Workers Compensation Claim Frequency Down Again in 2005

Overview
The decline in claim frequency for workers compensation injuries continued into 2005, and the decline appears to have spread to larger claims. Both of these findings bode well for workers, employers, and their insurers.

While the continued overall decline is certainly good news, it is probably not a surprise to most industry observers given claims experience over the past 15 years. What may be surprising, though, is that the decline now seems to be just as prominent among the medium and large claims as it is for the small claims. This is somewhat unexpected since past studies have shown the frequency decline was much more pronounced for the smaller claims.

NCCI’s 2006 review of claim frequency and severity shows that, while claim frequency is down, indemnity and medical severities continue to rise.

In the course of updating last year’s study to reflect the latest frequency and severity results, two new dimensions have been added. Individual year changes in claim frequency by size of loss are examined this year. Differences in claim frequency and severity by major industry group, including a drill-down on trucking, are also explored.

Key Issues
A key issue facing employers and workers compensation insurers is whether the large declines in claim frequency that began in the 1990s are likely to continue. Virtually every major employment category examined has experienced marked declines. A previous NCCI research report, “Frequency Turning Points” (available on ncci.com) examined factors underlying the long-term decline in frequency since the early 1900s.

Preliminary summary data for Accident Year 2005 reveals continued overall declines in claim frequency and overall increases in indemnity and medical severities. In order to drill down on these recent broad trends, NCCI compared the latest available statistical plan data for states in which we provide ratemaking services to the same data from five years prior, or earlier. Most analyses in this study compare policies that expired in 2004 to policies that expired in 2000.

Key Findings
Key findings of our analysis are:

- Over the last two years, the claim frequency decline appears to be just as strong for the medium and large claims as for the small lost-time claims.
- Because the relative increase in larger claims (caused by the uneven frequency decline) has subsided in the past two years, severity increases are lower. This is particularly true for indemnity.
- Over the last five years, significant declines occurred for all injury types, including permanent total and permanent partial claims.
- While there is some variation, the decline in workers compensation claim frequency occurred in all major industry groups and spanned almost all occupations.
- After accounting for both claim frequency and severity, premiums by industry group are equitable.
- The shift in occupational mix is a minor contributor to the decline in claim frequency.

2005 Mega-Trends
As communicated at NCCI’s 2006 Annual Issues Symposium and noted above, workers compensation claim frequency appears to have fallen again in 2005.

Exhibit 1 provides the results of an analysis based on aggregate workers compensation data submitted by NCCI-affiliated carriers. The results for Accident Year 2005 are preliminary. While claim frequency continues to drop, this chart shows that indemnity and medical severities continue to rise.

1 Generally, the term “frequency” is used in this report to mean the number of claims per $1 million of wage-adjusted payroll. In a few cases it means claims per 100 workers per year or claims per $1 million of premium. Exhibits are labeled to indicate which definition is used.
While Claim Costs Rise Steadily, Frequency Continues a Slight Decline

Exhibit 1. Lost-Time Claim Frequency Continues to Decline While Claim Costs Continue to Increase

If there is any good news to be gleaned from the severity changes, it is that the annual increases in indemnity have tapered off significantly in the last four years. While indemnity severity rose by an average 9.3% from 1996–2001, the average annual increase since then has been 3.7%. This includes an NCCI-estimated increase of 2.0% for 2005. In part, this easing in the growth of indemnity severity reflects the limited growth in wage rates during the weak labor market during and following the recession of 2001.

Increases in average medical costs per claim remain substantial, however, averaging 9.1% per year over the last four years. This is only slightly less than the 9.4% average annual increase from 1996 to 2005. The estimated increase for 2005 is 8.5%. In addition to medical price inflation, increases in the utilization of medical services (including prescription drugs) are a significant driver of these increases. Nonuniform changes in claim frequency by size of claim, discussed later, also have contributed to the severity increases in some years. To some degree, nonuniform changes in claim frequency by size of claim also might be related to changes in utilization patterns.

The reduction in claim frequency, though, continues to be a major bright spot for workers compensation. Injury rates have dropped by an average of 3.9% per year since 1996, including an estimated decline of 4.5% in 2005.

Frequency by Claim Size

In order to further analyze the claim frequency results, NCCI used Workers Compensation Statistical Plan data in states for which NCCI provides ratemaking services. Policies expiring in 2000 were compared to policies expiring in 2004.

