



Medical Development Trends in California Workers' Compensation Accident Years 2002 - 2009

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BACKGROUND

Recent studies have documented that policy reforms signed into law between 2002 and 2004 were associated with an immediate reduction in medical costs in the California workers' compensation system.^{1,2} These reforms included a number of provisions aimed at managing the delivery and containing the cost of treatment, while assuring that both the type and quantity of care provided for specific injuries were appropriate. Among the specific measures approved by state lawmakers were the adoption of mandatory utilization review and an evidence-based medical treatment utilization schedule; 24-visit caps on physical therapy, chiropractic care, and occupational therapy; the expansion of the Official Medical Fee Schedule (including a new outpatient surgery facility schedule and a revised pharmacy schedule); a generic drug substitution requirement; and extension of medical control from 30 days post-injury to the life of the claim when employees are subject to a medical provider network (MPN).³

Though medical costs declined sharply immediately following the implementation of these reforms, Workers' Compensation Insurance Rating Bureau (WCIRB) data on insured claims from accident year (AY) 2006 reveal that the post-reform reduction in medical costs was short-lived.⁴ The WCIRB figures, released in 2008, indicated a clear change of direction in the trend of medical payments -- a reversal that was subsequently confirmed in a 2009 California Workers' Compensation Institute (CWCI) report that measured medical reimbursements on claims from accident years 2002 to 2007.⁵

This report updates and expands on the prior studies by using data on California claims experience through June 2009. The results confirm the findings of the earlier studies, again noting significant decreases in medical payments immediately after the implementation of SB 899 in 2004, followed by a distinct trend of increasing medical expenditures associated with work injuries beginning with AY 2006 claims through the end of the study period. As a result, average paid medical costs per claim are now significantly higher than they were before the implementation of the 2003-2004 reforms.

1 WCIRB Summary of September 30, 2005 Insurer Experience, December 9, 2005

2 Swedlow, A., Ireland, J. Analysis of California Workers' Compensation Reforms Part 1: Medical Utilization & Reimbursement Outcomes Accident Years 2002 - 2006 Claims Experience. CWCI. December 2007

3 Analysis of California Workers' Compensation Reforms: Medical Utilization & Reimbursement Outcomes. CWCI. Jan. 2007

4 WCIRB Summary of September 30, 2008 Insurer Experience, December 9, 2008

5 Swedlow, A, Ireland, J, Gardner, L, Analysis of Workers' Compensation Reforms, Part 4: Changes in Medical Payments, AY 2002 to 2007 Claim Experience, June 2009

DATA AND METHODS

For this analysis, the authors compiled a sample of 1,808,287 California workers' compensation claims with January 2002 through March 2009 dates of injury from CWCI's Industry Claims Information System (ICIS).⁶ The ICIS data contained policy, claim, and medical service detail – including payment and medical bill review transactions through June 2009. The final data sets used in this study allowed the authors to:

- analyze \$18.9 billion paid for medical transactions on these claims;
- break out the total amounts paid for four medical sub-categories (medical treatment, pharmacy and durable medical equipment, medical legal and medical cost containment⁷);
- calculate the average amounts paid for each medical sub-category; and
- track changes in the distribution of California workers' compensation medical payments since 2002.

RESULTS

Matching the date of injury and the transaction date on each medical payment, the authors determined the total number of claims, the total amount paid, and the average medical expenditures per claim for each accident year⁸ at five valuation points: 3, 12, 24, 36 and 48 months post-injury. Exhibit 1 shows the distribution of claims and the associated medical payments across the eight accident years used in the analysis.

Year of Injury	Number of Claims	Percent of Claims	\$ Paid	Percent of \$ Paid
2002	317,642	17.5%	\$4,891,316,395	25.9%
2003	285,462	15.8%	\$4,402,595,055	23.3%
2004	283,882	15.7%	\$3,033,535,992	16.0%
2005	247,590	13.7%	\$2,208,387,499	11.7%
2006	239,671	13.3%	\$1,960,743,851	10.4%
2007	217,511	12.0%	\$1,495,486,248	7.9%
2008	184,128	10.2%	\$833,692,894	4.4%
Q1 2009	32,401	1.8%	\$75,027,819	0.4%
Total	1,808,287	100.0%	\$18,900,785,753	100.0%

Exhibit 2 displays the average medical expenditures per indemnity claim at each of the five valuation points. The most developed data, noted in the last column, show the average medical expenses paid at the 48-month benchmark for claims from accident years 2002 through 2005. In contrast, the least developed data, noted in the first column, show average medical expenditures at three months post injury. Due to the much shorter time frame being measured, data from the 3-month valuations were available on claims with dates of injury through the first quarter of 2009.

