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Impact of the Adoption of AMA-based Permanent Disability Rating Schedule in California

As requested, I have estimated the impact of the AMA-based Permanent Disability Rating Schedule (PDRS-05), adopted 1/1/2005 relative to the PDRS adopted 4/1/1997 (PDRS-97). The PDRS-05 uses the AMA Guides to the Evaluation of Permanent Impairment (*AMA Guides*) as the basis for evaluating permanent impairment. The PDRS-97 used a schedule idiosyncratic to California that relied heavily on work capacity guidelines to evaluate permanent impairments. This change and other reforms affected ratings and compensation in three broad ways:

- Reduced the average rating for most impairment categories
- Expanded the impact of apportionment to non-industrial cause
- Reduced the fraction of indemnity claims that received PD ratings above zero percent

We estimate the impact of each of these effects and the combined impact of all three.

For estimating the impact of switching to the AMA *Guides*, we compare permanent disability claims evaluated by the DEU in the two years prior to the adoption of the PDRS-05 with claims evaluated between 1/1/2010 and 6/30/2011. For calculating compensation we use the maximum weekly compensation rate in use as of 1/1/2011. This avoids introducing any bias due to changes in the wage levels. In addition, the vast majority of injured workers receiving PD benefits have weekly earnings at or above the maximum weekly rate. By using claims from the most recent data available (1/1/2010-6/30/2011) we are evaluating the PDRS-05 schedule after the parties have adjusted to the new schedule and include the impact of the Almaraz/Guzman/Ogilvie case law as interpreted during the period.

Summary of results

- The average rating for cases with ratings >0% before apportionment decreased by 40.1% for unrepresented cases and 28.4% for represented cases. Overall, the change was -31.5%.
- The average compensation for cases with ratings >0% before apportionment decreased by 51.7% for unrepresented cases and 37.2% for represented cased. Overall, the change was -40.4%.
- Apportionment on unrepresented cases reduced ratings by an average of 5.3% and compensation by 6.2%. These are probably lower bounds on the impact on represented cases.
- A conservative estimate of the fraction of cases that are rated as having no impairment under the PDRS-05 that would have received a positive rating under the PDRS-97 is 25%. We do not know whether these eliminated cases were, on average, higher or lower rated cases than the average of all ratings.

- If one assumes the fraction of apportioned cases was the same for represented and unrepresented cases, and the average "zero" case eliminated was similar in rating to the cases not eliminated, then the impact of the PDRS-05, the change in apportionment, and the case law involving Almaraz, Guzman, and Ogilvie was to reduce overall PD compensation by 58%.

Summary of separate analyses

Impact on the average rating

Change in Average Rating			
	PDRS-97	PDRS-05	Change
Unrepresented Cases	22.2%	13.3%	-40.1%
Represented Cases	37.0%	26.5%	-28.4%

Impact on average compensation

Change in Average Compensation			
	PDRS-97	PDRS-05	Change
Unrepresented Cases	$25,363	$12,246	-51.7%
Represented Cases	$49,080	$30,804	-37.2%

Impact of apportionment

We only observe the potential impact of apportionment for unrepresented cases. For these cases the rater asks a workers' compensation judge to rule on applicability of apportionment under the law and then calculates the impact on the rating. For represented cases this calculation is not always made and the legal decision about application under the law has not been adjudicated at the time of the rating. Consequently, we calculate the impact for unrepresented cases and interpret this as a lower bound on the impact of apportionment because apportionment is more likely to be an issue in litigated cases since it is likely to trigger a dispute requiring legal assistance for the worker.

Impact of apportionment on average rating and compensation (unrepresented cases only Compensation			
	Before apportionment	After apportionment	Change
Rating	13.3%	12.6%	-5.3%
Compensation	$12,246	$11,499	-6.2%

The combined effect of the lower average rating and the application of apportionment is to reduce the average rating in unrepresented cases by 43.2% and average compensation by 54.6%. [1]

1 The combined impact is:
*(Change in PDRS) + (Change from Apportionment) –[(change in PDRS) * (Change from Apportionment)]*

