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**Analysis of proposed WCIRB 2009 Pure Premium Rates  
Submitted to the California Department of Insurance  
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**Summary**

I have reviewed the WCIRB proposed pure premium rate change and find several areas where the estimates are too high.

- Frequency decline
  - Bureau estimate: -5.5%
  - Alternative estimate: - 11.3%
  - Difference: -5.8 percentage points
- Indemnity increases
  - Bureau estimate: +2.0%
  - Alternative estimate: +1.4%
  - Difference: -0.6 percentage points
- Loss adjustment expense (LAE)
  - Bureau estimate: +2.8%
  - Alternative estimate: 0.0%
  - Difference: -2.8 percentage points

In combination, these corrections suggest that the Bureau's pure premium rate increase is at least 10.4 percentage points too high. If the Bureau's estimate is 16%, these corrections alone imply that a more appropriate pure premium rate change would be +5.6%, before consideration of medical loss development. I also do not consider the impact of this lower estimate on the +1.8% increase due to the "off-balance" factor.

The WCIRB's arguments for a rate hike based on medical cost trends rely on two underpinnings:

- Aggregate "Quarterly Call" data—While these data show increasing total losses for recent accident years (2005-2007):
  - The loss rate (losses as a fraction of payroll) have continued to decline at a rate of -3.1% per year.
  - Over 1/3<sup>rd</sup> of the increase in total medical losses can be attributed to increases in

medical cost containment (MCC) expenses. MCC is not likely to continue increasing and, in any case, should be included under LAE instead of medical losses, as is done in most other states.

- Transaction level data analyzed by CWCI—These data are likely to have a substantial bias because the CWCI claims sample is dominated by SCIF claims.

As a final note, over the past four years, administrative and other costs (LAE, MCC, and the margin between pure premium rates and actual premiums) have represented an unprecedented portion of employers' costs. During this period, these other costs have been more than 120% of direct losses (medical and indemnity benefits). Efforts to control the current and future cost of workers' compensation should focus on this area as the key force driving high rates.

**Acknowledgements:**

In preparing collecting data for the accompanying analysis, I received assistance from the staff of the Commission on Health and Safety and Workers' Compensation (CHSWC). I also received feedback from employer and labor representatives on CHSWC. Special thanks go to Judge Lachlan Taylor of CHSWC and several others for review of earlier drafts. However, all opinions and any errors are those of the author.

## Discussion

Policy year 2009 will include accidents in calendar years 2009 and 2010. I will use the estimate that two-thirds of the accidents will occur in 2009 and 1/3 will occur in 2010. Hence, two-thirds of the premium will be affected by cost drivers that are operating in 2008 and 2009, and 1/3rd will reflect cost drivers operating in 2008, 2009, and 2010.

### 1.0 Estimated change in claim frequency

The WCIRB's 2009 rate filing substantially overstates future claim frequency by underestimating the long-term trend in frequency decline.

- The Rating Bureau estimates that frequency declines will be -3.9% for 2008, -1.3% for 2009, and -1.1% for 2010 or -5.5% between accident year 2007 and policy year 2009. However, this estimate seems poorly supported by the basic trends observed in every reporting system analyzed.
- A more realistic estimate is that frequency will continue to decline at the long-term trend of -5% per year or -11.3% between accident year 2007 and policy year 2009. The estimate is likely conservative in its impact on rates because all indications are that more serious claims are declining even more rapidly than less serious claims.

#### 1.1 Discussion

There has been a long-term decline in the frequency of workers' compensation claims. The long-term nature of this trend is strong support for predicting that the decline in frequency rates will continue.

- Long-term data on indemnity claims from the Rating Bureau for the past 15 years give an average year-to-year decline in frequency of -4.9%. This trend has been even stronger since 2000, on average -8.9% per year.
- The Bureau of Labor Statistics (BLS) data on California injury rates from the Survey of Injury and Illnesses (SOII) give an average annual decline since 2000 of -4.9% for all claims and -6.7% for accidents involving lost workdays (approximately equivalent to indemnity claims).
- The Workers' Compensation Information System (WCIS) is maintained by the Division of Workers' Compensation (DWC) to track all workers' compensation claims, including those ultimately denied or settled without a decision on work-related causation. Data from WCIS for 2001 through 2006 (2007 data are still unreliable) suggest a decline in the absolute number of reported injuries of about -5.2% annually, even though the size of the workforce has increased gradually over this period. After consideration of employment growth, the average year-to-year WCIS frequency decline has been -5.9%.

