

Workers Compensation Frequency and Severity— An Interactive View

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The COVID-19 pandemic and its economic impacts have had both direct and indirect effects on the workers compensation (WC) industry. There are more remote and short-tenured workers in the workplace, and there has been a shift in the overall industry mix. These factors, among others, impact the overall frequency and severity of WC claims.

This article provides an overview of countrywide changes in lost-time claim frequency and severity.¹ Additionally, it incorporates interactive components to allow for a better understanding of how factors, such as the impact of the COVID-19 pandemic and changes in industry mix, may impact aggregate claim frequency. Functionality denoted by an asterisk (*) is only present in the HTML view of this article.

Countrywide Frequency and Severity

Countrywide frequency² (including COVID-19 claims) increased by nearly 3% in Accident Year (AY) 2021 after remaining relatively flat between 2019 and 2020. AY 2021 results are preliminary and do not reflect a complete year of data.³ The frequency of lost-time COVID-19 claims decreased in 2021, while non-COVID-19 claims saw a resurgence in 2021 following the atypically large drop in frequency that occurred in 2020.

Countrywide frequency (excluding COVID-19 claims) also increased in AY 2021. The preliminary 2021 projections from NCCI's [Annual Insights Symposium \(AIS\)](#), excluding COVID-19 experience, indicated a slight decline in lost-time claim frequency between AY 2019 and AY 2021. The preliminary frequency change observed in this analysis for the two-year period from AY 2019 to AY 2021 is relatively flat. NCCI expects that long-term downward frequency trends will continue.

¹ Based on countrywide data from NCCI's **Statistical Plan**. Analysis includes jurisdictions where NCCI provides ratemaking services: 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, VT, VA, and WV. Data from private carriers and state funds are included in this analysis. Coal mine, federal-class, and large deductible policies are excluded.

² Frequency is measured as reported, undeveloped lost-time claims at a first report per million dollars of earned premium, on-leveled to NCCI-approved pure loss cost level by state and adjusted for changes in average weekly wages by state. Earned premium is on an "exposure year" basis in that audited payroll (at a first report) for each policy is spread to the appropriate calendar year.

³ The data for AY 2021 at a first report reflects approximately 75% of the data that is expected to be reported.



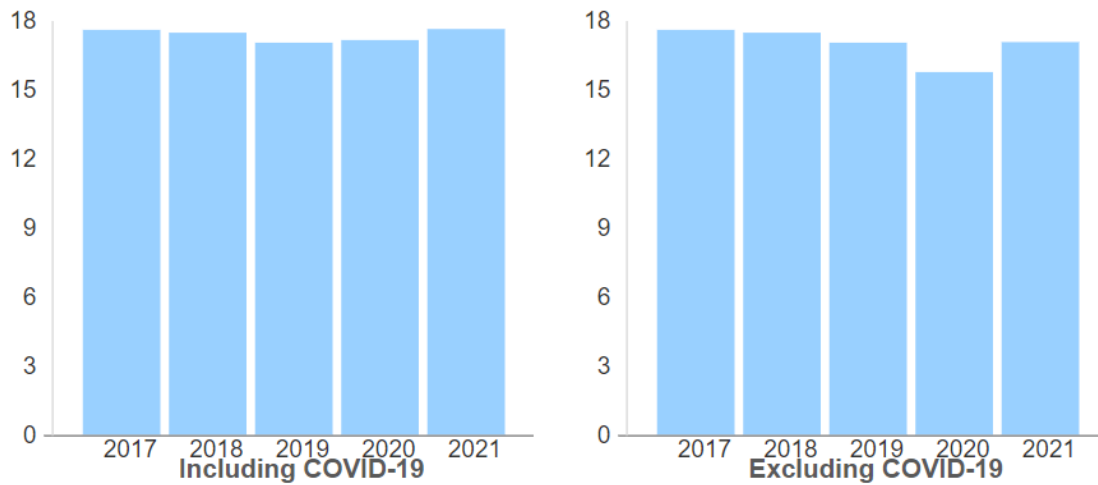
Countrywide severity⁴ (including COVID-19 claims) increased between AY 2020 and 2021. The increase in severity was slight (approximately 1%). There were fewer COVID-19 claims in AY 2021, which tend to be less costly than non-COVID-19 claims. This contributes to the slight increase in overall severity.

