004										47,351	60,652	72,750	79,926
2005									40,769	49,598	63,690	75,888	82,955
2006								38,867	45,833	55,544	70,890	84,263	92,065
2007							37,857	44,336	52,741	63,320	80,280	95,033	
2008						37,120	43,036	50,453	58,926	69,672	87,729		
2009					32,720	40,539	47,329	54,660	63,555	75,523			
2010				30,678	34,112	42,030	48,666	55,720	64,225				
2011			26,084	31,938	35,374	43,434	50,039	57,166					
2012		19,975	25,737	31,199	34,316	41,786	47,896						
2013	15,291	19,650	25,162	30,349	32,962	39,894							
2014	15,309	20,075	25,226	30,452	32,596								
2015	16,602	21,276	26,051	30,818									
2016	17,786	21,929	26,004										
2017	18,334	22,596											
2018	18,878												

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

Accident Year	Evaluated as of (in months)												
	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>	<u>87</u>	<u>99</u>	<u>111</u>	<u>123</u>	<u>135</u>	<u>147</u>	<u>159</u>
2001													612,058
2002												639,657	596,073
2003											566,838	578,012	545,043
2004										407,577	427,120	433,308	394,439
2005									372,150	360,885	380,365	365,328	327,258
2006								428,122	402,335	394,484	398,264	382,805	336,498
2007							516,576	468,518	430,960	400,314	398,669	378,326	
2008						636,351	549,793	483,445	431,279	397,478	386,532		
2009					719,179	657,714	560,992	480,299	420,480	375,650			
2010				899,423	716,587	630,913	521,559	435,957	370,194				
2011			1,047,509	897,436	698,737	604,694	491,987	395,476					
2012		1,150,669	1,051,058	882,938	664,554	553,039	436,238						
2013	1,182,252	1,184,256	1,064,753	846,287	603,532	488,978							
2014	1,229,452	1,259,072	1,071,110	824,627	569,936								
2015	1,410,497	1,347,946	1,056,609	766,869									
2016	1,498,448	1,329,808	976,410										
2017	1,513,772	1,281,465											
2018	1,568,704												

F. Paid Medical Loss on All Claims

Accident	Evaluated as of (in months)												
Year	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													5,017,744
2002												5,161,276	5,253,690
2003											4,694,306	4,814,044	4,899,552
2004										3,661,054	3,775,634	3,859,533	3,925,979
2005									3,226,025	3,344,743	3,440,843	3,509,824	3,570,023
2006								3,270,390	3,402,619	3,511,587	3,593,203	3,659,364	3,713,739
2007							3,406,899	3,580,381	3,715,943	3,821,064	3,900,291	3,976,137	
2008						3,300,982	3,521,593	3,688,314	3,809,963	3,901,095	3,974,181		
2009					2,954,504	3,235,701	3,436,053	3,580,544	3,685,115	3,769,770			
2010				2,695,820	3,054,811	3,319,035	3,518,429	3,654,596	3,751,396				
2011			2,081,519	2,540,562	2,877,744	3,120,380	3,294,546	3,419,316					
2012		1,515,211	2,113,615	2,555,224	2,875,755	3,092,428	3,247,894						
2013	800,907	1,547,675	2,149,437	2,587,228	2,871,941	3,065,786							
2014	828,959	1,604,784	2,222,138	2,652,168	2,929,163								
2015	869,212	1,699,512	2,309,540	2,736,143									
2016	934,619	1,753,593	2,348,946										
2017	989,613	1,819,052											
2018	1,044,299												

(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 9.2, 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 AdequacyG. Adjusted Total Medical Incurred (in \$000) (e)

Accident Year	Evaluated as of (in months)												
	15	27	39	51	63	75	87	99	111	123	135	147	159
2001													5,629,802
2002												5,800,933	5,849,763
2003											5,261,144	5,392,056	5,444,595
2004										4,068,632	4,202,754	4,292,841	4,320,418
2005								3,598,175	3,705,627	3,821,209	3,875,153	3,897,281	
2006								3,698,511	3,804,955	3,906,071	3,991,468	4,042,168	4,050,237
2007							3,923,474	4,048,899	4,146,903	4,221,378	4,298,961	4,354,463	
2008						3,937,333	4,071,386	4,171,759	4,241,241	4,298,574	4,360,713		
2009					3,673,683	3,893,415	3,997,045	4,060,843	4,105,595	4,145,420			
2010				3,595,243	3,771,397	3,949,948	4,039,988	4,090,553	4,121,590				
2011			3,129,028	3,437,998	3,576,480	3,725,074	3,786,533	3,814,792					
2012		2,665,880	3,164,673	3,438,162	3,540,309	3,645,467	3,684,131						
2013	1,983,159	2,731,930	3,214,189	3,433,516	3,475,473	3,554,764							
2014	2,058,412	2,863,857	3,293,248	3,476,795	3,499,098								
2015	2,279,709	3,047,458	3,366,149	3,503,012									
2016	2,433,067	3,083,402	3,325,356										
2017	2,503,385	3,100,517											
2018	2,613,003												

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

Accident Year	Age-to-Age Development (in months):											
	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159
2002												1.008
2003											1.025	1.010
2004										1.033	1.021	1.006
2005									1.030	1.031	1.014	1.006
2006								1.029	1.027	1.022	1.013	1.002
2007							1.032	1.024	1.018	1.018	1.013	
2008						1.034	1.025	1.017	1.014	1.014		
2009					1.060	1.027	1.016	1.011	1.010			
2010				1.049	1.047	1.023	1.013	1.008				
2011			1.099	1.040	1.042	1.016	1.007					
2012		1.187	1.086	1.030	1.030	1.011						
2013	1.378	1.177	1.068	1.012	1.023							
2014	1.391	1.150	1.056	1.006								
2015	1.337	1.105	1.041									
2016	1.267	1.078										
2017	1.239											
Latest Year	1.239	1.078	1.041	1.006	1.023	1.011	1.007	1.008	1.010	1.014	1.013	1.002
3-Yr Average	1.281	1.111	1.055	1.016	1.031	1.017	1.012	1.012	1.014	1.018	1.013	1.005

I. Medical Incurred Loss Development Factors (f)

Accident Year	Age-to-Age Development (in months):											
	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159
2002												1.007
2003											1.009	1.001
2004										1.008	1.004	0.999
2005									1.018	1.005	1.003	1.003
2006								1.018	1.007	1.003	1.002	1.003
2007							1.028	1.015	1.005	1.004	1.003	
2008						1.035	1.021	1.009	1.004	1.002		
2009					1.048	1.026	1.014	1.006	1.004			
2010				1.068	1.036	1.022	1.011	1.011				
2011			1.097	1.057	1.023	1.014	1.009					
2012		1.148	1.078	1.050	1.024	1.014						
2013	1.347	1.119	1.075	1.030	1.023							
2014	1.324	1.133	1.063	1.032								
2015	1.313	1.117	1.050									
2016	1.287	1.093										
2017	1.260											

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

Accident	Age-to-Age Development (in months):											
Year	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159
2002												0.11%
2003											1.61%	0.86%
2004										2.46%	1.69%	0.72%
2005									1.15%	2.60%	1.10%	0.24%
2006								1.10%	1.94%	1.86%	1.12%	-0.08%
2007							0.37%	0.88%	1.30%	1.41%	1.03%	
2008						-0.08%	0.40%	0.73%	0.93%	1.23%		
2009					1.13%	0.09%	0.23%	0.45%	0.56%			
2010				-1.75%	1.13%	0.09%	0.19%	-0.33%				
2011			0.19%	-1.62%	1.82%	0.24%	-0.20%					
2012		3.36%	0.82%	-1.90%	0.55%	-0.30%						
2013	2.23%	5.12%	-0.60%	-1.76%	0.02%							
2014	5.11%	1.49%	-0.68%	-2.52%								
2015	1.80%	-1.13%	-0.91%									
2016	-1.52%	-1.31%										
2017	-1.73%											

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

Accident	Age-to-Age Development (in months):											
Year	<u>15-27</u>	<u>27-39</u>	<u>39-51</u>	<u>51-63</u>	<u>63-75</u>	<u>75-87</u>	<u>87-99</u>	<u>99-111</u>	<u>111-123</u>	<u>123-135</u>	<u>135-147</u>	<u>147-159</u>
2002												1.008
2003											1.025	1.010
2004										1.033	1.021	1.006
2005									1.030	1.031	1.014	1.005
2006								1.029	1.027	1.022	1.013	1.002
2007							1.032	1.024	1.018	1.018	1.013	
2008						1.034	1.024	1.016	1.013	1.014		
2009					1.061	1.026	1.016	1.011	1.010			
2010				1.049	1.048	1.024	1.013	1.007				
2011			1.105	1.042	1.045	1.018	1.006					
2012		1.192	1.087	1.031	1.031	1.011						
2013	1.383	1.176	1.071	1.013	1.023							
2014	1.393	1.152	1.057	1.007								
2015	1.337	1.104	1.040									
2016	1.267	1.079										
2017	1.238											
Latest Year	1.238	1.079	1.040	1.007	1.023	1.011	1.006	1.007	1.010	1.014	1.013	1.002
3-Year Average	1.281	1.112	1.056	1.017	1.033	1.018	1.012	1.011	1.014	1.018	1.014	1.005

(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 Section B, 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 March 31, 2019**

	(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	1.002	1.018	0.161	0.235	1.002	1.039	0.244	0.405
2007	0.216	1.001	1.020	0.221	0.328	1.005	1.044	0.342	0.563
2008	0.272	1.006	1.026	0.280	0.404	1.014	1.058	0.427	0.707
2009	0.314	1.014	1.041	0.327	0.465	1.018	1.077	0.501	0.828
2010	0.299	1.011	1.053	0.314	0.448	1.014	1.091	0.488	0.803
2011	0.274	1.011	1.064	0.292	0.380	1.011	1.104	0.420	0.712
2012	0.242	1.010	1.075	0.260	0.321	1.012	1.117	0.358	0.619
2013	0.202	1.029	1.106	0.224	0.256	1.018	1.136	0.291	0.514
2014	0.188	1.025	1.134	0.214	0.221	1.033	1.174	0.259	0.473
2015	0.177	1.043	1.183	0.210	0.205	1.017	1.194	0.245	0.455
2016	0.156	1.090	1.289	0.201	0.185	1.056	1.260	0.233	0.434
2017	0.137	1.179	1.521	0.209	0.175	1.112	1.401	0.246	0.454
2018	0.094	1.636	2.488	0.235	0.150	1.281	1.794	0.269	0.504

- (a) Based on Section B, 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 9.4, 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 9.8, 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 March 31, 2019**

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	1.520	0.839	0.291
2007	0.221	1.465	1.072	0.301
2008	0.280	1.376	1.296	0.297
2009	0.327	1.349	1.398	0.315
2010	0.314	1.323	1.271	0.327
2011	0.292	1.305	1.162	0.328
2012	0.260	1.289	1.035	0.324
2013	0.224	1.260	0.904	0.312
2014	0.214	1.154	0.834	0.296
2015	0.210	1.138	0.796	0.300
2016	0.201	1.124	0.814	0.277
2017	0.209	1.094	0.850	0.269
2018	0.235	1.067	0.898	0.279
				Projected (d)
2019				0.267
2020				0.260
1/1/2021				0.257

(a) See Exhibit 9.9.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.244	0.817	0.839	0.238
2007	0.342	0.802	1.072	0.256
2008	0.427	0.796	1.296	0.263
2009	0.501	0.785	1.398	0.281
2010	0.488	0.783	1.271	0.301
2011	0.420	0.805	1.162	0.291
2012	0.358	0.840	1.035	0.291
2013	0.291	0.922	0.904	0.296
2014	0.259	0.967	0.834	0.300
2015	0.245	0.988	0.796	0.304
2016	0.233	0.986	0.814	0.283
2017	0.246	0.983	0.850	0.284
2018	0.269	1.007	0.898	0.302
				Projected (d)
2019				0.298
2020				0.300
1/1/2021				0.300

(a) See Exhibit 9.9.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 Using Latest Year Incurred Loss Development Factors  
Adjusted for Insurer Mix  
Based on Experience as of March 31, 2019**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Indemnity				Medical				
Accident Year	Reported Incurred Loss Ratio Ex IBNR(a)	Annual Development Factor	Cumulative Development Factor(b)	Developed Loss Ratio(c)	Reported Incurred Loss Ratio Ex IBNR(a)	Annual Development Factor	Cumulative Development Factor(d)	Developed Loss Ratio(c)	Total Developed Loss Ratio (4) + (8)
2007	0.216	---	0.991	0.214	0.328	---	1.018	0.334	0.548
2008	0.272	---	1.023	0.279	0.404	---	1.051	0.425	0.703
2009	0.314	---	1.041	0.327	0.465	---	1.065	0.495	0.822
2010	0.299	---	1.061	0.317	0.448	---	1.083	0.485	0.802
2011	0.274	---	1.068	0.293	0.380	---	1.082	0.412	0.705
2012	0.242	---	1.082	0.262	0.321	---	1.089	0.350	0.612
2013	0.202	---	1.100	0.223	0.256	---	1.100	0.281	0.504
2014	0.188	---	1.136	0.214	0.221	---	1.126	0.248	0.462
2015	0.177	---	1.184	0.210	0.205	---	1.157	0.238	0.448
2016	0.156	---	1.290	0.201	0.185	---	1.217	0.225	0.427
2017	0.137	---	1.525	0.209	0.175	---	1.324	0.232	0.441
2018	0.094	---	2.407	0.227	0.150	---	1.655	0.248	0.476

- (a) Based on Section B, 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) Column (4) divided by Column (1).
- (c) Developed loss ratios were derived by averaing the loss ratios developed using the latest year paid methodology for State Compensation Insurance Fund and the remaining insurers collectively, weighted by calendar year 2018 earned premium at the advisory pure premium rate level.
- (d) Column (8) divided by Column (5).

**Projected On-Level Accident Year  
Indemnity Loss to Industry Average Filed Pure Premium Ratios  
Using Unadjusted Incurred Development Factors  
Adjusted for Insurer Mix  
Based on Experience as of March 31, 2019**

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	0.214	1.465	1.072	0.293
2008	0.279	1.376	1.296	0.296
2009	0.327	1.349	1.398	0.316
2010	0.317	1.323	1.271	0.330
2011	0.293	1.305	1.162	0.329
2012	0.262	1.289	1.035	0.327
2013	0.223	1.260	0.904	0.311
2014	0.214	1.154	0.834	0.296
2015	0.210	1.138	0.796	0.300
2016	0.201	1.124	0.814	0.277
2017	0.209	1.094	0.850	0.269
2018	0.227	1.067	0.898	0.270
				Projected (d)
2019				0.263
2020				0.256
1/1/2021				0.253

(a) See Exhibit 10.1.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 Incurred Development Factors  
Adjusted for Insurer Mix  
Based on Experience as of March 31, 2019**

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	0.334	0.802	1.072	0.250
2008	0.425	0.796	1.296	0.261
2009	0.495	0.785	1.398	0.278
2010	0.485	0.783	1.271	0.299
2011	0.412	0.805	1.162	0.285
2012	0.350	0.840	1.035	0.284
2013	0.281	0.922	0.904	0.287
2014	0.248	0.967	0.834	0.288
2015	0.238	0.988	0.796	0.295
2016	0.225	0.986	0.814	0.273
2017	0.232	0.983	0.850	0.268
2018	0.248	1.007	0.898	0.278
				Projected (d)
2019				0.278
2020				0.280
1/1/2021				0.280

(a) See Exhibit 10.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Indemnity				Medical			
Accident Year	Reported Paid <u>Loss Ratio(a)</u>	Annual Development <u>Factor(b)</u>	Cumulative Development <u>Factor</u>	Developed <u>Loss Ratio</u> (1) x (3)	Reported Paid <u>Loss Ratio(a)</u>	Annual Development <u>Factor(c)</u>	Cumulative Development <u>Factor</u>	Developed <u>Loss Ratio</u> (5) x (7)	Total Developed <u>Loss Ratio</u> (4) + (8)
2007	0.205	1.011	1.083	0.222	0.299	1.016	1.228	0.368	0.590
2008	0.257	1.015	1.099	0.283	0.368	1.019	1.251	0.461	0.744
2009	0.296	1.017	1.118	0.331	0.423	1.021	1.278	0.540	0.872
2010	0.281	1.023	1.144	0.321	0.408	1.025	1.310	0.534	0.855
2011	0.257	1.026	1.174	0.301	0.341	1.029	1.348	0.460	0.761
2012	0.223	1.038	1.218	0.272	0.284	1.038	1.400	0.397	0.668
2013	0.184	1.051	1.280	0.236	0.221	1.055	1.477	0.326	0.562
2014	0.166	1.072	1.372	0.228	0.185	1.075	1.588	0.294	0.521
2015	0.149	1.114	1.528	0.227	0.160	1.115	1.771	0.284	0.511
2016	0.120	1.211	1.851	0.221	0.131	1.195	2.116	0.277	0.498
2017	0.086	1.479	2.737	0.234	0.103	1.362	2.882	0.297	0.531
2018	0.039	2.420	6.624	0.260	0.060	1.890	5.446	0.326	0.586

(a) Based on Section B, Exhibit 1.

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

(c) Age-to-age factors are selected as three-year averages based on Section B, 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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.301	1.305	1.162	0.338
2012	0.272	1.289	1.035	0.338
2013	0.236	1.260	0.904	0.329
2014	0.228	1.154	0.834	0.315
2015	0.227	1.138	0.796	0.325
2016	0.221	1.124	0.814	0.306
2017	0.234	1.094	0.850	0.302
2018	0.260	1.067	0.898	0.308
				Projected (d)
2019				0.297
2020				0.290
1/1/2021				0.286

(a) See Exhibit 11.1.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.802	1.072	0.275
2008	0.461	0.796	1.296	0.283
2009	0.540	0.785	1.398	0.304
2010	0.534	0.783	1.271	0.329
2011	0.460	0.805	1.162	0.319
2012	0.397	0.840	1.035	0.322
2013	0.326	0.922	0.904	0.333
2014	0.294	0.967	0.834	0.340
2015	0.284	0.988	0.796	0.353
2016	0.277	0.986	0.814	0.335
2017	0.297	0.983	0.850	0.343
2018	0.326	1.007	0.898	0.366
				Projected (d)
2019				0.361
2020				0.363
1/1/2021				0.363

(a) See Exhibit 11.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

	(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	1.011	1.083	0.222	0.299	1.016	1.228	0.368	0.590
2008	0.257	1.015	1.099	0.283	0.368	1.019	1.251	0.461	0.744
2009	0.296	1.017	1.118	0.331	0.423	1.021	1.278	0.540	0.872
2010	0.281	1.023	1.144	0.321	0.408	1.025	1.310	0.534	0.855
2011	0.257	1.024	1.171	0.300	0.341	1.026	1.344	0.459	0.759
2012	0.223	1.038	1.216	0.271	0.284	1.034	1.389	0.394	0.665
2013	0.184	1.047	1.273	0.235	0.221	1.051	1.460	0.323	0.557
2014	0.166	1.063	1.353	0.225	0.185	1.068	1.560	0.288	0.513
2015	0.149	1.109	1.501	0.223	0.160	1.105	1.723	0.276	0.499
2016	0.120	1.202	1.804	0.216	0.131	1.185	2.042	0.267	0.483
2017	0.086	1.459	2.632	0.225	0.103	1.340	2.736	0.282	0.507
2018	0.039	2.390	6.289	0.246	0.060	1.838	5.030	0.301	0.548

(a) Based on Section B, Exhibit 1.

(b) Age-to-age factors are selected as latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent age-to-age factors based on Section B, Exhibit 2.5.

(c) Age-to-age factors are selected as latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent age-to-age factors based on Section B, 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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.225	1.154	0.834	0.311
2015	0.223	1.138	0.796	0.319
2016	0.216	1.124	0.814	0.298
2017	0.225	1.094	0.850	0.290
2018	0.246	1.067	0.898	0.293
				Projected (d)
2019				0.284
2020				0.277
1/1/2021				0.273

(a) See Exhibit 12.1.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.802	1.072	0.275
2008	0.461	0.796	1.296	0.283
2009	0.540	0.785	1.398	0.304
2010	0.534	0.783	1.271	0.329
2011	0.459	0.805	1.162	0.318
2012	0.394	0.840	1.035	0.320
2013	0.323	0.922	0.904	0.329
2014	0.288	0.967	0.834	0.334
2015	0.276	0.988	0.796	0.343
2016	0.267	0.986	0.814	0.323
2017	0.282	0.983	0.850	0.326
2018	0.301	1.007	0.898	0.338
				Projected (d)
2019				0.338
2020				0.340
1/1/2021				0.340

(a) See Exhibit 12.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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**  
**Based on Paid Latest Year Selections**  
**Based on Experience as of March 31, 2019**

	(1)	(2)	(3)	(4)	(5)
			Medical		
			Adjusted		
Accident Year	Paid Loss Ratio(a)	Paid Loss Ratio(b)	Development Factors		Developed Loss Ratio (2) x (4)
			Annual(c)	Cumulative(c)	
2007	0.299	0.273	1.018	1.238	0.338
2008	0.368	0.337	1.021	1.264	0.426
2009	0.423	0.390	1.022	1.292	0.503
2010	0.408	0.377	1.027	1.327	0.501
2011	0.341	0.319	1.028	1.364	0.435
2012	0.284	0.268	1.038	1.416	0.379
2013	0.221	0.211	1.056	1.485	0.313
2014	0.185	0.179	1.074	1.582	0.283
2015	0.160	0.157	1.112	1.741	0.274
2016	0.131	0.130	1.190	2.046	0.265
2017	0.103	0.103	1.344	2.719	0.279
2018	0.060	0.060	1.844	5.014	0.301

- (a) Based on Section B, Exhibit 1. Paid MCCC costs are excluded from accident years 2011 and subsequent.  
(b) See Section B, Exhibit 3.2, Column (2).  
(c) Based on Section B, Exhibit 2.6.1 and includes adjustments for SB 1160 and impact of pharmaceutical cost reductions.  
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 Reforms  
Based on Experience as of March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.283	0.985	0.834	0.334
2015	0.274	1.003	0.796	0.346
2016	0.265	1.004	0.814	0.327
2017	0.279	1.006	0.850	0.330
2018	0.301	1.007	0.898	0.337
				Projected (d)
2019				0.340
2020				0.341
1/1/2021				0.342

(a) See Exhibit 13.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 and Changes in Claim Settlement Rates  
Based on Paid Latest Year Selections  
Based on Experience as of March 31, 2019**

	(1)	(2)	(3)	(4)
		Medical		
		Adjusted		
Accident Year	Paid Loss Ratio(a)	Development Factors		Developed Loss Ratio
		<u>Annual(b)</u>	<u>Cumulative(b)</u>	(1) x (3)
2007	0.299	1.016	1.228	0.368
2008	0.368	1.019	1.251	0.461
2009	0.423	1.021	1.278	0.540
2010	0.408	1.025	1.310	0.534
2011	0.341	1.026	1.344	0.459
2012	0.284	1.035	1.391	0.395
2013	0.221	1.053	1.455	0.321
2014	0.185	1.062	1.533	0.283
2015	0.160	1.092	1.657	0.266
2016	0.131	1.169	1.914	0.250
2017	0.103	1.327	2.511	0.258
2018	0.060	1.837	4.613	0.277

(a) Based on Section B, Exhibit 1. Paid MCCP costs are excluded from accident years 2011 and subsequent.

(b) Based on Section B, Exhibit 2.6.1 and includes adjustments for SB 1160 and 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 and Changes in Settlement Rates  
Based on Experience as of March 31, 2019**

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	0.802	1.072	0.275
2008	0.461	0.796	1.296	0.283
2009	0.540	0.785	1.398	0.304
2010	0.534	0.783	1.271	0.329
2011	0.459	0.804	1.162	0.317
2012	0.395	0.850	1.035	0.324
2013	0.321	0.933	0.904	0.332
2014	0.283	0.980	0.834	0.333
2015	0.266	1.003	0.796	0.335
2016	0.250	1.004	0.814	0.309
2017	0.258	1.006	0.850	0.306
2018	0.277	1.007	0.898	0.310
				Projected (d)
2019				0.314
2020				0.315
1/1/2021				0.316

(a) See Exhibit 14.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Indemnity				Medical					
					Adjusted					
Accident Year	Paid Loss Ratio(a)	Development Factors		Developed Loss Ratio (1) x (3)	Paid Loss Ratio(a)	Paid Loss Ratio(c)	Development Factors		Developed Loss Ratio (6) x (8)	Total Developed Loss Ratio (4) + (9)
		Annual(b)	Cumulative(b)				Annual(d)	Cumulative(d)		
2007	0.205	1.011	1.083	0.222	0.299	0.273	1.018	1.238	0.338	0.560
2008	0.257	1.015	1.099	0.283	0.368	0.337	1.021	1.264	0.426	0.709
2009	0.296	1.017	1.118	0.331	0.423	0.390	1.022	1.292	0.503	0.835
2010	0.281	1.023	1.144	0.321	0.408	0.377	1.027	1.327	0.501	0.822
2011	0.257	1.024	1.171	0.300	0.341	0.319	1.028	1.364	0.435	0.736
2012	0.223	1.038	1.216	0.271	0.284	0.268	1.038	1.416	0.379	0.650
2013	0.184	1.047	1.273	0.235	0.221	0.211	1.056	1.485	0.313	0.547
2014	0.166	1.060	1.350	0.224	0.185	0.179	1.070	1.576	0.282	0.506
2015	0.149	1.096	1.479	0.220	0.160	0.157	1.104	1.722	0.271	0.491
2016	0.120	1.185	1.754	0.210	0.131	0.130	1.184	2.014	0.261	0.471
2017	0.086	1.451	2.545	0.218	0.103	0.103	1.356	2.698	0.277	0.495
2018	0.039	2.432	6.190	0.243	0.060	0.060	1.908	5.147	0.309	0.551

- (a) Based on Section B, Exhibit 1.
- (b) Age-to-age factors for developing accident years 2014 to 2018 were adjusted for changes in claim settlement rates based on 3-year average selections (see Section B, Exhibit 2.5.8, Item Q).
- (c) See Section B, Exhibit 3.2, Column (2).
- (d) Based on Section B, Exhibits 2.6.1 and includes adjustments for SB 1160 and impact of pharmaceutical cost reductions. Age-to-age factors for developing accident years 2014 to 2018 were adjusted for changes in claim settlement rates based on 3-year average selections (see Section B, 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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.224	1.154	0.834	0.310
2015	0.220	1.138	0.796	0.314
2016	0.210	1.124	0.814	0.290
2017	0.218	1.094	0.850	0.281
2018	0.243	1.067	0.898	0.288
				Projected (d)
2019				0.277
2020				0.270
1/1/2021				0.267

(a) See Exhibit 15.1.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.282	0.985	0.834	0.333
2015	0.271	1.003	0.796	0.342
2016	0.261	1.004	0.814	0.321
2017	0.277	1.006	0.850	0.327
2018	0.309	1.007	0.898	0.346
				Projected (d)
2019				0.343
2020				0.344
1/1/2021				0.345

(a) See Exhibit 15.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 Using Latest Year Paid Loss Development Factors  
Adjusted for Insurer Mix  
Based on Experience as of March 31, 2019**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Indemnity				Medical			
Accident Year	Paid Loss Ratio(a)	Annual Development Factor	Cumulative Development Factor(b)	Developed Loss Ratio(c)	Paid Loss Ratio(a)	Annual Development Factor	Cumulative Development Factor(d)	Developed Loss Ratio(c)	Total Developed Loss Ratio (4) + (8)
2007	0.205	---	1.048	0.215	0.299	---	1.203	0.360	0.575
2008	0.257	---	1.087	0.280	0.368	---	1.244	0.458	0.738
2009	0.296	---	1.114	0.330	0.423	---	1.276	0.540	0.870
2010	0.281	---	1.148	0.322	0.408	---	1.313	0.536	0.858
2011	0.257	---	1.167	0.299	0.341	---	1.327	0.453	0.752
2012	0.223	---	1.206	0.269	0.284	---	1.373	0.389	0.658
2013	0.184	---	1.258	0.232	0.221	---	1.436	0.317	0.549
2014	0.166	---	1.343	0.223	0.185	---	1.540	0.285	0.507
2015	0.149	---	1.481	0.220	0.160	---	1.694	0.272	0.492
2016	0.120	---	1.780	0.213	0.131	---	2.005	0.262	0.475
2017	0.086	---	2.590	0.222	0.103	---	2.681	0.276	0.498
2018	0.039	---	6.192	0.243	0.060	---	4.935	0.296	0.538

- (a) Based on Section B, 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) Column (4) divided by Column (1).
- (c) Developed loss ratios were derived by averaing the loss ratios developed using the latest year paid methodology for State Compensation Insurance Fund and the remaining insurers collectively, weighted by calendar year 2018 earned premium at the advisory pure premium rate level.
- (d) Column (8) divided by Column (5).

**Projected On-Level Accident Year  
Indemnity Loss to Industry Average Filed Pure Premium Ratios  
Using Unadjusted Paid Development Factors  
Adjusted for Insurer Mix  
Based on Experience as of March 31, 2019**

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	0.215	1.465	1.072	0.294
2008	0.280	1.376	1.296	0.297
2009	0.330	1.349	1.398	0.318
2010	0.322	1.323	1.271	0.336
2011	0.299	1.305	1.162	0.336
2012	0.269	1.289	1.035	0.335
2013	0.232	1.260	0.904	0.324
2014	0.223	1.154	0.834	0.308
2015	0.220	1.138	0.796	0.315
2016	0.213	1.124	0.814	0.294
2017	0.222	1.094	0.850	0.285
2018	0.243	1.067	0.898	0.288
				Projected (d)
2019				0.280
2020				0.273
1/1/2021				0.269

(a) See Exhibit 16.1.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 Paid Development Factors  
Adjusted for Insurer Mix  
Based on Experience as of March 31, 2019**

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	0.360	0.802	1.072	0.269
2008	0.458	0.796	1.296	0.282
2009	0.540	0.785	1.398	0.303
2010	0.536	0.783	1.271	0.330
2011	0.453	0.805	1.162	0.314
2012	0.389	0.840	1.035	0.316
2013	0.317	0.922	0.904	0.324
2014	0.285	0.967	0.834	0.330
2015	0.272	0.988	0.796	0.338
2016	0.262	0.986	0.814	0.318
2017	0.276	0.983	0.850	0.319
2018	0.296	1.007	0.898	0.332
				Projected (d)
2019				0.331
2020				0.333
1/1/2021				0.333

(a) See Exhibit 16.1.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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.