- Emergency room visits paid for by workers' compensation are reported by the California Office of State Health Planning & Development (OSHPD) for all emergency departments in California. These data have been available only since 2005. They show a similar decline as other data, from 179,021 visits in 2005 to 168,276 in 2006 (-6.0%) and 153,044 in 2007 (-9.0%).
- Data on hospital inpatient discharges, also from OSHPD, have shown a similar decline, although more gradual than the other data series. However, hospital inpatient care for any year will include a significant fraction of admissions for injuries from one, two or even many years in the past. Consequently, they would be expected to react more gradually than other data series on the incidence of injuries.

**Table 1: Occupational Injury & illness Statistics: Percent Change from Prior Year**

Accident Year	BLS		WCIS		WCIRB
	All injuries & illnesses (California)	Lost work day conditions (California)	All claims	All claims adjusted for labor force growth	Indemnity claims
2000			N/A	N/A	6.4%
2001	-7.7%	5.0%	N/A	N/A	-8.4%
2002	0.0%	-4.8%	-5.4%	-4.3%	0.8%
2003	-1.7%	-5.0%	-5.4%	-6.0%	-8.9%
2004	-8.5%	-10.5%	-5.9%	-6.8%	-16.0%
2005	-5.6%	-11.8%	-4.8%	-7.1%	-17.7%
2006	-9.8%	-13.3%	-4.3%	-5.5%	-8.4%
2007			-10.6%*	-11.1%*	-5.6%

\* WCIS data for latest year may be artificially low because of lags in reporting by all data providers

**Table 2: Hospital Data: Workers' Compensation**

Year	Inpatient Admissions		Emergency Department Visits	
	Admissions	% change year-to-tear	Visits	% change year-to-tear
2000	29,742			
2001	31,378	5.5%		
2002	31,389	0.0%		
2003	30,749	-2.0%		
2004	29,176	-5.1%		
2005	27,559	-5.5%	179,021	
2006	26,530	-3.7%	168,276	-6.0%
2007	25,552	-3.7%	153,044	-9.1%

\* OSHPD data for emergency care only available starting 2005

Given these various sources, the evidence that indemnity claims are likely declining faster than all claims, and the possible acceleration of the trend after 2000, it seems reasonable to use -5% as the average year-to-year decline in the frequency of injuries. This estimate is probably too conservative for the more expensive claims involving indemnity and especially permanent disability.

Using a -5% trend, I estimate that claim frequency will decline by 9.8% between accident year 2007 and accident year 2009 [ $1 - .95 \times .95$ ] and 14.3% by accident year 2010 [ $1 - .95 \times .95 \times .95$ ]. Weighting by the distribution of injuries for policy year 2009 covering injuries in 2009 and 2010, we would expect policy year 2009 to have an 11.3% [ $9.8\% \times .667 + 14.3\% \times .333$ ] lower injury rate than accident year 2007.

Consequently, we expect costs (numerator of pure premium rates) to decline by 11.3%. If, as the data suggest, the more serious claims are declining faster than the least serious, e.g., medical-only, then the estimated impact on cost of declining claim frequency is too conservative, i.e., under-estimated.

The obvious question is whether the difference between my estimate and the Bureau's is plausible. One way to evaluate this is to examine the performance of the Bureau's methodology over the period where we have both the Bureau's predicted changes and the actual changes. I reviewed the Bureau's rate filings for each available year (only 2003-2009 rate filings are available electronically from the Bureau). For each filing, I took the nearest accident year prediction, typically the accident year starting about 6 months after the rate filing submission date. These data are reported in the table below.

**Table 3: WCIRB Indemnity Claim Frequency Changes:  
Comparison of Predicted and Reported Changes**

Accident Year	WCIRB Predicted Change	WCIRB Actual Change	Difference (Actual – Predicted)
2001		-8.4%	
2002		0.8%	
2003	-1.4%	-8.9%	-7.5%
2004	0.7%	-16.0%	-16.7%
2005	1.4%	-17.7%	-19.1%
2006	-2.8%	-8.4%	-5.6%
2007	-3.0%	-5.6%	-2.6%
2008	-2.9%*		
2009	-1.3%		
2010	-1.1**		

\* 2009 rate filing estimate -3.9%

\*\* 2010 is two-year projection

The striking results are two:

- First, the errors are large, an average of over 10 percentage points each year.
- Second, the errors are always in the same direction, over estimating the frequency of claims, and hence, all else equal, over estimating the appropriate pure premium rate.

Over this period, 2002-2007, WCIRB claim frequency predictions overestimated actual claim frequency by a large margin in each year. It is difficult to predict claim frequency and errors are expected. However, we do not expect the errors to always be in the same direction. This has led

to a consistent tendency to overestimate rates. The average bias (+10.2 percentage points) is substantially larger than the difference (2.9 percentage points) between my alternative average annual trend estimate and the Bureau’s average trend estimate for the 2009 rate filing.

