



Research Note

Cumulative Trauma and Litigated Claims in the California Workers' Compensation System

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Executive Summary

In 1977, CWCI published its first study on an emerging cost driver in California workers' compensation: cumulative trauma (CT) injuries. Unlike specific injuries, such as fractures or lacerations that result from a single event, CT injuries are defined under California Labor Code §3208.1(b) as injuries "...occurring as repetitive mentally or physically traumatic activities extending over a period of time, the combined effect of which causes any disability or need for medical treatment."

The Institute's initial report on these injuries noted that between 1974 and early 1977, CT claims had increased from less than 1.0 percent to 2.5 percent of all lost-time injuries in the California workers' compensation system.¹ Much has changed since then. Most pointedly, in 2022, CT claims represented 13.4 percent of all claims and 37.5 percent of all litigated claims, with and without lost time.

This report extends and expands on the Institute's prior research on CT claim frequency and explores key variables that are associated with CT claims, with a focus on litigated claims. The report tracks the growth of CT claims as a percentage of all claims over the 13-year study period, analyzes litigation rates and the mix of stand-alone claims versus multiple/concurrent claims of a single injured worker, and estimates the impact of variables such as region, industry, injured worker age, and weekly wages on CT rates for litigated claims.

Background

CT injuries are largely recognized as a unique phenomenon of the California workers' compensation system. They have also been the subject of debate and controversy for more than 60 years. In its 1977 analysis of CT injuries, CWCI documented the emergence of CT claims in California workers' compensation and described the underlying characteristics of these claims:

"The incidence of cumulative injury likewise shows a strong growth pattern...A CWCI survey in late 1974 suggests less than 1 percent of disabling work injuries were attributable to the cumulative effect of employment. Some two years later the Institute's detailed study indicated a nearly threefold increase: cumulative injury cases resolved during January – February 1977...were 2.5 percent of all lost-time cases closed in that period."

¹ Cumulative Injury in California. A Report to the Industry, CWCI, September 1977.

As contemporary stakeholders well know, there have been many changes since that 1977 study, including changes in the frequency, severity, and characteristics of CT claims in the California workers' compensation system. Studies published by CWCI,² the Workers' Compensation Insurance Rating Bureau of California (WCIRB),³ and others have tracked the frequency, costs, and systemwide impact of CT claims. In a 2016 study of CT claims with 2005 to 2013 carrier notification dates, CWCI concluded that "the rising incidence of CT claims during that study period was due more to the experience within the Los Angeles, Inland Empire and Orange County regions, and involvement of attorneys in those claims, than to the emergence of...changes in the work force."

Building on those earlier studies, this report uses an expanded database that includes more recent claims to provide an updated look at CT claims in the California workers' compensation system. As in the prior studies, the report looks at the growth of CT claims over time and examines key variables associated with these claims. In addition, regression analyses are used to estimate the statistical impact of the variables on the likelihood of a CT claim.

Data and Methods

Data Source. To determine the long-term growth trend for CT claims, this study uses data derived from 1.4 million insured California workers' compensation claims with 2010 through 2022 carrier notice dates, valued through June 30, 2023. The authors compiled the data from CWCI's Industry Research Information System (IRIS).⁴ All reported claims were included in the study except for COVID-19, asbestos, and black lung disease claims. For the purposes of assessing the characteristics associated with the most recent CT claim activity, the study focuses on CT claims from carrier notice years 2018 through 2022.

Cumulative Trauma Claim Identification. The authors used a combination of indicators to differentiate between CT and non-CT claims. A claim was designated as CT if it was identified and flagged by the claims administrator or if a CT was indicated by the Cause of Injury, Nature of Injury, or Loss Type code. Mental health conditions⁵ and occupational diseases may be cumulative or acute, so for these conditions only late-reported claims (those with at least 90 days between the injury date and the carrier notification date) were considered CT claims unless they were flagged by the claims administrator.

Trending Using Year of Carrier Notice. For reporting purposes, CT injuries are differentiated from non-CT injuries by the different timeframes within which an employee may claim the injury. Because of the cumulative nature of a CT injury there is no specific date of injury. Instead, the date of injury assigned to a CT claim has been defined by California Labor Code §5412 as "...that date upon which the employee first suffered disability therefrom and either knew, or in the exercise of reasonable diligence should have known, that such disability was caused by his present or prior employment."

² Jones, S., David, R., Hayes, S. Cumulative Trauma in the California Workers' Compensation System. CWCI Research Note, December 2016

³ WCIRB. Medical Characteristics of Cumulative Trauma Claims. December 2022.