**Projected Indemnity Loss Ratio Using the Bornhuetter-Ferguson (BF) Paid Development Method  
Accident Year 2018 Indemnity Projected from 15 Months to 27 Months**

1. AY 2018 Reported Paid Indemnity Loss Ratio at 15 Months (Based on Exhibit 1 of Section B)	0.039
2. Reported Paid Indemnity Loss Ratios at 27 Months for ELR	
a) AY 2016 (Based on March 31, 2018 Experience)	0.082
b) AY 2017 (Based on Exhibit 1 of Section B)	0.086
3. Frequency Adjustments to AY 2018 (Based on Exhibit 1 of Appendix B)	
a) AY 2016-2017 Frequency Change	-1.3%
b) AY 2017-2018 Frequency Change	0.1%
4. Average Indemnity Severity Change, AY 2012-2017 (Based on Exhibit 6.2 of Section B)	-2.6%
5. Composite Indemnity On-Level Adjustment Factors (Based on Exhibit 4.1 of Section B)	
a) AY 2016 to Current	1.124
b) AY 2017 to Current	1.094
c) AY 2018 to Current	1.067
6. Composite Premium On-Level Adjustment Factors (Based on Exhibit 5.2 of Section B)	
a) AY 2016 to Current	0.814
b) AY 2017 to Current	0.850
c) AY 2018 to Current	0.898
7. AY 2018 Expected Paid Indemnity Loss Ratio at 27 Months	
a) Projected from 2016 = $(2a) * [1 + (3a)] * [1 + (3b)] * [1 + (4)]^2 * [(5a) / (5c)] / [(6a) / (6c)]$	0.089
b) Projected from 2017 = $(2b) * [1 + (3b)] * [1 + (4)] * [(5b) / (5c)] / [(6b) / (6c)]$	0.090
c) Average of 2016 and 2017 Projections = $[(7a) + (7b)] / 2$	0.090
8. Projected Indemnity 15-to-27 Paid Development Factor (Based on Exhibit 2.5.1 of Section B)	2.384
9. Projected AY 2018 Paid Indemnity Loss Ratio at 27 Months = $(1) + (7c) * [1 - 1 / (8)]$	0.091

**Projected Medical Loss Ratio Using the Bornhuetter-Ferguson (BF) Paid Development Method  
Accident Year 2018 Medical Projected from 15 Months to 27 Months**

	Adjusted for Reforms <sup>1</sup>
1. AY 2018 Reported Paid Medical Loss Ratio at 15 Months (Based on Exhibit 1 of Section B)	0.060
2. Reported Paid Medical Loss Ratios at 27 Months for ELR	
a) AY 2016 (Based on March 31, 2018 Experience)	0.096
b) AY 2017 (Based on Exhibit 1 of Section B)	0.103
3. Frequency Adjustments to AY 2018 (Based on Exhibit 1 of Appendix B)	
a) AY 2016-2017 Frequency Change	-1.3%
b) AY 2017-2018 Frequency Change	0.1%
4. Average Medical Severity Change, AY 2012-2017 (Based on Exhibit 6.4 of Section B)	0.3%
5. Composite Medical On-Level Adjustment Factors (Based on Exhibit 4.4 of Section B)	
a) AY 2016 to Current	1.004
b) AY 2017 to Current	1.006
c) AY 2018 to Current	1.007
6. Composite Premium On-Level Adjustment Factors (Based on Exhibit 5.2 of Section B)	
a) AY 2016 to Current	0.814
b) AY 2017 to Current	0.850
c) AY 2018 to Current	0.898
7. AY 2018 Expected Paid Medical Loss Ratio at 27 Months	
a) Projected from 2016 = (2a) * [1 + (3a)] * [1 + (3b)] * [1 + (4)] <sup>2</sup> * [(5a) / (5c)] / [(6a) / (6c)]	0.105
b) Projected from 2017 = (2b) * [1 + (3b)] * [1 + (4)] * [(5b) / (5c)] / [(6b) / (6c)]	0.109
c) Average of 2016 and 2017 Projections = [(7a) + (7b)] / 2	0.107
8. Projected Medical 15-to-27 Paid Development Factor (Based on Exhibit 2.6.1 of Section B)	1.843
9. Projected AY 2018 Paid Medical Loss Ratio at 27 Months = (1) + (7c) * [1 - 1 / (8)]	0.109

<sup>1</sup> Based on experience evaluated as of March 31, 2019. Reflects adjustments for SB 1160 and impact of pharmaceutical cost reductions.

**Developed Loss Ratios Using Latest Year Reform Adjusted Development Factors - BF Adjusted Age 15 Loss Ratio  
Based on Experience as of March 31, 2019**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Indemnity				Medical				
					Adjusted				
Accident	Reported	Annual	Cumulative	Developed	Paid	Development Factors		Developed	Total
Year	Loss Ratio(a)	Factor(b)	Factor	Loss Ratio	Loss Ratio(c)	Annual(d)	Cumulative	Loss Ratio	Developed
				(1) x (3)				(5) x (7)	(4) + (8)
2007	0.205	1.011	1.083	0.222	0.273	1.018	1.238	0.338	0.560
2008	0.257	1.015	1.099	0.283	0.337	1.021	1.264	0.426	0.709
2009	0.296	1.017	1.118	0.331	0.390	1.022	1.292	0.503	0.835
2010	0.281	1.023	1.144	0.321	0.377	1.027	1.327	0.501	0.822
2011	0.257	1.024	1.171	0.300	0.319	1.028	1.364	0.435	0.736
2012	0.223	1.038	1.216	0.271	0.268	1.038	1.416	0.379	0.650
2013	0.184	1.047	1.273	0.235	0.211	1.056	1.485	0.313	0.547
2014	0.166	1.055	1.343	0.223	0.179	1.066	1.570	0.281	0.504
2015	0.149	1.093	1.467	0.218	0.157	1.097	1.705	0.268	0.486
2016	0.120	1.180	1.732	0.207	0.130	1.173	1.975	0.256	0.463
2017	0.086	1.434	2.483	0.213	0.103	1.331	2.599	0.266	0.479
2018	0.091		2.483	0.227	0.109		2.599	0.283	0.510

- (a) Based on Section B, Exhibit 1. The 2018 indemnity loss ratio is based on Exhibit 17.1.
- (b) Age-to-age factors are selected as latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent age-to-age factors based on Section B, Exhibit 2.5.
- (c) Based on experience evaluated as of March 31, 2019. Reflects adjustments of SB 1160 and impact of pharmaceutical cost reductions. The 2018 medical loss ratio is based on Exhibit 17.2.
- (d) Age-to-age factors are selected as latest year for the 15-to-27 month through 99-to-111 month factors and three-year average for the subsequent age-to-age factors based on Section B, Exhibit 2.6. Reflects an adjustment for SB 1160 and impact of pharmaceutical cost reductions.

**Projected On-Level Accident Year  
Indemnity Loss to Industry Average Filed Pure Premium Ratios  
Paid Selections Adjusted for Reform Impacts with BF Paid Applied through 27 Months  
Based on Experience as of March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.227	1.067	0.898	0.270
				Projected (d)
2019				0.265
2020				0.258
1/1/2021				0.255

(a) See Exhibit 17.3.

(b) Based on Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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**  
**Paid Selections Adjusted for Reform Impacts with BF Paid Applied through 27 Months**  
**Based on Experience as of March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.281	0.985	0.834	0.332
2015	0.268	1.003	0.796	0.338
2016	0.256	1.004	0.814	0.315
2017	0.266	1.006	0.850	0.315
2018	0.283	1.007	0.898	0.317
				Projected (d)
2019				0.322
2020				0.324
1/1/2021				0.324

(a) See Exhibit 17.3.

(b) Based on Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, the actual frequency trend for accident year 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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.

Section B  
Appendix B  
Trending Methodology

The proposed policy year 2020 pure premium rates are intended to reflect the final, or ultimate, cost of losses and loss adjustment expenses on all accidents that arise on policies incepting in 2020. Appendix A discusses the process of developing the losses reported for each historical accident year as of March 31, 2019 to a final, or ultimate, cost basis. This Appendix discusses the process of adjusting, or trending, these historical accident year costs to the levels anticipated on claims covered by policies incepting in 2020.

Trending historical costs to the policy year 2020 level involves three phases. First, the losses incurred during each historical accident year are adjusted for specific, quantifiable cost level changes that have occurred since that time. Second, each year's historical earned premium is adjusted to the premium that would have been earned at the industry average filed pure premium rate level as of July 1, 2019 and the average wages expected to be in effect during the time the premium on policies incepting in 2020 is earned. Third, future changes in these adjusted cost levels are projected, or trended, from the time of the latest available experience to January 1, 2021, which is the approximate midpoint of the experience period during which the policy year 2020 pure premium rates will apply.

**Adjustment of Losses to an On-Level Basis**

Section B, Exhibits 4.1 through 4.4 show the adjustment of historical loss amounts to a consistent, or on-level, cost basis. Section B, Exhibit 4.1 details the on-leveling adjustments to indemnity losses. Section B, Exhibits 4.2 through 4.4 detail the on-leveling adjustments to medical losses.

**On-Level Adjustments to Indemnity Losses**

For each historical accident year, losses are adjusted to reflect the cost impact of legislative and regulatory changes and judicial action. These adjustments reflect changes in statutory benefit amounts, measurable structural reforms that have been enacted by the legislature, regulatory changes and, as appropriate, the impact of judicial action. The adjustments made to each year's indemnity losses to reflect these changes are shown in Section B, Exhibit 4.1.

Section B, Exhibit 4.1, columns 1 and 2 show the estimated impact of statutory benefit changes, regulatory changes, and judicial action through policy year 2020 on indemnity claim severity (column 1) and claim frequency (column 2). The adjustments for the impact of these changes on claim severity are based on the WCIRB's model used to assess the cost impact of statutory changes on indemnity benefits based on underlying distributions of claims by injury type, benefit type and injured worker weekly wages.<sup>1</sup> These adjustments reflect WCIRB prospective estimates of each change as well as further refinements from WCIRB reassessments based on more current data emerging subsequent to the legislative, regulatory or judicial action. The estimates of the impact of benefit changes on claim frequency are based on a WCIRB econometric analysis of the effect of a number of economic, demographic, and claims-related variables on the frequency of indemnity claims in California.<sup>2</sup>

Senate Bill No. 863 (SB 863) increased permanent disability benefits effective January 1, 2013 and January 1, 2014 and provided for a number of structural reforms to the California workers' compensation benefit delivery system. The on-leveling adjustments shown in Section B, Exhibit 4.1 reflect the estimated impact of the measurable components of SB 863 related to indemnity benefits based on the WCIRB's

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<sup>1</sup> See Item AC13-12-02 of the December 4, 2013 WCIRB Actuarial Committee Agenda for a more complete discussion of the WCIRB's legislative evaluation model.

<sup>2</sup> Brooks, Ward, "California Workers Compensation Benefit Utilization – A Study of Changes in Frequency and Severity in Response to Changes in Statutory Workers Compensation Benefit Levels," *Proceedings of the Casualty Actuarial Society*, Volume LXXXVI, 1999, pp. 80-262.

most recent cost evaluations of SB 863.<sup>3</sup> In addition to the measurable components of SB 863 related to permanent disability benefits, provisions of SB 863 related to independent medical review, independent bill review, medical provider network strengthening, and others have reduced the duration of claims which also affects indemnity cost levels. As shown in Section B, Exhibit 6.2, overall indemnity costs had been flat-to-declining from 2010 to 2017 despite SB 863 increases in permanent disability benefits and rising wage inflation. While some of this decline may be related to economic conditions, some is likely related to the reforms reducing overall indemnity utilization.

Earlier this year, the WCIRB reviewed the potential impact of SB 863 on overall indemnity cost levels.<sup>4</sup> Since the full implementation of SB 863, average temporary disability duration and average permanent disability ratings have declined steadily, although some of this decline was also occurring shortly prior to the reforms. Based on the latest available information, the WCIRB estimates an additional 5% decline in temporary disability duration and a comparable decline in average permanent disability rating attributable to SB 863 for on-leveling purposes, which results in a combined approximate 4.5% decrease in indemnity costs. Given that the additional decline in temporary disability costs occurred around 2012 through 2015 (since several provisions of SB 863 impacted outstanding claims in addition to new claims), the WCIRB has distributed the total 4.5% decrease to indemnity uniformly over accident years 2012 through 2015 (i.e., 1.25% per year), as shown in column 1 of Section B, Exhibit 4.1.

Statutory benefits are expressed as a percentage of an injured worker's weekly wage with specified minimum and maximum amounts. Consequently, as wages increase, the cost of indemnity benefits will also increase—even without a statutory benefit change. Column 3 of Section B, Exhibit 4.1 shows the estimated annual impact of wage inflation on indemnity benefits. These estimates have been computed based on the pre-injury weekly wages of injured workers, the legislatively scheduled benefits for each year and the estimated annual changes in average California wages as shown in Section B, Exhibit 5.1.<sup>5</sup>

In the Decision on the January 1, 2019 Pure Premium Rate Filing, the California Department of Insurance (CDI) noted that since the maximum weekly permanent disability benefit is set by statute<sup>6</sup> and not adjusted for wage inflation and is significantly lower than California average weekly wages, the impact of wage inflation on indemnity benefits may become less significant over time. Earlier this year, the WCIRB studied the impact of wage inflation on indemnity benefit levels.<sup>7</sup> Although the WCIRB found that there is a modest diminishing impact of wage inflation on indemnity benefits resulting from the weekly permanent disability maximum, the vast majority of the estimated impact results from temporary disability benefits, for which the weekly maximum is set at a relatively higher amount (at a level comparable to the state average weekly wage), and by statute, is indexed each year for wage inflation. As a result, the WCIRB does not believe the relatively low permanent disability weekly maximum is having a significant impact on indemnity severity trends. However, the WCIRB's study also found that updating the data and parameters of its legislative evaluation model and using the actual claims and wage inflation data in lieu of the model results for available accident years substantially reduces any distortion in the indemnity on-level factors coming from the permanent disability maximum. As a result, the WCIRB has updated the impacts shown in column 3 of Section B, Exhibit 4.1 on this basis.

#### On-Level Adjustments to Medical Losses

Section B, Exhibits 4.2 through 4.4 show the adjustment of medical losses to an on-level basis. Section B, Exhibit 4.2 shows the impact of non-legislative factors on medical costs. For many years, the Official Medical Fee Schedule (OMFS) has regulated the amounts paid to physicians for many workers' compensation medical procedures. As of April 1, 1999, many inpatient hospital procedures became subject to the Inpatient Hospital Fee Schedule (IHFS). Other medical cost components, such as

<sup>3</sup> See *Senate Bill No. 863 WCIRB Cost Monitoring Report – 2016 Retrospective Evaluation* (WCIRB, November 17, 2016) and Item AC17-12-02 of the December 5, 2018 WCIRB Actuarial Committee Agenda for the WCIRB's most recent retrospective cost evaluation of SB 863.

<sup>4</sup> See Item AC17-12-02 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>5</sup> This wage inflation adjustment approach is discussed in greater detail later in this Appendix with respect to premium adjustments.

<sup>6</sup> The most recent change in the weekly permanent disability maximum was effective in 2014.

<sup>7</sup> See Item AC19-03-03 of the March 18, 2019 WCIRB Actuarial Committee Agenda.

pharmaceuticals and outpatient facility fees, later also became subject to fee schedules with the enactment of Senate Bill No. 228 (SB 228) effective January 1, 2004. As shown in Section B, Exhibit 4.2, column 1, over 90% of medical costs are now directly or indirectly<sup>8</sup> subject to fee schedules. Column 3 of Section B, Exhibit 4.2 shows the average impact of fee schedule changes on total medical costs by accident year. The impacts shown are primarily based on the WCIRB's cost analysis of the fee schedule changes developed at the time the schedule was implemented. In some instances, the cost factors also reflect further adjustments from WCIRB reassessments of historical benefit adjustments based on updated data that emerged subsequent to the fee schedule changes.

Earlier this year, the WCIRB evaluated the impact of the Medicare Geographic Practice Cost Index (GPCI) that was adopted by the Division of Workers' Compensation (DWC) effective January 1, 2019 for physician fees. The WCIRB's analysis showed that while the cost impact of the GCPI on California workers' compensation medical costs varied by region and medical procedure, the overall impact was not significant and, as a result, no adjustment to advisory pure premium rates was necessary.<sup>9</sup>

Some workers' compensation medical costs are not subject to fee schedules. The portion of each historical accident year's medical losses that is not subject to fee schedules is adjusted to reflect the anticipated general medical cost level during the period in which the proposed pure premium rates will be in effect. The cost adjustments used in this analysis are shown in column 4 of Section B, Exhibit 4.2. The historical values are based on the "Medical Care" component of the Consumer Price Index as published by the U.S. Bureau of Labor Statistics and the California Department of Finance. Projected values are based on the average of California Department of Finance forecasts of medical inflation for the Los Angeles and San Francisco regions. Section B, Exhibit 4.2, column 6 shows the combined impact of fee schedule changes and general medical inflation on non-fee schedule regulated medical cost components by accident year.

Legislative changes and judicial actions also impact the cost of medical benefits. Section B, Exhibit 4.3 shows the impact of legislative changes on medical costs. The factors in column 1 of Section B, Exhibit 4.3 reflect the impact on the average medical costs per claim of legislative, regulatory or judicial action not otherwise reflected. As with other benefit adjustment factors discussed above, some of these adjustment factors have been reassessed based on updated data that emerged subsequent to the legislative change. The factors shown in column 2 of Section B, Exhibit 4.3 reflect the impact on medical costs of the changes in the frequency of indemnity claims as a result of statutory benefit changes. The combined impact of legislative changes on overall medical costs is shown in column 3 of Section B, Exhibit 4.3.

In the WCIRB's 2016 SB 863 Cost Monitoring Report, it was noted that since the implementation of SB 863, average medical severities have emerged significantly lower than projected even after reflecting the impact of other measurable components of SB 863.<sup>10</sup> In the January 1, 2019 Pure Premium Rate Filing, the WCIRB reflected an approximate 17% reduction in the utilization of medical services resulting from SB 863 in the medical on-level factors, distributed over accident years 2011 through 2015. As discussed in Appendix A, the WCIRB's recommended loss development methodology includes adjustments to paid medical loss development and paid medical loss ratios for the impact of recent declines in pharmaceutical costs. Although some of this decrease may be related to other factors such as reaction to the national opioid epidemic and efforts to fight workers' compensation provider fraud, some of it is related to SB 863. Based on the differential in pharmaceutical cost declines in California compared to other states, the WCIRB judgmentally reduced the total impact of SB 863 on medical utilization from 17% to 13% in the medical on-

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<sup>8</sup> Payments made directly to injured workers as part of claim settlements are assumed to be indirectly affected by existing medical fee schedules.

<sup>9</sup> See Item AC19-04-04 of the April 2, 2019 WCIRB Actuarial Committee Agenda.

<sup>10</sup> See *Senate Bill No. 863 WCIRB Cost Monitoring Report – 2016 Retrospective Evaluation* (WCIRB, November 17, 2016).



level factors shown in Section B, Exhibit 4.2. This impact was distributed over accident years 2011 through 2015 inasmuch as these were the years most affected by the reforms.<sup>11</sup>

Senate Bill No. 1160 (SB 1160) and Assembly Bill No. 1244 (AB 1244), which took effect in 2017, included a number of provisions related to lien filings. In the January 1, 2019 Pure Premium Rate Filing, the WCIRB reflected an estimated 40% reduction in the number of future lien filings, resulting in savings to medical and loss adjustment expense costs.<sup>12</sup> The most recent information on lien filings shows an approximate 60% reduction from the level experienced shortly before the enactment of SB 1160 and AB 1244, resulting in an approximate 3.6% reduction in medical costs.<sup>13</sup> As a result, the factors shown in column 1 of Section B, Exhibit 4.3 reflect the estimated impact of the SB 1160 and AB 1244 provisions related to liens based on the 60% post-reform reduction in lien filings. Given that the impact of SB 1160 and AB 1244 for more recent accident years is substantially reflected in the adjustments to loss development discussed in Appendix A, only the portion of the reform impact not reflected in projected loss development is adjusted for in the factors shown in column 1 of Section B, Exhibit 4.3. These adjustment factors are based on the estimated proportion of ultimate medical losses paid prior to January 1, 2017 for each accident year.

SB 1160 also included provisions restricting the use of utilization review for medical services provided within the first 30 days from the date of injury beginning January 1, 2018, with some exceptions. In the Amended January 1, 2017 Pure Premium Rate Filing, the WCIRB estimated that these provisions of SB 1160 would result in a 0.1% increase in total costs (or a 0.3% increase in medical costs) from additional medical treatment provided within the first 30 days. The WCIRB's most recent retrospective evaluation of SB 1160 shows some evidence of additional medical treatment being provided within the first 30 days of an injury for 2018 injuries, particularly for physical therapy services.<sup>14</sup> As a result and given that the reforms are substantially reflected in the emerging experience for accident year 2018, the WCIRB has reflected the estimated impact of 0.3% on medical costs in column 1 of Section B, Exhibit 4.3 to on-level 2017 and prior accident years.

The Medical Treatment Utilization Schedule Drug Formulary (Formulary) pursuant to Assembly Bill No. 1124 was adopted by the DWC effective in 2018. In the July 1, 2018 Pure Premium Rate Filing, the WCIRB estimated that the Formulary would result in a 10% decrease in pharmaceutical costs, resulting in an estimated 0.6% decrease in medical costs based on the latest data on the distribution of pre-reform medical costs. The WCIRB's most recent retrospective evaluation of the Formulary shows that pharmaceutical costs declined in 2018 at an approximate 10% greater rate than the rate of decline experienced shortly before the effective date of the Formulary.<sup>15</sup> As a result and given that the reforms are substantially reflected in the emerging experience, the WCIRB has reflected the estimated impact of -0.6% on medical costs in column 1 of Section B, Exhibit 4.3 to on-level 2017 and prior accident years.

Section B, Exhibit 4.4 shows the combined impact of both measurable legislative and non-legislative changes on medical costs. Column 4 of Section B, Exhibit 4.4 shows the medical on-level factor that is used to adjust each historical accident year's estimated ultimate medical losses to an on-level basis.

#### **Adjustments of Premium to an On-Level Basis**

The primary adjustments made to each year's historical premium to convert those premiums to a current, or on-level, basis are as follows:

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<sup>11</sup> The WCIRB continues to believe the total impact of SB 863 on medical utilization is -17% (as reflected in the January 1, 2019 Pure Premium Rate Filing) and this adjustment is solely to adjust for the impact that is already reflected in the WCIRB's adjustments to paid medical loss development.

<sup>12</sup> In the Decision on the January 1, 2019 Pure Premium Rate Filing, the CDI reflected a reduction in lien filings of 50% based on updated lien filing information presented at the hearing.

<sup>13</sup> See Exhibit M9.2 of Item AC19-08-01 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>14</sup> See Item AC17-12-02 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>15</sup> See Item AC17-12-02 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

1. Wage Inflation. Workers' compensation rates are expressed as a percentage of payroll. Thus, the earned premium for a particular year reflects the wages paid by California employers during that year. In order for the proposed pure premium rates to provide for policy year 2020 losses and loss adjustment expenses, each historical year's earned premium is adjusted to the anticipated average wage level applicable to policies incepting in 2020. Section B, Exhibit 5.1 shows the computation of the wage level adjustment factors. As in the January 1, 2019 Pure Premium Rate Filing, the estimated changes in annual California wages shown in Section B, Exhibit 5.1 for 2017 and later are based on an average of those produced by the UCLA Anderson School of Business<sup>16</sup> (as of June 2019) and California Department of Finance<sup>17</sup> (as of April 2019).<sup>18</sup> A 2018 WCIRB analysis of the wage forecast methodology showed that blending these two wage forecasts significantly improves the accuracy and reduces the volatility of the wage level projection.<sup>19</sup>
2. Changes in Average Rate Level. The amount of premium generated during a particular year is based on the rates charged by insurers during that year. Section B, Exhibit 5.2, columns 2a, 2b and 2c show the adjustment of each year's historical premium to the level reflected in the industry average filed pure premium rates as of July 1, 2019. The earned premium amounts shown in Section B, Exhibit 1 and reflected in the loss ratios shown in Section B, Exhibits 3.1 and 3.2 are based on the final rates charged by insurers—including the impact of most rating plan adjustments such as schedule rating.<sup>20</sup> To compute the indicated difference from the industry average filed pure premium rate as of July 1, 2019, the premium generated for each year at the industry average charged rates is adjusted to reflect the premium that would have been generated had the industry average filed pure premium rates as of July 1, 2019 been charged during that year.

Column 2a of Section B, Exhibit 5.2 shows the ratio of the industry average charged rate to the advisory pure premium rate for each calendar year subsequent to the implementation of competitive rating in 1995. Column 2b of Section B, Exhibit 5.2 shows the factors needed to adjust the earned premium for each calendar year to the industry average filed pure premium rate level as of July 1, 2019. The factors reflect both the historical changes in advisory pure premium rates that are needed to adjust each year's earned premium to the January 1, 2019 advisory pure premium rate level and an additional factor to adjust from the January 1, 2019 advisory pure premium rate level to the industry average filed pure premium rate level as of July 1, 2019. Column 2c of Section B, Exhibit 5.2 shows the combined effect of all these rate adjustments, which are the factors needed to adjust each year's earned premium to the premium that would have been earned had the industry average filed pure premium rates as of July 1, 2019 been charged during that year.

3. Additional Premium Adjustments. In addition to adjustments for changes in wage and rate levels, historical premiums are also adjusted to remove the impact of surcharge premium generated under the Minimum Rate Law through 1995, reflect changes in the average experience modification, and reflect the current experience rating off-balance correction factor. These adjustments, which are shown in columns 3, 4 and 5 of Section B, Exhibit 5.2, are based on the WCIRB's unit statistical and experience rating data.
4. Adjustment for Impact of Audit Premiums on Calendar Years 2007 through 2010. Premium is reported to the WCIRB on a calendar year basis, reflecting all premiums earned during that calendar year on policies from any year, while losses are reported on an accident year basis, reflecting the cost of claims on policies in force during that year. Generally, these two bases overlap to a considerable degree. However, when audits on older policy years have a highly atypical effect on premiums booked during the current year, the use of unadjusted calendar year earned premium can

<sup>16</sup> The index is based on the ratio of total statewide wages and salaries divided by total civilian employment.

<sup>17</sup> The California Department of Finance produces an economic forecast in April and November of each year to assist in preparation of the California state budget.

<sup>18</sup> Due to a data anomaly in the 2019 wage change forecast by the UCLA Anderson School of Business, only the California Department of Finance forecast was used to project the 2019 wage change.

<sup>19</sup> See Item AC17-12-03 of the March 19, 2018 WCIRB Actuarial Committee Agenda.

<sup>20</sup> These premiums do not reflect the impact of deductible credits, retrospective rating plan adjustments or terrorism charges.

distort accident year loss ratios. The Great Recession of 2008-2009 significantly impacted audit premiums on 2007 and 2008 policies that were booked in 2009. To adjust for the distortions created by the Great Recession, premiums earned in calendar years 2007 through 2010 are adjusted to an estimated “accident year” basis. These adjustments, which are shown in column 6 of Section B, Exhibit 5.2, are computed 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.<sup>21</sup> Since the impact of audit premiums on other years is not believed to be large, no similar adjustment factor is applied to those years.

Section B, Exhibit 5.2, column 7 shows the combined on-level factor for each year that reflects the impact of all the premium adjustments applied by the WCIRB.

### **Trending of On-Level Ratios**

In order for the proposed pure premium rates to reflect the cost of benefits incurred on policies incepting in 2020, the historical estimated ultimate loss ratios, adjusted to an on-level basis, are trended to a policy year 2020 level. Specifically, the on-level ratios are trended to January 1, 2021—the approximate average date of experience on policies incepting in 2020. These trended ratios reflect the estimated ratio of losses on policies incepting in 2020 to premium at the industry average filed pure premium rate level as of July 1, 2019.

As in the last several pure premium rate filings, the WCIRB’s projected future loss trend is based on separate projections of growth in claim frequency and growth in the average cost, or severity, of claims applied to the latest two years’ on-level loss ratios. Section B, Exhibit 6.1 shows the WCIRB’s estimated growth in indemnity claim frequency based on the WCIRB’s econometric model used to estimate the impact of historical benefit and economic changes on indemnity claim frequency. Section B, Exhibits 6.2 through 6.4 show the basis of the WCIRB’s projected growth in indemnity and medical claim severity, respectively.

Section B, Exhibits 7.1 and 7.3 show historical on-level loss ratios for indemnity and medical, respectively. Section B, Exhibits 7.2 and 7.4 show the same information, respectively, on a graphical basis.<sup>22</sup> As shown in Section B, Exhibits 7.1 through 7.4, since the full implementation of the 2002 through 2004 reforms in 2005, on-level indemnity and medical ratios grew at a fairly steady rate through accident year 2010. However, since 2010 and through the implementation of SB 863 beginning in 2013, the rate of growth in both indemnity and medical on-level ratios has moderated significantly.

Exhibit 1 shows changes in indemnity claim frequency as of March 31, 2019 based on the ratio of indemnity claim counts to unit statistical reported exposure adjusted to a common wage level for accident years 1996 through 2017, and to annual statewide employment for accident year 2018 and the first quarter of accident year 2019. After a period of steady decline, indemnity claim frequency increased sharply in 2010 and was flat-to-increasing from 2011 through 2016. However, from 2015 through the first three months of 2019, there have generally been modest decreases in indemnity claim frequency which are generally consistent on average with those forecast by the WCIRB’s econometric indemnity claim frequency model.

Section B, Exhibit 6.1 shows projected changes in indemnity claim frequency rates based on the WCIRB’s econometric frequency model used for a number of years in WCIRB pure premium rate filings.<sup>23</sup> This model projects indemnity frequency changes as a function of changes in indemnity benefit levels, economic variables, and other factors, but excludes the impact of projected future changes in the mix of

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<sup>21</sup> See Item AC11-06-02 of the June 3, 2011 and August 3, 2011 WCIRB Actuarial Committee Agendas for a more complete discussion of this computation.

<sup>22</sup> The on-level medical loss ratios shown in Section B, Exhibits 7.3 and 7.4 for accident years 2011 and subsequent do not reflect the cost of medical cost containment programs (MCCP). On-level medical loss ratios for accident years 2010 and prior do reflect MCCP costs.

<sup>23</sup> Brooks, Ward, “California Workers Compensation Benefit Utilization – A Study of Changes in Frequency and Severity in Response to Changes in Statutory Workers Compensation Benefit Levels,” *Proceedings of the Casualty Actuarial Society*, Volume LXXXVI, 1999, pp. 80-262.

industry classifications.<sup>24</sup> The frequency changes shown in Section B, Exhibit 6.1 are based on the ratio of indemnity claim counts to unit statistical reported exposure. Since 2017 is the most currently available accident year for which unit statistical data has been reported, the frequency changes shown in Section B, Exhibit 6.1 for accident years 2018 and beyond are model forecasts.