## 2.0 Wage inflation and indemnity increases

Wage inflation increases the payroll base and reduces premium rates (-7.5% based on Bureau projected wage growth). But wage inflation also leads to increases in indemnity benefits. I believe the Bureau’s 2009 rate filing over estimates the impact wage growth on indemnity costs by 3.1 percentage points.

- The Bureau predicts indemnity increases “approximately” equal to “declines in claim frequency” or approximately +2.0% (Bureau estimate) between accident year 2007 and policy year 2009.
- I estimate the impact of wage inflation on indemnity cost as +1.4%.
- I find no evidence for the Bureau’s claim that “statutory benefit changes...and injury mix” will contribute to an increase in indemnity cost beyond those predicted by wage inflation. If anything, this estimate is conservative given the indication that more serious, expensive claims are showing greater frequency declines.

### 2.1 Discussion

#### 2.1.a Estimated impact of wage inflation on indemnity benefits.

Temporary disability (TD) benefits and permanent total disability (PTD) will increase by very close to the wage growth estimate (+7.5%), because TD & PTD benefits are tied to wage growth.

Permanent partial disability (PPD) payments will increase much less than TD and PTD because the maximums for PPD are not adjusted for wage inflation. Only PPD payments for the narrow range of workers whose wages fall between the minimum and maximum levels are affected. Using the Benefit Simulation Model developed at the University of California, Berkeley, I estimated the impact of wage growth on PPD benefits. Those impacts are given in the table below for each accident year.

Year	Year-to-year Percent change	Cumulative Percent change
2008	0.5%	0.5%
2009	0.4%	0.8%
2010	0.4%	1.2%

Weighting for the distribution across accident years, PPD costs will be 0.9% [ $.667 * 0.8\% + .333$

\* 1.2%] higher on 2009 policies than for accident year 2007.

The WCIRB 2009 Rate Filing, Part A, Section B, Appendix A, Exhibit 3, gives a split of 67% medical and 33% indemnity for ultimate losses. The Bureau does not report (or I could not find) in the rate filing the split between TD, PPD, and PTD. Lacking better information, I assign 4.3% of indemnity to PTD (consistent with the latest WCIRB “Losses and Expenses” report) and split the remainder evenly between TD and PPD. This attributes 1.4% of total losses to PTD and 15.9% to both TD and PPD.<sup>1</sup> That in turn gives us the following estimate of the impact of wage inflation on ultimate loss costs for policy year 2009:

$$1.4\% = (1.4\% * 7.5\%) + (15.9\% * 7.5\%) + (15.9\% * 0.9\%)$$

#### 2.1.b Other factors affecting indemnity.

There is no reasoning to support indemnity cost increases beyond the TD, PPD and PTD increases that were accounted for above in the discussion of wage inflation.

- a. Temporary Disability - There is no evidence offered that TD durations are increasing and no reason to think they are increasing. More likely, if researchers had access to insurers’ data, either through the Bureau or pooled databases like the California Workers’ Compensation Institute (CWCI) ICIS data, they would find that average durations of TD are consistently decreasing. The limited aggregate data available suggests this is the trend.
  - i. U.S. Bureau of Labor Statistics. Survey of Occupational Injury and Illness data, available through 2006, has shown a slow but noticeable trend towards shorter durations for cases involving days away from work as reported by employers.
  - ii. The Workers’ Compensation Research Institute (WCRI) has recently published results indicating that durations were declining through 2006. WCRI suggests the rate of decline in average duration might be moderating, but does not suggest increasing duration.
  - iii. Third, it is surprising that WCRI observed TD durations declining through 2006 given that the large TD benefit increases legislated under AB-749 should have led to a temporary, one-time increase in durations because of the large number of workers affected by the benefit increases. If anything, we would expect the trend towards shorter durations to increase in the absence of large benefit increases.
- b. Permanent Disability—There is also no evidence that PPD ratings (the basis for PPD indemnity calculations) are increasing and no reason to think they would increase in policy year 2009.

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<sup>1</sup> I ignore death benefits and the Supplemental Job Displacement Benefit (SJDB) which are not affected by wage inflation and are a nominal fraction of indemnity benefits.

- i. Since the adoption of the AMA *Guides*-based Permanent Disability Rating Schedule (PDRS), analysis of PPD ratings under the new rating system done for CHSWC, WCIRB, and DWC/DEU by University of California, Berkeley have found no evidence that average PPD ratings are changing at all.
  - ii. There is also no evidence that the frequency of PPD claims is increasing. If anything, the decline in the frequency of PPD claims has been steeper than the decline in indemnity claims and all claims, more generally.
- c. Permanent Total Disability (PTD) claims, that the Bureau discusses as a cost- driver, actually appear to be dropping very dramatically in frequency, much more quickly than indemnity claims more generally. Average indemnity cost per PTD claim increased because the reforms dramatically increased the average weekly benefit rate. However, these average per claim cost increases were not a longer-term trend; they were a one-time set of benefit increases arising out of the reforms and implemented by 2006.
- d. Similarly, increases in the average indemnity cost in death cases were driven by a one-time set of benefit increases arising out of the 2003 reforms.

