



Adverse Surprises in Workers Compensation: Cases With Significant Unanticipated Medical Care and Costs

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One way to measure the frequency of these adverse surprises—albeit an imperfect way—is to examine how often the claims adjusters’ expectations about the present and future medical costs of a case are significantly exceeded. Higher than expected medical costs may be associated with a surprising worsening of the health of the worker and certainly are associated with unexpectedly high costs to the employer. The less often these cases occur, the more predictable the costs will be for employers and the outcomes for workers.

This study examines three dimensions of adverse surprises: (1) how their frequency and costs vary from state to state, (2) how this has changed over time, and (3) what attributes of cases are associated with these interstate variations and trends.

One goal of workers compensation systems is predictability. Two important aspects are the predictability of costs to employers and the outcomes experienced by workers. Yet, some cases evolve into what we’re calling “adverse surprises”—the costs exceed reasonable expectations, and the outcomes that workers experience are worse than expected.

Twelve large and geographically diverse states are included in the analysis: California, Connecticut, Florida, Illinois, Indiana, Louisiana, Massachusetts, North Carolina, Pennsylvania, Tennessee, Texas, and Wisconsin. They include states that rank high, medium, and low in terms of overall average cost per claim and together represent more than half of the workers compensation benefits paid in the United States.

The following offers an overview of study findings. The full study can be found at the Web site of the Workers Compensation Research Institute (WCRI) at wcrinet.org.

Summary of Findings

Frequency of Adverse Surprises

Exhibit 1 shows the frequency and costs of adverse surprises. How the WCRI measures adverse surprises is explained briefly in the final section of this summary and at greater length in the full report.

There was substantial variation in the frequency of adverse surprises. It ranges from less than 1% of cases with more than seven days of lost time for significant adverse surprises in Indiana and Wisconsin (less than 4% of cases for those with moderate or significant adverse surprises) to nearly 6% in California (nearly 18% of cases for those with moderate or significant adverse surprises).

Adverse surprises are most common in California and Texas. They are next most common in Florida, Louisiana, and North Carolina. Wage loss states tend to be among the middle group of states—those with adverse surprises that are not among the most or least frequent. States that pay permanent partial disability (PPD) benefits for back injuries are among the states at the extremes.

These adverse surprises represent a significant share of medical costs in each state. Cases with significant or moderate surprises represent about 30% to 40% of medical costs in most states. But they represent 57% in California and only 15% in Indiana.

Attributes of Adverse Surprise Cases

Chronic conditions with multiple surgeries represent a disproportionate number of adverse surprise cases. We found that adverse surprise cases are disproportionately back pain cases. Adverse surprises occur somewhat more frequently for women and are slightly more likely to involve older workers and those who are married. Notice of injury in adverse surprise cases was later in California and,

a lesser extent, in Texas. We did not find a consistent relationship between adverse surprise cases and wage level or industry.

The cases with adverse surprises tend to receive some different patterns of medical care. Not surprisingly, such cases are more likely to receive surgery, physical therapy, chiropractic care, radiology, and mental health services. And *multiple* surgeries occur more often.

Both the initial surgery and the initial chiropractic visit are more likely to come later in the adverse surprise cases than in cases that do not have adverse surprises. This pattern suggests that many adverse surprise cases are probably cases where medical care that was delivered during the first 6 to 18 months after injury did not resolve the worker's medical problem—raising questions about the appropriateness and effectiveness of this care. Some workers may have turned to chiropractic care and surgery (even multiple surgeries) after losing confidence in the care that had been provided up to that point.