Exhibit 2 shows declines in lost-time claim frequency by size of claim, after adjusting the claim sizes for the estimated impact of inflation and utilization. While prior studies have examined the aggregate change over the entire time span, new to this year’s study is an analysis of the changes for each year individually.
The results for 2001 and 2002 are consistent with prior studies: smaller lost-time claims experienced a greater claim frequency decline than larger lost-time claims. For example, in 2001 the smallest claims (less than $2,000 in adjusted dollars) experienced a 10.3% decline while the largest claims (more than $50,000) were down by only 0.4%.

The difference in frequency declines by size of claim appears to have leveled in the two most recent years studied. In 2003 and 2004, the claim frequency changes for small and large lost-time claims appear similar. This is good news since it means the high-cost claims are now sharing equally in the claim frequency decline.

**Changing Claim Frequency and Its Impact on Severity**

Understanding the impact that changes in claim frequency can have on claim severity can help predict future changes in both. Exhibit 1 revealed significant increases in both indemnity and medical severities. Part of this increase is due to the greater percentage decline in small claims versus large claims over much of that time period, since it is the relatively larger claims that remained in the system.

In last year’s study, we estimated that the uneven changes in injury rates (by size of claim) contributed approximately 3% per year to the indemnity severity increase and approximately 2% per year to the medical severity increase from 1999 to 2003.

Because the frequency decline appears to have been more uniform by size of claim since 2002, it has not been a factor in the severity increases since then. This is consistent with the lower indemnity increases shown in Exhibit 1 during that time period.

It is important to note that shifts in severity due to pure inflation, utilization, and uneven changes in injury rates for large and small claims do not distort NCCI rate-making. While not explicitly measured, they are implicitly included in the loss ratio trends utilized by NCCI.

**Claim Frequency Results by Injury Type**

In addition to examining claim frequency by size of claim, NCCI has updated prior analyses that examined claim frequency by injury type. Exhibit 3 demonstrates that all injury types, whether minor or severe, experienced significant declines over the most recent five years.
Claim Frequency and Severity by Industry Group

New to this year’s study is a review of claim frequency, as well as severity, by industry group. In Exhibit 4 it is evident that all major industry groups have shared in the claim frequency decline over the time period studied. The decline ranges from 12% for office and clerical to 20% for contracting.

What is also apparent from Exhibit 4 is that industry groups experience significantly different levels of claim frequency, when measured against payroll. The most notable example is office and clerical, where the number of claims per $1 million of wage-adjusted payroll is much lower than that in any of the other industries. It probably comes as no surprise that an office environment would generally experience fewer claims per payroll dollar, or per worker, than industries such as contracting or manufacturing.
What would the results look like if claims were measured against premium rather than payroll? Exhibit 5 provides the answer.

The left side of this exhibit repeats the claims per payroll information shown on the prior chart for the latest year, 2004. On the right side, claims are compared to $1 million of premium for 2004. Obviously, different results emerge. Office and clerical now appears to have an average amount of claims when viewed this way. Contracting shows the least amount of claims when measured against premium, and goods and services now shows the most.
Lost-Time Claim Frequency per Payroll vs. Lost-Time Claim Frequency per Premium by Industry Group

Exhibit 5. Lost-Time Frequency per Payroll vs. Lost-Time Frequency per Premium by Industry Group

The premium charge for each job classification reflects the claim frequency for that class. Thus, fewer expected claims results in a lower premium charge. This partially explains the different results on the right side of Exhibit 5 versus the left side.

Premium charges also reflect differences in the cost of claims for one industry versus another. To examine these differences, see Exhibit 6. The right side of this chart shows the average severity for lost-time claims for each industry group. The claim frequencies per premium shown on the prior chart have been repeated on the left side of Exhibit 6. While contracting had the fewest claims per $1 million of premium, it has the highest severity of any industry. On the other hand, goods and services showed the highest number of claims per premium, but it has the lowest average cost of a claim.
Exhibit 6. Lost-Time Frequency per Premium and Lost-Time Severity by Industry Group

Exhibit 6 illustrates that after accounting for both claim frequency (left side of chart) and claim severity (right side of chart), premiums by industry group are equitable.

Results for Large Classifications

Exhibit 7 shows an across-the-board decline in claim frequency for 15 of the largest occupations. Changes in occupational mix accounted for 5% of the 20% claim frequency decline between 2000 and 2004.
## Lost-Time Claim Frequency for Largest Classes