Accident Year	Avg Med at 3M	Avg Med at 12M	Avg Med at 24M	Avg Med at 36M	Avg Med at 48M
2002	\$1,642	\$6,435	\$10,447	\$13,621	\$15,857
2003	\$1,549	\$6,147	\$10,483	\$13,291	\$15,551
2004	\$1,708	\$5,695	\$8,932	\$11,715	\$14,056
2005	\$1,764	\$5,502	\$9,121	\$12,303	\$14,199
2006	\$1,967	\$6,387	\$10,882	\$13,821	NA
2007	\$1,936	\$7,311	\$11,599	NA	NA
2008	\$2,790	\$8,225	NA	NA	NA
2009	\$3,139	NA	NA	NA	NA
AY 02-05 % Change	7.5%	-14.5%	-12.7%	-9.7%	-10.5%
AY 05-06 % Change	11.5%	16.1%	19.3%	12.3%	NA
AY 06-07 % Change	-1.6%	14.5%	6.6%	NA	NA
AY 07-08 % Change	44.1%	12.5%	NA	NA	NA
AY 08-09 % Change	12.5%	NA	NA	NA	NA
AY 02- End Point % Change	91.2%	27.8%	11.0%	1.5%	10.5%

Across the 7-year span ending in AY 2008, average payments for first-year medical services (Avg Med at 12M) on indemnity claims increased by 27.8 percent (from \$6,435 in AY 2002 to \$8,225 in AY 2008). However, the year-to-year breakdown shown in Exhibit 2 reveals that between AY 2002 and AY 2005, average first-year medical payments on indemnity claims declined 14.5 percent (from \$6,435 to \$5,502). The trend then reversed and began a steady climb, increasing 16.1 percent from AY 2005 to AY 2006 (from \$5,502 to \$6,387), 14.5 percent from AY 2006 to AY 2007 (from \$6,387 to

6 ICIS is a proprietary database maintained by the California Workers' Compensation Institute that contains detailed information, including employer and employee characteristics, medical service information, and benefit and other administrative cost information on more than 3 million workplace injuries with dates of injury between 1993 and 2009(v11A). The datasets were evaluated as representative of the California insured population of injured workers (58.1 percent of the insured market in 2008).

7 The medical cost containment category includes expenses related to medical bill review, medical case management, utilization review, and network access fees.

8 Due to the June 2009 data cutoff in the ICIS database (version 11A), accident year 2009 was limited to claims with dates of injury through March 2009 to allow for 3 months of development.

\$7,311) and 12.5 percent from AY 2007 to AY 2008 (from \$7,311 to \$8,225).

Similar medical development patterns were shown for all of the valuation points except for the 3-month valuation, where average medical payments increased in AY 2004. This increase in average medical expenditures during the early stages of a claim may reflect the impact of the SB 899 provision that requires employers to pay up to \$10,000 in medical expenses until a claim is accepted or denied. Average payments at the 3-month valuation continued to show moderate increases until AY 2008 when payments jumped 44.1 percent to \$2,790. This may indicate an overall change to a faster delivery of medical services after injury instead of a significant increase in the eventual dollars paid for medical services. While this pattern reflects the experience among lost-time cases, the results were similar across all claims (see Appendix 1).

Medical Development by Medical Expense Sub-Category

In addition to examining overall medical development, the authors also classified the medical payment transaction data into four payment sub-categories: medical treatment, pharmacy and durable medical equipment, medical cost containment and medical legal.

Exhibit 3 shows the change in average payments associated with each medical subcategory at 12 and 24 months post injury for accident year 2002 through 2008 indemnity claims. Between AY 2002 and AY 2005, the average amount paid

for first-year medical services on these lost-time cases fell 20 percent, from \$5,461 to \$4,368. The average then began to increase in AY 2006, and by AY 2008, it had climbed 41.4 percent to \$6,175, resulting in an overall increase of 13.1 percent from AY 2002 to AY 2008. A similar pattern was observed at 24 months post injury, although average treatment expenditures at the 2-year benchmark registered a marginal decline between AY 2002 and the AY 2007 end point, falling 1.1 percent.