Changes in industrial mix can significantly impact indemnity claim frequency per unit of payroll. Exhibit 2 shows historical and forecast changes in indemnity claim frequency adjusted for changes in industrial mix ("Intra-Class"), indemnity claim frequency not adjusted for changes in industrial mix ("Overall") and the effect of changes in industrial mix on indemnity claim frequency ("Inter-Class"). Shifts in industrial mix, influenced by the Great Recession and in particular its impact on construction employment, contributed to annual declines from 1% to 2% in indemnity claim frequency from accident years 2008 through 2012. Projections of the impact of changes in industrial mix on indemnity claim frequency for accident years 2013 and beyond have moderated, as economic recovery in the construction sector reduce the typical dampening impact of industrial mix shifts on claim frequency. (The impact of changes in industrial mix on indemnity claim frequency for accident years 2018 through 2021 shown in Exhibit 2 are projections based on forecast shifts in employment by industry published by the UCLA Anderson School of Business.)

Exhibits 3.1 and 3.2 show changes in average incurred indemnity and average incurred medical per indemnity claim, respectively. Exhibits 3.3 and 3.4 show changes in average paid indemnity per indemnity claim and average paid medical per claim, respectively. As shown in Exhibits 3.1 and 3.3, changes in both incurred and paid indemnity severities through 2017 at the most recent evaluation have been modest despite the increases to permanent disability benefits enacted pursuant to SB 863. However, the change for 2018 at 15 months is higher than each of the last several accident years. As shown in Exhibits 3.2 and 3.4, both incurred and paid medical severities declined in 2012 through 2017, which is likely attributable to SB 863, SB 1160 and AB 1244, the new drug formulary, and recent efforts to fight medical provider fraud. However, the increase in both incurred and paid medical per claim shown for 2018 at 15 months may suggest that the impact of these various reforms on medical costs is diminishing.

Section B, Exhibit 6.2 shows accident year indemnity severities on an estimated ultimate basis. Section B, Exhibit 6.3 shows accident year medical severities on an estimated ultimate basis. As discussed in Section B, the ultimate medical severities shown in Section B, Exhibit 6.3 for accident years 2010 and prior include medical cost containment program (MCCP) costs and those for accident years 2011 and subsequent exclude MCCP costs. For consistency of comparison, Section B, Exhibit 6.4 shows estimated ultimate medical severities for accident years 2005 and later both including all MCCP costs and excluding all MCCP costs, with MCCP costs for accident years 2010 and prior estimated based on reported MCCP paid costs on WCIRB calendar year data calls.

As shown in Section B, Exhibits 6.2 through 6.4, after several years of significant increases in indemnity and medical claim severities following the 2002 through 2004 reforms, changes in ultimate claim severities significantly moderated during the Great Recession and leading into the transition to SB 863. As shown in Section B, Exhibit 6.2, on-level indemnity severities declined in 2010 through 2017, but shows a moderate increase for 2018. As shown in Section B, Exhibits 6.3 and 6.4, average medical severities declined in 2012 through 2016, in large part related to the SB 863 provisions affecting medical costs. The medical severities adjusted to an on-level basis that include adjustments to reflect the estimated impact of SB 863 shown in Section B, Exhibits 6.3 and 6.4 for this period are relatively flat to modestly increasing. On-level medical severities increased modestly in 2017 and more significantly in 2018, suggesting a potential return to a period of more typical medical severity growth. However, it is possible that the accident year 2018 medical severity growth, currently based on medical loss development as of March 31, 2019, will moderate as the year matures.

#### Policy Year 2020 Indemnity Loss Projection

For many years, the WCIRB has analyzed changes in claim frequency and indemnity claim severity in addition to on-level indemnity ratios when considering the appropriate indemnity loss trends. Claim

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<sup>24</sup> By modeling industrial mix-adjusted, or "intra-class" frequency, the WCIRB's model in effect controls for historical shifts in classification mix.

frequency and claim severity are affected by differing underlying forces. Trending methods that separately trend for frequency and severity allow for separate assumptions on each component, and are appropriate in environments where historical loss ratios have been volatile or during periods of transition in which some judgment about future trends may be appropriate. These methods rely on accurate projections of frequency and severity and assume that frequency and severity changes are not highly correlated.

In 2012, the WCIRB conducted a retrospective evaluation of trending methodologies with an emphasis on the appropriateness of trending frequency and severity separately relative to applying a combined loss ratio trend during varying claims environments.<sup>25</sup> The study noted that during the 2002 through 2004 reform transition period, trending methods based on separate projections of claim frequency and claim severity were more accurate than those based on trending historical on-level loss ratios. Updated studies conducted in 2017 and 2018 to include additional periods showed that methods based on separate frequency and severity trends continued to be more accurate than those based on a combined loss ratio trend in these periods as well.<sup>26</sup> The WCIRB's 2018 study also showed that methods which apply trends to the latest two accident years are generally more accurate and stable than those which apply trends only to the latest year, particularly during periods of transition or when the latest accident year is projected from 12 or 15 months.<sup>27</sup> As a result and as in recent pure premium rate filings, the WCIRB has based projected future growth in indemnity losses on separate growth in indemnity claim frequency and indemnity claim severity applied to the latest two accident years.

The WCIRB's forecast frequency changes are generally based on the WCIRB's econometric frequency model. However, in the WCIRB's 2012 analysis of trending methodologies, it was noted that frequency changes using a full year of preliminary actual frequency information were more predictive of the actual frequency change for that year than the change forecast based on the WCIRB's frequency model.<sup>28</sup> As a result and as in the last several pure premium rate filings, the projected frequency change for accident year 2018 is based on the preliminary actual 2018 frequency change of 0.1% (as shown in Exhibit 1), estimated as a ratio of changes in reported indemnity claim counts from accident year 2017 to accident year 2018 as of March 31, 2019 relative to changes in statewide employment. Projected frequency changes for accident years 2019 through 2021 are based on the WCIRB's econometric frequency model. As shown in Section B, Exhibit 6.1, the WCIRB's frequency model is forecasting overall changes in claim frequency for 2019 through 2021 averaging -2.0% annually. As shown in Exhibit 1, the overall rate of decline projected by the WCIRB is generally consistent with the modest declines since accident year 2015.

The WCIRB projects average future indemnity severity growth based on a review of longer-term and short-term indemnity severity trends. Longer-term trends are less volatile and include both reform periods and post-reform periods as well as more developed accident years, but include historical less current accident years that may not be highly indicative of the current claims environment. Shorter-term trends examine the most recent period which may be more indicative of the current claims environment, but include less developed accident years and may be skewed by recent transitional effects such as reforms that may not be appropriate to project into the future. Over the long-term, on-level indemnity severities have grown at a moderate rate. However, as shown in Section B, Exhibit 6.2, on-level indemnity severity growth is below 0% from 2010 through 2017. Some of the decline is likely related to the Great Recession and the economic recovery and may not be appropriate to project into the future. However, some of the decline is likely the result of recent reductions in temporary disability duration and average permanent disability rating partly driven by accelerations in the rate that claims are settling. The on-level indemnity severity change for 2018 is projected to be an increase of 3%. While 2018 is projected from 15 months and the indicated severity change may moderate as the year matures, the current projection suggests that the period of modest on-level indemnity severity declines may be winding down.

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<sup>25</sup> See Item AC12-12-02 of the December 5, 2012 WCIRB Actuarial Committee Agenda.

<sup>26</sup> See Item AC12-12-02 of the August 2, 2017 WCIRB Actuarial Committee Agenda.

<sup>27</sup> See Item AC12-12-02 of the March 19, 2018 WCIRB Actuarial Committee Agenda.

<sup>28</sup> See Item AC12-12-02 of the March 20, 2013 WCIRB Actuarial Committee Agenda.

As in the last several pure premium rate filings, the WCIRB considers both long-term and short-term severity growth when projecting an indemnity severity trend. The average of the long-term (post-1990) and short-term (post-2014) rates of growth in on-level indemnity severities is approximately 0%. However, given the recent period of sustained modest declines in on-level indemnity severities, the WCIRB has selected an on-level indemnity severity trend of -0.5% annually. The WCIRB believes this on-level indemnity severity trend, which is consistent with the indemnity severity trend reflected in the January 1, 2019 Pure Premium Rate Filing,<sup>29</sup> gives consideration to the recent period of declines, the longer-term trend of modest annual growth in on-level indemnity severities, the increase projected for 2018, and the potential moderation of that indicated increase over time.

Section B, Exhibit 7.1 shows the projected policy year 2020 indemnity loss ratio based on the average of the latest two accident year (2017 and 2018) on-level indemnity ratios adjusted by the WCIRB's selected frequency projections and the annual indemnity severity trend projection of -0.5% per year. The implied combined on-level loss trend projected on this basis is -2.2% annually. As shown in Section B, Exhibit 7.1, the policy year 2020 indemnity loss ratio projected using the WCIRB's recommended methodology is 0.257.

#### Policy Year 2020 Medical Loss Projection

As discussed in prior pure premium rate filings, the introduction of the presumption of correctness given to primary treating physician determinations that was effectuated by the 1993 reforms and the extension of the presumption to medical treatment by the 1996 Minnear decision significantly changed the level of medical services provided in workers' compensation. As a result, growth in on-level medical loss ratios accelerated sharply in the mid-1990s. The landmark reforms of 2002 through 2004 followed these years of sharp growth and significantly impacted the utilization of medical services. In addition, the frequency of indemnity claims dropped sharply following the reforms. As shown in Section B, Exhibit 7.3, following the 2002 through 2004 reforms, medical losses, even after adjustment for the measurable impact of the reforms, declined. From 2005 up through 2010, on-level medical loss ratios increased significantly. However, these trends have moderated significantly since the enactment of SB 863.

As in recent prior pure premium rate filings, the WCIRB is basing its projections of future medical growth on separate projections of indemnity claim frequency and claim severity. As with the indemnity loss projection, the forecast changes in claim frequency are based on the actual preliminary frequency change for accident year 2018 and the WCIRB's econometric indemnity claim frequency model forecasts for accident years 2019 through 2021.

As discussed for indemnity above, the WCIRB has for a number of years based projected on-level medical severity growth on a review of longer-term and more recent medical severity trends. For medical in particular, policy year 2020 losses will be paid over a very extended period (e.g., over half of policy year 2020 losses will be paid in 2023 or later and over one-quarter will be paid in 2029 or later) and medical cost levels are impacted by when services are provided rather than by when the injury occurred. As a result, is particularly important to consider both long-term and short-term medical severity trends.

As shown in Section B, Exhibit 6.4, over the long-term (since 1990), on-level medical severities have grown at a rate of approximately 6% per year. However, over the 2005 to 2018 period, the average on-level medical severity trend is 2.1%, while recently through 2017 on-level medical severities have been relatively flat. The current estimated on-level medical severity change for accident year 2018 of 4.3% is well above that of recent accident years and the highest since 2009. Over the last several years, estimates of on-level medical severity change for prior accident years has moderated with continued decreases in medical loss development. However, as discussed in the Executive Summary and Appendix A, the decreases in medical loss development are moderating, suggesting that estimates of accident year 2018 severity growth may not change as significantly as for recent prior years. Also, analyses of recent incremental changes in average medical paid amounts suggest that average medical costs per claim are

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<sup>29</sup> In the Decision on the January 1, 2019 Pure Premium Rate Filing, the CDI reflected an assumed average indemnity severity growth rate of -1.0% annually.

beginning to increase.<sup>30</sup> In addition, average medical costs in other jurisdictions as well as in the medical CPI show modest increases for 2017 and 2018 not unlike the increases shown in Section B, Exhibit 6.4 for California. As discussed above, the WCIRB has recommends balancing both long-term and short-term severity information when selecting an on-level medical severity trend. Given these considerations, the WCIRB has selected an on-level medical severity trend of 2.5% per year, which is consistent with the medical severity trend reflected in the January 1, 2019 Pure Premium Rate Filing.<sup>31</sup>

Section B, Exhibit 7.3 shows the projected policy year 2020 medical loss ratio based on the average of the latest two accident year (2017 and 2018) on-level medical ratios adjusted by the WCIRB's selected frequency projections and the annual medical severity trend projection of 2.5% per year. The implied combined on-level loss trend projected on this basis is 0.8% annually. As shown in Section B, Exhibit 7.3 the policy year 2020 medical loss ratio projected using the WCIRB's selected methodology is 0.326.

### **Summary of Alternative Trend Projections**

The WCIRB is recommending a loss trend based on an average of projections of the latest two years' on-level ratios adjusted for separate forecasts of changes in indemnity claim frequency and indemnity and medical claim severities based on a review of longer-term and shorter-term claim frequency and severity trends. For informational purposes, the WCIRB has computed alternative loss projections based on a number of alternative loss trending methodologies reflecting underlying assumptions that differ from those reflected in the WCIRB's recommended trending methodology. These alternative trending projections are shown in Exhibits 4 through 9 and are discussed below.

#### Trend Projections Based on Separate Frequency and Severity Projections Applied to the Latest Year

Applying trending projections to the latest year can be more responsive to recent experience. However, experience for the most recent year is the least mature and the most leveraged by loss development projections.

Exhibits 4.1 and 4.2 show an alternative trend projection based on applying the WCIRB's selected frequency changes and the annual on-level severity trend assumptions of -0.5% for indemnity and 2.5% for medical to the on-level loss ratios for the latest year (2018). This methodology produces a projection generally consistent with that produced by the methodology based on averaging the projections of the on-level loss ratios for the latest two years. As discussed previously, a 2018 WCIRB study showed that methods which apply trends to the latest two accident years are generally more accurate and stable than those which apply trends only to the latest year. As result and given the relative immaturity of the 2018 year, which is valued at 15 months as of March 31, 2019, the WCIRB believes basing the projection on the latest two years' experience is more appropriate.

#### Trend Projections Based on Separate Frequency and Severity Projections Using Severity Trends Based on Long-Term Rates of Growth Applied to the Latest Two Years

Exhibits 5.1 and 5.2 show a trend projection based on applying the WCIRB's selected frequency changes and annual severity trend assumptions of 1.3% for indemnity and 5.8% for medical, based on the approximate average long-term (1990 to 2018) annual rates of growth in on-level indemnity and medical claim severities, to the on-level loss ratios for the latest two years (2017 and 2018) and taking the average of the projections. This methodology produces a projection significantly higher than that produced by the WCIRB's selected methodology, which gives consideration to both the longer-term and more recent severity trends. Given the impact of recent phenomena which have dampened claim severity growth, the WCIRB believes its selected severity trends, which also give significant consideration to more recent trends, are more appropriate.

#### Trend Projections Based on Separate Frequency and Severity Projections Using Severity Trends Based on Short-Term Rates of Growth Applied to the Latest Two Years

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<sup>30</sup> See Exhibit S7 of Item AC19-08-01 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>31</sup> In the Decision on the January 1, 2019 Pure Premium Rate Filing, the CDI reflected an assumed average medical severity growth rate of 1.5% annually.

Exhibits 6.1 and 6.2 show a trend projection based on applying the WCIRB's selected frequency changes and annual severity trend assumptions of -1.2% for indemnity and 0.4% for medical, based on the approximate average short-term (2014 to 2018) annual rates of growth in on-level indemnity and medical claim severities, to the on-level loss ratios for the latest two years (2017 and 2018) and taking the average of the projections. This methodology produces a projection significantly lower than that produced by the WCIRB's selected methodology, which gives consideration to both the longer-term and more recent severity trends. Given that modest claim severity growth has historically not sustained in California over the long-term and the extended duration of, in particular the medical payout of claims in California, the WCIRB believes its selected severity trends, which also give consideration to the average long-term rates of growth, are more appropriate.

#### Trend Projections Based on Separate Frequency and Severity Projections Using Other Severity Trends Applied to the Latest Two Years

Exhibits 7.1 and 7.2 show a trend projection based on applying the WCIRB's selected frequency changes and annual severity trend assumptions of -1.0% for indemnity and 1.5% for medical (the severity trends reflected in the CDI Decision on the WCIRB's January 1, 2019 Pure Premium Rate Filing) to the on-level loss ratios for the latest two years (2017 and 2018) and taking the average of the projections. The projections produced by the WCIRB's selected methodology, based on a review of both the longer-term and more recent severity trends, are somewhat higher than the projections produced by this methodology. For the reasons discussed above including the recent indicators of increasing claim severities and the long-term nature of the payout of policy year 2020 losses, the WCIRB believes its selected severity trends are more appropriate.

#### Trend Projections Based on On-Level Loss Ratios

Methods projecting future trends based on the historic on-level loss ratios may be appropriate when the historical ratios show a fairly stable trend or there is reason to believe that recent frequency and severity trends are highly correlated. They do not require knowledge or projection of separate frequency and severity components, but rely more heavily on the accuracy of loss development and on-leveling adjustments. In the WCIRB's studies of trending methodologies, these methods performed well during the 2008 to 2011 recession period when historic on-level ratios were fairly stable and frequency and severity changes differed from projections, but did not perform well during the 2002 through 2004 reform or post-SB 863 periods when loss ratios were more volatile.

Exhibits 8.1 and 8.2 provide projections based on applying an exponential trend based on the 1990 through 2018 on-level indemnity and medical loss ratios shown in Section B, Exhibits 7.1 and 7.3<sup>32</sup> to each of the on-level loss ratios for the latest two years (2017 and 2018) and then averaging the projections. This alternative trending methodology produces policy year 2020 projections higher than the WCIRB's selected methodology, but is generally consistent with the projections based on applying longer-term average severity trends. The WCIRB believes that the long-term trend projection may overstate future growth in losses given the recent moderation in on-level loss ratios.

Exhibits 9.1 and 9.2 provide projections based on applying an exponential trend based on the 2014 through 2018 on-level indemnity and medical loss ratios shown in Section B, Exhibits 7.1 and 7.3 to each of the on-level loss ratios for the latest two years (2017 and 2018) and then averaging the projections. This alternative trending methodology produces policy year 2020 projections below those based on the WCIRB's selected methodology. Inasmuch as a recent WCIRB study showed that projections based on separate frequency and severity projections have been more accurate in the recent periods, the WCIRB believes a trending projection based on applying separate rates of growth of claim frequency and claim severity is appropriate. In addition, as discussed above, given the long-term nature of the payout of policy year 2020 losses, particularly for medical, the WCIRB believes that longer-term trends should also be considered.

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<sup>32</sup> For consistency of trend, the medical exponential trend projection was based on medical on-level loss ratios that include MCCC costs for all years.



The policy year 2020 loss ratio projections derived based on the trending methodology recommended by the WCIRB as well as each of the alternative trending methodologies described above are shown in Table 1.

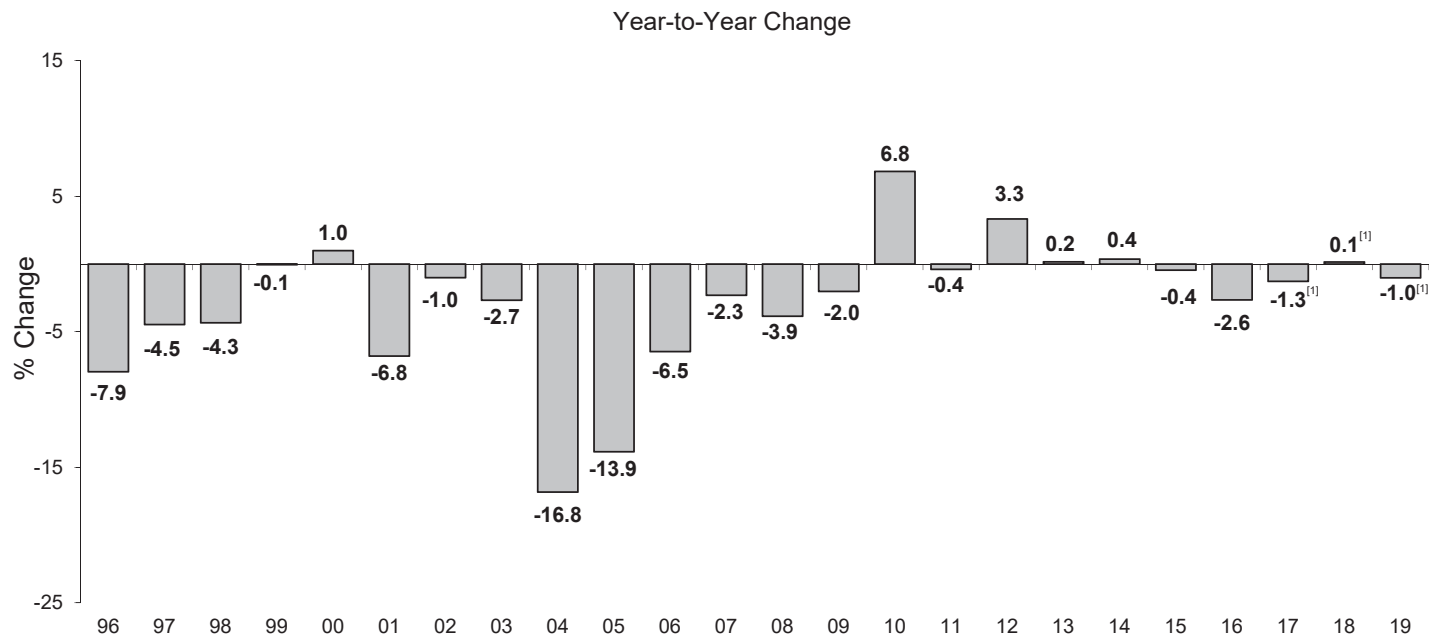
Table 1: Projected Policy Year 2020 Loss Ratios

<b>January 1, 2020 Filing Trending Methodology</b>	<b>Indemnity Loss Ratio</b>	<b>Medical Loss Ratio</b>	<b>Total Loss Ratio<sup>33</sup></b>
Separate Projections of Frequency and Severity, Using -0.5% Indemnity and 2.5% Medical Severity Trends, Applied to the Latest Two Years	<b>0.257</b>	<b>0.326</b>	<b>0.583</b>

<b>Alternative Trending Methodologies</b>	<b>Indemnity Loss Ratio</b>	<b>Medical Loss Ratio</b>	<b>Total Loss Ratio</b>
Separate Projections of Frequency and Severity, Using -0.5% Indemnity and 2.5% Medical Severity Trends, Applied to the Latest Year	0.259	0.326	0.585
Separate Projections of Frequency and Long-Term (1990 to 2018) Severity Applied to the Latest Two Years	0.272	0.359	0.631
Separate Projections of Frequency and Short-Term (2014 to 2018) Severity Applied to the Latest Two Years	0.252	0.306	0.558
Separate Projections of Frequency and Severity, Using -1% Indemnity and 1.5% Medical Severity, Applied to the Latest Two Years	0.254	0.317	0.571
Post-1990 On-Level Loss Ratio Exponential Trend Applied to Latest Two Years	0.274	0.356	0.630
2014 to 2018 On-Level Loss Ratio Exponential Trend Applied to Latest Two Years	0.247	0.306	0.553

<sup>33</sup> Projected using the loss development methodology reflected in Section B, Exhibits 3.1 and 3.2 and the specified loss trending methodology.

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



<sup>[1]</sup> The 2016-2017 estimate is based on partial year unit statistical data. The 2017-2018 and 2018-2019 estimates are based on comparison of claim counts based on WCIRB accident year experience as of March 31, 2019 relative to the estimated change in statewide employment. Prior years are based on unit statistical data.

## Indemnity Claim Frequency History and Projections

AY	Intra-Class Indemnity Claim Frequency(a)	Inter-Class Indemnity Claim Frequency Index(b)	Overall Indemnity Claim Frequency	Annual Percent Changes		
				Intra-Class	Inter-Class	Overall
1979	0.534	0.921	0.643	---	---	---
1980	0.499	0.914	0.596	-6.54%	-0.75%	-7.24%
1981	0.481	0.900	0.566	-3.54%	-1.56%	-5.04%
1982	0.473	0.882	0.546	-1.59%	-2.00%	-3.56%
1983	0.503	0.873	0.574	6.20%	-0.98%	5.17%
1984	0.551	0.871	0.628	9.53%	-0.18%	9.32%
1985	0.562	0.867	0.638	2.05%	-0.51%	1.52%
1986	0.549	0.859	0.617	-2.39%	-0.92%	-3.28%
1987	0.557	0.854	0.623	1.53%	-0.56%	0.97%
1988	0.561	0.854	0.627	0.69%	-0.06%	0.64%
1989	0.575	0.853	0.642	2.47%	-0.08%	2.39%
1990	0.627	0.845	0.693	9.04%	-0.89%	8.07%
1991	0.629	0.832	0.684	0.28%	-1.58%	-1.30%
1992	0.559	0.820	0.600	-11.09%	-1.45%	-12.37%
1993	0.475	0.810	0.504	-14.91%	-1.25%	-15.98%
1994	0.415	0.809	0.439	-12.76%	-0.06%	-12.81%
1995	0.396	0.811	0.420	-4.64%	0.16%	-4.49%
1996	0.369	0.800	0.386	-6.78%	-1.25%	-7.94%
1997	0.357	0.791	0.369	-3.27%	-1.23%	-4.46%
1998	0.343	0.786	0.353	-3.76%	-0.60%	-4.34%
1999	0.348	0.774	0.353	1.45%	-1.48%	-0.05%
2000	0.362	0.752	0.356	4.02%	-2.91%	0.99%
2001	0.337	0.753	0.332	-6.91%	0.13%	-6.79%
2002	0.329	0.763	0.329	-2.31%	1.34%	-1.00%
2003	0.320	0.764	0.320	-2.86%	0.20%	-2.67%
2004	0.267	0.763	0.266	-16.65%	-0.21%	-16.82%
2005	0.230	0.760	0.229	-13.59%	-0.31%	-13.85%
2006	0.217	0.754	0.214	-5.69%	-0.81%	-6.46%
2007	0.214	0.749	0.210	-1.64%	-0.68%	-2.31%
2008	0.208	0.740	0.201	-2.71%	-1.18%	-3.86%
2009	0.208	0.727	0.197	-0.20%	-1.82%	-2.02%
2010	0.226	0.713	0.211	8.87%	-1.87%	6.83%
2011	0.228	0.703	0.210	1.05%	-1.42%	-0.39%
2012	0.239	0.694	0.217	4.58%	-1.20%	3.33%
2013	0.240	0.692	0.217	0.52%	-0.36%	0.17%
2014	0.240	0.694	0.218	0.14%	0.22%	0.36%
2015	0.239	0.695	0.217	-0.71%	0.26%	-0.45%
2016(c)	0.231	0.700	0.211	-3.30%	0.68%	-2.64%
2016(d)	0.229	0.700	0.210	---	---	---
2017(e)	0.225	0.703	0.207	-1.65%	0.39%	-1.27%
2018	0.226	0.701	0.207	0.06%	-0.27%	-0.21%
2019	0.221	0.701	0.203	-1.87%	0.02%	-1.85%
2020	0.217	0.699	0.198	-1.95%	-0.30%	-2.25%
2021	0.212	0.695	0.193	-2.18%	-0.48%	-2.66%
PY						
2008	0.208	0.734	0.200			
2009	0.216	0.720	0.204	3.93%	-1.84%	1.97%
2010	0.227	0.708	0.210	5.14%	-1.67%	3.42%
2011	0.233	0.699	0.213	2.67%	-1.32%	1.30%
2012	0.239	0.693	0.217	2.68%	-0.82%	1.86%
2013	0.240	0.693	0.218	0.35%	-0.09%	0.25%
2014	0.240	0.694	0.218	-0.25%	0.24%	-0.01%
2015	0.235	0.698	0.215	-1.88%	0.45%	-1.45%
2016	0.228	0.701	0.210	-2.88%	0.54%	-2.35%
2017	0.225	0.702	0.207	-1.28%	0.08%	-1.19%
2018	0.224	0.701	0.205	-0.82%	-0.14%	-0.96%
2019	0.219	0.700	0.201	-1.91%	-0.13%	-2.03%
2020	0.215	0.697	0.196	-2.06%	-0.38%	-2.43%

Notes: (a) All frequencies are per \$M exposure at PY 2017 Level.  
 (b) Index is to AY 1961.  
 (c) 2016 accidents on 2016 and 2015 policies.  
 (d) 2016 accidents on 2015 policies only.  
 (e) AY 2017 percent changes are based on a comparison of 2017 accidents on 2016 policies to 2016 accidents on 2015 policies.  
 (f) Forecasts below thick solid line.

Source: WCIRB Indemnity Frequency Model

Average Incurred Indemnity Loss per Reported Indemnity Claim  
As of March 31, 2019

Accident	Evaluated as of (in months):								
Year	15	27	39	51	63	75	87	99	111
1994									12,560
1995								14,289	14,493
1996							16,238	16,570	16,680
1997						18,293	18,729	18,876	18,910
1998					19,845	20,552	20,868	20,882	20,982
1999				20,612	21,705	22,189	22,328	22,514	22,640
2000			20,162	22,030	22,807	23,064	23,300	23,555	23,709
2001		17,806	21,927	23,875	24,414	24,904	25,383	25,744	25,942
2002	11,447	18,072	21,244	22,220	22,821	23,471	23,924	24,175	24,433
2003	12,127	18,205	20,325	21,642	22,689	23,403	23,855	24,354	24,780
2004	11,664	14,389	16,424	17,477	18,212	18,915	19,429	19,932	20,238
2005	8,766	12,089	14,078	15,270	16,216	17,007	17,662	18,051	18,338
2006	8,786	12,998	15,319	16,770	17,949	18,839	19,369	19,736	19,968
2007	9,234	13,913	16,721	18,362	19,523	20,359	20,931	21,385	21,622
2008	9,839	15,031	18,420	20,364	21,565	22,412	22,932	23,316	23,543
2009	10,192	15,763	19,004	21,190	22,418	23,289	23,749	24,099	24,402
2010	10,130	15,425	18,871	20,728	21,878	22,629	23,102	23,463	23,717
2011	10,610	15,911	18,842	20,617	21,571	22,186	22,661	22,995	
2012	10,643	15,675	18,550	20,085	21,149	21,784	22,238		
2013	10,718	15,584	18,266	19,768	20,597	21,176			
2014	10,750	15,831	18,934	20,563	21,482				
2015	11,246	16,564	19,397	20,919					
2016	11,321	16,381	19,015						
2017	11,548	16,706							
2018	12,105								

Accident	Annual Change								
Year	15	27	39	51	63	75	87	99	111
1995									15.4%
1996								16.0%	15.1%
1997							15.3%	13.9%	13.4%
1998						12.3%	11.4%	10.6%	11.0%
1999					9.4%	8.0%	7.0%	7.8%	7.9%
2000				6.9%	5.1%	3.9%	4.4%	4.6%	4.7%
2001			8.8%	8.4%	7.0%	8.0%	8.9%	9.3%	9.4%
2002		1.5%	-3.1%	-6.9%	-6.5%	-5.8%	-5.7%	-6.1%	-5.8%
2003	5.9%	0.7%	-4.3%	-2.6%	-0.6%	-0.3%	-0.3%	0.7%	1.4%
2004	-3.8%	-21.0%	-19.2%	-19.2%	-19.7%	-19.2%	-18.6%	-18.2%	-18.3%
2005	-24.8%	-16.0%	-14.3%	-12.6%	-11.0%	-10.1%	-9.1%	-9.4%	-9.4%
2006	0.2%	7.5%	8.8%	9.8%	10.7%	10.8%	9.7%	9.3%	8.9%
2007	5.1%	7.0%	9.2%	9.5%	8.8%	8.1%	8.1%	8.4%	8.3%
2008	6.6%	8.0%	10.2%	10.9%	10.5%	10.1%	9.6%	9.0%	8.9%
2009	3.6%	4.9%	3.2%	4.1%	4.0%	3.9%	3.6%	3.4%	3.6%
2010	-0.6%	-2.1%	-0.7%	-2.2%	-2.4%	-2.8%	-2.7%	-2.6%	-2.8%
2011	4.7%	3.1%	-0.2%	-0.5%	-1.4%	-2.0%	-1.9%	-2.0%	
2012	0.3%	-1.5%	-1.5%	-2.6%	-2.0%	-1.8%	-1.9%		
2013	0.7%	-0.6%	-1.5%	-1.6%	-2.6%	-2.8%			
2014	0.3%	1.6%	3.7%	4.0%	4.3%				
2015	4.6%	4.6%	2.4%	1.7%					
2016	0.7%	-1.1%	-2.0%						
2017	2.0%	2.0%							
2018	4.8%								

Annual Trend*									
All-Year	0.6%	0.1%	-0.2%	-0.2%	-0.1%	0.2%	0.8%	1.6%	2.6%
R <sup>2</sup>	0.102	0.004	0.005	0.009	0.003	0.009	0.118	0.271	0.399
5-Year	2.7%	1.7%	1.1%	0.5%	-0.8%	-2.3%	-1.1%	1.5%	4.8%
R <sup>2</sup>	0.936	0.834	0.557	0.136	0.324	0.993	0.496	0.285	0.796

\*Trend is based on an exponential distribution.