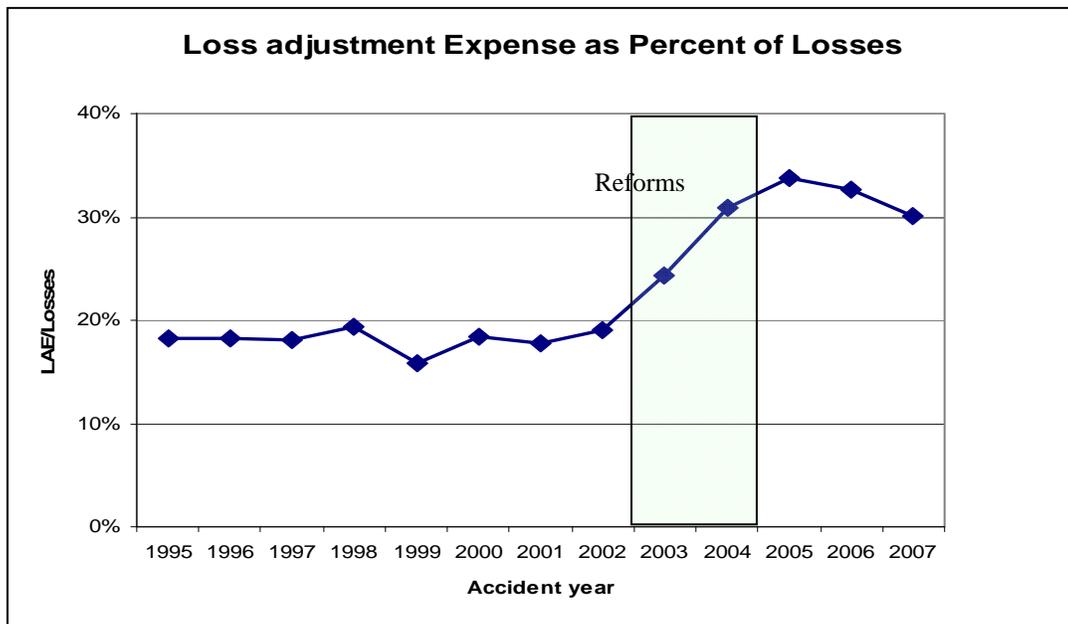
### **3.0 Changes to Loss Adjustment Expense**

The Bureau proposed a 2.8 percentage point increase to pure premium rates based on increases in loss adjustment expense (LAE). This seems to:

- Defy recent trends in LAE as a percent of losses.
- Defy insurers' past justification for the historically unique level of recent LAE costs.
- Be inconsistent with the many claims-handling tools given insurers under the reforms.

#### 3.1 Discussion

The chart below gives LAE as a percent of accident year losses based on the WCIRB 2009 rate filing. As can be seen, LAE as a fraction of losses has been over 50% above the level observed from open rating through the early 2000s. The trend towards higher LAE ratios peaked in 2005 at more than 70% above period prior to 2003.



Source: WCIRB Summary of Insurer Experience, Exhibits 3 & 5

Insurers have consistently argued that these historic highs in LAE were largely driven by the short-term need to cope with the large changes arising out of reforms. The trend since 2005 gives some support to the insurers' claim, total LAE and LAE as a fraction of losses have begun to decline, although both LAE measures are no where near pre-reform levels.

In light of the recent turnaround in the LAE trend and the insurers' original justification for the very high rates during and immediately after reform, it is difficult to understand the Bureau's claim that LAE increases justify a 2.8 percentage point increase in pure premium rates. Such an increase implies that LAE costs relative to losses have risen about 10% relative to the basis for the most recent pure premium rate change.

It seems extraordinary that LAE remains near historic highs despite the advantages given to insurers during the recent reforms:

- Medical provider networks (MPNs) that give the employer control of the physician for the life of the claim rather than the potentially adversarial relation often attributed to doctors allegedly selected by the applicants' attorneys.
- MPNs also allow the insurers to negotiate contracts upfront for many aspects of billing, utilization review, etc., that should offer substantial opportunities to simplify claim handling.
- Fee schedules now cover more than 90% of medical treatment including the very problematic areas of out-patient surgery and physician dispensed drugs, greatly

simplifying bill review and adjudication.

