NCCI Research
Investigating the Drivers of the 2015 Workers Compensation Medical Severity Decline

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Introduction
NCCI reported at its 2016 Annual Issues Symposium that workers compensation (WC) lost-time medical severity decreased by an estimated 1% in Accident Year (AY) 2015 [1].

This marks the first time in more than two decades that medical severity has declined. Between AY 1994 and AY 2014, medical severity steadily increased and the cumulative change substantially exceeded that of the medical Consumer Price Index (CPI)—a measure of medical price inflation.\(^1\) Growth in medical severity also outpaced growth in indemnity severity during this period and medical costs are now close to 60% of total workers compensation costs. This study investigates the cost drivers of the change in total medical severity (lost-time plus medical-only claims) in AY 2015 by measuring the effect of price and utilization changes on overall medical costs.

Preliminary Findings
- Paid medical costs per claim declined 1% in AY 2015
- The mix of injuries by diagnosis has remained stable between AY 2012 and AY 2015
- A 3% decline in paid costs per claim for physician services accounts for most of the medical severity decline in AY 2015—a 3% decline in utilization of physician services is a major driver
- Paid costs per claim declined in AY 2015 for most types of physician services

Workers Compensation Changes in Medical Prices, Utilization, and Costs

Overall Medical Costs
WC paid medical cost per claim declined in AY 2015. To compare medical severity for different AYs, Exhibit 1a shows the paid medical costs per claim for AYs 2012 to 2015 at a maturity of one year.\(^2\) This exhibit shows the paid medical cost per claim declined in AY 2015 by 1%. Questions that may come to mind when observing such a decrease include:
1. Has there been a change in the mix of injuries by diagnosis for WC claims?
2. Is there a particular state or group of states driving the decrease?

Previous NCCI research [2] found that a change in the WC mix of injuries by diagnosis between 1996/97 and 2001/02 affected the resulting average medical lost-time claim severities.

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\(^1\) US Medical CPI is published by the US Bureau of Labor Statistics (BLS).
\(^2\) Medical payments provided during the year of injury. For example, AY 2013 includes payments reported by March 31, 2014, for services rendered in 2013 for claims with accident dates in 2013.
For the first time in more than two decades, medical severity has declined.
Study Data

The data source used in this study is NCCI’s Medical Data Call (MDC). The MDC captures transaction-level detail on WC medical bills processed on or after July 1, 2010, including dates of service, charges, payments, procedure codes, and diagnosis codes. Carriers are not required to report transactions for services provided more than 30 years after the date of the injury.

For this study, we used MDC experience evaluated as of March 2016 for:

- Services provided during the year of injury for injuries occurring between January 1, 2012 and December 31, 2015. For example, for a claim with injury date October 1, 2013, we use services provided between October 1, 2013 and December 31, 2013.
- All claims with at least one medical service. This includes lost-time and medical-only claims.
- The jurisdictions AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VA, VT, and WV.

However, Exhibit 1b shows the mix of injuries by diagnosis has remained relatively stable between AY 2012 and AY 2015. Therefore, the mix of injuries by diagnosis does not have a substantial effect on the observed decrease in AY 2015.

No individual jurisdiction included in this study was solely responsible for the observed AY 2015 medical paid severity decrease—although some jurisdictions contributed relatively more to the overall decrease than others. State-specific investigations related to this topic are part of ongoing NCCI research and will be discussed in a subsequent study.
Terms used throughout this study include:

- **Accident Year (AY)** — The year in which the work-related injury took place
- **Cost** — The total dollars paid per claim \( \text{Cost} = \text{Price} \times \text{Utilization} \)
- **Price** — What is paid for an individual service
- **Utilization** — The intensity of services provided per claim, including:
  - The number of medical units provided on a claim, e.g., 15 minutes versus 30 minutes
  - The mix of services provided on a claim, e.g., a shift from less expensive X-rays to more expensive MRIs

Medical costs can be analyzed by service category: physicians, hospitals, drugs, ambulatory surgical centers, medical care commodities, and other. Because physician and hospital services account for more than 80% of WC medical costs, cost changes in these categories can have a significant effect on overall medical costs. Exhibit 1c shows the paid medical costs per claim shown in Exhibit 1a, but by medical service category. This exhibit shows paid costs per claim for physician services decreased in AY 2015 by 3%, while paid hospital costs per claim increased by 2%. With physician services representing approximately 40% of WC medical costs, their decrease is the largest contributor to the 1% decrease in overall AY 2015 paid medical costs per claim.

