Beecher Carlson is pleased to present this seventh edition of the Hospital Workers’ Compensation Benchmark Study. We appreciate the opportunity and strive to provide value and support to the hospital industry by continuing to develop this analysis.

We recognize the effort required of all participants and welcome the opportunity to discuss the implementation and execution of strategies driven by the findings of this study in reducing your organization’s cost of risk.

SCOPE OF STUDY
The 2016 Hospital Benchmark Study includes claim information from January 1, 2011 through December 31, 2015 valued first quarter of 2016 representing:

- More than 730 hospitals in all 50 states
- 168,000 Non-Zero Claims over the five years
- Nearly 26,000 Lost Time Claims
- $1.1 billion in Incurred and $861 million in Paid workers’ compensation losses

The Study that follows consists of three major sections including the 2016 Benchmark Study Review starting on page 2, a State-by-State Breakdown of the results on pages 11 and 12, and a Retrospective Comparison to previous Studies starting on page 13.

Key Observations

- Frequency of claims in 2011 compared to 2015 and as measured against Payroll is down by 23.7 percent and as measured by Man-hours is down by 21.5 percent.
- Frequency of claims resulting in lost time from work or indemnity payments as measured both by Payroll and Man-hours is down more than 30 percent when comparing 2011 to 2015.
- Ultimate developed claim severity on average is up more than six percent for Non-Zero Claims over the five-year period.
- By reporting claims to the carrier or claim administrator within the first seven days after they occur, the average cost per claim can be reduced by more than seventeen percent.
A key factor in reducing the overall cost of workers’ compensation claims is to reduce the frequency at which those claims occur. The chart above illustrates claim frequency relative to Payroll. As illustrated in a later chart on Lag Time (see page 9), 97 percent of all claims are reported within the first 90 days. This decreases the likelihood that delayed reporting is reflected in the reduction of frequency noted.

While there is a 23.7 percent reduction in the frequency of claims relative to Payroll over the five-year period, it is important to consider the impact of wage inflation over that same period. As the rate of pay increases, the denominator also increases appearing as a reduction in the frequency rate per Payroll. To validate if there is an actual reduction in frequency, the rate of claims is compared to Man-hours.

To mitigate the impact of increased pay over the five-year period, frequency relative to Man-hours worked is measured. This measurement shows a 21.5 percent reduction over the five years in frequency of the Non-Zero Claims. This confirms the evidence of a reduction in the frequency of claims on average over the same period.
Non-Zero Claims, claims with at least $1 paid or incurred, can be an accurate measurement of frequency due to the variability between reserving philosophies, reporting requirements, and the numerous methods for handling “medical only” losses. While it is important to analyze Non-Zero claim counts for each organization, analyzing the frequency of Lost Time Claims is beneficial as it provides insight into the trends driving most of the costs.

There is a 36 percent reduction (compared to 31 percent in our prior Study) in the frequency of Lost Time Claims from 2011 to 2015 when measured against Payroll, moving from 0.153 Lost Time Claims for every $1 million in Payroll to 0.098 claims.

It is essential in considering this indicator to remember that while increased Payroll factors into the findings, the 36 percent reduction along with the Non-Zero rate change of 23.7 percent illustrates an improvement in the number of Lost Time Claims overall. This reduction continues to follow the pattern seen in our last few Studies (see page 13).

As with the earlier analysis compared to Payroll, it is important to consider the impact of increased pay during that same period and evaluate loss frequency against Man-hours worked.

Like the findings in the Non-Zero Claims, the rate of frequency for Lost Time Claims shows a reduction from 2011 to 2015 in the number of Lost Time Claims for every 100,000 Man-hours over the five-year period. While there is a slight upturn from 2013 to 2014, the overall reduction from 2011 to 2015 is 35.3 percent.
Severity

When evaluating an organization’s losses, it is important to consider all factors. Any one benchmark or measure considered alone can give a misconception of the impact of loss prevention and mitigation efforts. For example, some organizations can experience an unexpected increase in severity, but find their overall costs decreasing. Thus, none of the factors considered in this study or in an organization’s own analysis should be evaluated without considering all factors and resources available at various points in time.