⁴ IRIS is CWCI's proprietary transactional database of insured and self-insured policies and their associated claims. Version 2023Q2 contains detailed data on employee and employer characteristics, medical service data, benefits, and administrative costs on more than 7.6 million California workers' compensation claims.

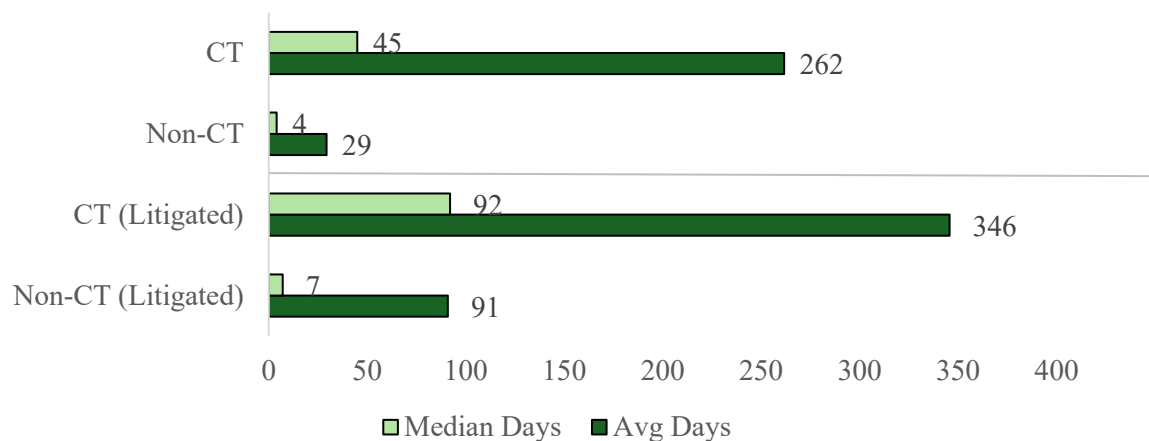
⁵ Cause of Injury equal to "Miscellaneous cause other than physical cause of Injury" and Nature of Injury equal to "No physical injury."

The uncertainty that can surround the determination of the date of injury often results in significant delay in the reporting of CT injuries to the employer (or past employer) and claims administrator. A worker claiming a CT injury must file a claim for benefits within one year from the date of knowledge, or the date that he or she should have known, that the disability was caused by work activities (LC §5405).

With limited exceptions, LC §3600(a)(10) precludes post-termination claims by prohibiting claims from being filed after an employment termination or layoff date. One exception, however, is when the “date of injury, as specified in Section 5412, is subsequent to the date of the notice of termination or layoff.”⁶ This exception, coupled with the “disability” and “employee knowledge” components required for a CT injury, and the one-year statute of limitation for filing a claim under LC §5405, creates a legal conundrum that allows for post-termination CT claims to be filed.

The date of injury assigned to CT claims by the claims administrator can be inconsistent, representing any of the following dates: date of first medical treatment; the date of disability; the date of employer notification; or the last date of policy coverage. The notification time lags for CT claims are shown in Exhibit 1, which compares the average and median number of days elapsed from the date of injury to the carrier notice for CT and non-CT claims, with results noted for all claims and for litigated claims reported during carrier notice years 2018 through 2022.

**Exhibit 1: Average Number of Days from Date of Injury to Carrier Notice
(All Claims and Litigated Claims, 2018-2022)**



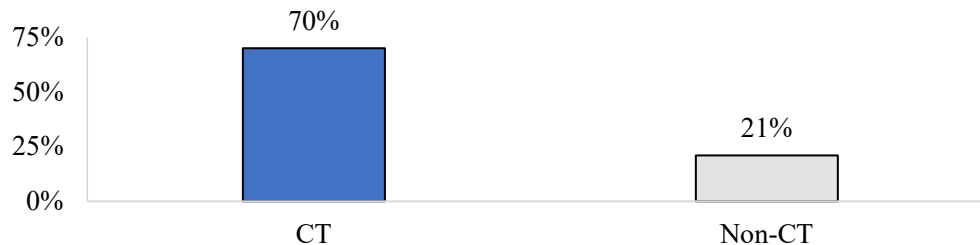
The average time between the date of injury and the date of carrier notification for all non-CT claims is 29 days, while the median is 4 days. This contrasts with all CT claims, which average 262 days from the date of injury to carrier notification (nine times greater than the non-CT claims), with a median time lag of 45 days, or about 11 times the median for non-CT claims. The discrepancies in days to notification hold true for litigated claims as well, with an average of 346 days for CT claims versus 91 days for non-CT claims, while the median time lag is 92 days for CT claims versus 7 days for non-CT claims. Given the significant reporting time lag for CT claims, analyzing CT claim activity by injury year would significantly understate the incidence of CT claims. To rectify this situation, this study uses the carrier notification date as the basis for grouping all claims (CT and non-CT) into study years.⁷

⁶ LC §3600(a)(10)(D).