Countrywide severity (excluding COVID-19 claims) decreased between AY 2020 and 2021, nearly 3%.

The graphs below display lost-time frequency and severity for AYs 2017 through 2021, including and excluding COVID-19 claim experience. The frequency and severity values for each Accident Year can be viewed by hovering over the respective bars.*

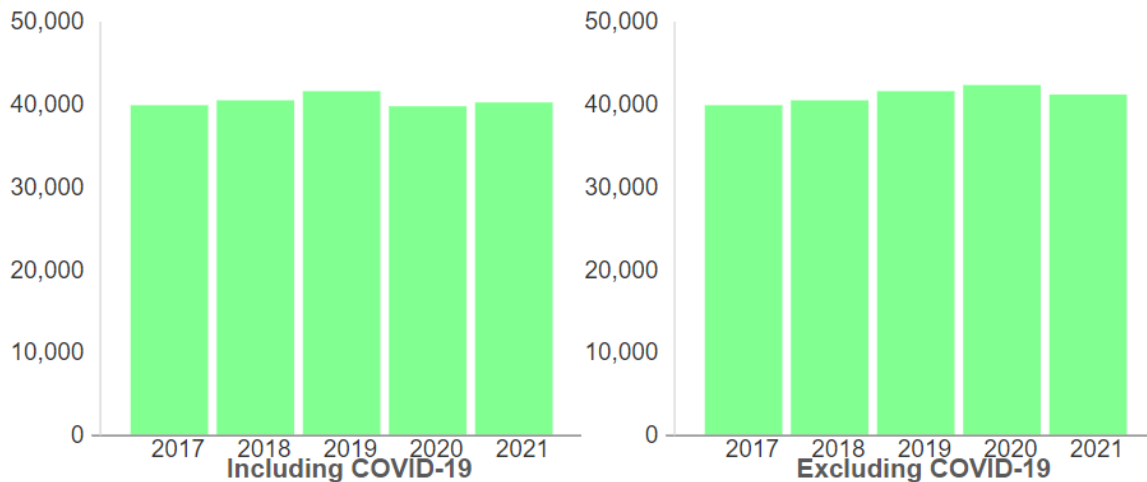
Average Lost-Time Claim Frequency Including and Excluding COVID-19

Accident Year, First Report



Average Lost-Time Claim Severity Including and Excluding COVID-19

Accident Year, First Report



⁴ Lost-time severity is measured as reported, undeveloped incurred cost per case (paid losses and case reserves divided by lost-time claims) at a first report.



Size of Loss

The observed changes in overall frequency (including COVID-19 claims) vary by size-of-loss.⁵ Note that the volume of claims in each size-of-loss grouping differs, with larger groupings typically having lower claim volume.

Claims less than \$5,000

Nearly one-third of all lost-time claims in AY 2021 fall within this range. Of all the size-of-loss groupings less than \$100,000, only this group experienced a frequency decrease in 2021. Almost 90% of COVID-19 claims fall into this group, which led to elevated overall frequency values in AYs 2020 and 2021 when compared to years prior. The lower volume of COVID-19 claims in 2021 compared with that for 2020 drove the frequency decrease for this size-of-loss group.

Claims between \$5,000 and \$100,000

The frequencies of claims in the size-of-loss groups between \$5,000 and \$100,000 each rebounded in AY 2021 after having decreased in AY 2020. These claims are driving the overall increase in frequency in AY 2021.