- The AMA *Guides*-based PDRS seems to have standardized PD ratings and likely reduced the variation across evaluating physicians and DEU raters.

Given the recent declining trend in LAE/losses, the institutionalization of claims handling under the post-reform procedures, and the many claims-handling tools give insurers under the reforms, it seems conservative to predict that LAE as a fraction of losses will remain constant for policy year 2009 rather than continuing to decline. However, even this conservative estimate would imply that the Bureau's proposed rate increase is 2.8 percentage points too high.

#### **4.0 Comments on medical losses and trending:**

The Bureau put forward two main arguments to support higher premiums based on adverse trends in medical losses:

- Moderate adverse development observed in aggregate data submitted to the Bureau on the "Quarterly Call for Direct California Workers' Compensation Experience," and
- Transaction level data from CWCI that the Bureau and CWCI claim showed even more serious medical cost trending

It is difficult to address these contentions with specific alternatives because I do not have access to the data used by the Bureau and CWCI. Nor do I have the time and resources, at least in the short term. However, I can evaluate the underlying contentions and evaluate where they do not seem logical on their face.

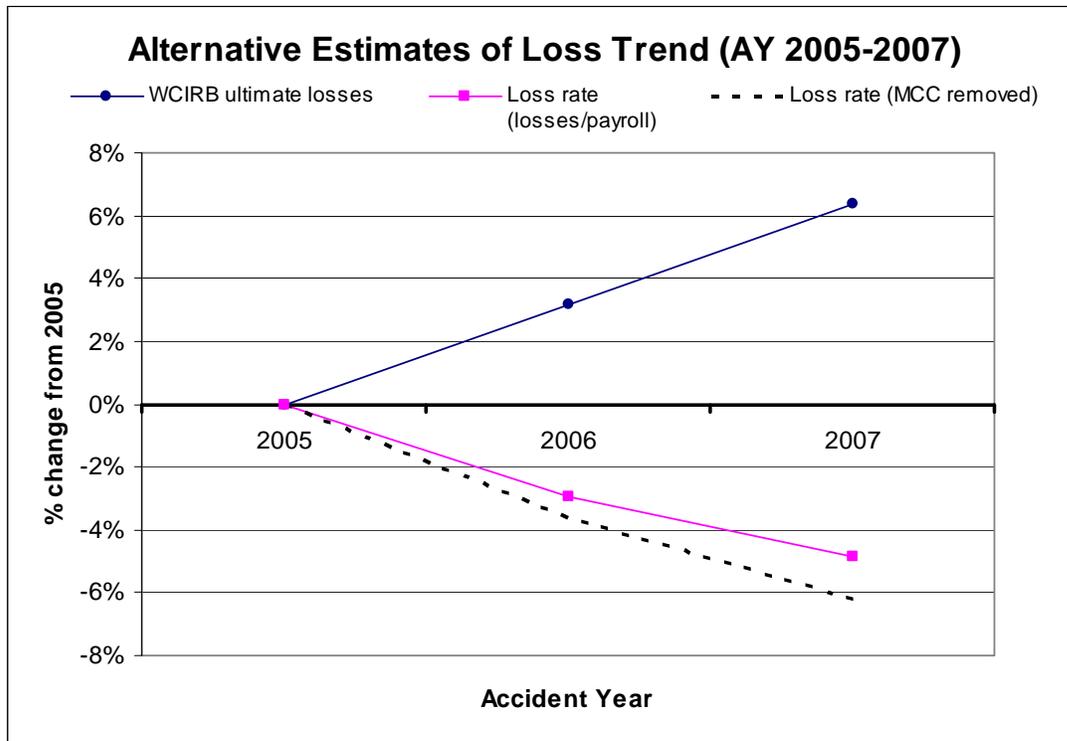
I will start with the aggregate numbers and move to comments on specific cost drivers raised by the WCIRB and CWCI in written submissions and testimony.

#### 4.1 Discussion of aggregate data trends

First, I do not observe a trend in overall losses that would seem a necessary underpinning for justifying a large rate increase. In fact, using the WCIRB's published data from the "Quarterly Calls," the trend in losses relative to the payroll (the basis for premium) is negative, not positive.

I present three estimates for the 2005-2007 Accident Year loss trends,

- WCIRB estimated ultimate losses
- The loss rate--losses adjusted for payroll growth
- The loss rate after the affect of MCC is removed



In the figure above, the upper trend line is the data published by the Bureau.<sup>2</sup> It is simply the “ultimate losses” by accident year. Ultimate losses are the Bureau’s estimate of the total indemnity and medical losses (including medical cost containment) on claims occurring in the accident year. The Bureau estimates that losses for 2006 and 2007 will be about 3.2% and 6.3% higher, respectively, than losses for 2005, a compound average growth rate of 3.1%.