<table>
<thead>
<tr>
<th>Countrywide Classes</th>
<th>Policies Expiring in 2004</th>
<th>Policies Expiring in 2000</th>
<th>Frequency Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wage-Adjusted Payroll ($M)</td>
<td>Lost Time # Claims</td>
<td>Lost Time # Claims</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>Frequency</td>
</tr>
<tr>
<td><strong>1. Manufacturing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television/Radio</td>
<td>$ 7,138</td>
<td>2,238</td>
<td>0.314</td>
</tr>
<tr>
<td>Machine Shop</td>
<td>$ 7,147</td>
<td>5,039</td>
<td>0.705</td>
</tr>
<tr>
<td>Plastics Manufacturing</td>
<td>$ 6,328</td>
<td>3,892</td>
<td>0.615</td>
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<tr>
<td><strong>2. Contracting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Wiring</td>
<td>$ 11,857</td>
<td>6,853</td>
<td>0.578</td>
</tr>
<tr>
<td>Contractor-Supervisor</td>
<td>$ 11,628</td>
<td>2,162</td>
<td>0.186</td>
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<tr>
<td>Plumbing</td>
<td>$ 9,683</td>
<td>6,463</td>
<td>0.687</td>
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<tr>
<td><strong>3. Office and Clerical</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Clerical</td>
<td>$ 551,881</td>
<td>27,429</td>
<td>0.050</td>
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<tr>
<td>Salesperson - Outside</td>
<td>$ 126,703</td>
<td>9,327</td>
<td>0.074</td>
</tr>
<tr>
<td>College Professional</td>
<td>$ 67,268</td>
<td>6,062</td>
<td>0.090</td>
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<td><strong>4. Goods and Services</strong></td>
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<td></td>
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<tr>
<td>Store: Retail</td>
<td>$ 35,856</td>
<td>18,248</td>
<td>0.509</td>
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<tr>
<td>Caterer/Restaurant</td>
<td>$ 29,043</td>
<td>9,327</td>
<td>0.074</td>
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<tr>
<td>Auto Service/Repair</td>
<td>$ 22,217</td>
<td>12,903</td>
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<tr>
<td><strong>5. Miscellaneous</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trucking (NOC, Local, Long-Distance)</td>
<td>$ 17,251</td>
<td>21,246</td>
<td>1.232</td>
</tr>
<tr>
<td>Drivers/Chauffeurs</td>
<td>$ 9,649</td>
<td>8,665</td>
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<tr>
<td>Police Officers</td>
<td>$ 8,447</td>
<td>4,900</td>
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<tr>
<td><strong>Total All classes</strong></td>
<td>$ 1,654,928</td>
<td>520,967</td>
<td>0.315</td>
</tr>
<tr>
<td><strong>Mixed-Adjusted Total</strong></td>
<td>$ 1,654,928</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Claim count determined at first report  
Frequency = Lost-time claims / payroll; Payroll adjusted for inflation  
All NCCI states; excludes NV

### Exhibit 7. Lost-Time Claim Frequency for 15 Large Occupations

The trucking classification shown in this chart represents the combined experience of Class Codes 7228—Local Trucking, 7229—Long Distance Trucking, and 7219—Trucking NOC (No Other Classification). Trucking NOC is used only in those states that did not approve the 1996 splitting of that code into the local and long distance codes.

The bifurcation of the trucking class into local and long distance presents a unique opportunity to compare the experience that has emerged for these two groupings.

Exhibit 8 first compares the claim frequency experience for the trucking NOC code that is still used in some states to the combined experience of the local and long distance classes that are used in the other states. The right side of the exhibit provides the claim frequency experience separately for the local and long distance classes. While long distance trucking shows significantly lower claim frequency than local trucking, the gap has been narrowing recently.
Average claim severity for these groupings is examined in Exhibit 9. Trucking NOC appears to have a higher average severity in the older years than its counterpart, local and long distanced combined. However, average costs appear very similar in 2004. On the right side of this exhibit it is evident that, while long distance trucking had lower claim frequency, it has higher cost claims than local trucking. This gap has narrowed in 2004.

A forthcoming NCCI report, “Traffic Accidents,” will investigate frequency, severity, claimant demographics, and other characteristics, relative to other claims, for this growing contributor to workers compensation losses.
What’s Driving the Claims Frequency Trend?
As previously reported, the many factors that NCCI believes are driving this long-term trend are:
• Continued emphasis on workplace safety in all employment classes
• Increased use of robotics
• Increased use of modular design and construction techniques
• Increased use of power-assisted processes
• Advances in ergonomic design
• Proliferation of cordless tools
• More and better job training
• Improved fraud deterrents

Looking Forward
NCCI will continue to closely monitor the critical area of claim frequency. Future research may include:
• Exploring alternative methodologies for estimating each of the three forces impacting severity: price, utilization, and differing frequency changes by size of claim
• Studying the effect of the increasing proportion of the workforce over age 60 on claim frequency and severity
• Further analyzing frequency changes for small policies

New information and research data will be posted to ncci.com as they become available.