Claims greater than \$100,000

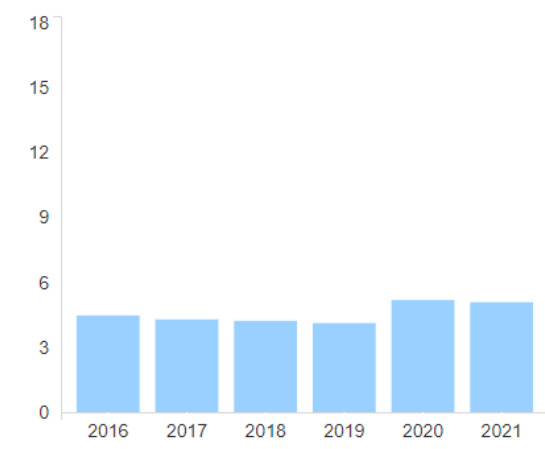
Less than 10% of lost-time claims in AY 2021 fall within this range. The frequency of these largest claims decreased by nearly 5% in AY 2021, following the above-average decline observed in AY 2020.

The charts below show injury frequency by size-of-loss group for selected size ranges and how these frequency values have changed over time. Injury frequency corresponding to a selected size range can be viewed by selecting a minimum and maximum claim size from the drop-down list.*

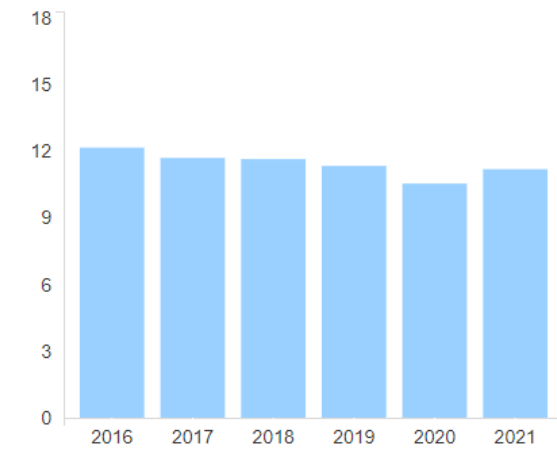
Average Lost-Time Claim Frequency by Size of Loss

Accident Year, Including COVID-19 Claims, First Report

Claims between \$0 and \$5,000



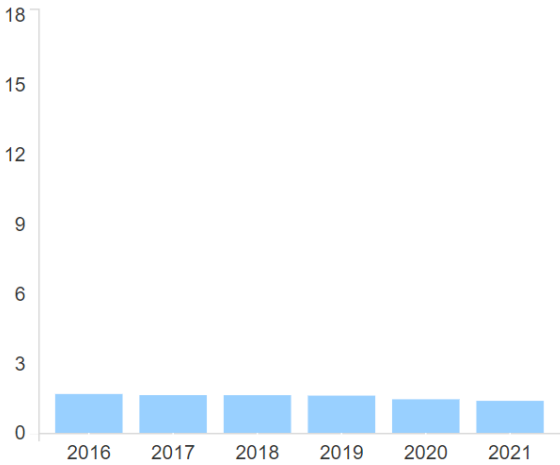
Claims between \$5,000 and \$100,000



⁵ Individual claims are adjusted to a common inflation level before being assigned to a size-of-loss group. Specifically, the indemnity portion of each claim is adjusted for changes in average weekly wages by state (US Bureau of Labor Statistics: Quarterly Census of Employment and Wages) and the medical portion was adjusted for changes in medical inflation (Personal Health Care Chain-Weighted Price Index).