Source: WCIRB quarterly calls for experience

Average Incurred Medical Loss per Reported Claim  
As of March 31, 2019

Accident	Evaluated as of (in months):								
Year	15	27	39	51	63	75	87	99	111
1998									6,166
1999								6,982	7,280
2000							7,639	8,013	8,184
2001						8,585	8,993	9,352	9,690
2002					8,566	9,074	9,425	9,756	10,043
2003				7,916	8,393	8,814	9,193	9,572	9,915
2004			5,914	6,477	6,962	7,354	7,806	8,106	8,362
2005		5,016	5,708	6,123	6,601	7,083	7,498	7,796	7,987
2006	4,248	5,494	6,328	6,899	7,408	7,864	8,241	8,523	8,667
2007	4,712	6,157	7,112	7,892	8,501	9,077	9,411	9,671	9,810
2008	5,171	6,841	8,053	8,965	9,725	10,244	10,589	10,794	10,888
2009	5,703	7,822	9,128	10,292	11,037	11,542	11,821	11,967	12,039
2010	5,932	8,105	9,712	10,747	11,440	11,825	12,067	12,192	12,323
2011	6,409	8,855	10,282	11,241	11,870	12,138	12,309	12,426	
2012	6,564	8,715	9,955	10,715	11,223	11,486	11,646		
2013	6,614	8,611	9,599	10,285	10,589	10,826			
2014	6,403	8,171	9,208	9,764	10,074				
2015	6,532	8,263	9,180	9,636					
2016	6,655	8,223	8,936						
2017	6,529	7,971							
2018	6,829								

Accident	Annual Change								
Year	15	27	39	51	63	75	87	99	111
1999									18.1%
2000								14.8%	12.4%
2001							17.7%	16.7%	18.4%
2002						5.7%	4.8%	4.3%	3.6%
2003					-2.0%	-2.9%	-2.5%	-1.9%	-1.3%
2004				-18.2%	-17.0%	-16.6%	-15.1%	-15.3%	-15.7%
2005			-3.5%	-5.5%	-5.2%	-3.7%	-3.9%	-3.8%	-4.5%
2006		9.5%	10.9%	12.7%	12.2%	11.0%	9.9%	9.3%	8.5%
2007	10.9%	12.1%	12.4%	14.4%	14.8%	15.4%	14.2%	13.5%	13.2%
2008	9.7%	11.1%	13.2%	13.6%	14.4%	12.9%	12.5%	11.6%	11.0%
2009	10.3%	14.3%	13.3%	14.8%	13.5%	12.7%	11.6%	10.9%	10.6%
2010	4.0%	3.6%	6.4%	4.4%	3.6%	2.4%	2.1%	1.9%	2.4%
2011	8.0%	9.3%	5.9%	4.6%	3.8%	2.6%	2.0%	1.9%	
2012	2.4%	-1.6%	-3.2%	-4.7%	-5.4%	-5.4%	-5.4%		
2013	0.8%	-1.2%	-3.6%	-4.0%	-5.6%	-5.7%			
2014	-3.2%	-5.1%	-4.1%	-5.1%	-4.9%				
2015	2.0%	1.1%	-0.3%	-1.3%					
2016	1.9%	-0.5%	-2.7%						
2017	-1.9%	-3.1%							
2018	4.6%								

Annual Trend*									
All-Year	3.4%	3.8%	4.4%	4.2%	3.9%	3.6%	3.7%	3.9%	4.1%
R <sup>2</sup>	0.752	0.612	0.651	0.603	0.562	0.566	0.628	0.649	0.633
5-Year	1.3%	-1.5%	-2.6%	-3.9%	-3.6%	-1.6%	2.3%	6.4%	9.5%
R <sup>2</sup>	0.700	0.702	0.940	0.975	0.803	0.341	0.392	0.877	0.960

\*Trend is based on an exponential distribution.

Source: WCIRB quarterly calls for experience

Average Paid Indemnity Loss per Reported Indemnity Claim  
As of March 31, 2019

Accident	Evaluated as of (in months):								
Year	15	27	39	51	63	75	87	99	111
1994									11,716
1995								13,087	13,344
1996							14,437	14,909	15,247
1997						15,821	16,577	17,043	17,400
1998					16,245	17,423	18,270	18,781	19,220
1999				15,788	17,741	19,055	19,878	20,491	20,963
2000			13,417	16,689	18,724	20,077	20,923	21,623	22,097
2001		9,124	14,499	18,361	20,461	21,940	22,943	23,643	24,171
2002	3,596	9,109	14,437	17,621	19,645	20,935	21,842	22,462	22,884
2003	3,725	9,503	14,405	17,493	19,411	20,693	21,521	22,170	22,753
2004	3,754	8,034	11,671	13,911	15,330	16,367	17,117	17,842	18,457
2005	3,442	7,290	10,215	12,254	13,504	14,484	15,293	16,033	16,646
2006	3,632	7,798	11,015	13,113	14,674	15,910	16,892	17,635	18,189
2007	3,873	8,383	11,877	14,294	16,058	17,382	18,422	19,183	19,790
2008	4,224	9,050	13,045	15,953	17,989	19,426	20,439	21,227	21,721
2009	4,210	9,209	13,472	16,532	18,678	20,195	21,292	22,090	22,721
2010	4,182	9,164	13,493	16,574	18,593	20,033	21,051	21,782	22,305
2011	4,241	9,397	13,544	16,410	18,381	19,722	20,707	21,473	
2012	4,342	9,428	13,556	16,332	18,226	19,540	20,429		
2013	4,334	9,397	13,659	16,441	18,166	19,274			
2014	4,360	9,700	14,232	17,124	18,902				
2015	4,550	10,148	14,681	17,533					
2016	4,725	10,229	14,603						
2017	4,787	10,430							
2018	5,026								

Accident	Annual Change								
Year	15	27	39	51	63	75	87	99	111
1995									13.9%
1996								13.9%	14.3%
1997							14.8%	14.3%	14.1%
1998						10.1%	10.2%	10.2%	10.5%
1999					9.2%	9.4%	8.8%	9.1%	9.1%
2000				5.7%	5.5%	5.4%	5.3%	5.5%	5.4%
2001			8.1%	10.0%	9.3%	9.3%	9.7%	9.3%	9.4%
2002		-0.2%	-0.4%	-4.0%	-4.0%	-4.6%	-4.8%	-5.0%	-5.3%
2003	3.6%	4.3%	-0.2%	-0.7%	-1.2%	-1.2%	-1.5%	-1.3%	-0.6%
2004	0.8%	-15.5%	-19.0%	-20.5%	-21.0%	-20.9%	-20.5%	-19.5%	-18.9%
2005	-8.3%	-9.3%	-12.5%	-11.9%	-11.9%	-11.5%	-10.7%	-10.1%	-9.8%
2006	5.5%	7.0%	7.8%	7.0%	8.7%	9.8%	10.5%	10.0%	9.3%
2007	6.6%	7.5%	7.8%	9.0%	9.4%	9.3%	9.1%	8.8%	8.8%
2008	9.1%	8.0%	9.8%	11.6%	12.0%	11.8%	11.0%	10.7%	9.8%
2009	-0.3%	1.8%	3.3%	3.6%	3.8%	4.0%	4.2%	4.1%	4.6%
2010	-0.7%	-0.5%	0.2%	0.3%	-0.5%	-0.8%	-1.1%	-1.4%	-1.8%
2011	1.4%	2.5%	0.4%	-1.0%	-1.1%	-1.6%	-1.6%	-1.4%	
2012	2.4%	0.3%	0.1%	-0.5%	-0.8%	-0.9%	-1.3%		
2013	-0.2%	-0.3%	0.8%	0.7%	-0.3%	-1.4%			
2014	0.6%	3.2%	4.2%	4.2%	4.1%				
2015	4.4%	4.6%	3.2%	2.4%					
2016	3.9%	0.8%	-0.5%						
2017	1.3%	2.0%							
2018	5.0%								

Annual Trend*									
All-Year	2.1%	1.2%	0.6%	0.3%	0.2%	0.4%	1.0%	1.7%	2.6%
R <sup>2</sup>	0.899	0.419	0.078	0.013	0.009	0.030	0.130	0.268	0.389
5-Year	3.4%	2.7%	2.2%	1.8%	0.2%	-1.2%	-0.3%	2.5%	5.6%
R <sup>2</sup>	0.976	0.943	0.893	0.812	0.043	0.992	0.062	0.504	0.853

\*Trend is based on an exponential distribution.

Source: WCIRB quarterly calls for experience

Average Paid Medical Loss per Indemnity Claim  
As of March 31, 2019

Accident	Evaluated as of (in months):								
Year	15	27	39	51	63	75	87	99	111
2001									22,881
2002								22,288	23,112
2003							20,365	21,420	22,342
2004						17,180	18,434	19,563	20,594
2005					16,000	17,608	18,871	20,224	21,366
2006				15,782	17,970	19,816	21,360	22,681	23,654
2007			14,502	17,704	20,172	22,309	24,212	25,525	26,534
2008		11,436	15,896	19,597	22,550	24,909	26,653	27,966	28,905
2009	6,176	11,874	16,799	20,881	24,181	26,559	28,260	29,471	30,367
2010	6,107	11,808	17,003	21,304	24,227	26,390	28,010	29,116	29,916
2011	5,526	11,270	16,209	19,917	22,651	24,619	26,019	27,032	
2012	5,544	10,979	15,522	18,903	21,333	22,965	24,162		
2013	5,395	10,486	14,768	17,894	19,897	21,298			
2014	5,219	10,235	14,425	17,337	19,227				
2015	5,221	10,353	14,334	17,157					
2016	5,526	10,390	14,134						
2017	5,680	10,614							
2018	5,831								

Accident	Annual Change								
Year	15	27	39	51	63	75	87	99	111
2002									1.0%
2003								-3.9%	-3.3%
2004							-9.5%	-8.7%	-7.8%
2005						2.5%	2.4%	3.4%	3.7%
2006					12.3%	12.5%	13.2%	12.1%	10.7%
2007				12.2%	12.3%	12.6%	13.3%	12.5%	12.2%
2008			9.6%	10.7%	11.8%	11.7%	10.1%	9.6%	8.9%
2009		3.8%	5.7%	6.6%	7.2%	6.6%	6.0%	5.4%	5.1%
2010**	-1.1%	-0.6%	1.2%	2.0%	0.2%	-0.6%	-0.9%	-1.2%	-1.5%
2011**	-9.5%	-4.6%	-4.7%	-6.5%	-6.5%	-6.7%	-7.1%	-7.2%	
2012**	0.3%	-2.6%	-4.2%	-5.1%	-5.8%	-6.7%	-7.1%		
2013	-2.7%	-4.5%	-4.9%	-5.3%	-6.7%	-7.3%			
2014	-3.3%	-2.4%	-2.3%	-3.1%	-3.4%				
2015	0.0%	1.2%	-0.6%	-1.0%					
2016	5.8%	0.4%	-1.4%						
2017	2.8%	2.2%							
2018	2.7%								

Annual Trend*									
All-Year	-0.7%	-1.6%	-1.3%	-0.1%	1.6%	3.4%	4.2%	4.3%	4.0%
R <sup>2</sup>	0.152	0.724	0.336	0.002	0.135	0.407	0.623	0.704	0.685
5-Year	3.1%	0.4%	-2.1%	-3.8%	-5.7%	-5.6%	-2.7%	1.6%	6.2%
R <sup>2</sup>	0.944	0.206	0.874	0.944	0.990	0.950	0.484	0.176	0.851

\*Trend is based on an exponential distribution.

\*\*Entries for accident years 2010 and 2011 only reflect the paid cost of medical cost containment programs attributable to policies with effective dates prior to July 1, 2010. Entries for accident years 2012 and subsequent exclude the paid cost of medical cost containment programs.

Source: WCIRB quarterly calls for experience



**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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.232	1.067	0.898	0.276
				Projected(d)
2019				0.269
2020				0.262
1/1/2021				0.259

(a) See Section B, Exhibit 3.1.

(b) See Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual indemnity severity trend from Section B, Exhibit 6.2, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.281	0.985	0.834	0.332
2015	0.268	1.003	0.796	0.338
2016	0.256	1.004	0.814	0.315
2017	0.266	1.006	0.850	0.315
2018	0.287	1.007	0.898	0.322
				Projected(d)
2019				0.324
2020				0.325
1/1/2021				0.326

(a) See Section B, Exhibit 3.2.

(b) See Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated annual medical severity trend from Section B, Exhibit 6.4, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.232	1.067	0.898	0.276
				Projected(d)
2019				0.275
2020				0.273
1/1/2021				0.272

(a) See Section B, Exhibit 3.1.

(b) See Section B, Exhibit 4.1.

(c) See Section B, 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 Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.281	0.985	0.834	0.332
2015	0.268	1.003	0.796	0.338
2016	0.256	1.004	0.814	0.315
2017	0.266	1.006	0.850	0.315
2018	0.287	1.007	0.898	0.322
				Projected(d)
2019				0.340
2020				0.353
1/1/2021				0.359

(a) See Section B, Exhibit 3.2.

(b) See Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on the 1990-2018 annual medical severity trend of 5.8%, the actual frequency change for 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.232	1.067	0.898	0.276
				Projected(d)
2019				0.265
2020				0.257
1/1/2021				0.252

(a) See Section B, Exhibit 3.1.

(b) See Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on the 2014-2018 annual indemnity severity trend of -1.2%, the actual frequency change for 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.281	0.985	0.834	0.332
2015	0.268	1.003	0.796	0.338
2016	0.256	1.004	0.814	0.315
2017	0.266	1.006	0.850	0.315
2018	0.287	1.007	0.898	0.322
				Projected(d)
2019				0.314
2020				0.309
1/1/2021				0.306

(a) See Section B, Exhibit 3.2.

(b) See Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on the 2014-2018 annual medical severity trend of 0.4%, the actual frequency change for 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.232	1.067	0.898	0.276
				Projected(d)
2019				0.266
2020				0.258
1/1/2021				0.254

(a) See Section B, Exhibit 3.1.

(b) See Section B, Exhibit 4.1.

(c) See Section B, 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 Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.281	0.985	0.834	0.332
2015	0.268	1.003	0.796	0.338
2016	0.256	1.004	0.814	0.315
2017	0.266	1.006	0.850	0.315
2018	0.287	1.007	0.898	0.322
				Projected(d)
2019				0.320
2020				0.318
1/1/2021				0.317

(a) See Section B, Exhibit 3.2.

(b) See Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected based on an estimated medical severity trend of 1.5%, the actual frequency change for 2018 from Appendix B, Exhibit 1, and projected frequency trends for accident years 2019 to 2021 from Section B, 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 March 31, 2019**

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	1.538	1.992	0.268
1988	0.332	1.515	1.744	0.289
1989	0.345	1.493	1.677	0.307
1990	0.400	1.197	1.560	0.307
1991	0.427	0.986	1.410	0.299
1992	0.352	1.040	1.285	0.285
1993	0.289	1.262	1.240	0.294
1994	0.329	1.319	1.404	0.309
1995	0.476	1.221	1.844	0.315
1996	0.533	1.141	1.907	0.319
1997	0.604	1.022	1.851	0.334
1998	0.657	0.943	1.860	0.333
1999	0.691	0.874	1.767	0.342
2000	0.597	0.815	1.398	0.348
2001	0.495	0.816	1.196	0.338
2002	0.369	0.836	0.921	0.335
2003	0.243	0.834	0.656	0.309
2004	0.145	1.141	0.590	0.281
2005	0.124	1.546	0.653	0.295
2006	0.161	1.520	0.839	0.292
2007	0.222	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.232	1.067	0.898	0.276
				Projected(d)
2019				0.274
2020				0.274
1/1/2021				0.274

(a) See Section B, Exhibit 3.1.

(b) See Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected by separately applying an exponential trend of approximately -0.1% 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 March 31, 2019**

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)	(5) On-Level Medical to Industry Average Filed Pure Premium Ratio(f)
1987	0.323	0.802	1.992	0.130	0.130
1988	0.314	0.772	1.744	0.139	0.139
1989	0.335	0.750	1.677	0.150	0.150
1990	0.377	0.607	1.560	0.147	0.147
1991	0.395	0.519	1.410	0.146	0.146
1992	0.329	0.548	1.285	0.140	0.140
1993	0.275	0.656	1.240	0.146	0.146
1994	0.318	0.687	1.404	0.156	0.156
1995	0.467	0.678	1.844	0.172	0.172
1996	0.500	0.668	1.907	0.175	0.175
1997	0.563	0.662	1.851	0.201	0.201
1998	0.679	0.583	1.860	0.213	0.213
1999	0.664	0.505	1.767	0.190	0.190
2000	0.605	0.465	1.398	0.201	0.201
2001	0.539	0.423	1.196	0.191	0.191
2002	0.421	0.440	0.921	0.201	0.201
2003	0.271	0.461	0.656	0.191	0.191
2004	0.186	0.698	0.590	0.219	0.219
2005	0.183	0.810	0.653	0.227	0.227
2006	0.238	0.851	0.839	0.241	0.241
2007	0.338	0.835	1.072	0.263	0.263
2008	0.426	0.829	1.296	0.273	0.273
2009	0.503	0.818	1.398	0.295	0.295
2010	0.501	0.816	1.271	0.321	0.321
2011	0.435	0.830	1.162	0.311	0.311
2012	0.379	0.867	1.035	0.317	0.349
2013	0.313	0.942	0.904	0.326	0.359
2014	0.281	0.985	0.834	0.332	0.365
2015	0.268	1.003	0.796	0.338	0.371
2016	0.256	1.004	0.814	0.315	0.345
2017	0.266	1.006	0.850	0.315	0.346
2018	0.287	1.007	0.898	0.322	0.356

Projected(d)

2019	0.337
2020	0.350
1/1/2021	0.356

(a) See Section B, Exhibit 3.2.

(b) See Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected by separately applying an exponential trend of approximately 3.8% 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 March 31, 2019**

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	1.465	1.072	0.304
2008	0.283	1.376	1.296	0.300
2009	0.331	1.349	1.398	0.320
2010	0.321	1.323	1.271	0.334
2011	0.300	1.305	1.162	0.337
2012	0.271	1.289	1.035	0.338
2013	0.235	1.260	0.904	0.327
2014	0.223	1.154	0.834	0.308
2015	0.218	1.138	0.796	0.312
2016	0.207	1.124	0.814	0.286
2017	0.213	1.094	0.850	0.274
2018	0.232	1.067	0.898	0.276
				Projected(d)
2019				0.260
2020				0.251
1/1/2021				0.247

(a) See Section B, Exhibit 3.1.

(b) See Section B, Exhibit 4.1.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected by separately applying an exponential trend of approximately -3.5% 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 March 31, 2019**

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	0.338	0.835	1.072	0.263
2008	0.426	0.829	1.296	0.273
2009	0.503	0.818	1.398	0.295
2010	0.501	0.816	1.271	0.321
2011	0.435	0.830	1.162	0.311
2012	0.379	0.867	1.035	0.317
2013	0.313	0.942	0.904	0.326
2014	0.281	0.985	0.834	0.332
2015	0.268	1.003	0.796	0.338
2016	0.256	1.004	0.814	0.315
2017	0.266	1.006	0.850	0.315
2018	0.287	1.007	0.898	0.322
				Projected(d)
2019				0.312
2020				0.308
1/1/2021				0.306

(a) See Section B, Exhibit 3.2.

(b) See Section B, Exhibit 4.4.

(c) See Section B, Exhibit 5.2.

(d) These on-level ratios were projected by separately applying an exponential trend of approximately -1.3% 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.

Section B  
Appendix C  
Projected Loss Adjustment Expense Ratio

Section 11730 of the California Insurance Code provides that the advisory pure premium rates include a provision for loss adjustment expenses (LAE). As detailed in this Appendix, the WCIRB projects loss adjustment expenses on policies incepting in 2020 at 36.4% of losses.

LAE is incurred by insurers in investigating, administering, and settling workers' compensation claims. These expenses include the costs associated with handling claims that can be directly allocated to a particular claim (allocated loss adjustment expenses or ALAE), as well as costs associated with handling claims that cannot be directly allocated to a particular claim (unallocated loss adjustment expenses or ULAE).

Beginning with policies incepting on or after July 1, 2010, the *California Workers' Compensation Uniform Statistical Reporting Plan—1995* (USRP) requires that the cost of medical cost containment programs (MCCP) be reported as ALAE rather than as medical loss. As a result, projections of MCCP costs are included in the projection of ALAE rather than in the projected on-level medical loss ratio. The policy year 2020 projections of MCCP costs as well as the cost of ULAE and ALAE (excluding MCCP costs) are discussed separately below.

Exhibit 1 shows ratios of calendar year paid ALAE and paid ULAE to paid losses on a statewide basis and by type of insurer.<sup>1</sup> There are significant differences in LAE ratios by type of insurer. In particular, ratios of paid ULAE to paid losses for the State Compensation Insurance Fund (State Fund) have been much higher than those for the private insurers. Additionally, prior to calendar year 2013, the paid ULAE ratios of private insurers with workers' compensation business focused primarily in California had been over two times higher than the ratios of insurers with significant writings in other states (national insurers), while ratios of paid ALAE to paid losses for California-focused private insurers had been much more comparable to those for national insurers.

As noted in prior pure premium rate filings, reported ULAE amounts for national insurers are typically based on apportioning countrywide ULAE amounts to California. In addition, national insurers more frequently write policies on a large deductible basis or make use of third-party administrators (TPA) to handle claims. As a result, the amount of ULAE costs apportioned to California by national insurers in prior years were not fully reflective of the complexity of the claims process in California and did not include all ULAE related to claims-handling costs on a first-dollar basis. However, national insurers tend to be larger in size and a 2014 WCIRB study showed that economies of scale is also a contributor to the lower ULAE ratios reported for national insurers.<sup>2</sup>

In 2015, the WCIRB studied the ULAE costs reported for California to better understand differences in ULAE ratios between insurers and to more appropriately project future ULAE costs in pure premium rates.<sup>3</sup> As a result of this analysis, the WCIRB modified its Data Call for Direct California Workers' Compensation Experience Expense Information (Expense Call) to collect additional information from insurers to more accurately reflect ULAE costs related to large deductible policies or claims handled by TPA. Countrywide information on this basis has been reported by insurers to the WCIRB beginning with

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<sup>1</sup> Ratios of paid ALAE to losses for calendar years 2010 through 2012 are affected by changes in the definition of MCCP costs to be reported as ALAE instead of medical losses for policies incepting on or after July 1, 2010. No adjustment for MCCP costs was made to the ratios shown in Exhibit 1.

<sup>2</sup> See Item AC14-08-08 of the August 5, 2014 WCIRB Actuarial Committee Agenda for more information.

<sup>3</sup> See Item AC15-03-07 of the March 30, 2015, June 12, 2015, and August 6, 2015 WCIRB Actuarial Committee Agendas for more information.

the 2015 Expense Call. The additional information reported on the WCIRB's Expense Call related to ULAE costs includes (a) negative "service fee" type adjustments that are sometimes reflected in reported countrywide ULAE but may not be appropriate to reflect when projecting future advisory pure premium rates, (b) losses on claims on large deductible policies and/or handled by TPA for which the associated claims handling costs are not reported in countrywide ULAE amounts, and (c) various countrywide loss and ULAE amounts consistent with what is reported by insurers on the Insurance Expense Exhibit.

The approach used by the WCIRB to derive the ratios of California paid ULAE to paid losses for calendar years 2015 through 2018<sup>4</sup> shown in Exhibit 1 and the paid ULAE amounts for calendar years 2017 and 2018 used to project the policy year 2020 ratio of ULAE to loss involves several components. First, the reported negative "service fee" type adjustments to ULAE were added back into the reported countrywide paid ULAE amount. Second, countrywide paid losses on large deductible policies and/or claims handled by TPA for which the associated claims handling costs were not reported in countrywide paid ULAE were subtracted from the countrywide paid losses. This adjustment was applied to losses gross or net of deductible amounts depending on whether the insurer reported ULAE costs on a gross or net basis. Third, the adjusted countrywide paid ULAE ratio was derived based on the ratio of adjusted countrywide paid ULAE previously computed as described above to the computed adjusted countrywide paid losses. Fourth, the adjusted countrywide paid ULAE was derived by multiplying the adjusted countrywide paid ULAE ratio by the reported countrywide paid losses.

In 2017, the WCIRB reviewed a number of alternative bases of apportioning countrywide ULAE to California and determined that open indemnity claim counts were more highly correlated with paid ULAE and more responsive to the longer duration of claims in California than the alternative bases reviewed.<sup>5</sup> As a result, beginning with the WCIRB's 2017 Expense Call, the WCIRB collects information on countrywide indemnity claim counts open at the end of the previous calendar year. In addition, for a number of the larger national insurers, the WCIRB collected similar information in order to apportion calendar year 2016 adjusted countywide paid ULAE to California based on open indemnity claim counts. The ULAE amounts for calendar years 2016 through 2018 reflected in the ULAE ratios shown in Exhibit 1 and in the projected ULAE ratio for policy year 2020 were determined using open indemnity claim counts to apportion insurers' countrywide ULAE to California.

For a number of insurers, the negative "service fee" type adjustments to ULAE do not apply and the reported countrywide ULAE reflects all claims handling costs on large deductible policies or related to claims handled by TPA. In these instances, the approach described above simplifies to apportioning the reported countrywide ULAE to California based on California's share of the insurer's countrywide open indemnity claim counts. Although the WCIRB believes open indemnity claim counts is a reasonable basis to apportion countrywide ULAE to California, some insurers may have a more detailed method to derive the California ULAE. As a result, for these insurers, the California paid ULAE as reported on the WCIRB's Expense Call was used in deriving the ratios of California paid ULAE to paid losses for calendar years 2015 through 2018 shown in Exhibit 1 and the paid ULAE amounts for calendar years 2017 and 2018 used to project the policy year 2020 ratio of ULAE to loss, in lieu of the formulaic approach discussed above.

Each of the major components of loss adjustment expense (ULAE, ALAE excluding MCCP costs, and MCCP costs) is analyzed separately and discussed below.

### **ULAE Projection**

For a number of years, the WCIRB has based its ULAE projection on reported calendar year paid ULAE amounts rather than incurred ULAE amounts. ULAE projections based on incurred ULAE amounts can be significantly distorted by changes in reserves related to older accident years and paid ULAE ratios have

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<sup>4</sup> In addition, ULAE ratios for calendar years 2013 and 2014 have been partially adjusted for these issues based on information provided by several large national insurers for these calendar years.

<sup>5</sup> See Item AC17-09-02 of the September 5, 2017 WCIRB Actuarial Committee Agenda.

been relatively more stable than incurred ULAE ratios. In addition, it is unclear to what extent the adjustments to reported countrywide paid ULAE amounts discussed above affect ULAE reserves.

As shown in Exhibit 1, there are significant differences in the historical LAE experience of State Fund compared to that of private insurers. Unlike many other insurers, State Fund makes extensive use of in-house defense counsel. Consistent with the requirements of the USRP, State Fund attempts to reassign the cost of in-house defense counsel to accident year and calendar year ALAE amounts. However, given State Fund's somewhat atypical ALAE and ULAE ratios, it is not clear if the reassigned in-house defense counsel costs are consistent with the reported defense costs of insurers that rely primarily on outside defense counsel. To address these concerns, as in the last several pure premium rate filings, the WCIRB has based the projected policy year 2020 ratio of ULAE to loss primarily on statewide experience but using average ULAE costs based only on private insurer experience.

Exhibit 2 shows the average calendar year paid ULAE per open indemnity claim for private insurers. Average paid ULAE per open indemnity claim for calendar years 2016 to 2018 have been adjusted as described above and, as a result, are not comparable to the ULAE severities for prior years. (Average paid ULAE for per open indemnity claim for calendar years 2013 through 2015 reflect partial adjustments for the issues discussed above and are also not comparable to other periods.)

Exhibits 3.1 through 3.5 show the projection of the ratio of ULAE to loss based on the relationship of calendar year paid ULAE to the number of indemnity claims open at the beginning of the calendar year. Average calendar year paid ULAE is based on private insurer experience, while all other information was computed on a statewide basis. This methodology assumes that ULAE paid for a year is a function of the volume of claims handled by claims adjusters during that year and that the timing of the payment of ULAE costs on 2020 policies will be consistent with the timing of loss payments. Projected changes in open indemnity claim counts are based on recent claim settlement patterns and the WCIRB's selected indemnity claim frequency changes (see Appendix B for a discussion of selected indemnity claim frequency changes).

As in the last several pure premium rate filings, the WCIRB recommends projecting future growth in paid ULAE per open indemnity claim based on the annual changes in average California wages based on the average of those produced by the UCLA Anderson School of Business and California Department of Finance forecasts (see Section B, Exhibit 5.1). These projected growth rates are then applied to each of the paid ULAE severities for calendar years 2017 and 2018 and averaged to project average ULAE costs on 2020 policies. The projected policy year 2020 ratio of ULAE to loss computed on this basis is 15.6%.

The methodology presented in Exhibits 3.1 through 3.5 reflects only the relationship between ULAE paid amounts and the number of indemnity claims that were open in the beginning of the year and does not reflect potential differences in the cost of handling a serious claim relative to a less costly claim. The methodology reflected in Exhibit 4 relates ULAE paid amounts to paid loss amounts, which are reflective of differences in claim values. Ratios of calendar year paid ULAE to paid losses are based only on the experience of private insurers, while all other information reflects statewide experience. As with the methodology based on calendar year paid ULAE per open indemnity claim, projected ratios of paid ULAE to paid losses for future calendar years shown in Exhibit 4 are based on the average of calendar years 2017 and 2018. The projected policy year 2020 ratio of ULAE to loss based on this methodology, as shown in Exhibit 4, is 13.8%.