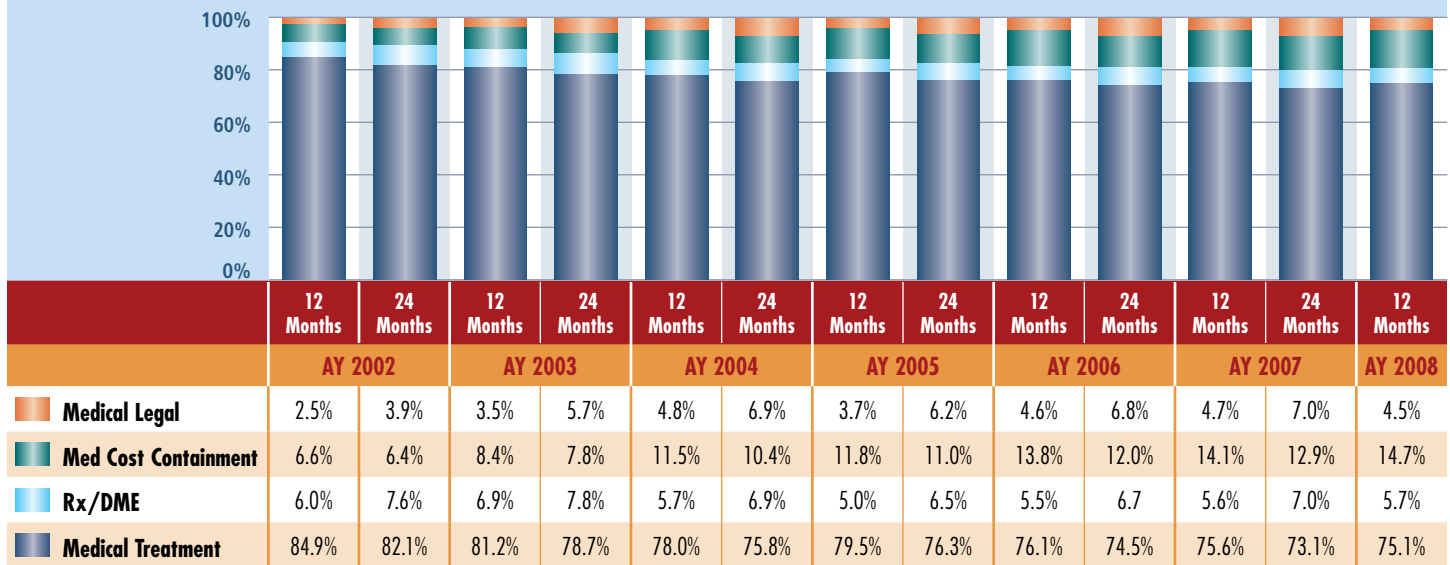
Pharmaceutical and durable medical equipment (DME) payments also showed similar outcomes. The average amount paid for pharmaceuticals and DME per indemnity claim at 12 months post injury fell from \$387 in AY 2002 to \$278 in AY 2005 (-28.3 percent), but then climbed to \$468 by AY 2008 (+68.6 percent), for a net increase of 20.9 percent over the 7-year span. The average payments for pharmaceuticals and DME on indemnity claims at the 24-month valuation showed a similar pattern, falling from \$798 to \$594 (-25.5 percent) from AY 2002 to AY 2005, then climbing to \$811 (+36.4 percent) by AY 2006, for an overall increase of 1.6 percent.

Compared to the fluctuations noted in the average amounts paid for treatment and for pharmaceuticals and DME, average payments for medical cost containment and medical/legal reports grew at a more consistent and steady rate between AY 2002 and AY 2008, with the only downturn being a small drop that occurred in AY 2005. At the 12-month benchmark, average medical cost containment expenditures increased

**Exhibit 3: Average Medical Paid per Claim by Medical Expense Sub-Category
AY 2002 - 2008 Indemnity Claims**

Accident Year	Treatment		Rx/DME		Medical Cost Containment		Medical Legal		Total	
	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months
2002	\$5,461	\$8,570	\$387	\$798	\$427	\$673	\$160	\$406	\$6,435	\$10,447
2003	\$4,993	\$8,247	\$421	\$814	\$516	\$822	\$217	\$600	\$6,147	\$10,483
2004	\$4,446	\$6,773	\$322	\$615	\$655	\$929	\$272	\$615	\$5,695	\$8,932
2005	\$4,368	\$6,960	\$278	\$594	\$650	\$1,003	\$206	\$564	\$5,502	\$9,121
2006	\$4,864	\$8,100	\$349	\$734	\$883	\$1,305	\$291	\$742	\$6,387	\$10,882
2007	\$5,524	\$8,474	\$412	\$811	\$1,033	\$1,499	\$341	\$815	\$7,311	\$11,599
2008	\$6,175	NA	\$468	NA	\$1,212	NA	\$369	NA	\$8,225	NA
AY02-05 % Change @ 12 & 24 Mos	-20.0%	-18.8%	-28.3%	-25.5%	52.4%	49.1%	28.6%	38.9%	-14.5%	-12.7%
AY05-End Point % Change @ 12 & 24 Mos	41.4%	21.8%	68.6%	36.4%	86.4%	49.4%	79.4%	44.6%	49.5%	27.2%
AY02-End Point % Change @ 12 & 24 Mos	13.1%	-1.1%	20.9%	1.6%	183.8%	122.7%	130.6%	100.7%	27.8%	11.0%