Claims greater than \$100,000

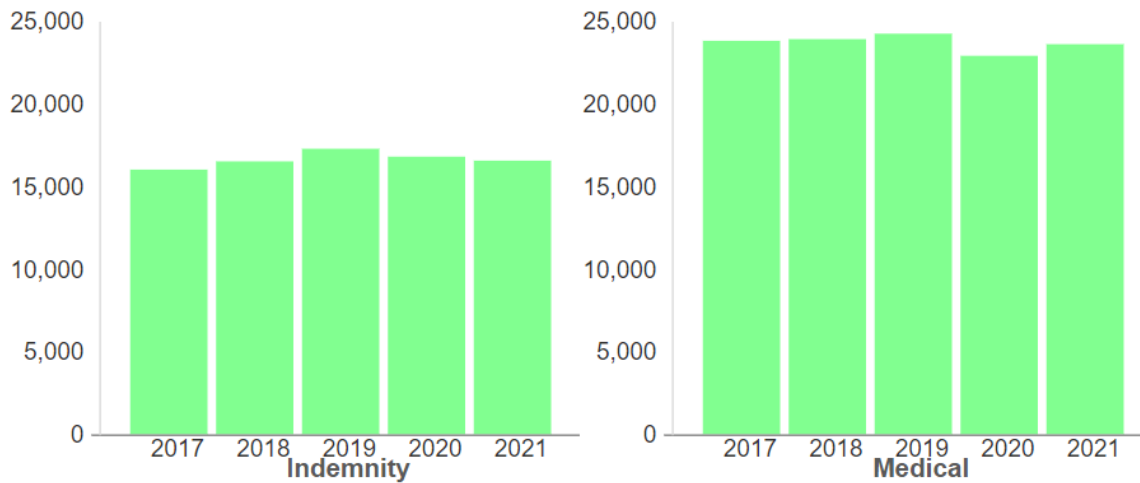


Indemnity and Medical Severity

A slight decline in indemnity severity (-1.4%), offset by an increase in medical severity (+3.1%), drove the change in overall severity in 2021.

Average Lost-Time Indemnity and Medical Severity

Accident Year, Including COVID-19 Claims, First Report



Medical-only claims are typically much less severe than claims that contain an indemnity component (approximately \$1,600 versus \$40,200 in AY 2021). NCCI has observed notable changes in medical-only claims in recent years. The severity of this type of claim at first report has steadily increased since 2017 (from approximately \$1,400 to \$1,600). However, the medical-only share of claim counts in 2020 and 2021 is lower than in prior years (approximately 70% compared with 75%).



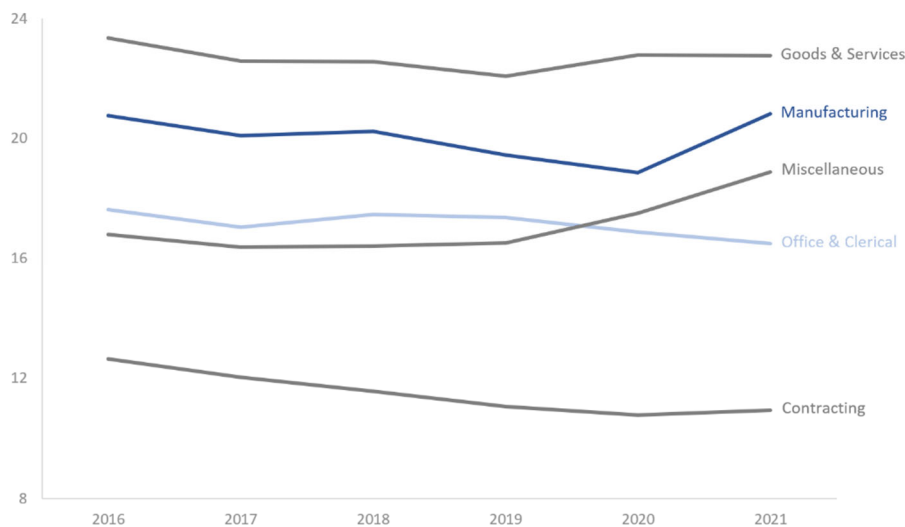
Industry Mix

Industry mix is an important consideration when analyzing frequency and the impact of economic factors. Frequency and severity vary by industry group. For example, a book of business that is largely manufacturing will likely look notably different from a book of business that is largely office and clerical.