However, losses are only the numerator of the ratio from which one derives premium rates [ $\$/(\$100 \text{ payroll})$ ]. Wage and salary income, the denominator, also increased between 2005 and 2007 by +6.3% (2006) and +5.1% (2007) because of both wage and employment growth.<sup>3</sup> Therefore, losses as a fraction of payroll, the basis of rates, actually show a downward trend relative to 2005, -2.9% and -4.9% for 2006 and 2007, a compound annual rate of -2.4%.

Finally, as I will discuss below, medical cost containment (MCC) expense should be classified as an allocated loss adjustment expense (ALAE) rather than a direct medical loss. MCC as a fraction of direct medical costs has been increasing steadily and dramatically since 2002, from 5.7% in 2002 to more than 11% in 2007.<sup>4</sup> A rough estimate of the contribution of MCC to medical loss trends is +1.0 percentage point annually. Given the Bureau’s projection that medical losses are 67% of total losses, removing MCC from “losses” would result in an even steeper (-0.7% greater) negative trend in losses relative to payroll, -3.6% and -6.3% for 2006 and 2007 relative to 2005. This is a compound

<sup>2</sup> “WCIRB Summary of March 31, 2008 Insurer Experience,” reported August 27, 2008.

<sup>3</sup> California Department of Finance, “California Economic Indicators”, September, 2008.

<sup>4</sup> CWCI testimony at September 16, 2008 CDI rate hearing.

annual rate of change of -3.1%.

At least through 2007, the last accident year for published data is available, any adverse development observed by the Bureau has not resulted in an increase in losses as a fraction of payroll. Quite the opposite, the loss rate (losses as a fraction of payroll) continue to decline at about a -3% annual rate.

#### 4.2 Transaction level data trend

The Bureau's second key justification for a pure premium rate increase based medical cost trends is based CWCI transaction level data. The Bureau and CWCI presented analysis of these data to support the claim that more recent medical cost trends are even worse than observed in Bureau's aggregate calls. However it is likely that closer examination of the CWCI data would yield a different result.

- First, the transactional data used are not necessarily representative of the market. CWCI, arguing confidentiality, will not say which insurers contribute data to the ICIS transactional database. The fraction of the market represented in the data is unknown, but a rough estimate based on CWCI testimony at the September 16<sup>th</sup> rate hearing would be 30-40% of the insured market.<sup>5</sup> Such a sample is often reliably representative of all claims, unless systematic bias is characteristic of a large fraction of the sample.
- It is known that SCIF is a contributor to the CWCI database and has been by far the largest contributor. Because this sample is less than half the insured market, SCIF could constitute more than half the sample. This poses two potential problems:
  - The Bureau argued that SCIF's recent experience should be deleted from current rate calculations because medical payment system problems delayed payments, shifting them forward in time. The affect of this shifting was to exaggerate estimates of adverse development and consequently, medical cost trends. Removing just SCIF's aggregate medical from pure premium rate calculations reduced the overall estimate (medical, indemnity and LAE) by three percentage points. The effect on medical trends alone would almost surely be considerably larger.
  - Even if CWCI was able to adequately deal with SCIF's systemic problems, it is not clear that SCIF's experience, more generally, is substantially similar to other insurers. When SCIF is over-represented in the sample, as is the case here, the analysis will give too great a weight to the SCIF experience.

Consequently, it is likely that medical cost trends, based on CWCI transaction level data analysis, will include significant and substantial bias towards overestimating medical cost trends.

#### 4.3 Specific issues on medical cost trends

1. **Medical cost containment expense (MCC)**—The inclusion of MCC in medical losses and total losses 1) seems inappropriate from an accounting perspective and 2) is driving a substantial fraction of the trend in medical and total losses.
  - a. Most to the point, according to the WCIRB, California is fairly unique or at least in

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<sup>5</sup> CWCI testified that the data set included 1.1 million claims from a six year period (2002-2007). The insured fraction of the system is approximately 70%. System-wide, about 800,000 claims are reported each year.

the minority among states in including MCC in medical losses (and calculations of employer X-mods). MCC seems much more appropriately assigned to allocated loss adjustment expenses (ALAE). It is clearly a claim handling expense rather than a medical treatment expense. And it is clearly allocable to specific claims.