Evaluating the impact of the PDRS-05 on different impairment types

Not all impairment types were impacted the same by the introduction of the AMA-based schedule. The table below gives a breakdown of the change in the average rating for claims by the primary impairment. By primary impairment, we mean the impairment with the largest percent rating when a case has multiple disabilities. For example, if a claim had a spinal impairment rated 25% and a psychiatric impairment rated 10%, we classify the impairment as a back case and assign the combined value of 23%. We do this, in part, to make comparisons easier and partly because the AMA guides disaggregate impairments (for example three different areas for the back: cervical, thoracic, & lumbar) much more often than the 1997 PDRS, making multiple impairments more common. It is important to remember that the distribution of represented vs. unrepresented cases may have changed and may have changed more for certain types of impairments. If the evaluation of a specific impairment is more complex under the AMA guides than the 1997 PDRS, it may mean that more of these cases are represented, changing the average rating for both the represented and unrepresented cases. Also, some borders between categories are likely to be different, for example whether a case is wrist, hand, or grip.

	1997			Unrepresented			2005
	Number	% of ratings	Average Rating	Number	% of ratings	Average Rating	Change
Back	22,917	31.7%	27.93	4,445	28.9%	17.11	-38.7%
Shoulder	7,640	10.6%	15.01	2,596	16.9%	11.60	-22.7%
Elbow	2,189	3.0%	13.28	304	2.0%	8.25	-37.9%
Wrist	4,630	6.4%	19.33	542	3.5%	9.34	-51.7%
Hand	3,019	4.2%	11.64	1,130	7.3%	6.62	-43.2%
Grip	7,152	9.9%	16.18	245	1.6%	17.17	**6.1%**
Upper Extremity	7,964	11.0%	26.05	1,082	7.0%	13.14	-49.6%
Hip	340	0.5%	28.85	132	0.9%	18.80	-34.8%
Knee	8,525	11.8%	19.18	2,735	17.8%	8.62	-55.1%
Foot	2,538	3.5%	18.62	475	3.1%	8.53	-54.2%
Toes	162	0.2%	8.66	62	0.4%	4.06	-53.0%
Lower Extremity	1,338	1.9%	25.66	260	1.7%	16.88	-34.2%
Hearing	496	0.7%	13.61	166	1.1%	14.51	**6.6%**
Digestive				100	0.7%	19.96	
Heart	169	0.2%	43.89	204	1.3%	33.62	-23.4%
Sight	169	0.2%	19.25	70	0.5%	23.10	**20.0%**
Respiratory	94	0.1%	26.26	32	0.2%	27.09	**3.2%**
Nervous System	83	0.1%	48.43	53	0.3%	23.38	-51.7%
Psych	642	0.9%	44.65	294	1.9%	24.94	-44.1%
Other	2,136	3.0%	30.64	457	3.0%	17.04	-44.4%
	72,203			15,384			

	1997			Represented	2005		
	Number	% of ratings	Average Rating	Number	% of ratings	Average Rating	Change
Back	47,081	32.8%	20.41	11,974	40.0%	17.49	-14.3%
Shoulder	13,817	9.6%	21.73	2,919	9.7%	13.85	-36.3%
Elbow	2,344	1.6%	19.45	317	1.1%	11.48	-41.0%
Wrist	7,407	5.2%	20.85	578	1.9%	13.45	-35.5%
Hand	3,886	2.7%	18.28	866	2.9%	11.18	-38.8%
Grip	11,094	7.7%	21.42	773	2.6%	12.03	-43.8%
Upper Extremity	21,552	15.0%	21.11	1,829	6.1%	15.78	-25.2%
Hip	501	0.3%	24.87	171	0.6%	19.45	-21.8%
Knee	10,474	7.3%	21.27	2,332	7.8%	13.54	-36.3%
Foot	3,284	2.3%	21.29	574	1.9%	9.25	-56.6%
Toes	164	0.1%	19.38	49	0.2%	8.22	-57.6%
Lower Extremity	2,848	2.0%	23.25	547	1.8%	16.26	-30.1%
Hearing	1,111	0.8%	21.38	241	0.8%	17.28	-19.1%
Digestive				681	2.3%	21.80	
Heart	791	0.6%	24.69	796	2.7%	24.07	-2.5%
Sight	573	0.4%	20.57	110	0.4%	17.08	-17.0%
Respiratory	494	0.3%	25.03	136	0.5%	25.32	1.2%
Nervous System	697	0.5%	22.82	741	2.5%	21.55	-5.6%
Psych	6,624	4.6%	25.60	3,022	10.1%	19.33	-24.5%
Other	8,835	6.2%	24.41	1,308	4.4%	21.71	-11.1%
	143,577			29,964			