As in other recent pure premium rate filings, the WCIRB is recommending that the ULAE projection be based on an average of the projections based on (a) the relationship between calendar year paid ULAE and the number of open indemnity claims (see Exhibit 3.5) and (b) the relationship between calendar year paid ULAE and paid losses (see Exhibit 4), with average ULAE costs based on private insurer experience only. The WCIRB's projected policy year 2020 ratio of ULAE to loss using this methodology is 14.7%.

### Summary of Alternative ULAE Projections

For informational purposes, the WCIRB has computed alternative projections of ratios of ULAE to loss based on alternative methodologies reflecting underlying assumptions that differ from those reflected in the WCIRB's recommended methodology. These alternative projections of ratios of ULAE to loss are shown in Exhibits 5 through 7 and are discussed below.

#### Calendar Year Paid ULAE Projections Trended from the Latest Year

Exhibit 5 shows a projection based on the relationship of ULAE paid to the number of open indemnity claims on a statewide basis and using private insurer average ULAE costs in which the projected policy year 2020 ULAE is based on the WCIRB's projected trends applied to the latest calendar year (2018) only. Exhibit 6 shows a projection based on the relationship of paid ULAE to paid losses using private insurer paid ULAE ratios in which the projected policy year 2020 ULAE is based on the latest calendar year (2018) paid ULAE to paid loss ratio. The projections based on these methodologies are slightly higher than those based on the analogous methodologies recommended by the WCIRB which apply the trend to the average of the latest two calendar years. In order to reduce volatility in year-to-year changes in average ULAE costs, the WCIRB recommends basing the ULAE projection from the average of the two most recent calendar years.

#### Calendar Year Paid ULAE per Weighted Open Indemnity Claim-Based Projections

Exhibit 7 shows a projection based on the relationship of ULAE paid to the number of weighted open indemnity claims on a statewide basis using private insurer average ULAE costs. In Exhibit 7, future changes in ULAE are assumed to be related to changes in the sum of the number of indemnity claims open at the beginning of the period and twice the number of indemnity claims reported during the period (newly-opened claims are judgmentally assumed to involve twice the claims-handling activity as a claim that was open at the beginning of the period). As shown in Exhibit 7, the policy year 2020 ULAE-to-loss ratio projection based on this methodology is relatively comparable to that based on projecting paid ULAE per indemnity claims open at the beginning of the calendar year.

#### Calendar Year Ratios of ULAE to Loss

Prior to the January 1, 2009 Pure Premium Rate Filing, the WCIRB's ULAE-to-loss ratio projection was based on either the latest calendar year ratio or the average of the latest two calendar year ratios of ULAE to loss. Exhibit 1 shows the calendar year ratios of paid ULAE to paid losses, for both statewide and private insurers. The WCIRB's 2008 study of LAE projection methods<sup>6</sup> showed that changes in ULAE did not correlate well with changes in calendar year losses. As a result, the report recommended use of other alternative bases upon which to project future ULAE changes, including those reflected in the WCIRB's recommended ULAE projection methodologies.

The policy year 2020 ULAE to loss ratio projections derived using each of these alternative ULAE projection methodologies as well as the WCIRB's recommended methodology are shown in Table 1.

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<sup>6</sup> *Analysis of Loss Adjustment Expense Trends*, WCIRB, April 3, 2008.



Table 1: Policy Year 2020 ULAE to Loss Ratio Projections

ULAE Projection Methodologies	Statewide with Private Insurer Average ULAE
<b>January 1, 2020 Filing Methodology</b>	
Paid ULAE per Open Indemnity Claim Applied to the Latest Two Years	15.6%
Paid ULAE to Paid Losses Applied to the Latest Two Years	13.8%
Average of Open Indemnity Claim-Based and Paid Loss-Based Projections	<b>14.7%</b>
<b>Alternative Methodologies</b>	
Paid ULAE per Open Indemnity Claim Applied to the Latest Year Only	15.7%
Paid ULAE to Paid Losses Applied to the Latest Year Only	13.9%
Paid ULAE per Weighted Open Indemnity Claim Applied to the Latest Two Years	15.1%
Latest Two Calendar Year Paid ULAE to Loss Ratios	14.6%
Latest Calendar Year Paid ULAE to Loss Ratio	14.8%

**ALAE Projection – Excluding MCCC Costs**

As in other recent pure premium rate filings, the WCIRB has based the policy year 2020 ALAE to loss ratio projection on a methodology that projects future ALAE as a function of the anticipated future statewide number of indemnity claims and average private insurer ALAE per indemnity claim based on accident year paid ALAE experience. The projections of ALAE discussed in this section are exclusive of MCCC costs, which are discussed separately below.

Effective January 1, 2013, Senate Bill No. 863 (SB 863) created the process of independent medical review (IMR) and independent bill review (IBR) to resolve medical treatment and billing disputes. Prior to January 1, 2016, the cost of IMR and IBR reports paid had been included in paid MCCC costs reported in ALAE. Beginning with IMR and IBR reports paid on or after January 1, 2016, the USRP requires that the cost of these reports no longer be included in reported MCCC costs although such costs continue to be required to be reported as ALAE. As a result, ALAE excluding MCCC costs paid in 2016 and later include the cost of IMR and IBR while ALAE excluding MCCC costs paid prior to 2016 do not include IMR and IBR costs. In order to review ALAE excluding MCCC costs on a comparable basis, as in the last several pure premium rate filings, the WCIRB adjusted all pre-2016 payments of ALAE excluding MCCC costs to include the cost of IMR and IBR for all periods. This adjustment was based on information on the number and average cost of an IMR and IBR obtained from the Division of Workers' Compensation (DWC). This adjustment is reflected in the paid ALAE amounts and projections of policy year 2020 ratios of ALAE to loss shown in Exhibits 8 through 14. (A similar adjustment is made to MCCC costs, which is discussed separately below.)

Exhibit 8.1 shows average paid ALAE per reported indemnity claim by accident year for private insurers. Exhibit 8.2 shows ratios of paid ALAE to paid losses for private insurers. Although average loss severities have decreased following the implementation of SB 863 in 2013, average paid ALAE severities and ratios of paid ALAE to losses have increased steadily, particularly at earlier evaluations. Some of this increase is attributable to a higher volume of IMR filed than initially projected, a continued high volume of expedited hearings being held on medical treatment issues despite the establishment of the IMR process, high rates of representation on permanent disability claims, and continued increases in the frequency of cumulative trauma claims, particularly in southern California. As shown in Exhibit 8.1, over the last several calendar years with the increasing rate that indemnity claims are settling, growth in average ALAE costs per claim has moderated as accident years 2013 through 2017 have matured. However, as shown in Exhibit 8.2, paid ALAE costs as a ratio to paid losses continues to increase even at more mature periods.

Exhibits 9 shows estimated ultimate ALAE per indemnity claim for private insurers. Exhibit 10 shows the ratio of accident year incremental paid ALAE to indemnity claims inventory by payment year for private insurers. After a fairly steady rate of growth following the implementation of SB 863, with the exception of the 2018 accident year, average ALAE costs have moderated on both an accident year and calendar year basis.

Exhibits 11.1 through 11.4 show a projected policy year 2020 ratio of ALAE to loss based on the projected frequency of indemnity claims and projected average ALAE cost per indemnity claim. Given State Fund's LAE characteristics discussed with respect to ULAE above, as with the projection of ULAE, the WCIRB is projecting a policy year 2020 ALAE provision based on a combination of statewide claim and loss experience and private insurer average ALAE costs. The ultimate number of indemnity claims is projected based on the number of indemnity claims reported as of March 31, 2019, the latest year historical claim reporting pattern (see Exhibit 11.3), and the projected growth in indemnity claims based on the WCIRB's projected growth in total or overall indemnity claim frequency (see Appendix B for a discussion of projected indemnity claim frequency changes).

The estimated ultimate ALAE per indemnity claim shown in Exhibit 11.4 was projected based on paid ALAE amounts by accident year as of March 31, 2019 and the latest year historical ALAE development factor for private insurers.<sup>7</sup> As in the last several pure premium rate filings, the long-term ALAE "tail" development factor was based on fitting an inverse power curve to the historical paid ALAE development factors. Specifically, the inverse power curve was fit to the average of the latest three years' paid ALAE development factors for the 10<sup>th</sup> through 27<sup>th</sup> development years, with the ALAE tail development factor based on the fitted curve values through 65 development years. The ALAE tail development factor derived based on this approach is shown in Exhibit 11.1 based on private insurer experience. (Exhibit 11.2 shows, for informational purposes, private insurer paid ALAE age-to-age factors on a quarterly basis.)

As discussed in Appendix A, indemnity claim settlement rates have accelerated over the last several years following the implementation of SB 863. For a number of years, the WCIRB has reflected the impact of changes in claim settlement rates on paid loss development using a standard actuarial adjustment to age-to-age development factors. In the decision on the January 1, 2019 Pure Premium Rate Filing, the California Department of Insurance noted that the recent acceleration in claim settlement rates may also have a significant impact on paid ALAE development. Earlier this year, the WCIRB studied the potential impact of claim settlement rate changes on paid ALAE development.<sup>8</sup> The study found that changes in claim settlement rates do not appear to significantly impact paid ALAE age-to-age factors during the period in which they settle (which is the basis for the standard actuarial adjustment to paid loss development for changes in claim settlement rates). However, the study did find that a significant negative correlation exists between changes in claim settlement rates in earlier periods and the ALAE development that emerges for the accident year in later periods. For example, during a period of significant claim settlement increase, the WCIRB's study found that future paid ALAE development for that accident year emerged lower than projected.

The WCIRB reviewed potential approaches to adjust projected paid ALAE development for changes in claim settlement rates. Based on linear regression for periods with significant claim settlement rate changes (1.5 points or greater) compared to the change in future paid ALAE development, the WCIRB found that a 1 point increase in indemnity claim settlement rate for an accident year at 15 months corresponded to an approximate 6.3% decrease in the 15-to-ultimate paid ALAE development factor. Similarly, a 1-point increase in indemnity claim settlement rate for an accident year at 27 months corresponded to an approximate 2.6% decrease in the 27-to-ultimate paid ALAE development factor. However, the linear regression fits were modest (though generally not insignificant) with an average adjusted R-squared at around 38%. Given the modest significance level of linear regression fits, the

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<sup>7</sup> Paid ALAE development factors have been adjusted to exclude all M CCP paid costs, which are projected separately.

<sup>8</sup> See Item AC19-08-04 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

WCIRB recommends judgmentally tempering the results of the regression analysis by the average adjusted R-squared. This results in a 1-point increase in indemnity claim settlement rate for an accident year at 15 months corresponding to a 2.8% decrease in the 15-to-ultimate paid ALAE development factor and a 1-point increase in indemnity claim settlement rate for an accident year at 27 months corresponding to an approximate 1% decrease in the 27-to-ultimate paid ALAE development factor. The WCIRB's review also found that only significant changes in claim settlement rates (1.5 points or greater) is correlated with a material change in future paid ALAE development.

As shown in Appendix A, Exhibit 3, indemnity claim settlement rates for accident year 2018 at 15 months increased by 0.6 points over accident year 2017, while accident year 2017 claim settlement rates at 27 months increased by 2.8 points over accident year 2016. As a result, the WCIRB recommends adjusting paid ALAE development projected for accident year 2017 by -2.8% based on the approach discussed above. This adjustment is shown in Exhibit 11.1. Given that the change in accident year 2018 indemnity claim settlement rates is modest, the WCIRB does not recommend reflecting an adjustment to projected paid ALAE development for accident year 2018.

As in the last several pure premium rate filings, the WCIRB has based the projected ALAE severity trend on the approximate average of the longer-term (since 2005) and shorter-term (since 2014) average rates of growth in (a) estimated ultimate ALAE per indemnity claim for private insurers (Exhibit 9) and (b) incremental paid ALAE per open indemnity claim for private insurers (Exhibit 10). This approach results in an annual ALAE severity growth projection of 2.5% annually. This projected ALAE severity trend is lower than that reflected in the January 1, 2019 Pure Premium Rate Filing of 3.5% primarily as a result of favorable paid ALAE development emerging over the most recent year. Although the projected ALAE severity change for 2018 shown in Exhibit 9 is significantly higher than the trend projected by the WCIRB, the 2018 change is based on ALAE projected only from 15 months. If the favorable trend in paid ALAE development continues, the projected severity for 2018 will moderate as the accident year matures. The projected policy year 2020 ALAE per indemnity claim is based on the selected 2.5% ALAE severity trend applied to the most recent two accident years' (2017 and 2018) ultimate ALAE per indemnity claim.

The WCIRB believes the ALAE projections based on latest year ALAE development and estimated growth in ALAE per indemnity claim are reasonable bases upon which to project future ALAE inasmuch as (a) changes in ALAE have shown to be reasonably well-correlated with changes in indemnity claim counts, (b) the method is responsive to changes in ALAE costs per indemnity claim, and (c) the method is responsive to anticipated future changes in claim frequency. In addition, during its 2014 study of ALAE projection methodologies, the WCIRB found that ALAE projections based on this methodology continued to be more accurate than other alternative methods tested.<sup>9</sup> Exhibit 11.4 shows the projected policy year 2020 ratio of ALAE (excluding M CCP costs) to loss on this basis, prior to the impact of Senate Bill No. 1160 (SB 1160) and Assembly Bill No. 1244 (AB 1244), of 18.6%.

SB 1160 and AB 1244 included a number of provisions related to lien filings that became effective in 2017. Liens incur significant ALAE costs in addition to the settlement costs paid to the lien claimant. As discussed in Appendix B, the WCIRB currently estimates a 60% reduction in lien filings resulting from SB 1160 and AB 1244, which results in an approximate 9.6% reduction in ALAE (excluding M CCP) costs.<sup>10</sup> Given that liens are generally filed much later in the life of claims, accident year 2017 and 2018 paid ALAE costs as of March 31, 2019 are only marginally affected by the SB 1160 and AB 1244 lien reform provisions. However, in addition to some modest impact on the accident year 2017 and 2018 paid ALAE amounts, SB 1160 and AB 1244 have also impacted the recent decreases in paid ALAE development for older accident years. As a result, the WCIRB is reflecting a 7.2% reduction in ALAE costs in the

<sup>9</sup> See Item AC14-12-02 of the December 3, 2014 WCIRB Actuarial Committee Agenda.

<sup>10</sup> See Section B of the WCIRB's July 1, 2018 Pure Premium Rate Filing and Attachment C to the WCIRB's Amended January 1, 2018 Pure Premium Rate Filing for more information on the estimated impact of SB 1160 and AB 1244 on ALAE costs.

projections of the policy year 2020 ALAE ratio.<sup>11</sup> This adjustment, which is shown in line (g) of Exhibit 11.4, is based on judgmentally tempering the full estimated impact of 9.6% by the estimated average proportion of ultimate ALAE costs for accident years 2017 and 2018 that have emerged as of March 31, 2019 (25%). As shown in line (h) of Exhibit 11.4, the projected ratio of ALAE (excluding MCCC costs) to loss, after reflecting the impact of SB 1160 and AB 1244, is 17.2%.

### **Summary of Alternative ALAE (excluding MCCC Costs) Projections**

For informational purposes, the WCIRB has computed alternative policy year 2020 ALAE to loss ratio projections based on a number of alternative methodologies reflecting underlying assumptions that differ from those reflected in the WCIRB's recommended methodology. These alternative ALAE to loss ratio projections are shown in Exhibits 12 through 14 and are discussed below.

#### Projected Ultimate ALAE per Indemnity Claim and Future Number of Indemnity Claims with Trend Applied to the Latest Year

This method projects the ALAE to loss ratio based on latest year ALAE development and estimated growth in ALAE per indemnity claim and the future number of indemnity claims, but applies the WCIRB's projected frequency and ALAE severity trends to the projected ultimate ALAE per indemnity claim and ultimate indemnity claim counts for accident year 2018 only rather than for the most recent two accident years. Exhibit 12 shows the projected ratio of ALAE to loss for policy year 2020 using this methodology based on a combination of statewide experience and private insurer average ALAE costs. This projection is slightly above that based on the methodology recommended by the WCIRB. Given the relative immaturity of the 2018 year, which is valued at 15 months as of March 31, 2019, the WCIRB believes basing the projection on the latest two accident years is more appropriate.

#### Paid ALAE Ratio Development Compared to Losses

This alternative ALAE method develops each accident year's paid ALAE to premium ratio through March 31, 2019 to an ultimate level using the projected ALAE development factors included in the WCIRB's recommended methodology. Once estimates of ultimate ALAE ratios by accident year are derived, those estimates are compared to estimates of ultimate losses and projected, or trended, forward to a policy year 2020 basis. Exhibit 13 shows projected ratios of ALAE to loss on a combination of statewide claim and loss experience and private insurer ALAE ratios with the ALAE ratio projection for policy year 2020 based on the average of the latest two years' projections. This method relies on the relationship of ALAE to loss amounts. Past WCIRB studies of ALAE methodologies have shown that historical changes in ALAE are more closely related to changes in the number of indemnity claims than to loss amounts. In addition, this method, which projects future ALAE only as a function of a historical ALAE to loss levels, is not responsive to the anticipated changes in indemnity claim frequency levels.

#### Paid ALAE to Paid Indemnity Development Compared to Losses

This method develops each accident year's ratio of cumulative paid ALAE to cumulative paid indemnity losses through March 31, 2019 to an ultimate level based on historical development patterns of the ratios of paid ALAE to paid indemnity losses. Once estimates of ultimate ratios of paid ALAE to paid indemnity by accident year are derived, those estimates are projected, or trended, to a policy year 2020 basis. This method assumes that changes in ALAE are closely related to changes in indemnity losses. Exhibits 14.1 and 14.2 show projected ratios of ALAE to loss based on the development of the ratios of paid ALAE to paid indemnity based on a combination of statewide claim and loss experience and private insurer ALAE ratios using the latest year development factors, with the ALAE to loss ratio projection for policy year 2020 based on the average of the latest two years' projections. This method is based on the relationship between paid ALAE and paid indemnity. Historically, changes in ALAE have not been as well correlated with changes in indemnity losses as with the number of indemnity claims. In addition, this method, which projects future ALAE only as a function of a historical ALAE levels relative to historical indemnity losses, is not responsive to anticipated changes in indemnity claim frequency levels.

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<sup>11</sup> In that medical bill disputes that would otherwise result in a filed lien are continuing to be pursued with insurer claim personnel, the WCIRB is not recommending an adjustment to the ULAE projection to reflect the SB 1160 and AB 1244 reduction in liens.

The projections of the policy year 2020 ratios of ALAE to loss derived from each of these alternative ALAE projection methodologies (after reflecting the impact of SB 1160 and AB 1244) as well as the WCIRB's recommended methodology are shown in Table 2.

**Table 2: Policy Year 2020 ALAE (excluding MCCP Costs) to Loss Ratio Projections**

<b>ALAE Projection Methodologies</b>	<b>Statewide with Private Insurer Average ALAE</b>
<b>January 1, 2020 Filing Methodology</b> Projected Ultimate ALAE per Indemnity Claim – Trend Based on Growth in ALAE per Indemnity Claim and WCIRB Selected Frequency Changes Applied to the Latest Two Years	<b>17.2%</b>
<b>Alternative Methodologies</b> Projected Ultimate ALAE per Indemnity Claim – Trend Applied to the Latest Year	18.0%
Latest Year Paid ALAE Ratio Development Compared to Losses – Projection Based on Latest Two Years	17.6%
Latest Year Paid ALAE to Paid Indemnity Development Compared to Losses – Projection Based on Latest Two Years	15.8%

### **Projection of MCCP Costs**

As discussed above, beginning with policies incepting on or after July 1, 2010, MCCP costs are reported as ALAE rather than as medical loss. In that MCCP costs are fundamentally different than other ALAE costs, which are to a large extent related to litigation, the WCIRB continues to recommend projecting the provision for MCCP costs separately from other ALAE costs.

Beginning in 2016, the cost of IMR and IBR is no longer reported in MCCP as a component of ALAE. As a result, MCCP costs paid in 2016 and later do not include the cost of IMR and IBR while MCCP costs paid prior to 2016 do include IMR and IBR costs. For consistency of comparison, similar to ALAE excluding MCCP costs, the WCIRB adjusted all pre-2016 MCCP payments to exclude the cost of IMR and IBR for all periods based on information obtained from the DWC on IMR and IBR determinations made prior to 2016 by accident year. This adjustment is reflected in the paid MCCP cost amounts and projections of policy year 2020 ratios of MCCP costs to loss shown in Exhibits 15 through 21. In this way, MCCP cost payment patterns can be reviewed on a consistent basis.

Exhibit 15 shows average paid MCCP per reported indemnity claim by accident year. Exhibit 16 shows estimated ultimate accident year MCCP per indemnity claim. Exhibit 17 shows calendar year paid MCCP costs per indemnity claims inventory (measured as the sum of indemnity claims open at the beginning of the calendar year and indemnity claims opened during the calendar year). Following several years of declining average MCCP costs coinciding with declines in average medical costs, average MCCP costs increased significantly in 2018. Some of this increase may be transitional and related to recent reforms and other factors affecting MCCP costs on a one-time basis, while some of the increase may be indicative of a return to a period of MCCP cost inflation that occurred prior to SB 863.

Exhibits 18.1 and 18.2 show the projection of MCCP costs on a statewide basis based on reported MCCP paid costs through March 31, 2019. The methodology used to project MCCP costs is based on the WCIRB's recommended methodology to project ALAE excluding MCCP costs. Reported accident year MCCP paid costs were developed to an ultimate basis using (a) latest year paid MCCP age-to-age development factors through 87 months, and (b) the cumulative medical loss development factors based

on March 31, 2019 experience after 87 months.<sup>12</sup> As in the last several pure premium rate filings, projected M CCP cost severity trend was based on the approximate average of the annual rates of growth in (a) ultimate accident year M CCP costs per indemnity claim from 2012 through 2018 shown in Exhibit 16 and (b) calendar year M CCP costs per open indemnity claim from 2009 through 2018 shown in Exhibit 17. This approach results in an annual M CCP severity growth projection of 0% annually. Inasmuch as the previously discussed factors impacting State Fund's ULAE and ALAE excluding M CCP cost experience do not impact State Fund's M CCP cost experience, the WCIRB's policy year 2020 M CCP cost projection reflects statewide M CCP experience. As shown in Exhibit 18.2, the WCIRB's projected policy year 2020 ratio of M CCP costs to loss based on this approach is 4.5%.

SB 1160 provided that, on claims occurring January 1, 2018 and later, prospective utilization review (UR) was not allowed for medical treatment provided within the first 30 days from the date of injury, with a number of listed exceptions. In the WCIRB's Amended January 1, 2017 Pure Premium Rate Filing, the WCIRB prospectively estimated that the provisions of SB 1160 related to UR would reduce total costs by 0.1% as a result of fewer URs being performed, which translates to an approximate 2.5% reduction in total M CCP costs. In addition, the new Medical Treatment Utilization Schedule Drug Formulary (Formulary) became effective in 2018. In the WCIRB's July 1, 2018 Pure Premium Rate Filing, the WCIRB prospectively estimated that the Formulary would reduce total costs by 0.5%, including a 0.1% reduction for utilization review costs which translates to an approximate 2.6% reduction in total M CCP costs. However, as shown in Exhibits 16 and 17, average M CCP costs per indemnity claim increased significantly for 2018 rather than declining as projected and as shown in prior years. As a result, the WCIRB is not reflecting any savings for the UR related provisions of SB 1160 or the Formulary in the projected M CCP cost ratio.

### **Summary of Alternative M CCP Cost Projections**

For informational purposes, the WCIRB has computed alternative policy year 2020 M CCP cost to loss ratio projections based on a number of alternative methodologies reflecting underlying assumptions that differ from those reflected in the WCIRB's recommended methodology. These alternative M CCP cost to loss ratio projections are shown in Exhibits 19 through 21 and are discussed below.

#### Projected Ultimate M CCP Cost per Indemnity Claims and Future Number of Indemnity Claims with Trend Applied to the Latest Year

Exhibit 19 shows the M CCP cost to loss ratio based on the WCIRB's recommended M CCP cost development and trend projections, but applies the WCIRB's projected frequency and M CCP severity trends to the projected ultimate M CCP cost per indemnity claim and ultimate indemnity claim counts for accident year 2018 only rather than for the most recent two accident years. The result of this projection is generally consistent with that based on the methodology recommended by the WCIRB based on trending from the most recent two accident years.

#### Projected Ultimate M CCP Cost per Indemnity Claims and Future Number of Indemnity Claims with Trend Based on Growth in Ultimate Accident Year M CCP Cost per Indemnity Claim

Exhibit 20 shows the M CCP cost to loss ratio based on the WCIRB's recommended M CCP cost development projections, but using a M CCP severity trend based on the -2.1% average rate of growth in ultimate accident year M CCP cost per indemnity claim (see Exhibit 16). This projection is somewhat below that based on the methodology recommended by the WCIRB. Given the growth in average M CCP costs over the long term as represented by the average calendar year paid M CCP cost per open indemnity claim, the WCIRB believes giving some weight to this severity trend is appropriate.

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<sup>12</sup> As discussed in prior pure premium rate filings, paid M CCP costs reported in medical losses cannot be completely separated from other paid medical costs prior to accident year 2012.

Projected Ultimate MCCC Cost per Indemnity Claims and Future Number of Indemnity Claims with Trend Based on Growth in Calendar Year MCCC Cost per Open Indemnity Claim

Exhibit 21 shows the MCCC cost to loss ratio based on the WCIRB's recommended MCCC cost development projections, but using a MCCC severity trend based on the 1.9% average rate of growth in calendar year MCCC paid per open indemnity claim (see Exhibit 17). This projection is somewhat above that based on the methodology recommended by the WCIRB. Given the recent shifts in projected ultimate average paid MCCC costs by accident year, the WCIRB believes giving some weight to this severity trend is appropriate.

The projections of the ratios of MCCC costs to loss derived from each of these alternative MCCC cost projection methodologies as well as the WCIRB's recommended methodology are shown in Table 3.

**Table 3: Policy Year 2020 MCCC Cost to Loss Ratio Projections**

<b>MCCC Cost Projection Method</b>	<b>Statewide</b>
<b>January 1, 2020 Filing Methodology</b>	
Projected Ultimate MCCC per Indemnity Claim – WCIRB Selected Frequency Changes and 0% MCCC Severity Trend Applied to the Latest Two Years	<b>4.5%</b>
<b>Alternative Methodologies</b>	
Projected Ultimate MCCC per Indemnity Claim – WCIRB Selected Frequency Changes and 0% MCCC Severity Trend Applied to the Latest Year	4.7%
Projected Ultimate MCCC per Indemnity Claim – WCIRB Selected Frequency Changes and Average Ultimate Accident Year MCCC Severity Trend (-2.1%) Applied to the Latest Two Years	4.2%
Projected Ultimate MCCC per Indemnity Claim – WCIRB Selected Frequency Changes and Average Calendar Year MCCC Severity Trend (1.9%) Applied to the Latest Two Years	4.7%

Based on the methodologies discussed above, the WCIRB projects a total provision of LAE to loss of 36.4% for policy year 2020.

## Summary of Paid LAE Ratios by Insurer Type

Paid ALAE to Paid Loss Ratios<sup>[1]</sup>

<u>CY</u>	<u>State Fund</u>	<u>CA Private Insurers</u>	<u>National</u>	<u>Statewide</u>	<u>Private Insurers</u>
2007	5.4%	13.3%	15.4%	12.3%	15.2%
2008	5.6%	11.5%	13.3%	11.1%	13.1%
2009	6.2%	15.7%	14.8%	12.8%	14.9%
2010	5.9%	14.1%	15.5%	13.3%	15.3%
2011	5.9%	15.9%	17.3%	14.9%	17.2%
2012	6.3%	15.2%	19.1%	16.2%	18.6%
2013	5.9%	15.4%	20.0%	17.0%	19.5%
2014	8.4%	17.8%	21.3%	19.0%	20.8%
2015	10.1%	18.0%	22.6%	20.5%	22.0%
2016	11.0%	17.9%	22.4%	20.4%	21.6%
2017	10.8%	19.8%	22.7%	20.9%	22.3%
2018	11.4%	19.5%	22.9%	21.0%	22.4%

Paid ULAE to Paid Loss Ratios

<u>CY</u>	<u>State Fund</u>	<u>CA Private Insurers</u>	<u>National</u>	<u>Statewide</u>	<u>Private Insurers</u>
2010	27.9%	17.3%	6.4%	12.3%	7.9%
2011	28.9%	15.9%	6.5%	11.9%	7.7%
2012	45.0% <sup>[2]</sup>	15.0%	6.4%	14.8% <sup>[2]</sup>	7.5%
2013 <sup>[3]</sup>	21.8%	16.3%	8.5%	11.7%	9.4%
2014 <sup>[3]</sup>	28.8%	14.7%	7.7%	11.6%	8.6%
2015 <sup>[4]</sup>	35.1%	14.8%	10.2%	13.9%	10.9%
2016 <sup>[4]</sup>	37.6%	14.2%	12.8%	15.9%	13.0%
2017 <sup>[4]</sup>	25.6%	16.1%	14.1%	15.8%	14.4%
2018 <sup>[4]</sup>	24.8%	14.9%	14.8%	16.1%	14.8%

Paid LAE to Paid Loss Ratios

<u>CY</u>	<u>State Fund</u>	<u>CA Private Insurers</u>	<u>National</u>	<u>Statewide</u>	<u>Private Insurers</u>
2010	33.8%	31.4%	22.0%	25.6%	23.3%
2011	34.8%	31.8%	23.8%	26.8%	24.8%
2012	51.3% <sup>[2]</sup>	30.3%	25.5%	31.0% <sup>[2]</sup>	26.1%
2013 <sup>[3]</sup>	27.7%	31.7%	28.5%	28.6%	28.9%
2014 <sup>[3]</sup>	37.2%	32.5%	29.0%	30.6%	29.4%
2015 <sup>[4]</sup>	45.2%	32.8%	32.8%	34.4%	32.8%
2016 <sup>[4]</sup>	48.6%	32.1%	35.2%	36.3%	34.7%
2017 <sup>[4]</sup>	36.4%	36.0%	36.9%	36.7%	36.7%
2018 <sup>[4]</sup>	36.2%	34.4%	37.8%	37.1%	37.2%

Notes: <sup>[1]</sup> Medical Cost Containment Program (MCCP) costs on claims covered by policies incepting prior to July 1, 2010 are considered medical loss; those on claims covered by policies incepting July 1, 2010 and beyond are considered allocated loss adjustment expenses.

<sup>[2]</sup> 2012 figure includes a one-time adjustment made by State Compensation Insurance Fund to reallocate liabilities related to pension benefits.