- b. This may not have been a major rate making issue when MCC was a smaller and possibly stable portion of medical losses. However, since at least 2002, MCC costs have been rising much more rapidly than medical losses and constitute an important and growing fraction of what the Bureau defines as medical losses. The Bureau estimate of MCC (from CWCI) as a fraction of medical losses have risen from 5.7% in accident year 2002 to over 11% in AY 2007. If the MCC growth was constant, then over a third (36%) of the growth in total medical losses between accident years 2005 and 2007 can be explained by the growth in MCC alone.
  - c. Finally, do we expect this trend in MCC to continue? That seems highly improbable.
    - i. First, and most telling, MCC costs in workers compensation (11% of medical treatment) are nearly the same as the entire administrative cost (MCC, ULAE, ALAE, profit, taxes, brokers' fees, etc) of delivering medical treatment under private group health insurance (12%).<sup>6</sup>
    - ii. Second, insurers keep claiming the high MCC costs reflect, in part, difficulties in institutionalizing reforms.
    - iii. Third, medical provider networks (MPNs) should be tools to control not only direct medical costs but MCC as well. MPNs gave insurers the ability to contract upfront, in the way group health does, for price, billing processes, etc, along with the ability to exclude as well as include providers.
  - d. Obviously, an accounting/regulatory change alone, that redefined MCC as LAE rather than medical losses, would not change appropriate pure premium rates. But it would accomplish two important policy objectives:
    - i. It would help clarify for stakeholders the real factors actually driving trends in medical treatment costs and appropriate regulatory and statutory actions.
    - ii. It would focus attention more effectively on one of the most important recent cost drivers underlying pure premium rates, the very dramatic increase in LAE (including MCC). Again, this would focus stakeholders on appropriate regulatory and statutory interventions, in this case to improve system efficiency.
2. Medical-legal costs—Medical-legal costs are not driving a future trend in medical losses. If anything, the long-term trend on medical-legal has been consistently negative.
- a. The Bureau claim that the average cost of a medical-legal report has increased by 70% between 2002 and the present is almost entirely explained by a change in the Official Medical-Legal Fee Schedule (OMLFS) that was effective for service dates on or after July 1, 2006. This was a one time change in the level of costs, not a change in the trend line. Because claims with med-legal service dates on or after 7/1/06 include many claims from prior accident years, but an increasing fraction of claims for accident years through 2006, the Bureau may be making an error in

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<sup>6</sup> Center for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group, 2007.

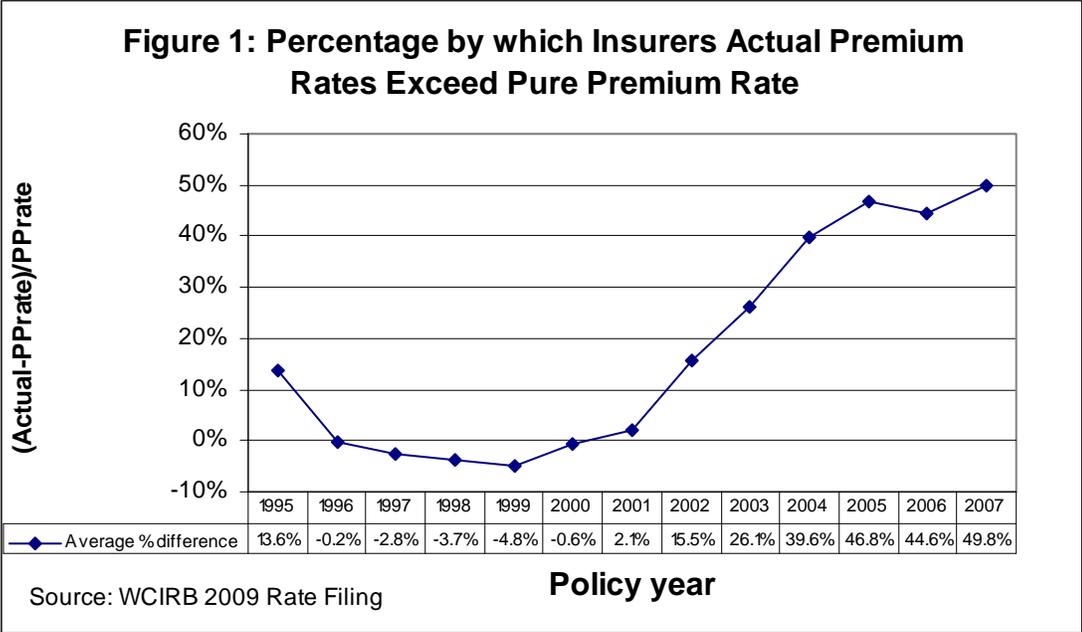
- estimating the medical cost trend if it includes medical legal costs without appropriately addressing the one-time change to the OMLFS.
- b. Total medical-legal costs have remained relatively constant between 1997 and 2005 accident years, \$45 million to \$55 million at 40 months. The change in medical-legal as a fraction of total medical between 2002 and 2005 was entirely driven by the decline in direct medical treatment costs due to the reforms. For the period between 2005 and 2007, data are limited but it is likely total medical-legal costs remained flat or declined. The change in the OMLFS reimbursement was likely be offset by the dramatic decline (-30% or more) in the number of permanent disability claims as a result of the new AMA Guides based Permanent Disability Rating Schedule (PDRS) adopted for claims receiving their first PPD evaluation on or after 1/1/2005. Permanent disability determinations are responsible for the vast majority of medical-legal reports.
3. Evaluation & Management (E&M) code reimbursement—Another explanation for the Bureau’s estimation of a large positive trend in medical costs and the suggestion by the Bureau and CWCI that the trend is getting steeper, is that one of the key components of medical costs, E&M codes received a substantial, one-time increase as of 2/15/07.
    - a. The Bureau’s estimate, developed by CWCI and included in the July 1, 2007 rate filing, was that the increase in reimbursements for E&M codes was responsible for an increase of 3.3% in medical costs.
    - b. Because, this 3.3% increase applies to service dates on or after 2/15/07, it will apply to an increasing fraction of accident year medical costs through 2008, but a constant fraction for accident years for 2008 and beyond.
    - c. The Bureau may appropriately deal with this trending. For example, they factor in legislative and regulatory changes as presented in Exhibit 4.4, Part A, Section B, Appendix A, column 5. But, the CWCI interpretation of the transaction level data did not adjust for this change.
  4. Pharmaceutical costs—On the other side of the ledger, the Division of Workers’ Compensation adopted a revision to the Official Medical Fee Schedule (OMFS) to resolve a loophole in drug pricing exploited by some physicians who dispensed as well as prescribed prescription drugs. A study of physician dispensing done jointly by UC Berkeley and CWCI found large potential savings from this revision to the OMFS. The savings would have the opposite affect on medical cost and trending as observed for the revision to medical legal reports under the OMLFS and E&M codes under the OMFS.
  5. Injury-mix adjustments—At several points in the 2009 rate filing the WCIRB makes reference to adjusting for “...changes in injury mix....” It is not clear to me how the injury mix adjustments are applied, nor is it clear what direction the adjustment has on the trending of indemnity and medical severity. However, I am concerned that adjusting for the injury mix may be inappropriate, biasing estimates up or down.
    - a. Adjusting for variation in claim characteristics from one period to another can be an important statistical correction. But, it is generally only appropriate if the variation between periods is driven by random variation. Random variation is typically an