Estimating the "Zeroes"

Issue

The introduction in California of the *AMA Guides*-based Permanent Disability Rating Schedule (PDRS-05) in 2005 substantially reduced permanent partial disability compensation. However, these earlier analyses were restricted to estimating the impact of the *AMA Guides*-based schedule on claims that received a rating greater than zero. Most observers have understood that the *AMA Guides* also were more restrictive than the 1997 California PDRS in the range of cases that are assigned any degree of permanent disability. That is, some portion of cases that would have been assigned a permanent disability (PD) rating under the 1997 PDRS would not rate any PD under the *AMA Guides*-based schedule.

While nearly all observers agree that fewer claims receive impairment ratings under the *AMA Guides*-based schedule, there has been no research that could estimate the fraction of cases eliminated from compensation. This analysis helps fill that gap.

Methods

The main challenge to estimating the fraction of cases that would receive a positive rating under the 1997 PDRS and a zero under the 2005 PDRS is that there is no consistent reporting and rating of all cases. We do not observe all of the cases rated "0". This is true under the 1997 and 2005 schedules. Also, the DEU recording of data improved during this period, making identification of zero-rated cases more accurate, particularly after 2005 for claims rated under the 2005 schedule, assuming the cases are even submitted to the Disability Evaluation Unit (DEU). Finally, represented cases were directed more specifically into the QME process, possibly changing the fraction of represented cases submitted to the DEU for rating before and after the 2003 & 2004 reforms.

Consequently, the approach I used compares the trends in the number of indemnity cases reported and the number of cases ultimately given positive PD ratings by the DEU. If the types and severity of injuries remain reasonably constant over the period under study (injury years between 2000 and 2007), then the fraction of indemnity cases with residual impairments should also remain similar. If there is a change in the fraction of cases with positive PD ratings, and the change coincides with the change in the PDRS used, then we have strong evidence that the change in schedules affected the fraction of claims with PD and we can give a reasonable estimate of the impact of the change in schedules on the fraction of indemnity claims given positive PD ratings.

We started with a file of all reports submitted to the DEU from 2000 to 2010, approximately 1.3 million transactions. We identified unique claims (person and date of injury). When multiple reports were submitted on the same claim, we examined the reports to determine if any of the reports received a positive PD rating. We retained only one report for each claim, retaining the first claim with a positive rating. Reports that could not be rated (not yet P&S, incomplete, etc.) were excluded. We retained only summary ratings (unrepresented cases) because the rating process for represented cases changed substantially simultaneously with the change in the PDRS. Finally, we restricted the samples to dates of injury between 2000 and 2007 for evaluating the number of reports submitted to the DEU at an average of 30 months after injury and to 2000 to

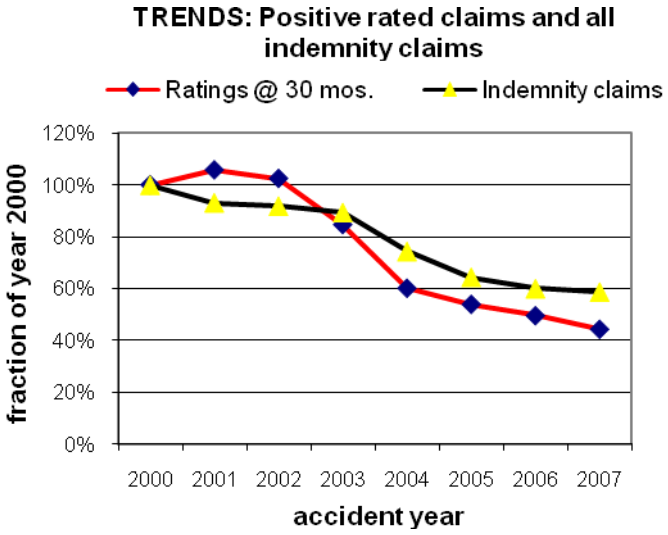
2006 for evaluating at 42 months.

These restrictions left us with 133,580 (30 months) and 157,226 (42 months) unique, unrepresented claims with dates of injury between 2000 and 2007 (or 2006) and given positive ratings by the DEU within an average of 30 and 42 months, respectively. From these data we can calculate the year-to-year change in the number of claims fitting the restrictions.