Exhibit 4: Percent of Medical Payments by Medical Sub-Category



from \$427 per indemnity claim in AY 2002 to \$650 in AY 2005 (+52.4 percent), then climbed another 86.4 percent to \$1,212 in AY 2008, resulting in an overall increase of 183.8 percent over the 7-year period. The average amount paid for medical cost containment two years after an injury rose from \$673 for AY 2002 claims to \$1,003 for AY 2005 claims (+49.1 percent), then rose another 49.4 percent to an average of \$1,499 for AY 2007 claims – resulting in an overall increase of 122.7 percent from AY 2002 to AY 2008.

Meanwhile, the average amount paid per indemnity claim for medical/legal reports at 12 months post injury increased from \$160 in AY 2002 to \$206 in AY 2005 (+28.6 percent), then rose another 79.4 percent to \$369 in AY 2008, yielding a net increase of 130.6 percent over 7 years. At the 24-month benchmark, average medical-legal payments per indemnity claim increased from \$406 in AY 2002 to \$564 in AY 2005 and then rose another 44.6 percent to \$815 by AY 2008, which translates to a doubling of medical-legal expenditures over 6 years. A comparable table showing results for all claims can be found in Appendix 2.

The changes in the average amounts paid per claim within the medical expense sub-categories have led to a significant redistribution of the workers’ compensation medical expense dollar, as noted in Exhibit 4, which shows the proportion of each medical expense sub-category by accident year for indemnity claims. (A comparable table showing the redistribution of medical payments across the various categories for

all claims is in Appendix 3.) The distribution of medical dollars paid for services on indemnity claims in the first year post injury shows that while the proportion going toward pharmacy and DME was fairly stable from 2002 through 2008 (ranging between 5 percent and 6.9 percent of all medical payments), over that same period there was a significant shift from medical treatment into the medical cost containment and medical/legal report sub-categories. At the same time, medical treatment declined from 84.9 percent of total first-year medical expenditures on AY 2002 claims to 75.1 percent on AY 2008 claims – a relative change of 11.5 percent.

While treatment accounted for a declining share of the medical dollar, medical-legal expenses climbed from 2.5 percent of total medical expenditures in AY 2002 to 4.5 percent from AY 2002 to AY 2008 – a relative increase of 80.0 percent, and the percentage paying for medical cost containment more than doubled from 6.6 percent to 14.7 percent. Although this represents a significant shift, it should be noted that it was during this period that provisions of SB 899 took effect, mandating utilization review and allowing the development of MPNs as well as fee schedule adjustments for med-legal reports. Both utilization review costs and provider network access fees resulted in significant, ongoing medical cost containment expenditures on the part of claims administrators, but they also have been credited with saving billions of dollars in treatment expense compared to what would have been spent had workers’ compensation medical inflation continued at anywhere near the pre-reform levels.⁹

⁹ CWCI’s June 2009 Research Update, “Analysis of California Workers’ Compensation Reforms, Part 4: Changes in Medical Payments, AY 2002 to 2007 Claims Experience” estimated that between AY 2004 and AY 2008, medical cost containment and other medical reforms yielded net savings of \$12.8 to \$25.3 billion in medical costs.

SUMMARY

This report confirms the results of prior studies which showed a significant, short-term decline in California workers' compensation medical expenditures immediately following implementation of the 2002-2004 reforms, after which medical reimbursements began trending up in AY 2006. The latest results also document the continued growth of average medical payments through the end of the most recent study period (June 2009), with increases noted in the average amounts paid

per claim in all four medical categories (medical treatment, pharmaceuticals and durable medical equipment, medical legal, and medical cost containment).

Despite a recalibration of workers' compensation medical costs following the reforms, the recent increases in medical expenditures suggest that underlying employer, injured worker and other system factors may now be driving medical cost inflation. A future study will investigate the individual and collective influence of these underlying factors on medical costs in California's workers' compensation system.