important factor when analyzing small samples (a few dozen or few hundred claims). But, random variation does not typically play a substantial role in measured differences when one is observing a very large number of claims (tens or hundreds of thousands) from consecutive periods and those claims comprise a census of all claims, not a sample.

- b. If differences in the injury mix between periods are driven by systemic changes (e.g., adoption of a different permanent disability rating schedule), then application of injury mix adjustment is very likely to bias any analysis.
- c. Reiterating, I do not know how the injury mix adjustment was applied to medical and indemnity severity development estimates. Typically the Bureau is very sophisticated in application of statistical adjustments. And, if there is a bias, I can not predict the direction of the error. But, since application of injury mix adjustments can have substantial impacts on estimates, the Bureau should describe the application of the adjustment more explicitly and thoroughly.

**5.0 Final note—How do pure premium rates compare to what employers actually pay?**

One area that is tangential to setting pure premium rates but critical to employers is how the rates insurers actually charge compare to the pure premium rates set by the Insurance Commissioner. Pure premium rates theoretically represent insurers’ losses plus LAE. Other expenses, brokers’ fees, premium taxes and profits are covered by the difference between the pure premium rate and the rate actual charged by insurers + interest and other income earned on premiums prior to payout of losses and expenses. The graph below plots the difference between actual premiums and pure premium rates for the period since open rating.



From 1995 through 2002, the gap between actual premiums and pure premium rates averaged around zero. However, beginning in 2002, insurers started charging at margins substantially above recommended pure premium rates. For the past available 4 years, insurers have been charging between 40% and 50% above pure premium. This is far above anything seen since open rating and also far above the difference built into rates prior to open rating, a period when insurers also typically returned substantial dividends to policyholders.

In addition, this average difference masks the real impact on smaller employers. Since the average X-mod is around .93 and experience-rated employers (20% of policies) account for at least 80% of premium, small employers who are not experienced-rated and have less access to scheduled discounts and negotiated rates are likely paying full manual rates. These manual rates may be 70%-80% above pure premium rates, on average.

If one includes medical cost containment expenses (currently reported as “medical losses”) LAE, and the difference between pure premium rates and actual rates, insurers have been charging employers rates 120% or more above expected losses for the last several years, even though losses have been relatively stable over much of this period. In terms of controlling workers’ compensation costs, LAE and other expenses are likely a more important area for the Commissioner to address than actual losses.