⁷ This approach was also discussed and employed in CWCI’s 2016 Cumulative Trauma study, noted above.

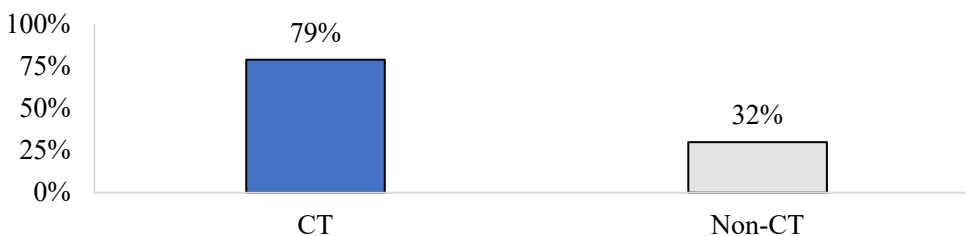
Focus on Litigated Claims. Exhibit 2 compares attorney involvement rates for CT and non-CT claims from notice years 2018 - 2022. The results show that 70 percent of CT claims involved an attorney, about 3-1/2 times the 21 percent attorney involvement rate noted for non-CT claims. Regression results confirm that attorney involvement is the leading factor in CT claim filing (see Appendix A).

Exhibit 2: Percent Litigated, CT vs. Non-CT Claims (2018-2022 Claims)



The authors also compared the percentage of litigated CT and non-CT claims in which the initial notice of claim was given by an attorney (Application First Notice).⁸ The results are shown in Exhibit 3. The attorney provided the first notice in 79 percent of the 2018 through 2022 litigated CT claims, which was about 2-1/2 times the proportion noted for CT claims.

Exhibit 3: Application First Notice (Share of 2018-2022 Litigated Claims)



As previously noted, the analyses of claim characteristics examine litigated claims only. By focusing on litigated claims only, the study is able to look beyond attorney involvement to identify claim characteristics that contribute to lower or higher proportions of CT claim filing.

Stand-alone versus Group Claims. The development of a unique Person ID, based on a combination of Employer Name, Date of Birth, and Date of Hire, made it possible to identify multiple claims associated with a single individual. When multiple claims were identified, they were flagged as *stand-alone* if there was no overlap in the time period from the date of injury to closure with another claim from that individual, otherwise they were labeled as being part of a *group*.

Region and Industry Definitions. The data was broken into geographic regions based on the county where the injured worker lived. The regions included Los Angeles County, the Inland Empire/Orange County (Orange, San Bernadino, Riverside, and Imperial Counties), San Diego County, the Central Coast, the Valleys (from Glenn and Butte Counties in the north to Kern County in the south), the nine-county Bay Area, and the Northern Counties/Sierra. Out-of-state claims were excluded from the descriptive and regression analysis. Industry was defined based on the employer's governing class code.

⁸ Defined here when an attorney was associated with the claim within two weeks of the carrier notification date.

Analysis Methodology. To examine the relationships between claim characteristics and proportions of CT claims the authors used frequency distributions and logistic regression on the litigated claims from carrier notification years 2018-2022. The characteristics included industry, region, job tenure, age, and average weekly wage, and other demographics, each represented as a set of categorical variables. For instance, levels of job tenure were categorized into groups such as “less than 1 year,” “1-5 years,” “6-10 years,” etc.⁹ Potential associations between the variables and the proportions of CT claims were estimated using logistic regression to isolate the independent impact of each variable (industry, region, etc.) on the overall share of CT claims while controlling for the influences of other independent variables.

Results

The following results detail the growth of CT claims as a percentage of all reported litigated claims (both medical-only and indemnity claims) over the 13-year study period, followed by frequency distributions of key characteristics of CT and Non-CT claims (Exhibits 4-12) and each variable’s association with the proportion of CT claims from notification years 2018-2022 (Exhibits 13-17).