Beyond the frequency of losses, the second measure that should be considered in all evaluations is the severity of claims. All employers are facing challenges impacting efforts to reduce overall costs including but certainly are not limited to medical inflation, an aging workforce, pharmaceutical costs, Medicare Set-Asides, and increased levels of employee obesity. The numerous factors driving individual costs for each claim make it difficult to manage workers’ compensation claims.

In measuring severity, the average cost per Non-Zero Claim is analyzed first. Over the five-year period, the average is $6,606 per claim. The more recent years are expected to be the lowest as these figures are Undeveloped Actual Costs. The lower figures illustrate the “recency” or “green” nature of the newest loss years. It is better to compare the overall average to our two prior Studies with the 2015 Study average being $6,304 and the 2014 Study average being $6,499. While the current figure represents a 4.8 percent increase from 2015’s result, it is only a 1.6 percent increase from the 2014 Benchmark Study’s findings.

**Average Incurred (Non-Zero)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Expense</th>
<th>Medical</th>
<th>Indemnity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$4,667</td>
<td>$2,705</td>
<td>$1,398</td>
<td>$8,767</td>
</tr>
<tr>
<td>2014</td>
<td>$6,275</td>
<td>$2,708</td>
<td>$2,292</td>
<td>$11,275</td>
</tr>
<tr>
<td>2013</td>
<td>$6,918</td>
<td>$3,080</td>
<td>$2,982</td>
<td>$12,980</td>
</tr>
<tr>
<td>2012</td>
<td>$7,502</td>
<td>$3,121</td>
<td>$3,230</td>
<td>$13,853</td>
</tr>
<tr>
<td>2011</td>
<td>$7,758</td>
<td>$3,194</td>
<td>$3,360</td>
<td>$14,312</td>
</tr>
</tbody>
</table>

It is also important to consider the cost allocation between the three claim components: expense, medical, and indemnity.

The longer claims are open; the higher costs tend to be including any settlements or payments for lost wages. Thus, an increase in all components is expected with the larger increases in the indemnity and medical portions. In comparing the results to the last two Studies, the ratios between the three costs components have not varied significantly.
To reduce the “recency effect” and compare loss years on an apples-to-apples basis, the losses have been developed using countrywide loss development factors provided by the National Council on Compensation Insurance, Inc. (NCCI). The factors allow present-day incurred figures to be developed to projected ultimate costs.

### Average Ultimate Severity Non-Zero Developed

![Average Ultimate Severity Non-Zero Developed](image)

The average incurred developed loss severity per claim is projected to be 6.2 percent more in 2015 than for 2011. This is a shift from the 2015 Study which was projected to have a 7.2 percent reduction over the five-year period of 2010 to 2014.

The findings indicate that the loss development factors are slightly conservative in comparison to the ultimate outcomes when analyzed years later, but that would be expected given the various jurisdictional, operational, and participant variations. Projections for 2013 and 2014 in this Study are 4.7 percent and 3.8 percent higher than projected in the 2015 Study. Projections for 2011 and 2012 are 5.1 percent and 1.0 percent lower than estimated.

### Loss Rate per $100 Payroll by Year

![Loss Rate per $100 Payroll by Year](image)

While projected average severity per claim is up over the five-year period, it is important to consider the projected costs compared to exposures. To illustrate the importance of the overall picture, the severity of losses in conjunction with frequency against a defined exposure base is analyzed. For this analysis, loss rates relative to both Payroll and Man-hours are considered.
The 2015 Study identified a 28.6 percent reduction in the rate per Payroll with an ultimate developed rate of $0.55 per $100 Payroll for 2014. The 2016 Study projects 2014 to be $0.63 per $100 Payroll, or 14.5 percent higher. Since increased pay over the five-year period can account for a percentage of the 18.3 percent reduction, it is imperative to compare it also to Frequency, Severity, various points in time (see Page 14), and Man-hours.