<sup>[3]</sup> 2013 and 2014 ratios included information submitted by several large national insurers to more appropriately reflect ULAE costs related to deductible policies and third party administrators.

<sup>[4]</sup> Reflects adjustments based on the Expense Call for ULAE costs related to deductible policies and third-party administrators. 2015 adjusted ratio is based on apportioning adjusted countrywide paid ULAE to California using paid losses. 2016 to 2018 adjusted ratios are based on apportioning adjusted countrywide paid ULAE to California using open indemnity claim counts.

Source: WCIRB expense calls and quarterly calls for experience.



## Calendar Year ULAE Paid per Open Indemnity Claim - Private Insurers

Calendar Year	ULAE Paid (in Millions)	Number of Open Indemnity Claims at Beginning of the Year	Number of Indemnity Claims Reported During Year	ULAE Paid per Open Indemnity Claim	Annual Change
	(a)	(b)	(c)	(d)	(e)
2010	432	257,439	107,734	1,676	---
2011	450	267,152	116,356	1,684	0.5%
2012	474	279,015	122,080	1,698	0.8%
2013 (f)	644	294,011	131,749	2,192	---
2014 (f)	598	307,227	133,061	1,947	-11.2%
2015 (g)	774	311,158	140,302	2,486	---
2016 (g)	948	314,808	139,941	3,010	---
2017 (g)	1,045	311,196	145,909	3,359	11.6%
2018 (g)	1,072	304,634	143,220	3,518	4.7%

Notes:

- (a) Calendar year ULAE paid is based on WCIRB expense calls. All figures in each calendar year contain information from the same combination of private insurers that submitted both the ULAE and claim count data for that calendar year. Therefore, each calendar year may contain a different mix of private insurers.
- (b), (c) Based on WCIRB accident year experience calls. Column (c) is for information only.
- (d) (a)/(b) x 1,000,000.
- (f) 2013 and 2014 paid ULAE included information submitted by several large national insurers to more appropriately reflect ULAE costs related to deductible policies and third party administrators.
- (g) Reflects adjustments for ULAE costs related to deductible policies and third-party administrators based on the Expense Call. 2015 paid ULAE is based on apportioning adjusted countrywide paid ULAE to California using paid losses. 2016 to 2018 paid ULAE are based on apportioning adjusted countrywide paid ULAE to California using open indemnity claim counts.

Source: WCIRB expense calls and quarterly calls for experience.

## Reported Indemnity Claim Count Development - Statewide

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	168-180	180-192
1992															1.001
1993														1.001	1.000
1994													1.001	1.000	1.000
1995												1.001	1.000	1.004	1.001
1996											1.001	1.001	1.001	1.000	1.000
1997										1.001	1.000	1.000	1.000	1.000	1.000
1998									1.001	1.000	1.000	1.000	1.001	1.000	1.000
1999								1.001	1.002	1.000	1.000	1.000	1.000	1.000	1.001
2000							1.000	0.998	1.000	1.000	1.000	1.001	1.000	1.000	1.000
2001						0.999	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002					0.999	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003				0.999	1.008	0.998	0.999	0.999	1.000	0.999	1.000	1.000	1.000	1.000	1.000
2004			1.001	1.000	0.999	1.000	0.999	0.999	0.999	1.000	1.000	1.000	1.000	1.000	
2005		1.007	1.004	1.000	1.001	1.001	0.999	1.000	1.000	1.000	1.000	1.000	1.000		
2006	1.115	1.013	1.005	1.002	1.001	1.000	1.005	1.001	1.000	1.000	1.000	1.000			
2007	1.125	1.015	1.006	1.004	1.002	1.000	1.001	1.001	1.000	1.000	1.000				
2008	1.153	1.023	1.011	1.005	1.003	1.001	1.001	1.001	1.000	1.000					
2009	1.194	1.029	1.011	1.006	1.003	1.002	1.001	1.000	1.000						
2010	1.220	1.030	1.011	1.006	1.004	1.002	1.001	1.000							
2011	1.230	1.033	1.014	1.007	1.002	1.001	1.001								
2012	1.241	1.035	1.013	1.005	1.003	1.001									
2013	1.240	1.031	1.010	1.004	1.002										
2014	1.239	1.027	1.010	1.004											
2015	1.236	1.027	1.006												
2016	1.244	1.029													
2017	1.220														

I. Age-to-Age (Latest Year)

1.220	1.029	1.006	1.004	1.002	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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II. Age-to-Ultimate

1.275	1.046	1.017	1.011	1.007	1.005	1.004	1.003	1.003	1.003	1.002	1.002	1.002	1.002	1.002	1.002
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

III. Estimated Percent of Ultimate Indemnity Claims Reported

78.4%	95.6%	98.4%	98.9%	99.3%	99.5%	99.6%	99.7%	99.7%	99.7%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
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Accident	Age-to-Age Development (in months):													
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360
1989			1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990		1.001	0.999	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	
1991	1.001	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1992	0.999	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	1.000
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II. Age-to-Ultimate

1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.000
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III. Estimated Percent of Ultimate Indemnity Claims Reported

99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%	100.0%
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Source: WCIRB quarterly calls for experience.

## Ultimate Indemnity Claim Settlement Ratios - Statewide

Accident	Evaluated as of (in months):														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1993															96.7%
1994														96.8%	96.7%
1995													95.7%	95.1%	97.7%
1996												94.8%	93.9%	97.3%	97.5%
1997											95.1%	95.1%	96.9%	97.2%	97.5%
1998										94.7%	94.2%	96.5%	96.9%	97.4%	97.4%
1999									93.5%	92.8%	96.1%	96.7%	97.2%	97.4%	97.8%
2000								91.0%	92.0%	95.4%	96.2%	97.0%	97.4%	98.0%	97.5%
2001							86.4%	90.8%	93.7%	95.0%	96.0%	96.7%	97.5%	96.9%	96.7%
2002						81.9%	88.6%	91.6%	93.2%	94.5%	95.4%	96.5%	96.6%	96.7%	97.1%
2003					75.9%	85.1%	89.1%	91.2%	93.0%	94.1%	95.5%	96.0%	96.2%	96.8%	97.3%
2004				68.9%	80.3%	85.7%	88.6%	90.8%	92.6%	94.4%	95.3%	95.9%	96.6%	97.1%	97.6%
2005			58.7%	73.7%	81.3%	85.6%	88.6%	90.9%	93.2%	94.5%	95.4%	96.2%	96.8%	97.4%	
2006		45.5%	62.9%	74.1%	80.9%	85.2%	88.4%	91.3%	93.1%	94.3%	95.4%	96.3%	96.9%		
2007	21.8%	47.7%	62.8%	73.2%	80.2%	84.7%	89.0%	91.5%	93.1%	94.7%	95.8%	96.6%			
2008	22.8%	46.5%	61.2%	72.2%	79.5%	85.6%	89.5%	91.8%	93.4%	94.9%	96.0%				
2009	21.7%	44.9%	60.0%	71.2%	80.1%	85.8%	89.7%	91.6%	93.7%	95.1%					
2010	21.6%	46.0%	60.7%	73.3%	81.8%	87.0%	90.0%	92.8%	94.5%						
2011	21.9%	45.7%	62.0%	74.3%	82.3%	86.8%	90.8%	93.3%							
2012	21.7%	46.7%	63.5%	75.4%	82.5%	88.3%	91.7%								
2013	21.1%	47.0%	63.8%	76.0%	84.5%	89.4%									
2014	20.9%	47.1%	64.6%	77.5%	85.7%										
2015	20.8%	48.4%	67.2%	79.7%											
2016	21.7%	51.1%	69.8%												
2017	23.8%	53.8%													
2018	24.4%														

Accident	Evaluated as of (in months):														
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989				98.1%	98.4%	99.3%	99.3%	99.4%	99.4%	99.5%	99.5%	99.4%	99.5%	99.6%	99.6%
1990			97.6%	97.9%	98.9%	98.9%	99.0%	99.0%	99.1%	99.2%	99.2%	99.3%	99.4%	99.4%	
1991		96.8%	97.0%	98.6%	98.6%	98.7%	98.8%	98.8%	98.9%	99.0%	99.1%	99.2%	99.2%		
1992	96.8%	96.9%	98.6%	98.6%	98.7%	98.7%	98.8%	98.8%	98.9%	99.0%	99.1%	99.1%			
1993	97.0%	98.4%	98.5%	98.6%	98.6%	98.7%	98.8%	98.8%	98.9%	99.0%	99.0%				
1994	98.2%	98.4%	98.5%	98.3%	98.4%	98.5%	98.5%	98.6%	98.7%	98.8%					
1995	98.0%	98.1%	97.7%	97.9%	98.0%	98.0%	98.1%	98.2%	98.3%						
1996	97.7%	97.2%	97.3%	97.5%	97.5%	97.6%	97.7%	97.8%							
1997	97.0%	97.3%	97.5%	97.5%	97.7%	97.8%	98.0%								
1998	97.7%	97.8%	97.7%	97.8%	98.0%	98.2%									
1999	97.8%	97.7%	97.9%	98.2%	98.4%										
2000	97.4%	97.6%	97.9%	98.1%											
2001	97.1%	97.5%	97.8%												
2002	97.5%	97.8%													
2003	97.7%														

Source: WCIRB quarterly calls for experience.

**Selected Ultimate Indemnity Claim Reporting and Closure Patterns - Statewide**  
As of December 31, 2018

Selected Indemnity Claim Reporting and Closure Patterns - As of 12/31/2018					Cumulative Indemnity Claim Counts				
	Percent	Percent	Percent		Open	Reported	Open	Estimated	Annual
Year	Reported	Closed	Open	AY	Year	@12/31/18	@12/31/18	Ultimate(d)	Change
	(a)	(b)	(c)	(1)	(2)	(3)	(4)	(5)	(6)
1	78.4%	24.4%	54.0%	1989	30	222,831	820	222,831	
2	95.6%	53.8%	41.9%	1990	29	249,123	1,379	249,183	
3	98.4%	69.8%	28.5%	1991	28	250,031	1,819	250,192	
4	98.9%	79.7%	19.2%	1992	27	198,536	1,572	198,693	
5	99.3%	85.7%	13.7%	1993	26	156,173	1,357	156,336	
6	99.5%	89.4%	10.1%	1994	25	143,769	1,600	143,937	
7	99.6%	91.7%	7.9%	1995	24	135,207	2,101	135,398	
8	99.7%	93.3%	6.4%	1996	23	133,140	2,703	133,365	
9	99.7%	94.5%	5.2%	1997	22	137,384	2,568	137,617	
10	99.7%	95.1%	4.7%	1998	21	147,475	2,457	147,749	
11	99.8%	96.0%	3.8%	1999	20	148,688	2,166	148,972	
12	99.8%	96.6%	3.2%	2000	19	161,991	2,676	162,329	
13	99.8%	96.9%	2.9%	2001	18	185,692	3,729	186,102	
14	99.8%	97.4%	2.4%	2002	17	194,696	3,773	195,151	
15	99.8%	97.6%	2.2%	2003	16	184,260	3,880	184,687	
16	99.8%	97.7%	2.1%	2004	15	158,999	3,518	159,358	
17	99.8%	97.8%	1.9%	2005	14	139,586	3,370	139,902	
18	99.8%	97.8%	2.0%	2006	13	133,269	3,848	133,547	
19	99.8%	98.1%	1.6%	2007	12	130,302	4,212	130,554	
20	99.8%	98.4%	1.5%	2008	11	123,028	4,668	123,307	
21	99.8%	98.2%	1.7%	2009	10	113,735	5,327	114,025	
22	99.8%	98.0%	1.9%	2010	9	118,405	6,229	118,752	
23	99.8%	97.8%	2.0%	2011	8	120,528	7,698	120,932	
24	99.9%	98.3%	1.6%	2012	7	127,465	10,127	127,963	
25	99.9%	98.8%	1.1%	2013	6	135,270	13,689	135,939	
26	99.9%	99.0%	0.9%	2014	5	140,414	19,339	141,356	
27	99.9%	99.1%	0.8%	2015	4	144,408	28,023	145,952	
28	99.9%	99.2%	0.7%	2016	3	146,833	42,604	149,257	
29	100.0%	99.4%	0.6%	2017	2	143,999	63,055	150,559	
30	100.0%	99.6%	0.4%	2018	1	119,874	82,522	152,885	
								Projected(e)	
								150,056	-1.9%
								146,680	-2.3%
								142,778	-2.7%
Total						4,645,111	332,829		

## Notes:

- (a) See Exhibit 3.1.
- (b) See Exhibit 3.2.
- (c) (a) - (b).
- (d) Estimated based on number of reported indemnity claims as of December 31, 2018 (column (3)) and selected reporting pattern (column (a)).
- (e) Estimated based on projected frequency trends for accident years 2019 to 2021. The estimated frequency changes are based on the projected growth in total or overall indemnity claim frequency.

**Estimated Number of Open Indemnity Claims - Statewide**

Based on Selected Reporting and Closure Patterns - As of December 31, 2018

AY	Estimated Number of Reported Indemnity Claims(a)			Estimated Number of Open Indemnity Claims(b)			Estimated Number of Indemnity Claims Opened During(c)		
	@12/31/19	@12/31/20	@12/31/21	@12/31/19	@12/31/20	@12/31/21	2019	2020	2021
1989	222,831	222,831	222,831	820	820	820	0	0	0
1990	249,183	249,183	249,183	917	917	917	60	0	0
1991	250,131	250,192	250,192	1,384	921	921	100	61	0
1992	198,565	198,645	198,693	1,445	1,099	731	29	80	48
1993	156,212	156,235	156,298	1,237	1,137	865	39	23	63
1994	143,786	143,823	143,844	1,249	1,139	1,046	17	36	21
1995	135,240	135,256	135,290	1,505	1,175	1,071	33	16	34
1996	133,177	133,210	133,226	2,070	1,483	1,158	37	32	16
1997	137,385	137,424	137,457	2,789	2,136	1,530	1	39	33
1998	147,499	147,500	147,541	2,757	2,994	2,293	24	1	41
1999	148,695	148,719	148,720	2,477	2,779	3,019	7	24	1
2000	162,020	162,028	162,054	2,361	2,699	3,029	29	8	26
2001	185,714	185,748	185,756	3,067	2,706	3,095	22	34	9
2002	194,721	194,744	194,779	3,911	3,217	2,838	25	23	35
2003	184,256	184,280	184,302	3,571	3,701	3,044	-4	24	22
2004	158,990	158,986	159,007	3,348	3,081	3,193	-9	-3	21
2005	139,587	139,579	139,576	3,089	2,939	2,705	1	-8	-3
2006	133,245	133,246	133,238	3,217	2,948	2,806	-24	1	-8
2007	130,282	130,259	130,260	3,762	3,145	2,882	-20	-23	1
2008	123,070	123,051	123,029	3,978	3,553	2,971	42	-18	-22
2009	113,766	113,805	113,788	4,316	3,679	3,286	31	38	-17
2010	118,450	118,483	118,523	5,548	4,495	3,831	45	33	40
2011	120,579	120,625	120,658	6,344	5,650	4,578	51	46	33
2012	127,536	127,590	127,638	8,146	6,713	5,978	71	54	48
2013	135,410	135,486	135,543	10,758	8,654	7,131	140	75	57
2014	140,659	140,805	140,884	14,234	11,187	8,998	245	146	78
2015	144,980	145,233	145,384	19,969	14,697	11,550	572	253	151
2016	147,678	148,263	148,522	28,657	20,421	15,030	845	585	259
2017	148,114	148,966	149,556	42,977	28,907	20,599	4,115	852	590
2018	146,224	150,402	151,267	64,027	43,641	29,354	26,350	4,178	865
<u>Projected</u>									
2019	117,656	143,519	147,620	80,995	62,843	42,834	117,656	25,862	4,101
2020		115,009	140,289		79,173	61,429		115,009	25,280
2021			111,950			77,067			111,950
Total	4,795,643	4,943,123	5,086,898	334,926	334,649	332,599	150,532	147,480	143,775
(d) Open Claims at Beginning of the Year:							332,829	334,926	334,649
(e) "Weighted" Open Claims:							633,894	629,885	622,199

## Notes:

(a), (b) Estimated based on the projected number of indemnity claims and selected reporting and closure patterns (see Exhibit 3.3).

(c) Based on the difference in the estimated numbers of reported indemnity claims between two consecutive December 31 evaluations.

(d) Based on the number of indemnity claims still open as of the previous year-end. For example, the number of open indemnity claims at the beginning of calendar year 2019 is the total number of indemnity claims from all accident years that were open as of December 31, 2018 (see column (4) total on Exhibit 3.3).

(e) The "weighted" number of open claims is the sum of the number of open claims at the beginning of the year and twice the number of claims opened during the year.

**Projected Ratio of ULAE to Loss - Statewide**

Based on Estimated Calendar Year ULAE Paid per Open Indemnity Claim for Private Insurers  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

<u>Calendar Year</u>	<u>Number of Open Indemnity Claims at Beginning of the Year</u> (a)	<u>ULAE Paid per Open Indemnity Claim</u> (b)	<u>ULAE Paid (\$000)</u> (c)
2010	360,624	1,676	604,510
2011	360,339	1,684	606,894
2012	360,391	1,698	612,112
2013	365,706	2,192	801,569
2014	366,420	1,947	713,493
2015	367,925	2,486	914,731
2016	370,782	3,010	1,116,097
2017	362,328	3,359	1,217,236
2018	350,417	3,518	1,232,647
Projected			
2019	332,829	3,632	1,208,973
2020	334,926	3,763	1,260,490
2021	334,649	3,894	1,303,187

(d) Projected ULAE Paid (\$000): 1,423,674

(e) Calendar Year 2018 Earned Premium (\$000): 17,420,200

(f) Projected Loss to Industry Average Filed Pure Premium Ratio: 0.583

(g) Premium Adjustment Factor for Calendar Year 2018: 0.898

(h) Projected Losses (\$000): (e) x (f) x (g) 9,120,067

(i) Projected Ratio of ULAE to Losses: (d)/(h) 15.6%

**Notes:**

- (a) Calendar years 2010 to 2018 are based on WCIRB accident year experience calls. 2019 to 2021 are from line (d), Exhibit 3.4.
- (b) Calendar years 2010 to 2018 are from column (d) of Exhibit 2. Calendar years 2019 to 2021 are projected based on applying the California average annual wage level changes of 3.5%, 3.9%, 3.6% and 3.5% for 2018 to 2021 derived based on the information published by the UCLA Anderson School of Business and the California Department of Finance, to the ULAE paid per open indemnity claim from averaging 2017 and 2018.
- (c) Column (a) x column (b).
- (d) Average of calendar years 2020 and 2021, projected 3 years to the approximate average midpoint of ultimate ULAE payments on 2020 policies, based on applying the an average annual change of 3.6% for 2021 and 2022 derived from the information published by the UCLA Anderson School of Business and the California Department of Finance.
- (e) Based on the reported earned premium from the same group of insurers that reported the number of open indemnity claims in calendar year 2018.
- (f) See Exhibit 8 of Section B.
- (g) See Exhibit 5.2 of Section B.

**Projected Ratio of ULAE to Loss - Statewide**

Based on Private Insurers ULAE Paid to Paid Losses Ratio  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

Calendar Year	Paid ULAE as % of Paid Losses <sup>1</sup> (a)	Paid Loss as % of Premium (b)	Paid ULAE as % of Premium (c)=(a) x (b)
2010	0.079	72.7%	5.8%
2011	0.077	70.1%	5.4%
2012	0.075	65.3%	4.9%
2013	0.094	58.5%	5.5%
2014	0.086	50.3%	4.3%
2015	0.109	47.8%	5.2%
2016	0.130	46.0%	6.0%
2017	0.144	46.8%	6.8%
2018	0.148	47.4%	7.0%
Projected			
2019	0.146 <sup>2</sup>	48.7% <sup>3</sup>	7.1% <sup>4</sup>
2020	0.146 <sup>2</sup>	49.3% <sup>3</sup>	7.2% <sup>4</sup>
2021	0.146 <sup>2</sup>	49.5% <sup>3</sup>	7.2% <sup>4</sup>
(d) Projected ULAE Paid to CY2018 Earned Premium Ratio: (Average of calendar years 2020 and 2021 in column (c))			7.2%
(e) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>5</sup> :			0.583
(f) Premium Adjustment Factor for Calendar Year 2018 <sup>6</sup> :			0.898
(g) Projected Ratio of ULAE to Losses: (d) / [(e) x (f)]			13.8%

## Notes:

<sup>1</sup> Based on private insurers ULAE to paid loss ratio. See Exhibit 1.

<sup>2</sup> Based on averaging of the 2017 and 2018 paid ULAE to paid loss ratios.

<sup>3</sup> Estimated based on age-to-age paid indemnity and medical development factors from insurers' December 31, 2018 experience.

<sup>4</sup> (a) x (b).

<sup>5</sup> See Exhibit 8 of Section B.

<sup>6</sup> See Exhibit 5.2 of Section B.

**Projected Ratio of ULAE to Loss - Statewide**

Based on Estimated Calendar Year ULAE Paid per Open Indemnity Claim  
for Private Insurers-Trend from Latest Year  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

<u>Calendar Year</u>	<u>Number of Open Indemnity Claims at Beginning of the Year</u>	<u>ULAE Paid per Open Indemnity Claim</u>	<u>ULAE Paid (\$000)</u>
	(a)	(b)	(c)
2010	360,624	1,676	604,510
2011	360,339	1,684	606,894
2012	360,391	1,698	612,112
2013	365,706	2,192	801,569
2014	366,420	1,947	713,493
2015	367,925	2,486	914,731
2016	370,782	3,010	1,116,097
2017	362,328	3,359	1,217,236
2018	350,417	3,518	1,232,647
Projected			
2019	332,829	3,654	1,216,081
2020	334,926	3,786	1,267,902
2021	334,649	3,917	1,310,850
(d) Projected ULAE Paid (\$000):			1,432,045
(e) Calendar Year 2018 Earned Premium (\$000):			17,420,200
(f) Projected Loss to Industry Average Filed Pure Premium Ratio:			0.583
(g) Premium Adjustment Factor for Calendar Year 2018:			0.898
(h) Projected Losses (\$000): (e) x (f) x (g)			9,120,067
(i) Projected Ratio of ULAE to Losses: (d)/(h)			15.7%

## Notes:

- (a) Calendar years 2010 to 2018 are based on WCIRB accident year experience calls. 2019 to 2021 are from line (d), Exhibit 3.4.
- (b) Calendar years 2010 to 2018 are from column (d) of Exhibit 2. Calendar years 2019 to 2021 are projected based on applying the California average annual wage level changes of 3.9%, 3.6% and 3.5% for 2019 to 2021 derived based on the information published by the UCLA Anderson School of Business and the California Department of Finance, to the 2018 ULAE paid per open indemnity claim.
- (c) Column (a) x column (b).
- (d) Average of calendar years 2020 and 2021, projected 3 years to the approximate average midpoint of ultimate ULAE payments on 2020 policies, based on applying the an average annual change of 3.6% for 2021 and 2022 derived from the information published by the UCLA Anderson School of Business and the California Department of Finance.
- (e) Based on the reported earned premium from the same group of insurers that reported the number of open indemnity claims in calendar year 2018.
- (f) See Exhibit 8 of Section B.
- (g) See Exhibit 5.2 of Section B.



**Projected Ratio of ULAE to Loss - Statewide**

Based on Private Insurers ULAE Paid to Paid Losses Ratio - Trend from Latest Year  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

Calendar Year	Paid ULAE as % of Paid Losses <sup>1</sup> (a)	Paid Loss as % of Premium (b)	Paid ULAE as % of Premium (c)=(a) x (b)
2010	0.079	72.7%	5.8%
2011	0.077	70.1%	5.4%
2012	0.075	65.3%	4.9%
2013	0.094	58.5%	5.5%
2014	0.086	50.3%	4.3%
2015	0.109	47.8%	5.2%
2016	0.130	46.0%	6.0%
2017	0.144	46.8%	6.8%
2018	0.148	47.4%	7.0%
Projected			
2019	0.148 <sup>2</sup>	48.7% <sup>3</sup>	7.2% <sup>4</sup>
2020	0.148 <sup>2</sup>	49.3% <sup>3</sup>	7.3% <sup>4</sup>
2021	0.148 <sup>2</sup>	49.5% <sup>3</sup>	7.3% <sup>4</sup>
(d) Projected ULAE Paid to CY2018 Earned Premium Ratio: (Average of calendar years 2020 and 2021 in column (c))			7.3%
(e) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>5</sup> :			0.583
(f) Premium Adjustment Factor for Calendar Year 2018 <sup>6</sup> :			0.898
(g) Projected Ratio of ULAE to Losses: (d) / [(e) x (f)]			13.9%

## Notes:

<sup>1</sup> Based on private insurers ULAE to paid loss ratio. See Exhibit 1.

<sup>2</sup> Based on 2018 paid ULAE to paid loss ratio.

<sup>3</sup> Estimated based on age-to-age paid indemnity and medical development factors from insurers' December 31, 2018 experience.

<sup>4</sup> (a) x (b).

<sup>5</sup> See Exhibit 8 of Section B.

<sup>6</sup> See Exhibit 5.2 of Section B.

**Projected Ratio of ULAE to Loss - Statewide**

Based on Estimated Calendar Year ULAE Paid per Weighted Open Indemnity Claim for Private Insurers  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

Calendar Year	Weighted Number of Open Indemnity Claims (a)	ULAE Paid per Weighted Open Indemnity Claim (b)	ULAE Paid (\$000) (c)
2010	594,894	913	542,859
2011	605,973	900	545,458
2012	615,637	906	557,651
2013	642,294	1,156	742,428
2014	652,860	1,043	681,195
2015	669,113	1,307	874,717
2016	666,822	1,593	1,062,547
2017	667,648	1,734	1,157,516
2018	649,183	1,813	1,176,947
<u>Projected</u>			
2019	633,894	1,873	1,187,495
2020	629,885	1,941	1,222,565
2021	622,199	2,008	1,249,588
(d) Projected ULAE Paid (\$000):			1,372,848
(e) Calendar Year 2018 Earned Premium (\$000):			17,420,200
(f) Projected Loss to Industry Average Filed Pure Premium Ratio:			0.583
(g) Premium Adjustment Factor for Calendar Year 2018:			0.898
(h) Projected Losses (\$000): (e) x (f) x (g)			9,120,067
(i) Projected Ratio of ULAE to Losses: (d)/(h)			15.1%

**Notes:**

- (a) Calendar years 2010 to 2018 are based on the number of open indemnity claims and twice the number of reported indemnity claims from WCIRB accident year experience calls. 2019 to 2021 are from line (e), Exhibit 3.4.
- (b) Calendar years 2010 to 2018 are from column (a) of Exhibit 2 divided by columns (b)+[2.0 x (c)] of Exhibit 2.2, multiplied by 1,000,000. Calendar years 2019 to 2021 are projected based on applying the California average annual wage level changes of 3.5%, 3.9%, 3.6% and 3.5% for 2018 to 2021 derived from information published by the UCLA Anderson School of Business, to the ULAE paid per weighted open indemnity claim from averaging 2017 to 2018.
- (c) Column (a) x column (b).
- (d) Average of calendar years 2020 and 2021, projected 3 years to the approximate average midpoint of ultimate ULAE payments on 2020 policies, based on applying the an average annual change of 3.6% for 2021 and 2022 derived from the information published by the UCLA Anderson School of Business and the California Department of Finance.
- (e) Based on the reported earned premium from the same group of insurers that reported the number of open indemnity claims in calendar year 2018.
- (f) See Exhibit 8 of Section B.
- (g) See Exhibit 5.2 of Section B.

Average Paid ALAE<sup>[1]</sup> per Reported Indemnity Claim - Private Insurers

As of March 31, 2019

Accident	Evaluated as of (in months):								
Year	15	27	39	51	63	75	87	99	111
2000							4,340	4,548	4,786
2001						5,159	5,480	5,819	6,017
2002					5,264	5,668	6,064	6,308	6,493
2003				4,907	5,528	6,043	6,383	6,647	6,869
2004			3,570	4,548	5,212	5,673	6,022	6,283	6,495
2005		2,083	3,279	4,191	4,833	5,307	5,673	5,965	6,175
2006	797	2,176	3,410	4,328	5,022	5,550	5,920	6,211	6,471
2007	849	2,340	3,613	4,619	5,393	5,993	6,429	6,768	7,039
2008	944	2,494	3,933	5,103	5,975	6,595	7,096	7,468	7,729
2009	1,037	2,812	4,448	5,718	6,637	7,358	7,900	8,278	8,553
2010	1,111	2,981	4,586	5,816	6,746	7,440	7,931	8,271	8,568
2011	1,127	2,942	4,520	5,796	6,733	7,375	7,838	8,268	
2012	1,120	3,012	4,721	5,998	6,883	7,496	7,986		
2013	1,202	3,276	4,941	6,141	6,944	7,540			
2014	1,340	3,465	5,124	6,258	7,010				
2015	1,424	3,576	5,183	6,234					
2016	1,443	3,640	5,215						
2017	1,524	3,738							
2018	1,629								

Accident	Annual Change								
Year	15	27	39	51	63	75	87	99	111
2001							26.3%	27.9%	25.7%
2002						9.9%	10.7%	8.4%	7.9%
2003					5.0%	6.6%	5.2%	5.4%	5.8%
2004				-7.3%	-5.7%	-6.1%	-5.6%	-5.5%	-5.5%
2005			-8.1%	-7.8%	-7.3%	-6.5%	-5.8%	-5.0%	-4.9%
2006		4.4%	4.0%	3.3%	3.9%	4.6%	4.4%	4.1%	4.8%
2007	6.5%	7.5%	5.9%	6.7%	7.4%	8.0%	8.6%	9.0%	8.8%
2008	11.3%	6.6%	8.9%	10.5%	10.8%	10.0%	10.4%	10.3%	9.8%
2009	9.8%	12.8%	13.1%	12.0%	11.1%	11.6%	11.3%	10.8%	10.7%
2010	7.1%	6.0%	3.1%	1.7%	1.6%	1.1%	0.4%	-0.1%	0.2%
2011	1.4%	-1.3%	-1.4%	-0.3%	-0.2%	-0.9%	-1.2%	0.0%	
2012	-0.5%	2.4%	4.4%	3.5%	2.2%	1.6%	1.9%		
2013	7.3%	8.8%	4.7%	2.4%	0.9%	0.6%			
2014	11.5%	5.8%	3.7%	1.9%	0.9%				
2015	6.3%	3.2%	1.2%	-0.4%					
2016	1.3%	1.8%	0.6%						
2017	5.6%	2.7%							
2018	6.9%								

Annual Trend<sup>[2]</sup>

All-Year	5.8%	5.1%	4.2%	3.4%	3.2%	3.4%	4.3%	4.5%	4.5%
R <sup>3</sup>	0.975	0.963	0.915	0.795	0.778	0.813	0.812	0.799	0.782
5-Year	4.7%	3.2%	2.5%	1.9%	1.1%	0.6%	2.3%	5.2%	7.9%
R <sup>3</sup>	0.965	0.952	0.886	0.879	0.922	0.730	0.538	0.780	0.948

<sup>[1]</sup> All paid ALAE exclude the paid cost of medical cost containment programs.<sup>[2]</sup> Trend is based on exponential distribution.