The chart below shows overall claim frequencies by industry group over time. As can be seen, changes in frequency have varied by industry group. The Office and Clerical industry group experienced a decrease in frequency between 2020 and 2021—likely due to the increase in remote work that occurred during 2020. In contrast, the Manufacturing industry group, for example, experienced a large increase in frequency. This may be due in part to the increased share of short-tenured workers. Short-tenured workers in the manufacturing industry sector have a relatively higher risk of injury than short-tenured workers in other industries,⁶ which likely contributed to the relatively higher claim frequency change observed in the manufacturing industry.

Average Lost-Time Claim Frequency by Industry Group

Accident Year, Including COVID-19 Claims, First Report



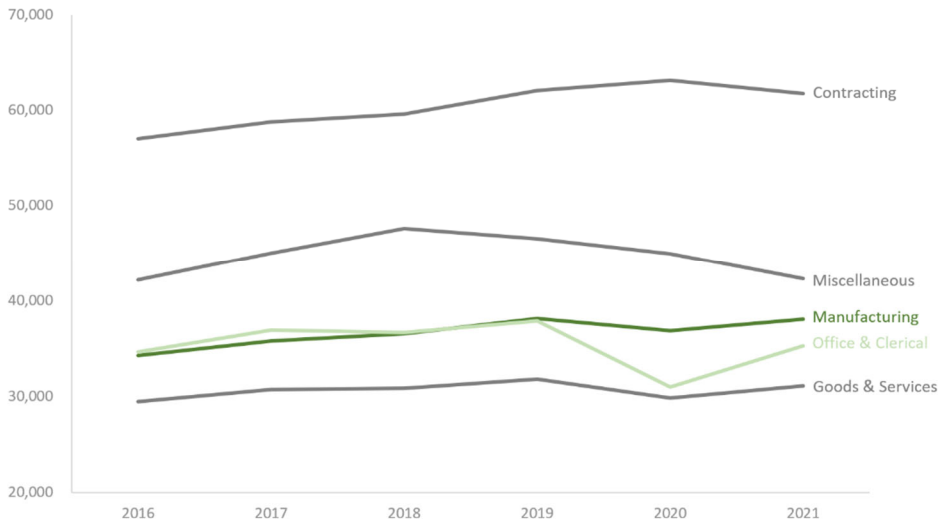
Overall claim severities by industry group are shown in the chart below. Severity changes between AYs 2020 and 2021 span a wide range, from -6% (Miscellaneous) to +14% (Office and Clerical). Again, the Office and Clerical industry group stands out. The large Office and Clerical claim severity increase follows an 18% decline between 2019 and 2020. The Office and Clerical industry group experienced the largest shift to remote work in 2020 and a subsequent partial return to work in 2021.⁷ Office and Clerical also experienced the largest decline in motor vehicle accident frequency in AY 2020 as a result of increased remote work. These, in addition to COVID-19 claim experience, are contributors to the observed severity results.

⁶ ncci.com/Articles/Pages/Insights-Great-Reshuffle-WorkersComp-Frequency2022.aspx

⁷ ncci.com/Articles/Pages/Insights-Great-Reshuffle-WorkersComp-Frequency2022.aspx



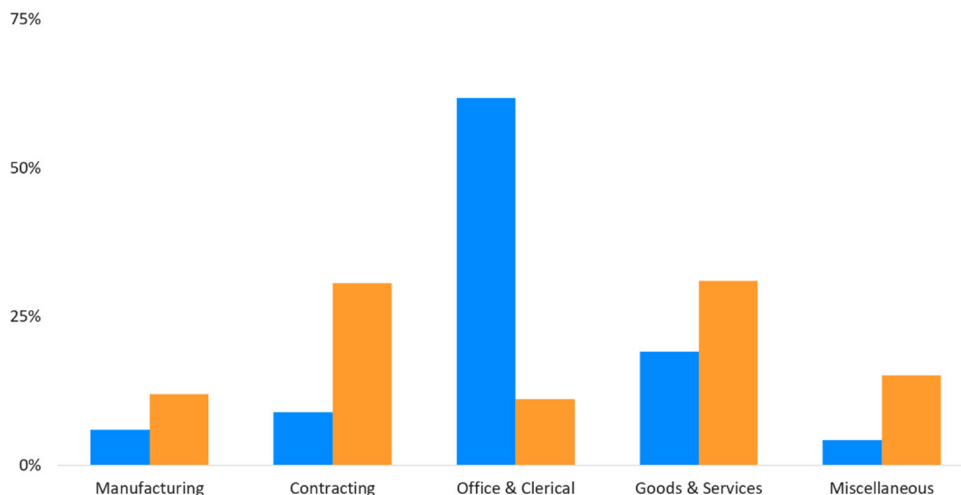
Average Lost-Time Claim Severity by Industry Group Accident Year, Including COVID-19 Claims, First Report