**Ultimate Costs per 100,000 Man-hours (Non-Zero Claims)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Ultimate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>$23,961</td>
</tr>
<tr>
<td>2012</td>
<td>$22,868</td>
</tr>
<tr>
<td>2013</td>
<td>$20,984</td>
</tr>
<tr>
<td>2014</td>
<td>$21,872</td>
</tr>
<tr>
<td>2015</td>
<td>$19,933</td>
</tr>
</tbody>
</table>

There is a projected 16.8 percent reduction in Ultimate Severity comparing 2015 to 2011 when measured against Man-hours.

Again, to mitigate the impact of Payroll increases and the possible dilution of a severity pattern due to higher compensation, a total of costs against 100,000 Man-hours for Non-Zero Claims is analyzed.

In considering loss costs per 100,000 Man-hours worked, the average cost has gone from $23,961 to $19,933 over the last five years when using NCCI loss development factors. This is a projected reduction in severity of 16.8 percent.

The reduction is slightly less than the 24.3 percent reduction identified in the 2015 Study and even less than the 29.5 percent reduction noted in the 2014 Study.

The 2011 and 2012 projections are within four percent or less of the projections in the 2015 Study, but 2013 and 2014 are both 11.5 percent higher than presented in the prior Study. This does support a continued reduction in severity but at a decreasing percentage than previously identified.

It is important to note that the industry development factors used in this Study may not be reflective of an organization’s actual future development.
When addressing the overall cost of risk, it is essential to clarify and understand what claims are driving an organization's costs. 94.3 percent of all Non-Zero Claims had total incurred values of $25,000 or less. This is consistent with findings in prior Studies.

For an organization to have the greatest impact on its total cost of risk it must identify the six percent or so of claims that account for more than 70 percent of its losses. The prevention and reduction of the 1.3 percent of claims that account for 37.7 percent of incurred costs will have the greatest loss and risk mitigation effect.
Percent of Lost Time Claims

To identify the claims responsible for the greatest costs and offer the opportunity to reduce the overall cost of risk, several key performance indicators are considered that assist in the analysis of an organization's loss experience.

It is essential in measuring the frequency of severe cases to consider those that result in time lost from work or indemnity payments relative to those that are medical only, or Non-Zero Claims without indemnity.

For this Study, as well as the prior two Studies, the ratio is the same with 15 percent of all Non-Zero Claims resulting in Lost Time Claims where some indemnity dollars were either paid or incurred. This means on average one out of every 6.7 claims results in Lost Time.

The best performers in the Study had ratios of less than eight percent Lost Time, or one claim out of every 12.5 claims.

Percent of Lost Time Costs

It is just as important to recognize the impact those 15 percent of all claims have on the overall costs.

Approximately 82 percent of the costs from the five-year period are tied to the Lost Time Claims. This nearly inverse measure falls in line with the “80-20 Rule” and should assist in directing efforts for mitigation and cost reduction.

Organizations seeing increases in their ratios of Lost Time Claims can expect overall costs to increase as well. The indicator improved our first years of the Study but has remained steady for the last three Studies.
In addition to the clear benefits of returning employees to work or keeping them at work to mitigate the overall cost of risk, a trend over the last five Studies indicates the importance of prompt claims reporting. Every year has provided evidence that claim costs increase significantly for losses with longer lag time than those addressed early and promptly.

This result is in direct contrast to the expectation that the most catastrophic claims are known and reported almost immediately. The trend indicates a 7.8 percent higher incurred cost for claims reported on days three to seven at $6,449 versus $5,985 for those reported in the first two days.

For the first time in the seven Studies, the percentage of claims reported in the first seven days is down from the percentage in the prior year’s Study. The best performing organization in this year’s Study had 95 percent of all claims reported in the first seven days. Since the participants’ average results are at only 78 percent, there is still a significant opportunity to improve.

This “opportunity” is specifically evident in the 22 percent of claims reported after the first seven days. While the average cost increases significantly when Reporting Lag increases, at least 17 percent or more could be saved with earlier claim handling and management for nearly one out of five claims.
Employee Tenure

In the prior Studies, the median age for all employees with claims in the database was calculated at approximately 43 years. Not all organizations track employee ages or dates of birth in the workers’ compensation loss data, but the tenure of the employees was figured by calculating the number of years between the Date of Hire and the Date of Loss.