Exhibit 1 Distribution of Claims by State and Size of Adverse Surprises—Year 2000 Cases Evaluated in 2003

	Percentage of Claims		Percentage of Incurred Medical Costs	
	Significant Surprise (percent)	Moderate Surprise (percent)	Significant Surprise (percent)	Moderate Surprise (percent)
CA	6.0	12	31	26
TX	3.7	8	24	21
FL	2.8	7	22	21
LA	2.6	7	13	21
NC	2.4	5	23	18
PA	1.9	6	17	16
IL	1.7	4	15	14
CT	1.4	5	15	17
TN	1.3	5	12	14
MA	1.1	4	30 ^a	16
WI	0.8	3	12	13
IN	0.6	3	7	8

Note: For the criteria to define these groups, see Exhibit 3. This table shows each group as a percentage of claims (costs) with more than seven days of lost time.

^a The value for Massachusetts is distorted by one very large case. If its value is limited to the average of the next five highest cases, the group of significant adverse surprise cases constitutes 20% of medical costs in Massachusetts in 2000.

Has the Likelihood of Adverse Surprise Cases Increased?

Adverse surprises have become relatively more frequent in almost all of the states studied. The increase has been far greater in California than in any other state (Exhibit 2). Texas and possibly North Carolina are among the other states where there has been a notable increase, although the North Carolina increase might be distorted by reserve strengthening. The percentage of cases with adverse surprises in these two states grew by at least 1.5 percentage points between 1996 and 2000. By contrast, in Indiana and Wisconsin, there has been little growth in the likelihood of an adverse surprise.

The growth of significant adverse surprise cases can be a major cost driver in some states. In California, the cases represented 20% of medical costs in 1996, but grew to 31% by 2000. During the study period, the share of costs in significant adverse surprise cases grew particularly rapidly in Texas (9 percentage points) and North Carolina (14 percentage points), although the North Carolina increase might be distorted by reserve strengthening.¹ Massachusetts also shows a large increase.

Exhibit 2 Trend in Percentage of Claims With Significant Adverse Surprises (Percentage of All Claims With More Than Seven Days of Lost Time)

Percentage of Claims	1996	1997	1998	1999	2000	Percentage Point Change 1996–2000
CA	2.2	2.7	4.0	4.7	6.0	3.8
CT	0.6	0.8	0.7	0.8	1.4	0.8
FL	2.2	2.3	2.9	2.8	2.8	0.6
IL	0.9	1.1	1.1	1.3	1.7	0.7
IN	0.3	0.4	0.4	0.5	0.6	0.2
LA	1.9	1.5	1.9	2.1	2.6	0.7
MA	0.6	0.7	0.9	1.1	1.1	0.5
NC	0.9	1.0	1.5	1.8	2.4	1.5
PA	1.3	1.3	1.3	1.7	1.9	0.6
TN	0.6	0.8	1.0	1.0	1.3	0.7
TX	2.0	2.2	2.7	3.2	3.7	1.7
WI	0.4	0.6	0.5	0.7	0.8	0.4

Did the Attributes of Adverse Surprise Cases Change?

Adverse surprise cases tended to involve back pain disproportionately. However, the percentage of cases with back pain did not change significantly outside of Louisiana. Also, the percentage of cases with adverse surprises that were non-back sprains and strains rose in all states except North Carolina. These cases involved upper and lower extremities, including many knee and shoulder sprains and strains. In Louisiana, the large increase in the share of back injuries was offset by decreases in fractures and inflammations, lacerations, and contusions (ILCs), as well as a category we call “other injuries.”

We observed that women were slightly more likely to have adverse surprise cases. In three states, there was an increase in the share of adverse surprise cases for women. Not surprisingly, there has been a parallel change in the industrial mix of adverse surprise cases—with increases in industries in which women are more frequently employed—clerical/profession, services, and trade—and a decline in the share represented by construction and manufacturing.

We saw that married workers are more likely to have cases that turn into adverse surprises. But there is no consistent trend here.

Conclusions

In programs as large and complex as workers compensation, some adverse surprise cases are inevitable. However, this study finds that these cases are more frequent in some states than in others, and in some of those states, the frequency of adverse surprise cases has grown. These findings suggest that some of the adverse surprise cases in those states may be preventable—especially in California, Florida, Louisiana, North Carolina, and Texas.