Source: WCIRB accident year experience calls.

## Ratio of Paid ALAE to Paid Loss - Private Insurers

As of March 31, 2019

Accident	Evaluated as of (in months):								
Year	15	27	39	51	63	75	87	99	111
2000							0.107	0.107	0.109
2001						0.118	0.119	0.121	0.122
2002					0.132	0.134	0.137	0.137	0.138
2003				0.136	0.141	0.144	0.146	0.147	0.148
2004			0.139	0.150	0.155	0.158	0.159	0.160	0.160
2005		0.113	0.133	0.144	0.149	0.152	0.154	0.155	0.154
2006	0.076	0.112	0.129	0.138	0.143	0.146	0.148	0.148	0.150
2007	0.077	0.112	0.127	0.135	0.142	0.145	0.146	0.148	0.148
2008	0.078	0.110	0.126	0.136	0.141	0.143	0.146	0.147	0.148
2009	0.084	0.122	0.138	0.146	0.150	0.153	0.155	0.157	0.158
2010	0.092	0.130	0.143	0.148	0.152	0.156	0.157	0.158	0.160
2011	0.099	0.133	0.146	0.154	0.160	0.163	0.165	0.168	
2012	0.098	0.138	0.155	0.164	0.168	0.171	0.174		
2013	0.109	0.154	0.166	0.172	0.177	0.181			
2014	0.121	0.163	0.171	0.176	0.180				
2015	0.128	0.163	0.171	0.175					
2016	0.124	0.165	0.174						
2017	0.128	0.166							
2018	0.130								

Accident	Annual Change								
Year	15	27	39	51	63	75	87	99	111
2001							11.6%	13.2%	12.4%
2002						13.7%	14.7%	13.2%	13.4%
2003					7.2%	7.7%	6.9%	7.3%	7.1%
2004				10.1%	10.1%	9.3%	9.2%	8.5%	7.9%
2005			-4.0%	-4.1%	-3.8%	-3.3%	-3.2%	-3.0%	-3.5%
2006		-1.2%	-3.5%	-4.2%	-4.3%	-4.2%	-4.0%	-4.2%	-2.8%
2007	1.8%	0.1%	-1.7%	-1.8%	-0.8%	-0.7%	-1.2%	-0.6%	-1.1%
2008	0.5%	-1.5%	-0.4%	0.5%	-0.2%	-1.1%	-0.4%	-0.3%	-0.1%
2009	8.7%	10.4%	9.6%	7.8%	6.0%	6.6%	6.5%	6.4%	6.2%
2010	9.0%	7.2%	3.2%	1.0%	1.7%	1.7%	1.2%	1.1%	1.6%
2011	7.1%	2.1%	2.4%	4.4%	4.9%	4.5%	4.8%	5.9%	
2012	-0.5%	3.6%	6.1%	6.4%	5.4%	5.4%	5.9%		
2013	10.8%	11.5%	7.5%	5.0%	5.1%	5.7%			
2014	11.4%	5.9%	2.7%	1.9%	1.5%				
2015	5.8%	0.2%	0.0%	-0.5%					
2016	-2.7%	1.1%	1.6%						
2017	2.6%	0.8%							
2018	2.2%								

Note: All paid ALAE exclude the paid cost of medical cost containment programs. Accident years 2010 and prior paid loss include the paid cost of medical cost containment programs.

Source: WCIRB accident year experience calls.

## Estimated Ultimate ALAE per Indemnity Claim - Private Insurers

Acc. Year	Paid ALAE <sup>[1]</sup> @3/31/19 (in \$000) (1)	Cumulative Development Factors <sup>[2]</sup> (2)	Estimated Ultimate ALAE (in \$000) (3)=(1)x(2)	Indemnity Claim Counts @3/31/19 (4)	Cumulative Count Development Factors <sup>[3]</sup> (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5)	Estimated Ultimate ALAE per Indemnity Claim (7)=(3)/(6)x1000	Annual Change (8)
1991	414,452	1.047	434,106	175,575	1.000	175,617	2,472	---
1992	319,142	1.051	335,306	142,033	1.000	142,097	2,360	-4.5%
1993	237,091	1.053	249,725	113,576	1.001	113,665	2,197	-6.9%
1994	219,899	1.057	232,514	105,468	1.001	105,579	2,202	0.2%
1995	242,147	1.061	257,020	101,372	1.001	101,515	2,532	15.0%
1996	288,554	1.068	308,082	103,188	1.002	103,374	2,980	17.7%
1997	365,094	1.074	392,062	104,829	1.002	105,033	3,733	25.2%
1998	503,647	1.080	543,856	112,454	1.002	112,703	4,826	29.3%
1999	553,777	1.087	601,746	116,408	1.002	116,684	5,157	6.9%
2000	657,381	1.094	719,030	118,445	1.003	118,759	6,055	17.4%
2001	779,987	1.101	858,700	113,985	1.003	114,320	7,511	24.1%
2002	818,264	1.109	907,547	112,984	1.003	113,352	8,006	6.6%
2003	827,258	1.117	923,959	108,402	1.003	108,771	8,495	6.1%
2004	710,080	1.125	799,003	99,492	1.004	99,861	8,001	-5.8%
2005	666,086	1.136	756,466	97,345	1.004	97,721	7,741	-3.3%
2006	732,746	1.150	842,394	104,283	1.004	104,710	8,045	3.9%
2007	806,285	1.165	939,273	107,405	1.004	107,883	8,706	8.2%
2008	854,221	1.185	1,011,847	105,634	1.005	106,161	9,531	9.5%
2009	884,079	1.208	1,068,374	100,914	1.006	101,475	10,528	10.5%
2010	931,282	1.239	1,153,700	108,697	1.006	109,391	10,547	0.2%
2011	933,146	1.277	1,191,502	112,864	1.007	113,648	10,484	-0.6%
2012	966,906	1.331	1,287,358	121,081	1.008	122,033	10,549	0.6%
2013	960,995	1.405	1,350,101	127,453	1.010	128,675	10,492	-0.5%
2014	912,627	1.515	1,382,333	130,196	1.012	131,759	10,491	0.0%
2015	837,567	1.697	1,421,473	134,349	1.017	136,672	10,401	-0.9%
2016	723,441	2.056	1,487,246	138,711	1.025	142,157	10,462	0.6%
2017	513,535	2.930	1,504,583	137,398	1.048	144,032	10,446	-0.2%
2018	209,143	8.088	1,691,636	128,383	1.147	147,279	11,486	10.0%

## Estimated Annual Exponential Trend Based on:

		<u>R<sup>2</sup></u>
2005 to 2018	2.3%	0.664
2014 to 2018	1.9%	0.479
Average:	2.1%	

## Notes:

<sup>[1]</sup> All paid ALAE exclude the paid cost of medical cost containment programs.

<sup>[2]</sup> Based on the latest year paid ALAE age-to-age development from Exhibit 11.1

<sup>[3]</sup> Based on analogous Exhibit 11.3, applicable to private insurers only.

**Ratio of Accident Year Incremental Paid ALAE<sup>[1]</sup> to Indemnity Claims Inventory<sup>[2]</sup>  
by Payment Year - Private Insurers**

Acc. Year	Payment Year Ending March 31													
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1989	635	1,143	1,062	1,029	1,125	1,143	1,344	1,524	1,471	1,493	1,610	1,948	1,412	1,569
1990	987	2,157	1,139	1,274	1,193	1,355	1,542	1,432	1,812	1,590	1,600	1,828	1,643	1,790
1991	834	1,697	1,577	1,256	1,495	1,388	1,574	1,438	1,789	1,645	1,558	2,144	2,117	1,932
1992	1,416	1,837	1,653	1,405	1,827	1,389	1,669	1,502	1,636	1,576	1,811	1,682	1,856	1,905
1993	1,502	2,157	1,833	1,541	1,927	1,664	1,886	1,800	1,951	1,979	2,169	2,268	2,292	2,148
1994	1,686	1,932	1,717	1,617	1,646	1,576	1,632	1,833	1,663	2,106	1,790	1,802	1,628	1,696
1995	1,671	1,766	1,849	1,766	1,916	1,772	1,672	2,033	2,051	2,107	2,075	2,374	1,999	2,152
1996	2,027	1,997	1,979	1,947	1,946	1,686	2,011	2,085	2,144	2,076	2,297	2,097	1,888	2,236
1997	2,378	2,409	2,347	2,287	2,314	2,225	2,414	2,353	2,147	2,224	2,127	2,259	2,315	2,382
1998	2,556	2,484	2,502	2,336	2,432	2,381	2,277	2,340	2,344	2,292	2,459	2,325	2,527	2,387
1999	2,529	2,629	2,403	2,646	2,804	2,545	2,698	2,641	2,332	2,118	2,342	2,502	2,104	2,225
2000	2,525	2,805	2,720	2,864	2,854	2,740	2,803	2,842	2,539	2,536	2,749	2,592	2,529	2,217
2001	2,284	2,764	2,811	2,873	2,654	2,736	2,755	2,778	2,801	3,292	3,155	2,647	2,618	2,510
2002	2,537	2,873	2,910	3,083	2,899	2,967	3,021	2,915	3,015	3,432	3,203	3,165	3,126	2,837
2003	2,577	2,881	2,947	3,058	3,032	3,216	3,224	3,546	3,397	3,589	3,547	3,127	2,941	2,812
2004	2,100	2,676	3,009	3,077	3,145	3,263	3,130	3,060	3,306	3,584	3,248	3,032	2,945	2,923
2005	768	1,986	2,649	2,916	3,070	3,251	3,284	3,317	3,438	3,609	3,729	3,449	3,516	3,277
2006	106	782	2,162	2,758	2,992	3,243	3,474	3,296	3,404	3,583	3,365	3,161	3,254	2,943
2007		71	846	2,333	2,807	3,192	3,452	3,603	3,686	3,677	3,719	3,540	3,460	3,536
2008			85	939	2,399	3,110	3,500	3,591	3,702	3,835	3,887	3,713	3,718	3,655
2009				150	1,034	2,742	3,391	3,644	3,820	3,943	3,998	3,903	3,810	3,839
2010					87	1,129	2,898	3,450	3,743	3,893	4,073	4,072	3,989	4,021
2011						88	1,147	2,879	3,459	3,863	4,060	3,986	4,128	4,197
2012							90	1,147	3,007	3,677	3,952	4,009	4,130	4,035
2013								101	1,237	3,223	3,649	3,864	4,016	4,098
2014									144	1,378	3,284	3,719	3,895	3,987
2015										105	1,426	3,352	3,751	3,935
2016											108	1,443	3,487	3,904
2017												121	1,523	3,622
2018													142	1,628
2019														149
ALAE per Claim	1,846	1,951	1,977	2,104	2,184	2,354	2,506	2,565	2,670	2,857	2,895	2,884	2,937	2,990
Annual Change	-8.3%	5.7%	1.4%	6.4%	3.8%	7.8%	6.5%	2.4%	4.1%	7.0%	1.3%	-0.4%	1.8%	1.8%

**Estimated Annual Exponential Trend Based on Payment Year:** **R<sup>2</sup>**

2006-2019	4.0%	0.949
2014-2019	1.4%	0.632
Average:	2.7%	

<sup>[1]</sup> All paid ALAE exclude the paid cost of medical cost containment programs.

<sup>[2]</sup> Indemnity claims inventory is the sum of indemnity claims open as of April 1 of Year N-1 and newly-reported indemnity claims between April 1 of year N-1 and March 31 of year N.

Source: WCIRB quarterly calls for experience.

Paid Allocated Loss Adjustment Expense Development - Private Insurers  
As of March 31, 2019

Accident Year	Age-to-Age Development (in months):															
	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159	159-171	171-183	183-195	195-207
1986						1.051	1.036	1.023	1.017	1.010	1.011	1.009	1.009	1.010	1.005	1.005
1987						1.048	1.031	1.022	1.015	1.012	1.009	1.013	1.010	1.006	1.004	1.004
1988					1.085	1.048	1.033	1.021	1.014	1.011	1.014	1.004	1.004	1.004	1.004	1.004
1989				1.148	1.102	1.079	1.040	1.026	1.017	1.011	1.007	1.004	1.005	1.005	1.004	1.005
1990			1.276	1.149	1.097	1.046	1.032	1.020	1.014	1.009	1.007	1.006	1.005	1.005	1.006	1.006
1991		1.552	1.252	1.128	1.062	1.047	1.025	1.017	1.012	1.007	1.007	1.005	1.005	1.005	1.006	1.005
1992	2.511	1.512	1.229	1.102	1.074	1.045	1.027	1.018	1.011	1.009	1.007	1.007	1.008	1.005	1.006	1.005
1993	2.417	1.527	1.218	1.127	1.076	1.047	1.032	1.028	1.017	1.014	1.010	1.012	1.011	1.009	1.008	1.006
1994	2.485	1.498	1.231	1.117	1.082	1.045	1.036	1.023	1.020	1.014	1.019	1.017	1.013	1.011	1.008	1.007
1995	2.550	1.569	1.237	1.132	1.072	1.046	1.038	1.030	1.022	1.022	1.019	1.017	1.015	1.013	1.010	1.008
1996	2.454	1.490	1.239	1.114	1.072	1.056	1.046	1.036	1.031	1.026	1.021	1.017	1.014	1.008	1.011	1.009
1997	2.424	1.511	1.194	1.112	1.081	1.064	1.051	1.040	1.033	1.025	1.020	1.016	1.013	1.013	1.011	1.009
1998	2.618	1.463	1.229	1.139	1.102	1.083	1.055	1.041	1.028	1.023	1.020	1.018	1.014	1.013	1.011	1.011
1999	2.514	1.559	1.256	1.152	1.111	1.076	1.058	1.039	1.033	1.027	1.020	1.018	1.015	1.013	1.011	1.011
2000	2.801	1.593	1.262	1.166	1.110	1.079	1.051	1.042	1.030	1.024	1.020	1.018	1.015	1.013	1.013	1.010
2001	3.053	1.597	1.291	1.156	1.108	1.075	1.052	1.034	1.028	1.023	1.019	1.016	1.017	1.014	1.010	1.009
2002	2.790	1.592	1.261	1.153	1.102	1.064	1.040	1.031	1.025	1.020	1.017	1.016	1.013	1.011	1.009	1.007
2003	2.931	1.550	1.267	1.155	1.089	1.057	1.042	1.032	1.028	1.022	1.019	1.017	1.012	1.009	1.007	
2004	2.785	1.573	1.283	1.149	1.090	1.064	1.045	1.033	1.029	1.024	1.019	1.014	1.011	1.009		
2005	2.746	1.599	1.285	1.157	1.104	1.072	1.052	1.042	1.032	1.027	1.019	1.016	1.012			
2006	2.878	1.591	1.278	1.165	1.108	1.075	1.056	1.043	1.032	1.023	1.018	1.013				
2007	2.902	1.570	1.291	1.173	1.116	1.081	1.054	1.042	1.029	1.021	1.017					
2008	2.832	1.621	1.311	1.177	1.115	1.077	1.055	1.037	1.027	1.020						
2009	3.005	1.623	1.302	1.178	1.112	1.076	1.049	1.034	1.025							
2010	2.944	1.591	1.295	1.166	1.108	1.068	1.044	1.031								
2011	2.945	1.597	1.298	1.169	1.096	1.065	1.043									
2012	3.060	1.610	1.288	1.154	1.093	1.055										
2013	3.024	1.554	1.254	1.136	1.078											
2014	2.902	1.511	1.234	1.120												
2015	2.785	1.478	1.211													
2016	2.796	1.466														
2017	2.684															
	<u>Latest Year</u>															
Age-to-Age	2.684	1.466	1.211	1.120	1.078	1.055	1.043	1.031	1.025	1.020	1.017	1.013	1.012	1.009	1.007	1.007
Cumulative	8.088	3.013	2.056	1.697	1.515	1.405	1.331	1.277	1.239	1.208	1.185	1.165	1.150	1.136	1.125	1.117
Adjusted <sup>[1]</sup>	---	2.930	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	<u>3-Year Arithmetic Average</u>															
Age-to-Age	2.755	1.485	1.233	1.137	1.089	1.063	1.045	1.034	1.027	1.022	1.018	1.014	1.012	1.010	1.009	1.009
Cumulative	8.976	3.258	2.194	1.779	1.565	1.437	1.352	1.293	1.251	1.218	1.193	1.171	1.155	1.141	1.130	1.120

Accident Year	Age-to-Age Development (in months):															
	207-219	219-231	231-243	243-255	255-267	267-279	279-291	291-303	303-315	315-327	327-339	339-351	351-363	363-375	375-387	387-399
1986	1.004	1.005	1.007	1.003	1.006	1.005	1.004	1.005	1.005	1.006	1.007	1.006	1.006	1.005	1.004	1.003
1987	1.004	1.006	1.006	1.008	1.004	1.004	1.006	1.005	1.004	1.005	1.006	1.004	1.004	1.003	1.004	
1988	1.004	1.005	1.005	1.005	1.003	1.005	1.004	1.004	1.005	1.004	1.004	1.003	1.003	1.003		
1989	1.004	1.004	1.004	1.003	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.003	1.005			
1990	1.004	1.004	1.002	1.003	1.003	1.003	1.003	1.003	1.002	1.003	1.002	1.002				
1991	1.003	1.002	1.003	1.003	1.003	1.003	1.003	1.002	1.003	1.003	1.002					
1992	1.003	1.004	1.004	1.003	1.003	1.003	1.003	1.003	1.003	1.003						
1993	1.006	1.007	1.006	1.006	1.005	1.005	1.005	1.004	1.004							
1994	1.007	1.007	1.006	1.007	1.005	1.005	1.004	1.004								
1995	1.009	1.009	1.008	1.007	1.008	1.006	1.006									
1996	1.009	1.008	1.008	1.006	1.005	1.006										
1997	1.008	1.008	1.007	1.006	1.006											
1998	1.011	1.009	1.008	1.006												
1999	1.009	1.007	1.007													
2000	1.008	1.007														
2001	1.007															
	<u>Latest Year</u>															
Age-to-Age	1.007	1.007	1.007	1.006	1.006	1.006	1.006	1.004	1.004	1.003	1.002	1.002	1.005	1.005	1.004	1.003
Cumulative <sup>[2]</sup>	1.109	1.101	1.094	1.087	1.080	1.074	1.068	1.061	1.057	1.053	1.051	1.047	1.044	1.042	1.039	
	<u>3-Year Arithmetic Average</u>															
Age-to-Age	1.008	1.007	1.007	1.006	1.006	1.006	1.005	1.004	1.003	1.003	1.003	1.003	1.004	1.004	1.004	1.003
Cumulative	1.110	1.101	1.093	1.085	1.078	1.072	1.066	1.060	1.057	1.053	1.051	1.047	1.044	1.042	1.039	

Note:

<sup>[1]</sup> The 27-to-ultimate paid ALAE factor is adjusted by -2.8% for the increase in claim settlement rates for accident year 2017. See Item AC19-08-04 of the August 1, 2019 WCIRB Actuarial Committee Agenda.

<sup>[2]</sup> Factors in italics are based on powerfit fit to the "3-Year Arithmetic Average" factors.

Source: WCIRB accident year experience calls. Excludes MCCP costs.

Quarterly Paid ALAE Loss Development Factors<sup>[1]</sup> - Private Insurers

Age in Months		<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
3	- 6		7.976	7.570	5.434	9.136	8.769	8.693	8.584	6.234	9.866	8.946	8.934	8.191
6	- 9	2.427	3.016	2.765	2.630	3.023	3.176	3.213	3.058	3.163	3.173	3.144	3.064	3.161
9	- 12	2.022	2.078	2.021	2.034	2.077	2.165	2.115	2.133	2.158	2.107	2.101	2.137	2.091
12	- 15	1.653	1.627	1.687	1.724	1.737	1.701	1.713	1.784	1.744	1.734	1.776	1.701	1.672
15	- 18	1.415	1.486	1.494	1.509	1.482	1.486	1.510	1.494	1.488	1.482	1.491	1.451	
18	- 21	1.357	1.328	1.289	1.326	1.334	1.343	1.338	1.349	1.332	1.309	1.309	1.311	
21	- 24	1.255	1.234	1.237	1.255	1.253	1.248	1.249	1.237	1.239	1.225	1.227	1.227	
24	- 27	1.187	1.191	1.190	1.197	1.189	1.186	1.205	1.187	1.177	1.184	1.167	1.150	
27	- 30	1.165	1.167	1.172	1.170	1.158	1.163	1.160	1.156	1.151	1.142	1.132		
30	- 33	1.128	1.119	1.135	1.138	1.133	1.131	1.130	1.123	1.116	1.110	1.109		
33	- 36	1.107	1.103	1.111	1.114	1.113	1.108	1.104	1.101	1.095	1.088	1.092		
36	- 39	1.093	1.090	1.097	1.094	1.091	1.095	1.093	1.085	1.085	1.073	1.068		
39	- 42	1.083	1.086	1.096	1.082	1.083	1.081	1.081	1.077	1.072	1.062			
42	- 45	1.063	1.069	1.069	1.074	1.069	1.068	1.070	1.061	1.057	1.054			
45	- 48	1.057	1.059	1.063	1.064	1.062	1.059	1.057	1.055	1.051	1.046			
48	- 51	1.050	1.050	1.052	1.053	1.053	1.051	1.050	1.047	1.041	1.036			
51	- 54	1.049	1.050	1.049	1.050	1.048	1.048	1.046	1.042	1.036				
54	- 57	1.038	1.043	1.045	1.043	1.040	1.043	1.038	1.035	1.031				
57	- 60	1.037	1.038	1.039	1.039	1.037	1.036	1.035	1.031	1.028				
60	- 63	1.032	1.032	1.034	1.034	1.032	1.031	1.031	1.025	1.023				
63	- 66	1.030	1.031	1.033	1.032	1.032	1.029	1.028	1.022					
66	- 69	1.027	1.029	1.028	1.029	1.028	1.024	1.024	1.021					
69	- 72	1.025	1.028	1.026	1.026	1.024	1.023	1.021	1.018					
72	- 75	1.022	1.023	1.023	1.022	1.021	1.021	1.019	1.016					
75	- 78	1.020	1.023	1.022	1.022	1.020	1.019	1.016						
78	- 81	1.019	1.020	1.020	1.020	1.017	1.017	1.015						
81	- 84	1.018	1.019	1.018	1.017	1.016	1.014	1.014						
84	- 87	1.016	1.016	1.016	1.015	1.014	1.014	1.011						
87	- 90	1.015	1.015	1.016	1.015	1.012	1.012							
90	- 93	1.014	1.014	1.014	1.012	1.012	1.011							
93	- 96	1.013	1.013	1.013	1.012	1.010	1.011							
96	- 99	1.012	1.011	1.011	1.010	1.010	1.008							
99	- 102	1.012	1.012	1.011	1.009	1.009								
102	- 105	1.012	1.011	1.009	1.009	1.008								
105	- 108	1.010	1.010	1.008	1.008	1.007								
108	- 111	1.009	1.009	1.008	1.008	1.006								
111	- 114	1.009	1.008	1.007	1.007									
114	- 117	1.008	1.007	1.007	1.007									
117	- 120	1.008	1.007	1.006	1.006									
120	- 123	1.007	1.006	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.



## Reported Indemnity Claim Count Development - Statewide

Accident	Age-to-Age Development (in months):														
Year	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159	159-171	171-183	183-195
1992															1.000
1993														1.000	1.000
1994													1.000	1.000	1.000
1995												1.000	1.000	1.001	1.001
1996											1.001	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	1.000	1.000
1999								1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000
2000							1.000	1.000	1.000	1.000	1.000	1.001	1.001	1.000	1.000
2001						1.000	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002					1.000	1.000	0.999	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000
2003				1.000	0.998	0.999	0.999	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004			1.000	1.000	0.999	0.999	0.999	1.000	0.999	1.000	1.000	1.000	1.000	1.000	
2005		1.005	1.001	1.001	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2006	1.029	1.008	1.004	1.002	1.001	1.001	1.000	1.001	1.001	1.000	1.000	1.000			
2007	1.036	1.012	1.006	1.003	1.002	1.000	1.000	1.001	1.000	1.000	1.000				
2008	1.059	1.017	1.009	1.004	1.003	1.002	1.001	1.001	1.000	1.000					
2009	1.083	1.023	1.009	1.005	1.003	1.002	1.001	1.000	1.000						
2010	1.091	1.022	1.010	1.006	1.003	1.002	1.001	1.000							
2011	1.102	1.027	1.011	1.005	1.002	1.001	1.000								
2012	1.120	1.026	1.010	1.005	1.002	1.001									
2013	1.101	1.024	1.007	1.004	1.001										
2014	1.105	1.019	1.008	1.003											
2015	1.100	1.016	1.005												
2016	1.101	1.019													
2017	1.088														

I. Age-to-Age (Latest Year)

1.088	1.019	1.005	1.003	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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II. Age-to-Ultimate

1.125	1.034	1.014	1.010	1.006	1.005	1.004	1.003	1.003	1.003	1.002	1.002	1.002	1.002	1.002	1.002
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Accident	Age-to-Age Development (in months):														
Year	195-207	207-219	219-231	231-243	243-255	255-267	267-279	279-291	291-303	303-315	315-327	327-339	339-351	351-363	
1989	1.001	0.996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	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		
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	1.000	
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II. Age-to-Ultimate

1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000
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Source: WCIRB quarterly calls for experience.

**Projected Ratio of ALAE<sup>[1]</sup> to Losses - Statewide**Based on Estimated Accident Year Indemnity Claim Frequency and Private Insurers ALAE Severity  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

Acc. Year	Indemnity Claim Counts @3/31/19 (1)	Cumulative Count Development Factors <sup>[2]</sup> (2)	Estimated Ultimate Ind. Counts (3)=(1)x(2)	Estimated Ult. ALAE per Indemnity Claim <sup>[3]</sup> (4)	Estimated Ult. ALAE (in \$000) (5)=(3)x(4)
1991	250,037	1.000	250,072	2,472	618,153
1992	198,545	1.000	198,604	2,360	468,644
1993	156,181	1.001	156,260	2,197	343,306
1994	143,781	1.001	143,878	2,202	316,861
1995	135,217	1.001	135,342	2,532	342,666
1996	133,155	1.001	133,318	2,980	397,321
1997	137,393	1.001	137,584	3,733	513,564
1998	147,474	1.002	147,713	4,826	712,797
1999	148,695	1.002	148,948	5,157	768,136
2000	161,997	1.002	162,296	6,055	982,622
2001	185,697	1.002	186,060	7,511	1,397,564
2002	194,698	1.002	195,095	8,006	1,562,013
2003	184,266	1.002	184,634	8,495	1,568,382
2004	159,001	1.002	159,324	8,001	1,274,775
2005	139,589	1.002	139,867	7,741	1,082,725
2006	133,274	1.002	133,529	8,045	1,074,241
2007	130,302	1.002	130,557	8,706	1,136,681
2008	123,037	1.002	123,302	9,531	1,175,231
2009	113,738	1.003	114,024	10,528	1,200,501
2010	118,407	1.003	118,751	10,547	1,252,415
2011	120,547	1.003	120,911	10,484	1,267,648
2012	127,488	1.004	127,937	10,549	1,349,644
2013	135,284	1.005	135,902	10,492	1,425,934
2014	140,515	1.006	141,344	10,491	1,482,891
2015	144,538	1.009	145,896	10,401	1,517,415
2016	147,154	1.014	149,231	10,462	1,561,256
2017	145,143	1.034	150,030	10,446	1,567,236
2018	135,849	1.125	152,792	11,486	1,754,964

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

	Ult. Ind. Counts <sup>[4]</sup>	Ult. ALAE per Ind. Counts <sup>[5]</sup>	Ultimate ALAE <sup>[6]</sup>
2019	148,684	11,374	1,691,134
2020	145,338	11,658	1,694,411
1/1/2021	143,392	11,803	1,692,491
(a) Projected ALAE Incurred (\$000):			1,692,491
(b) Calendar Year 2018 Earned Premium <sup>[7]</sup> (\$000):			17,420,200
(c) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>[8]</sup> :			0.583
(d) Premium Adjustment Factor for Calendar Year 2018 <sup>[9]</sup> :			0.898
(e) Projected Losses (\$000): (b) x (c) x (d)			9,120,067
(f) Ratio of ALAE to Losses Prior to Impact of SB 1160 and AB 1244: (a)/(e)			18.6%
(g) Impact of SB 1160 and AB 1244 <sup>[10]</sup>			-7.2%
(h) Projected Ratio of ALAE to Losses after Impact of SB 1160 and AB 1244: (f) x [1.0 + (g)]			17.2%

**Notes:**<sup>[1]</sup> All paid ALAE exclude the paid cost of medical cost containment programs.<sup>[2]</sup> Based on the latest year indemnity claim count age-to-age development from Exhibit 11.3.<sup>[3]</sup> Based on estimated ultimate ALAE per indemnity for private insurers from Exhibit 9.<sup>[4]</sup> Estimated based on projected frequency trends for accident years 2018 to 2021. 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.<sup>[5]</sup> Severity is projected by applying an annual growth rate of 2.5%, 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 9 and (ii) paid ALAE per open indemnity claim from Exhibit 10, to the ultimate ALAE severity estimated from averaging 2017 and 2018.<sup>[6]</sup> Column(3) x Column(4) / 1,000.<sup>[7]</sup> 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 March 31, 2019.<sup>[8]</sup> See Exhibit 8 of Section B<sup>[9]</sup> See Exhibit 5.2 of Section B<sup>[10]</sup> Based on the WCIRB's most recent evaluation of SB 1160 and AB 1244 reflecting a 60% reduction in lien filings, offset by 25% to reflect the impact of the reforms in the emerging ALAE data.