Consistent with prior findings, there is an increase in the average cost per claim as tenure increases. One would assume care and treatment of a longer tenured employee (likely an older employee) would be more expensive and indemnity would be higher due to level of compensation.

In contrast to the severity finding noted above, the percentage of overall claims decreases as tenure rises. The interesting variant is noted with the employee group that has been with the organization between one and two years. This category results in the second lowest percentage of claims with a relatively low average incurred value.

The information in this particular evaluation needs to be compared to an employer’s overall employee population. The Study only has the benefit of the claims and loss information. While the average severity of claims for employees with more than 20 years’ tenure is the highest, an organization could have a small percentage of their overall employee population in this category with even less frequency of losses. Likewise, if a facility only has about 5 percent of their workforce hired within the last year but they are involved in 24 percent of the losses, this could be a focus for improvement.

When the percentage of claims by tenure is multiplied by the average cost per tenure to develop a “weighted” value, it indicates the category of employees with 1-2 years’ tenure and employees with more than 20 years’ tenure are the least expensive; however, employees with between 2-5 years’ and 5-10 years’ tenure are the most costly for workers’ compensation.
Jurisdiction

Organizations face challenges specific to their individual jurisdictions and locations. Pay rates, compensation laws, compensability issues, and the court system can further impact results and costs. While there are opportunities to address all the prior elements, they must be tempered with an awareness and understanding of the laws and statutes in each state.

To consider the possible impact of each state's laws, the average claim severity for all Non-Zero and Lost Time Claims was calculated. Each state's figures are broken down into paid and outstanding for a total incurred value and then ranked from highest to lowest in average severity.

Average Non-Zero Incurred (2011 - 2015)

The average cost of Non-Zero Incurred Claims for all states noted is $6,498.

It is essential that severity, as in prior discussions, not be considered alone. Further, due to the limited volume of claims data in certain states, only states with at least 500 Non-Zero Claims and 50 Lost Time Claims have been included.
To focus on the most expensive losses and reduce any impact caused by reporting or reserving philosophies, the average costs for Lost Time Claims over the five-year period was also reviewed and analyzed.

**Average Incurred Lost Time Claim (2011-2015)**

The average incurred cost for Lost Time Claims is $37,455.
Retrospective Comparison

Historical Key Performance Indicators
Comparison of the Last Four Benchmark Studies at Similar Points in Time

With the aggregation of data obtained over the last several years, it is the natural progression to evaluate the Study against itself. This is similar to an organization’s best benchmark being a comparison to its own performance at a prior point in time. The overall objectives are improvement and cost reductions. While participating organizations have changed, along with some of the analyses performed, there are some specific measures worthy of consideration.

Just like with any workers’ compensation analysis, three main categories are evaluated: frequency, severity, and the frequency of severe claims. Due to changes in reserving patterns and claims handling philosophies, paid data was found to be most helpful for this review. All developed losses were removed from consideration to maintain focus on the data in its basic form.

Historical Data comes from the 2016 Study and three prior Benchmark Studies:
- 2015 Study – Loss years 2010 to 2014
- 2014 Study – Loss years 2009 to 2013
- 2013 Study – Loss years 2007 to 2011

Historical Frequency

Frequency reduction indicates fewer claims and ultimately reduced opportunities for loss costs to be paid. In comparing the five-year average frequency per Payroll for Non-Zero Claims, there is an 18.2 percent reduction from the 2013 study to the 2016 study. While a portion of this reduction is due to the increase in pay between 2007 and 2015, the measurement of the frequency of Non-Zero Claims per 100,000 Man-hours is also down 8.9 percent in the same period.

Positive results are evident in comparing the same groups of claims for Lost Time frequency. A 23.5 percent reduction between the 2013 study that had a five-year average frequency per $1 million in Payroll of 0.17 to the current 2016 study that is at 0.13 per $1 million in Payroll. The increase in Payroll over that time has an impact on this review, so the Man-hours comparison between the two studies was evaluated presenting a 17.3 percent reduction.