Specific actions to prevent adverse surprise cases are not identified in this particular study. However, it is likely that some improvements in public policies and improvements in medical management are part of the answer. Future studies should address this.

¹ Reserve strengthening may have accounted for part of this trend in California, Connecticut, and North Carolina. However, the effect is likely to be small.

It is also likely that part of the answer lies in early identification of cases that have a strong likelihood of turning into adverse surprise cases. Although this study identifies some attributes of adverse surprise cases and of the related medical care provided, identifying criteria for early intervention in such cases is beyond the scope of this study. Such criteria may not be easy to develop because there are not large differences between adverse surprise cases and other cases in characteristics that can be observed early in the case. We suggest that future studies that seek to address this issue focus on the patterns and timing of medical care.

The frequency of adverse surprise cases is clearly one measure of the performance of a workers compensation system. Whether adverse surprise cases are becoming more or less frequent is also a performance metric for improvement in outcomes for workers and costs for employers. The *advantage* of this performance measure is that it captures the concerns of both workers and employers. The *disadvantage* is that one cannot determine if the case involves an adverse surprise until several years after the injury—the lessons come with a significant time lag. As such, frequency can be a complement to (not a substitute for) other more timely measures of system performance.

Dr. Richard A. Victor has been the executive director of the Workers Compensation Research Institute (WCRI) since its inception in 1983. The Institute, located in Cambridge, MA, is an independent, not-for-profit research organization providing high-quality, objective information about public policy issues involving workers compensation systems. Dr. Victor is the author of numerous books and articles on workers compensation issues.

Overview of Methods and Data

In this study, we focused on cases with more than \$5,000 in incurred medical costs (past payments plus future reserves for medical services) established at an average of 12 months after the injury. In most states studied, these cases represented roughly 50% of cases with more than seven days of lost time and, on average, about 90% of incurred medical costs.

We identified how often the incurred medical costs at an average of 36 months post-injury were much higher than the incurred medical costs at an average of 12 months post-injury. Adverse surprise cases were defined by (1) the amount of the incurred medical costs at the 12-month snapshot and (2) the extent to which the incurred medical costs increased from the 12-month snapshot to the 36-month snapshot. We defined four groups of claims (Exhibit 3). For example, a case with expected medical costs of \$25,000 at 12 months but actual total costs of three to five times that much (\$75,000 to \$125,000) at 36 months was considered a case with a significant adverse surprise.

To analyze the interstate variation in adverse surprises, we used injuries that arose between October 1, 1999 and September 30, 2000, which we referred to as 2000 injuries. The snapshots taken were as of June 2001 and again as of June 2003—an average of 12 and 36 months post-injury. To analyze the trend in adverse surprises, we used cases that arose in each of the previous four 12-month periods (which we referred to as 1996–1999 injuries).

It is important for the reader to remember that the study examined a subset of cases with adverse surprises, but not the costs or actuarial development of claims overall. Moreover, we examined costs through an average of 36 months after injury, while actuaries use techniques that estimate how costs develop over a much longer period.

We analyzed 12 states that represent more than half of the workers compensation benefits paid in the United States. These states are geographically diverse and represent states in which the average medical cost per claim is high, medium, and low among the 50 states.

Exhibit 3 Defining Cases With Adverse Surprises

Incurred Medical at 12 Months is:	Ratio of 36-Month Value to 12-Month Value			
	Significant Surprise	Moderate Surprise	Neutral	Positive Surprise
\$5,000–\$10,000	> 5.0	1.5 to 5.0	0.5 to 1.5	< 0.5
\$10,000–\$50,000	> 3.0	1.5 to 3.0	0.5 to 1.5	< 0.5
> \$50,000	> 2.0	1.5 to 2.0	0.5 to 1.5	< 0.5