**Projected Ratio of ALAE<sup>[1]</sup> to Losses - Statewide**

Based on Estimated Accident Year Indemnity Claim Frequency and Private Insurers ALAE Severity - Trend from Latest Year for Policies with Effective Dates between January 1, 2020 and December 31, 2020

Acc. Year	Indemnity Claim Counts @3/31/19	Cumulative Count Development Factors <sup>[2]</sup>	Estimated Ultimate Ind. Counts (3)=(1)x(2)	Estimated Ult. ALAE per Indemnity Claim <sup>[3]</sup>	Estimated Ult. ALAE (in \$000) (5)=(3)x(4)
	(1)	(2)		(4)	
1991	250,037	1.000	250,072	2,472	618,153
1992	198,545	1.000	198,604	2,360	468,644
1993	156,181	1.001	156,260	2,197	343,306
1994	143,781	1.001	143,878	2,202	316,861
1995	135,217	1.001	135,342	2,532	342,666
1996	133,155	1.001	133,318	2,980	397,321
1997	137,393	1.001	137,584	3,733	513,564
1998	147,474	1.002	147,713	4,826	712,797
1999	148,695	1.002	148,948	5,157	768,136
2000	161,997	1.002	162,296	6,055	982,622
2001	185,697	1.002	186,060	7,511	1,397,564
2002	194,698	1.002	195,095	8,006	1,562,013
2003	184,266	1.002	184,634	8,495	1,568,382
2004	159,001	1.002	159,324	8,001	1,274,775
2005	139,589	1.002	139,867	7,741	1,082,725
2006	133,274	1.002	133,529	8,045	1,074,241
2007	130,302	1.002	130,557	8,706	1,136,681
2008	123,037	1.002	123,302	9,531	1,175,231
2009	113,738	1.003	114,024	10,528	1,200,501
2010	118,407	1.003	118,751	10,547	1,252,415
2011	120,547	1.003	120,911	10,484	1,267,648
2012	127,488	1.004	127,937	10,549	1,349,644
2013	135,284	1.005	135,902	10,492	1,425,934
2014	140,515	1.006	141,344	10,491	1,482,891
2015	144,538	1.009	145,896	10,401	1,517,415
2016	147,154	1.014	149,231	10,462	1,561,256
2017	145,143	1.034	150,030	10,446	1,567,236
2018	135,849	1.125	152,792	11,486	1,754,964

**Projected Based on Latest Year**

	Ult. Ind. Counts <sup>[4]</sup>	Ult. ALAE per Ind. Counts <sup>[5]</sup>	Ultimate ALAE <sup>[6]</sup>
2019	149,966	11,773	1,765,560
2020	146,592	12,067	1,768,981
1/1/2021	144,629	12,217	1,766,976
(a) Projected ALAE Incurred (\$000):			1,766,976
(b) Calendar Year 2018 Earned Premium <sup>[7]</sup> (\$000):			17,420,200
(c) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>[8]</sup> :			0.583
(d) Premium Adjustment Factor for Calendar Year 2018 <sup>[9]</sup> :			0.898
(e) Projected Losses (\$000): (b) x (c) x (d)			9,120,067
(f) Ratio of ALAE to Losses Prior to Impact of SB 1160 and AB 1244: (a)/(e)			19.4%
(g) Impact of SB 1160 and AB 1244 <sup>[10]</sup>			-7.2%
(h) Projected Ratio of ALAE to Losses after Impact of SB 1160 and AB 1244: (f) x [1.0 + (g)]			18.0%

**Notes:**<sup>[1]</sup> All paid ALAE exclude the paid cost of medical cost containment programs.<sup>[2]</sup> Based on the latest year indemnity claim count age-to-age development from Exhibit 11.3.<sup>[3]</sup> Based on estimated ultimate ALAE per indemnity for private insurers from Exhibit 9.<sup>[4]</sup> Estimated based on projected frequency trends for accident years 2019 and 2021. The estimated frequency changes are based on the projected growth in overall indemnity claim frequency. These frequency trends were then applied to the 2018 ultimate indemnity claim counts.<sup>[5]</sup> Severity is projected by applying an annual growth rate of 2.5%, 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 9 and (ii) paid ALAE per open indemnity claim from Exhibit 10, to the 2018 ultimate ALAE severity.<sup>[6]</sup> Column(3) x Column(4) / 1,000.<sup>[7]</sup> 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 March 31, 2019.<sup>[8]</sup> See Exhibit 8 of Section B<sup>[9]</sup> See Exhibit 5.2 of Section B<sup>[10]</sup> Based on the WCIRB's most recent evaluation of SB 1160 and AB 1244 reflecting a 60% reduction in lien filings, offset by 25% to reflect the impact of the reforms in the emerging ALAE data.

**Projected Ultimate ALAE as a Percent of Ultimate Losses - Statewide**

Based on Private Insurers Paid ALAE as Percentage of Premium  
For Policies with Effective Dates between January 1, 2020 and December 31, 2020  
Latest Year Development Factors

Accident Year	Paid ALAE as % of Premium at 3/31/19 (1)	Development Factors (2)	Ultimate ALAE as % of Premium (3)	Ultimate On-level Indemnity as % of Premium (4)	Ultimate On-level Medical as % of Premium (5)	Ultimate ALAE as % of Ultimate On-level Loss (6)
1990	5.7%	1.044	5.9%	47.8%	22.9%	8.4%
1991	7.2%	1.047	7.6%	42.1%	20.5%	12.1%
1992	5.8%	1.051	6.1%	36.6%	18.0%	11.1%
1993	4.1%	1.053	4.3%	36.5%	18.0%	8.0%
1994	4.5%	1.057	4.7%	43.4%	21.9%	7.3%
1995	6.7%	1.061	7.1%	58.1%	31.7%	8.0%
1996	7.8%	1.068	8.3%	60.9%	33.4%	8.9%
1997	9.5%	1.074	10.2%	61.8%	37.3%	10.3%
1998	11.4%	1.080	12.3%	61.9%	39.6%	12.1%
1999	12.3%	1.087	13.4%	60.3%	33.6%	14.2%
2000	11.5%	1.094	12.6%	48.7%	28.1%	16.4%
2001	9.6%	1.101	10.5%	40.4%	22.8%	16.7%
2002	7.6%	1.109	8.5%	30.8%	18.5%	17.2%
2003	5.3%	1.117	5.9%	20.3%	12.5%	18.0%
2004	4.7%	1.125	5.3%	16.6%	12.9%	18.1%
2005	4.3%	1.136	4.9%	19.2%	14.8%	14.5%
2006	5.4%	1.150	6.2%	24.5%	20.2%	13.8%
2007	7.4%	1.165	8.6%	32.6%	28.2%	14.2%
2008	9.4%	1.185	11.2%	38.9%	35.3%	15.0%
2009	11.6%	1.208	14.0%	44.7%	41.2%	16.3%
2010	11.3%	1.239	14.0%	42.5%	40.8%	16.8%
2011	10.2%	1.277	13.1%	39.2%	36.1%	17.3%
2012	9.0%	1.331	12.0%	34.9%	32.8%	17.6%
2013	7.4%	1.405	10.3%	29.6%	29.4%	17.5%
2014	6.4%	1.515	9.7%	25.7%	27.7%	18.1%
2015	5.4%	1.697	9.2%	24.8%	26.9%	17.8%
2016	4.4%	2.056	9.1%	23.3%	25.7%	18.5%
2017	3.1%	2.930	9.2%	23.3%	26.8%	18.4%
2018	1.3%	8.088	10.5%	24.8%	28.9%	19.6%

(7) Projected ALAE as a Percent of Ultimate On-level Losses

Prior to Impact of SB 1160 and AB 1244:

19.0%

(8) Impact of SB 1160 and AB 1244:

-7.2%

(9) Projected Ratio of ALAE to Losses after Impact of SB 1160 and AB 1244:

(7) x [1.0 + (8)]

17.6%

## Notes:

- (1) Based on accident year paid ALAE and calendar year earned premium information from private insurers. Amounts shown do not reflect the paid cost of medical cost containment programs (MCCP).
- (2) Based on the private insurers latest year paid ALAE age-to-age development from Exhibit 11.1.
- (3) = (1) x (2).
- (4), (5) Based on Exhibits 7.1 and 7.3 of Section B. MCCP costs are not included in the medical ratios shown for accident years 2011 to 2018.
- (6) = (3) / [(4) + (5)].
- (7) Based on averaging 2017 and 2018.
- (8) Based on the WCIRB's most recent evaluation of SB 1160 and AB 1244 reflecting a 60% reduction in lien filings, offset by 25% to reflect the impact of the reforms in the emerging ALAE data.

Development of Paid Allocated Loss Adjustment Expenses as a Percent of Paid Indemnity<sup>[1]</sup>

Accident Year	Age-to-Age Development (in months):														Paid ALAE <sup>[2]</sup>		Paid Indemnity <sup>[3]</sup>	
	15-27	27-39	39-51	51-63	63-75	75-87	87-99	99-111	111-123	123-135	135-147	147-159	159-171	171-183	183-Ult	183-Ult		
1995															1.007			
1996													1.007	1.004				
1997												1.009	1.006	1.007				
1998											1.011	1.008	1.006	1.006				
1999										1.013	1.010	1.009	1.007	1.007				
2000									1.015	1.012	1.010	1.009	1.008	1.006				
2001								1.012	1.011	1.009	1.008	1.005	1.009	1.007				
2002							1.012	1.012	1.007	1.006	1.005	1.007	1.006	1.005				
2003						1.017	1.013	1.007	1.006	1.002	1.004	1.006	1.003	1.001				
2004					1.022	1.018	1.004	0.999	1.003	1.006	1.005	1.003	1.003	1.001				
2005				1.048	1.029	1.014	1.004	1.004	1.007	1.008	1.005	1.004	1.001					
2006			1.068	1.040	1.021	1.012	1.011	1.011	1.006	1.006	1.003	1.002						
2007		1.093	1.066	1.041	1.028	1.019	1.012	1.010	1.004	1.004	1.001							
2008	1.243	1.104	1.063	1.040	1.029	1.022	1.014	1.011	1.006	1.002								
2009	1.269	1.083	1.052	1.038	1.026	1.019	1.010	1.005	1.002									
2010	1.227	1.057	1.044	1.033	1.025	1.014	1.008	1.007										
2011	1.211	1.078	1.058	1.035	1.019	1.011	1.005											
2012	1.263	1.090	1.056	1.027	1.015	1.008												
2013	1.268	1.043	1.031	1.023	1.014													
2014	1.182	1.007	1.016	1.010														
2015	1.128	1.001	1.008															
2016	1.164	1.005																
2017	1.123																	

## Latest Year Development

Age to Age	1.123	1.005	1.008	1.010	1.014	1.008	1.005	1.007	1.002	1.002	1.001	1.002	1.001	1.001			
Age-to-Ult.	1.281	1.141	1.136	1.127	1.115	1.100	1.091	1.086	1.079	1.077	1.075	1.074	1.071	1.070	1.125	1.053	

## 3-Year Arithmetic Average Development

Age to Age	1.138	1.004	1.018	1.020	1.016	1.011	1.007	1.008	1.004	1.004	1.003	1.003	1.002	1.002			
Age-to-Ult.	1.355	1.190	1.185	1.164	1.141	1.123	1.110	1.102	1.094	1.090	1.085	1.082	1.078	1.076	1.130	1.053	

## Notes:

<sup>[1]</sup> Due to relatively sparse data and differing mixes of insurers represented in each factor, each factor shown is the ratio of the paid ALAE development factor to the paid indemnity development factor. The paid ALAE development is based on the private insurers' paid ALAE development from paid Exhibit 11.1, the paid indemnity development factors are from Exhibits 2.5.1 and 2.5.2 of Section B.

<sup>[2]</sup> Based on the private insurers paid ALAE age-to-age development from Exhibit 11.1.

<sup>[3]</sup> Based on Exhibit 3.1 of Section B.

**Projected Ultimate ALAE as a Percent of Ultimate Losses - Statewide**  
For Policies with Effective Dates between January 1, 2020 and December 31, 2020  
Using Paid ALAE as a Percent of Paid Indemnity for Private Insurers  
Latest Year Development Factors

Accident Year	Paid ALAE as a Percent of Paid Indemnity at 3/31/19 (1)	Development Factors (2)	Ultimate ALAE as a Percent of Ultimate Indemnity (3)	Indemnity On-level Factors (4)	Ultimate ALAE as a Percent of Ultimate On-level Indemnity (5)
2004	36.7%	1.069	39.2%	1.141	34.3%
2005	38.8%	1.070	41.5%	1.546	26.8%
2006	37.4%	1.071	40.0%	1.520	26.3%
2007	37.2%	1.074	40.0%	1.465	27.3%
2008	36.7%	1.075	39.4%	1.376	28.6%
2009	38.6%	1.077	41.5%	1.349	30.8%
2010	39.0%	1.079	42.1%	1.323	31.8%
2011	39.1%	1.086	42.4%	1.305	32.5%
2012	39.5%	1.091	43.1%	1.289	33.5%
2013	39.6%	1.100	43.6%	1.260	34.6%
2014	37.8%	1.115	42.2%	1.154	36.6%
2015	36.3%	1.127	40.9%	1.138	35.9%
2016	36.2%	1.136	41.1%	1.124	36.6%
2017	36.3%	1.141	41.4%	1.094	37.8%
2018	32.8%	1.281	42.0%	1.067	39.3%

(6) ALAE as Percent of On-level Indemnity:	Projected: 38.6%
(7) Indicated Indemnity to Industry Average Filed Pure Premium Ratio:	0.257
(8) Indicated Medical to Industry Average Filed Pure Premium Ratio:	0.326
(9) ALAE as Percent of Total Losses Prior to Impact of SB 1160 and AB 1244:	17.0%
(10) Impact of SB 1160 and AB 1244:	-7.2%
(11) Projected Ratio of ALAE to Losses after Impact of SB 1160 and AB 1244: (9) x [1.0 + (10)]	15.8%

**Notes:**

- (1) Based on accident year paid ALAE information from private insurers. Amounts shown do not reflect the paid cost of medical cost containment programs (MCCP).
- (2) See Exhibit 14.1.
- (3) = (1) x (2).
- (4) From Exhibit 4.1 of Section B.
- (5) = (3) / (4).
- (6) Projected by averaging 2017 and 2018.
- (7), (8) From Exhibit 8 of Section B.
- (9) = (6) x (7) / [(7) + (8)].
- (10) Based on the WCIRB's most recent evaluation of SB 1160 and AB 1244 reflecting a 60% reduction in lien filings, offset by 25% to reflect the impact of the reforms in the emerging ALAE data.

**Average Paid M CCP per Reported Indemnity Claim - Statewide**  
As of March 31, 2019

Accident Year	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>	<u>87</u>
2012	891	1,506	1,819	2,049	2,205	2,312	2,323
2013	841	1,363	1,701	1,918	2,055	2,090	
2014	784	1,325	1,661	1,856	1,954		
2015	777	1,309	1,598	1,784			
2016	766	1,237	1,507				
2017	748	1,227					
2018	808						

Accident Year	<u>15</u>	<u>27</u>	<u>39</u>	<u>51</u>	<u>63</u>	<u>75</u>	<u>87</u>
2013	-5.7%	-9.5%	-6.5%	-6.4%	-6.8%	-9.6%	
2014	-6.8%	-2.8%	-2.3%	-3.2%	-4.9%		
2015	-0.8%	-1.2%	-3.8%	-3.9%			
2016	-1.5%	-5.5%	-5.7%				
2017	-2.3%	-0.8%					
2018	8.0%						

Source: WCIRB accident year experience calls.

## Estimated Ultimate MCCP per Indemnity Claim - Statewide

Accident Year	Paid MCCP @03/31/19 (in \$000) (1)	Cumulative Development Factors <sup>[1]</sup> (2)	Estimated Ultimate MCCP (3)=(1)x(2)	Indemnity Claim Counts @03/31/19 (4)	Cumulative Count Development Factors <sup>[2]</sup> (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5)	Estimated Ultimate MCCP per Indemnity Claim (7)=(3)/(6) x 1000	Annual change
2011	315,502	1.364	430,382	120,547	1.003	120,911	3,559	---
2012	293,610	1.416	415,739	127,488	1.004	127,937	3,250	-8.7%
2013	282,696	1.464	413,928	135,284	1.005	135,902	3,046	-6.3%
2014	274,600	1.539	422,513	140,515	1.006	141,344	2,989	-1.9%
2015	257,792	1.650	425,387	144,538	1.009	145,896	2,916	-2.5%
2016	221,724	1.852	410,672	147,154	1.014	149,231	2,752	-5.6%
2017	178,086	2.299	409,410	145,143	1.034	150,030	2,729	-0.8%
2018	109,711	4.106	450,421	135,849	1.125	152,792	2,948	8.0%

## Estimated Annual Exponential Trend Based on:

2012 to 2018	-2.1%
2014 to 2018	-0.9%

## Notes:

- [1] Based on MCCP development through 87 months from Exhibit 18.1. 99-to-ultimate and 87-to-ultimate development factors are based on selected paid medical development factors from Exhibit 3.2 of Section B.
- [2] Based on the latest year indemnity claim count age-to-age development from Exhibit 11.3.



**Paid MCCP per Indemnity Claims Inventory<sup>[1]</sup> by Calendar Year - Statewide**

Calendar Year	Paid MCCP per Indemnity Claim Adjusted to Remove IMR/IBR Fees	Year-to-Year Change
2008	\$848	---
2009	\$808	-4.7%
2010	\$872	7.9%
2011	\$914	4.8%
2012	\$942	3.0%
2013	\$984	4.5%
2014	\$952	-3.3%
2015	\$1,059	11.2%
2016	\$1,000	-5.6%
2017	\$947	-5.2%
2018	\$978	3.3%

Estimated Annual Exponential Trend Based on:

2009-2018	1.9%
R <sup>2</sup>	0.559

<sup>[1]</sup> 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.

## Paid MCCP Development Factors - Statewide

Quarterly Development							
Age in Months	Accident Year						
	2012	2013	2014	2015	2016	2017	2018
3 - 6	5.599	5.796	6.047	5.652	6.118	5.561	5.890
6 - 9	2.356	2.432	2.402	2.457	2.407	2.395	2.329
9 - 12	1.763	1.773	1.771	1.742	1.725	1.776	1.824
12 - 15	1.476	1.412	1.456	1.468	1.477	1.444	1.432
15 - 18	1.277	1.253	1.299	1.282	1.244	1.258	
18 - 21	1.171	1.157	1.194	1.177	1.170	1.154	
21 - 24	1.128	1.121	1.128	1.120	1.125	1.122	
24 - 27	1.083	1.099	1.096	1.096	1.086	1.096	
27 - 30	1.077	1.081	1.073	1.073	1.077		
30 - 33	1.051	1.068	1.045	1.062	1.054		
33 - 36	1.045	1.054	1.036	1.047	1.053		
36 - 39	1.047	1.053	1.034	1.040	1.039		
39 - 42	1.036	1.043	1.026	1.040			
42 - 45	1.036	1.035	1.025	1.029			
45 - 48	1.031	1.027	1.019	1.028			
48 - 51	1.031	1.023	1.026	1.021			
51 - 54	1.025	1.023	1.025				
54 - 57	1.022	1.019	1.019				
57 - 60	1.017	1.016	1.016				
60 - 63	1.015	1.015	1.013				
63 - 66	1.016	1.017					
66 - 69	1.014	1.012					
69 - 72	1.011	1.011					
72 - 75	1.010	1.010					
75 - 78	1.010						
78 - 81	1.008						
81 - 84	1.008						
84 - 87	1.008						
Annual Development							
Age in Months	Accident Year						
	2012	2013	2014	2015	2016	2017	
15 - 27	1.829	1.791	1.887	1.851	1.779	1.786	
27 - 39	1.242	1.284	1.276	1.240	1.241		
39 - 51	1.141	1.135	1.126	1.122			
51 - 63	1.081	1.075	1.072				
63 - 75	1.051	1.051					
75 - 87	1.034						
	<u>15-27</u>	<u>27-39</u>	<u>39-51</u>	<u>51-63</u>	<u>63-75</u>	<u>75-87</u>	<u>87-Ult.</u>
Age-to-Age <sup>[1]</sup>	1.786	1.241	1.122	1.072	1.051	1.034	
Age -to-Ult. <sup>[2]</sup>	4.106	2.299	1.852	1.650	1.539	1.464	1.416

## Notes:

[1] Based on Latest Year.

[2] 87-to-Ult. is based on selected paid medical 87-to-ultimate development factor on Exhibit 3.2 of Section B.

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 January 1, 2020 and December 31, 2020

Accident Year	Paid M CCP @3/31/19 (in \$000) (1)	Cumulative Development Factors <sup>[1]</sup> (2)	Estimated Ultimate M CCP (3)=(1)x(2) (4)	Indemnity Claim Counts @3/31/19 (5)	Cumulative Count Development Factors <sup>[2]</sup> (6)	Estimated Ultimate Ind. Counts (7)=(6)x(5) (8)	Estimated Ultimate M CCP per Indemnity Claim (9)=(3)/(8) x 1000
2011	315,502	1.364	430,382	120,547	1.003	120,911	3,559
2012	293,610	1.416	415,739	127,488	1.004	127,937	3,250
2013	282,696	1.464	413,928	135,284	1.005	135,902	3,046
2014	274,600	1.539	422,513	140,515	1.006	141,344	2,989
2015	257,792	1.650	425,387	144,538	1.009	145,896	2,916
2016	221,724	1.852	410,672	147,154	1.014	149,231	2,752
2017	178,086	2.299	409,410	145,143	1.034	150,030	2,729
2018	109,711	4.106	450,421	135,849	1.125	152,792	2,948

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

	Ultimate M CCP <sup>[5]</sup>	Ult. Ind. Counts <sup>[3]</sup>	Ult. M CCP per Ind. Counts <sup>[4]</sup>
2019	422,022	148,684	2,838
2020	412,527	145,338	2,838
1/1/2021	407,003	143,392	2,838

(a) Projected M CCP (\$000):	407,003
(b) Calendar Year 2018 Earned Premium <sup>[6]</sup> (\$000):	17,420,200
(c) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>[7]</sup> :	0.583
(d) Premium Adjustment Factor for Calendar Year 2018 <sup>[8]</sup> :	0.898
(e) Projected Losses (\$000): (b) x (c) x (d)	9,120,067
(f) Projected Ratio of M CCP to Losses: (a)/(e)	4.5%

## Notes:

<sup>[1]</sup> Based on M CCP development through 87 months from Exhibit 18.1. 99-to-ultimate and 87-to-ultimate development factors are based on selected paid medical development factors from Exhibit 3.2 of Section B.<sup>[2]</sup> Based on the latest year indemnity claim count age-to-age development from Exhibit 11.3.<sup>[3]</sup> Estimated based on projected frequency trends for accident years 2018 to 2021. 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.<sup>[4]</sup> Severity is projected by applying an annual growth rate of 0% to the ultimate M CCP severity estimated from averaging 2017 and 2018.<sup>[5]</sup> Column(6) x Column(7) / 1,000.<sup>[6]</sup> 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 March 31, 2019.<sup>[7]</sup> See Exhibit 8 of Section B.<sup>[8]</sup> See Exhibit 5.2 of Section B.

**Projected Ratio of M CCP to Losses - Statewide**

Based on Estimated Accident Year Indemnity Claim Frequency and M CCP Severity - Trend from Latest Year  
for Policies with Effective Dates between July 1, 2020 and December 31, 2020

Accident Year	Paid M CCP @3/31/19 (in \$000) (1)	Cumulative Development Factors <sup>[1]</sup> (2)	Estimated Ultimate M CCP (3)=(1)x(2)	Indemnity Claim Counts @3/31/19 (4)	Cumulative Count Development Factors <sup>[2]</sup> (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5)	Estimated Ultimate M CCP per Indemnity Claim (7)=(3)/(6) x 1000
2011	315,502	1.364	430,382	120,547	1.003	120,911	3,559
2012	293,610	1.416	415,739	127,488	1.004	127,937	3,250
2013	282,696	1.464	413,928	135,284	1.005	135,902	3,046
2014	274,600	1.539	422,513	140,515	1.006	141,344	2,989
2015	257,792	1.650	425,387	144,538	1.009	145,896	2,916
2016	221,724	1.852	410,672	147,154	1.014	149,231	2,752
2017	178,086	2.299	409,410	145,143	1.034	150,030	2,729
2018	109,711	4.106	450,421	135,849	1.125	152,792	2,948

**Projected Based on Latest Year:**

	Ultimate M CCP <sup>[5]</sup>	Ult. Ind. Counts <sup>[3]</sup>	Ult. M CCP per Ind. Counts <sup>[4]</sup>
2019	442,088	149,966	2,948
2020	432,141	146,592	2,948
1/1/2021	426,355	144,629	2,948

(a) Projected M CCP (\$000):	426,355
(b) Calendar Year 2018 Earned Premium <sup>[6]</sup> (\$000):	17,420,200
(c) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>[7]</sup> :	0.583
(d) Premium Adjustment Factor for Calendar Year 2018 <sup>[8]</sup> :	0.898
(e) Projected Losses (\$000): (b) x (c) x (d)	9,120,067
(f) Projected Ratio of M CCP to Losses: (a)/(e)	4.7%

**Notes:**

- <sup>[1]</sup> Based on M CCP development through 87 months from Exhibit 18.1. 99-to-ultimate and 87-to-ultimate development factors are based on selected paid medical development factors from Exhibit 3.2 of Section B.
- <sup>[2]</sup> Based on the latest year indemnity claim count age-to-age development from Exhibit 11.3.
- <sup>[3]</sup> Estimated based on projected frequency trends for accident years 2019 to 2021. 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 2018 ultimate indemnity claim counts.
- <sup>[4]</sup> Severity is projected by applying an annual growth rate of 0% to the 2018 ultimate M CCP severity.
- <sup>[5]</sup> Column(6) x Column(7) / 1,000.
- <sup>[6]</sup> 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 March 31, 2019.
- <sup>[7]</sup> See Exhibit 8 of Section B.
- <sup>[8]</sup> See Exhibit 5.2 of Section B.

**Projected Ratio of M CCP to Losses - Statewide**

Based on Estimated Accident Year Indemnity Claim Frequency and M CCP Severity with Trend  
Based on AY Ultimate M CCP per Indemnity Claim and Applied to the Latest Two Years  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

Year	Paid M CCP @3/31/19 (in \$000) (1)	Cumulative Development Factors <sup>[1]</sup> (2)	Estimated Ultimate M CCP (3)=(1)x(2) (4)	Indemnity Claim Counts @3/31/19 (4)	Cumulative Count Development Factors <sup>[2]</sup> (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5) (6)	Estimated Ultimate M CCP per Indemnity Claim (7)=(3)/(6) x 1000 (7)
2011	315,502	1.364	430,382	120,547	1.003	120,911	3,559
2012	293,610	1.416	415,739	127,488	1.004	127,937	3,250
2013	282,696	1.464	413,928	135,284	1.005	135,902	3,046
2014	274,600	1.539	422,513	140,515	1.006	141,344	2,989
2015	257,792	1.650	425,387	144,538	1.009	145,896	2,916
2016	221,724	1.852	410,672	147,154	1.014	149,231	2,752
2017	178,086	2.299	409,410	145,143	1.034	150,030	2,729
2018	109,711	4.106	450,421	135,849	1.125	152,792	2,948

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

	Ultimate M CCP <sup>[5]</sup>	Ult. Ind. Counts <sup>[3]</sup>	Ult. M CCP per Ind. Counts <sup>[4]</sup>
2019	408,979	148,684	2,751
2020	391,375	145,338	2,693
1/1/2021	382,056	143,392	2,664

(a) Projected M CCP (\$000):	382,056
(b) Calendar Year 2018 Earned Premium <sup>[6]</sup> (\$000):	17,420,200
(c) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>[7]</sup> :	0.583
(d) Premium Adjustment Factor for Calendar Year 2018 <sup>[8]</sup> :	0.898
(e) Projected Losses (\$000): (b) x (c) x (d)	9,120,067
(f) Projected Ratio of M CCP to Losses: (a)/(e)	4.2%

**Notes:**

- <sup>[1]</sup> Based on M CCP development through 87 months from Exhibit 18.1. 99-to-ultimate and 87-to-ultimate development factors are based on selected paid medical development factors from Exhibit 3.2 of Section B.
- <sup>[2]</sup> Based on the latest year indemnity claim count age-to-age development from Exhibit 11.3.
- <sup>[3]</sup> Estimated based on projected frequency trends for accident years 2018 and 2020. The estimated frequency changes are based on the projected growth in total or overall indemnity claim frequency.
- <sup>[4]</sup> Severity is projected by applying an annual growth rate of -2.1% to the ultimate M CCP severity estimated from averaging 2017 and 2018.
- <sup>[5]</sup> Column(6) x Column(7) / 1,000.
- <sup>[6]</sup> 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 March 31, 2019.
- <sup>[7]</sup> See Exhibit 8 of Section B.
- <sup>[8]</sup> See Exhibit 5.2 of Section B.

**Projected Ratio of M CCP to Losses - Statewide**

Based on Estimated Accident Year Indemnity Claim Frequency and M CCP Severity with Trend  
Based on CY Paid M CCP per Open Indemnity Claim and Applied to the Latest Two Years  
for Policies with Effective Dates between January 1, 2020 and December 31, 2020

Accident Year	Paid M CCP @3/31/19 (in \$000) (1)	Cumulative Development Factors <sup>[1]</sup> (2)	Estimated Ultimate M CCP (3)=(1)x(2) (4)	Indemnity Claim Counts @3/31/19 (4)	Cumulative Count Development Factors <sup>[2]</sup> (5)	Estimated Ultimate Ind. Counts (6)=(4)x(5) (6)	Estimated Ultimate M CCP per Indemnity Claim (7)=(3)/(6) x 1000 (7)
2011	315,502	1.364	430,382	120,547	1.003	120,911	3,559
2012	293,610	1.416	415,739	127,488	1.004	127,937	3,250
2013	282,696	1.464	413,928	135,284	1.005	135,902	3,046
2014	274,600	1.539	422,513	140,515	1.006	141,344	2,989
2015	257,792	1.650	425,387	144,538	1.009	145,896	2,916
2016	221,724	1.852	410,672	147,154	1.014	149,231	2,752
2017	178,086	2.299	409,410	145,143	1.034	150,030	2,729
2018	109,711	4.106	450,421	135,849	1.125	152,792	2,948

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

	Ultimate M CCP <sup>[5]</sup>	Ult. Ind. Counts <sup>[3]</sup>	Ult. M CCP per Ind. Counts <sup>[4]</sup>
2019	433,797	148,684	2,918
2020	431,979	145,338	2,972
1/1/2021	430,167	143,392	3,000

(a) Projected M CCP (\$000):	430,167
(b) Calendar Year 2018 Earned Premium <sup>[6]</sup> (\$000):	17,420,200
(c) Projected Loss to Industry Average Filed Pure Premium Ratio <sup>[7]</sup> :	0.583
(d) Premium Adjustment Factor for Calendar Year 2018 <sup>[8]</sup> :	0.898
(e) Projected Losses (\$000): (b) x (c) x (d)	9,120,067
(f) Projected Ratio of M CCP to Losses: (a)/(e)	4.7%

**Notes:**

- <sup>[1]</sup> Based on M CCP development through 87 months from Exhibit 18.1. 99-to-ultimate and 87-to-ultimate development factors are based on selected paid medical development factors from Exhibit 3.2 of Section B.
- <sup>[2]</sup> Based on the latest year indemnity claim count age-to-age development from Exhibit 11.3.
- <sup>[3]</sup> Estimated based on projected frequency trends for accident years 2018 and 2020. The estimated frequency changes are based on the projected growth in total or overall indemnity claim frequency.
- <sup>[4]</sup> Severity is projected by applying an annual growth rate of 1.9% to the ultimate M CCP severity estimated from averaging 2017 and 2018.
- <sup>[5]</sup> Column(6) x Column(7) / 1,000.
- <sup>[6]</sup> 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 March 31, 2019.
- <sup>[7]</sup> See Exhibit 8 of Section B.
- <sup>[8]</sup> See Exhibit 5.2 of Section B.