The “All Other” medical costs shown in Exhibit 1c (including prescription drugs, ambulatory surgical centers, medical care commodities, and other medical services) collectively decreased by 2%. Offsetting the observed declines in the physician and all-other categories, hospital costs per lost-time claim increased in AY 2015.

NCCI further investigated the AY 2015 decrease in medical severity by completing a focused review of physician services costs.

**Physician Medical Costs**

Paid costs per claim for physician services account for most of the 1% decrease in overall medical costs per claim. Physician services include services such as evaluation and management, physical medicine, surgery, and radiology.
The yearly change in costs per claim is affected by changes in:

- The portion of the total cost change that can be attributed to changes in prices relative to the previous year.
- The difference between the total cost change and the price change. The change in utilization includes changes in the number of services per claim and the impact of changes in the mix of medical services (e.g., from previously used services to more costly alternatives).

Exhibit 2a displays the year-to-year changes in price, utilization, and costs per claim for physician services. This exhibit shows prices for physician services have remained relatively stable and utilization was the major contributor to the AY 2015 decline in paid costs per claim for physician services. In fact, the price change for physician services was almost unchanged in AY 2015, while the 3% decrease in utilization is completely responsible for the overall decrease in paid costs per claim for physician services.

Exhibit 2b breaks down the utilization changes into three contributors:

1. The change in the mix of physician services
2. The change in the share of claims receiving a physician service

NCCI analysis based on MDC for medical services provided during the year of injury. For example, AY 2013 includes payments reported by March 31, 2014, for services rendered in 2013 for claims with accident dates in 2013. Data used with permission.
3. The change in the number of physician services\(^3\) per claim with at least one physician service

This exhibit shows that changes in the number of physician services per claim are the largest contributor to the utilization changes for the years shown. This also illustrates that for the years included, the mix of physician services, and the share of claims receiving a physician service have remained relatively stable. Although the AY 2015 share of medical claims with at least one physician service increased by 1%, the 4% decrease in the number of services per claim with at least one service caused the overall AY 2015 utilization to decline.

Exhibit 2c summarizes the AY 2015 changes in costs, prices, and utilization for different types of physician services. This exhibit shows that the paid cost per claim decreased for all physician services with the exception of evaluation and management, which increased by 1% due to a 1% increase in prices.

Closing Remarks
This initial research shows that a moderation in the cost per claim for physician services was a primary driver underlying the observed improvement in workers compensation average medical severity between AY 2014 and AY 2015. NCCI is undertaking further research into this decline and will report results in a subsequent study.

References


Exhibit 2c 2015 Changes in Physician Services

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Cost Components</th>
<th>Utilization Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change in Paid Cost per Claim</td>
<td>Price Index Change</td>
</tr>
<tr>
<td>Evaluation and Management</td>
<td>+1%</td>
<td>+1%</td>
</tr>
<tr>
<td>Physical Medicine</td>
<td>-2%</td>
<td>+1%</td>
</tr>
<tr>
<td>Surgery</td>
<td>-5%</td>
<td>-2%</td>
</tr>
<tr>
<td>Radiology</td>
<td>-7%</td>
<td>-3%</td>
</tr>
<tr>
<td>All Other</td>
<td>-6%</td>
<td>0%</td>
</tr>
<tr>
<td>Overall</td>
<td>-3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

NCCI analysis based on MDC for medical services provided during the year of injury. For example, AY 2013 includes payments reported by March 31, 2014, for services rendered in 2013 for claims with accident dates in 2013. “All Other” includes anesthesia, which is 3% of all physician payments. Data used with permission.

\(^3\)The number of physician services includes all billed services. Multiple billed services could be included in one physician visit.