APPENDIX 1

Average Medical Paid per Claim @ 3, 12, 24, 36 and 48 Months All Claims -- AY 2002 - 2009					
Accident Year	Avg Med at 3M	Avg Med at 12M	Avg Med at 24M	Avg Med at 36M	Avg Med at 48M
2002	\$825	\$2,727	\$4,192	\$5,340	\$6,146
2003	\$801	\$2,676	\$4,317	\$5,365	\$6,210
2004	\$809	\$2,266	\$3,337	\$4,246	\$5,011
2005	\$788	\$2,096	\$3,227	\$4,202	\$4,863
2006	\$848	\$2,319	\$3,651	\$4,542	NA
2007	\$854	\$2,627	\$3,926	NA	NA
2008	\$1,130	\$2,914	NA	NA	NA
2009	\$1,242	NA	NA	NA	NA
AY 02-05 % Change	-4.4%	-23.1%	-23.0%	-21.3%	-20.9%
AY 05-06 % Change	7.6%	10.6%	13.1%	8.1%	NA
AY 06-07 % Change	0.6%	13.3%	7.5%	NA	NA
AY 07-08 % Change	32.4%	10.9%	NA	NA	NA
AY 08-09 % Change	9.9%	NA	NA	NA	NA
AY 02-End Point % Change	50.5%	6.7%	-6.3%	-14.9%	-20.9%

APPENDIX 2

Average Medical Paid per Claim @ 12 and 24 Months by Medical Sub-Category All Claims – AY 2002 - 2009										
Accident Year	Medical Treatment		Rx/DME		Medical Cost Containment		Medical Legal		Total	
	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months
2002	\$2,334	\$3,467	\$149	\$299	\$170	\$260	\$74	\$167	\$2,727	\$4,192
2003	\$2,196	\$3,424	\$167	\$314	\$214	\$330	\$99	\$247	\$2,675	\$4,316
2004	\$1,793	\$2,562	\$116	\$213	\$250	\$341	\$106	\$221	\$2,266	\$3,337
2005	\$1,686	\$2,495	\$99	\$197	\$236	\$346	\$76	\$190	\$2,096	\$3,227
2006	\$1,790	\$2,747	\$120	\$234	\$306	\$431	\$103	\$239	\$2,319	\$3,651
2007	\$2,012	\$2,904	\$141	\$261	\$355	\$495	\$120	\$266	\$2,627	\$3,926
2008	\$2,212	NA	\$158	NA	\$410	NA	\$134	NA	\$2,914	NA
AY02-05 % Change @ 12 & 24 Mos	-27.8%	-28.0%	-34.1%	-34.2%	38.6%	32.8%	2.3%	14.0%	-23.1%	-23.0%
AY05-End Point % Change @ 12 & 24 Mos	31.2%	16.4%	60.3%	32.8%	73.9%	43.1%	76.6%	40.2%	39.0%	21.7%
AY02-End Point % Change @ 12 & 24 Mos	-5.2%	-16.2%	6.0%	-12.7%	141.2%	90.4%	81.1%	59.3%	6.9%	-6.3%

APPENDIX 3

Distribution of Medical Payments @ 12 and 24 Months by Medical Sub-Category
All Claims -- AY 2002 - 2009

Accident Year	Medical Treatment		Rx/DME		Medical Cost Containment		Medical Legal	
	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months	12 Months	24 Months
2002	85.6%	82.7%	5.5%	7.1%	6.2%	6.2%	2.7%	4.0%
2003	82.1%	79.3%	6.2%	7.3%	8.0%	7.7%	3.7%	5.7%
2004	79.1%	76.8%	5.1%	6.4%	11.1%	10.2%	4.7%	6.6%
2005	80.5%	77.3%	4.7%	6.1%	11.2%	10.7%	3.6%	5.9%
2006	77.2%	75.3%	5.2%	6.4%	13.2%	11.8%	4.4%	6.5%
2007	76.5%	73.9%	5.4%	6.7%	13.5%	12.6%	4.6%	6.8%
2008	75.9%	NA	5.4%	NA	14.1%	NA	4.6%	NA

ABOUT CWCI

The California Workers' Compensation Institute, incorporated in 1964, is a private, non-profit organization of insurers and self-insured employers conducting and communicating research and analyses to improve the California workers' compensation system. Institute members include insurers that collectively write more than 87 percent of California workers' compensation direct written premium, as well as many of the largest public and private self-insured employers in the state.



California Workers' Compensation Institute

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