Both the industry mix and how the industry mix is changing are important considerations in understanding frequency—especially during unique events such as [the Great Reshuffle](#). Today’s labor market has short-tenured workers, more remote workers, and a different industry mix of employment than before the COVID-19 pandemic. The frequency exposure base is also an important factor to consider.

This article considers frequency per \$1M of premium, which aligns with NCCI’s ratemaking methodology. Frequency per payroll is another commonly used metric, as explained in NCCI’s article, [NCCI Explains Its Top 3 Frequency Measures](#). Changing the exposure base will correspondingly change results. The chart below shows how the shares of payroll and premium compare with each other.

Payroll and Premium Shares by Industry Group Calendar Year 2021 Market Shares





Fluctuations in the shares of short-tenured or remote workers have impacted industry groups in different ways. Short-tenured workers generally have higher injury frequency than full-tenured workers. Leisure and Hospitality, for example, has a large share of short-tenured workers. However, the ratio of short-tenured to full-tenured workers' injury frequency is much smaller in Leisure and Hospitality than in other sectors, such as Manufacturing.

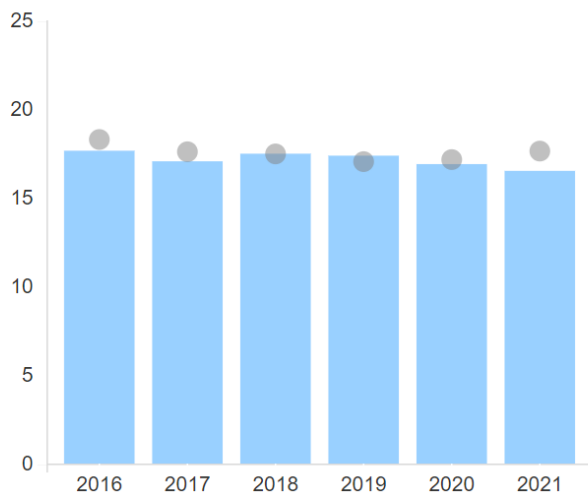
Depending on changes in industry group composition in the state or specific book of business under review, the changes in frequency and severity may differ from the countrywide results shared above. For example, a state with a relatively larger-than-average share of Office and Clerical exposure may experience larger-than-average declines in frequency.

The gray dots below show claim frequency based on the countrywide industry group mix. The blue bars show the frequency based on the user's selected industry group mix. Users may move the sliders to select alternate industry mixes of interest to see how applying the different industry-group weights may change the overall frequency results.* For example, an above-average share of Office and Clerical exposure may result in a frequency decrease, as opposed to the increase observed countrywide.

Average Lost-Time Claim Frequency for Selected Industry Group Mix and Countrywide

Accident Year, Including COVID-19 Claims, First Report

Industry Group	Selection	Countrywide
Manufacturing	<input type="range" value="0"/>	12%
Contracting	<input type="range" value="0"/>	31%
Office & Clerical	<input checked="" type="range" value="100"/>	11%
Goods & Services	<input type="range" value="0"/>	31%
Miscellaneous	<input type="range" value="0"/>	15%





Conclusion

While COVID-19 and subsequent economic impacts have affected AY 2020 and AY 2021 results, it is expected that WC industry trends will revert back to those observed before the pandemic—including declines in lost-time claim frequency and more stable year-to-year changes in claim severity.