For comparison, we obtained data from the WCIRB on the accident-year-to-accident-year reported change in the number of indemnity claims. If the change in the schedules did not affect the probability of cases receiving PD, then the indemnity claim trend should match the PD claim trend. If the change in rating schedules influenced the likelihood that an indemnity claim would receive PD, the PD claim trend should deviate from the overall indemnity trend.

Findings

We present these data using accident year 2000 as the base line (100%) and calculate the other years as a fraction of 2000.



The chart shows that while both indemnity claims and non-zero PD claims declined, the non-zero PD claims declined substantially more. More important, the trend lines tend to match closely except during the period just before and just after the change in schedules. Measured from 2000, the decline in the non-zero PD claims through 2007, valued at 30 months, was 56.4% and for all indemnity claims was 41.3%. This would represent a 15 percentage point greater change for non-zero PD claims.

Using a starting point closer to the introduction of the schedule would result in larger differences, between 19 and 28 percentage points. The larger impact using a starting point of 2001 or 2002 may reflect that the fraction of indemnity cases receiving positive ratings was actually trending up slightly relative to all indemnity claims prior to the schedule change.

We can now estimate the fraction of indemnity claims that would have received a positive rating under the 1997 PDRS, but would receive a "0" rating under the 2005 PDRS. If the fraction of claims receiving PD was 15 percentage points higher on a 2007 base of approximately 45%

(relative to 2000), then about 25% of PD claims were eliminated (15%/(15%+45%). This estimate would be higher if we used alternative starting points for measurement.

While this represents an estimate of the fraction of claims converted from positive ratings to "zeroes" due to the switch in schedules, it does not tell us the impact on compensation. Compensation could be less affected (smaller decline) if the PD claims eliminated were, on average, less severe, lower rated claims. On the other hand, if claims most affected were back claims, which on average rated higher than other impairments before the schedule change, the impact on compensation could have been larger than the decline in the number of compensated claims.

Caveats:

1. Most important, we are evaluating the impact on unrepresented cases, which represent only 40% of DEU ratings. The restriction to unrepresented cases is necessary for the reasons stated above. On average, represented cases received higher ratings under the 1997 schedule than unrepresented cases. It is possible that these more severe cases would be less likely to be converted to zeroes under the 2005 schedule. On the other hand, if the 2005 schedule has greater impact on a specific type or types of claim(s) (like prophylactic work restriction ratings) more than other types (e.g., amputations or range of motion loss) then the represented cases could have been more affected. It is not possible at this point to determine whether represented cases were more or less impacted by the schedule change than unrepresented cases.

2. We are limited to a comparison of the trends in claim frequency. Consequently it is difficult to rule out other changes that could have affected PD claims differentially from other indemnity claims. However, since the trend lines for both PD and indemnity claims track closely before and after the discontinuity around the schedule change, there is little to suggest these trends would be expected to diverge absent the schedule change. If anything, the 2001 and 2002 data suggest that the 1997 schedule may have allowed the definition of what constitutes a PD claim to expand over time, hence the slight increase in PD relative to indemnity claims in 2001 and 2002. This could suggest an even large impact of the 2005 schedule in that it defined PD more precisely and may avoid or limit the creep in the definition.

3. One concern is that delays in the DEU rating process could have led to a lower fraction of PD claims being rated by 30 and 42 months post injury. However, when we compare the trend lines for 30 months and 42 months (not shown), they track almost exactly. Only at the very early stages did we observe a somewhat greater increase in the 30 to 42 month claim counts. Also the fraction of claims initially rated after 30 months declines rapidly and declines even more after 42 months. The great majority of unrepresented cases have been resolved at 30 months and nearly 90% by 42 months.

4. We are comparing the trend number of DEU ratings (including both insured and self-insured) to the trend in indemnity claims (insured only). If the composition of insured and self-insured employers changed during this period and that change differentially affected the frequency of indemnity claims across the two groups, that may affect our estimates. Again, however, the change in the trend lines is coincidental with the adoption of the AMA-Guides-based PDRS suggesting that any change in the composition of the insured and self-insured pools would have

to have been coincidental with this timing to account for the observed discontinuity in the trend lines.