It is important to note the findings for the 2015 and 2016 Studies regarding frequency are the same when considering a measurement against Man-hours. This may indicate less of a decrease in frequency than has been evident in the last several Studies. Our industry will need to consider this factor closely in the future as an increase could indicate future cost increases.
Historical Severity

Average Paid per Non-Zero Claims

While the last four Studies indicate a reduction in frequency, overall severity has increased. The chart above illustrates the correlating five-year spans represented in the 2013, 2014, 2015, and 2016 Studies all compared at similar points in time. While the 2013 Study showed higher severity in the payments made for Non-Zero claims in the first 36 months, the older, more mature valuations and the more recent Studies in 2014, 2015, and 2016 illustrate an increase in average overall claim severity.

Focusing on just the 36-to-48 and 48-to-60 month valuations and the severity percentage increase between 2013 and 2016 Study results, there is an 8.7 percent increase and a 10.4 percent increase in average severity respectively.

Average Paid, Lost Time Claims

Most costs come from Lost Time Claims. Average paid severity for Lost Time Claims between the same four studies was compared. While the paid amounts indicate decreased severity in the 0-to-24 month comparisons, the older years reflect increasing average severity between 13.4 percent and 13.9 percent at 48-to-60 months.
While the frequency reductions are offset by the evidence of an increase in severity, comparing these figures to $100 in Payroll and 100,000 Man-hour exposures may help verify severity trends or patterns. The following results are positive when comparing 2013 results to 2016, but again, 2016 compared to 2015 calls for further observation.

<table>
<thead>
<tr>
<th>STUDY</th>
<th>Five Year Average Paid for Non-Zero Claims per $100 Payroll</th>
<th>Five Year Average Paid for Non-Zero Claims per 100,000 Man-hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>$0.54</td>
<td>$16,662</td>
</tr>
<tr>
<td>2014</td>
<td>$0.48</td>
<td>$16,232</td>
</tr>
<tr>
<td>2015</td>
<td>$0.42</td>
<td>$13,661</td>
</tr>
<tr>
<td>2016</td>
<td>$0.42</td>
<td>$14,215</td>
</tr>
<tr>
<td>Reduction from 2013 Study to 2016 Study</td>
<td>22.2%</td>
<td>14.7%</td>
</tr>
</tbody>
</table>

**Ratio of Lost Time to Non-Zero Claims**

Another key performance indicator that supports the reductions evident in frequency and severity is the ratio of Lost Time Claims and costs associated with those claims compared to Non-Zero Claims. Over the last several studies, there is definite improvement illustrated by 19 percent of claims resulting in Lost Time in the 2011 Study dropping to 15 percent in the last three Studies. While this four percent shift may not seem significant, 88 percent of all costs come from Lost Time Claims in 2011’s Study. For the 2016 Study, Lost Time claims represent 82 percent of all costs.

The percentage of Lost Time Claims is down, and with that, the potential for an overall reduction in costs associated with all claims is possible.

Once again, however, there appears to be a “flattening” of the results with the last three Studies showing a Lost Time to Non-Zero percentage of claims at 15 percent. The best performer in this category achieved a 5 percent ratio. Jurisdiction, return-to-work/stay-at-work programs, and the availability of alternative duty programs are essential for long term improvement and cost reductions.
If your organization’s loss data or results do not reflect the findings of this Study and you would like to discuss loss experience, risk mitigation, and other strategic opportunities for workers’ compensation, Beecher Carlson is a full-service risk and insurance brokerage firm that can develop specific strategies to reduce your overall cost of risk.

A member of the Beecher Carlson Healthcare or Casualty Teams can assist you with any questions, provide additional copies of the 2016 Hospital Workers’ Compensation Benchmark Study, or assist in participating in future Benchmark Studies and evaluating how your organization compares.

Please send inquiries to Kevin Gabhart at kgabhart@beechercarlson.com. Be sure to include your name, the organization you represent, your phone number, and your email address.

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