Exhibit 4: CT Claims as a Percentage of All 2010-2022 Litigated Claims

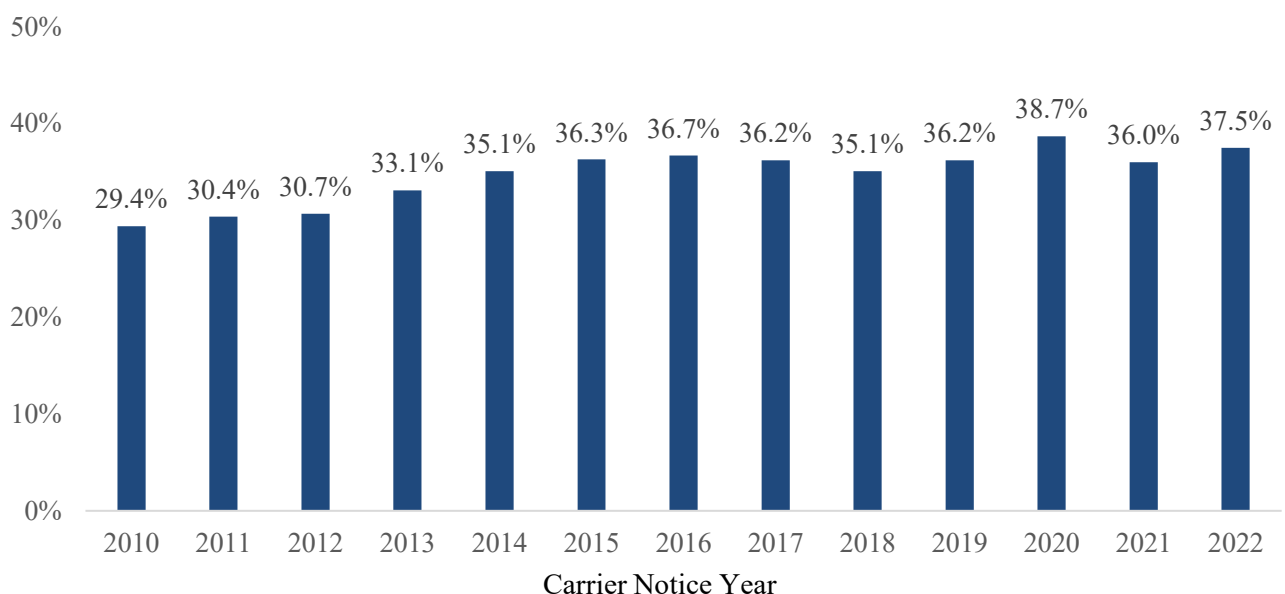


Exhibit 4 shows that between 2010 and 2022, the CT claims’ share of all litigated claims increased from 29.4 percent to 37.5 percent. Most of that growth occurred between notice years 2010 and 2016, after which the percentage fluctuated between 35.1 percent and 38.7 percent.

⁹ In the context of the logistic regression model, these claim characteristics serve as input variables used to predict or explain the probability of a particular outcome, such as whether a CT claim is filed or not. The model derives coefficients for each of these variables to quantify their distinct contributions to the probability of that specific outcome. The full logistic regression output is available in Appendix B.

CWCI's prior CT studies noted significant regional differences in CT claim rates. Exhibit 5 shows CT claims as a proportion of all litigated claims by region for notice years 2010 through 2022, with each region's total percentage point change for the 13-year span noted at the bottom.

Exhibit 5: CT Rates by Region (2010-2022 Litigated Claims)

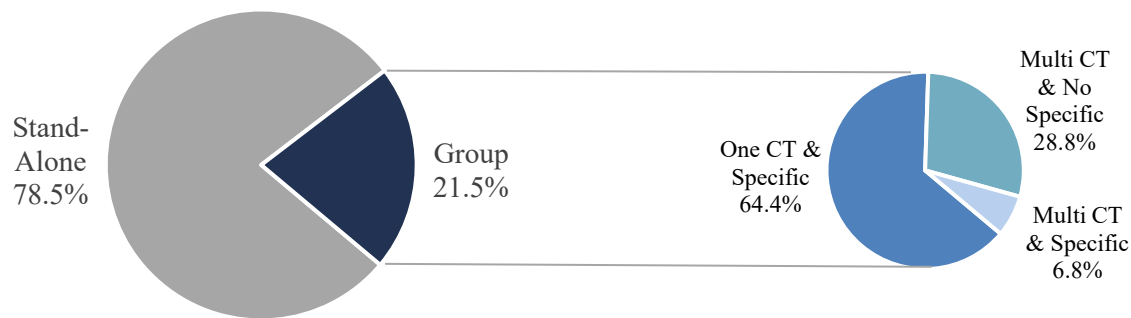
Notice Year	N. Coast/ Sierra	Bay Area	Valleys	Central Coast	L.A.	Inland Emp/OC	San Diego
2010	21.7%	22.3%	20.4%	25.5%	38.6%	30.2%	25.0%
2011	22.8%	21.2%	20.0%	25.7%	40.3%	32.9%	26.3%
2012	23.1%	22.2%	19.0%	22.2%	41.9%	32.8%	27.5%
2013	22.3%	21.7%	19.8%	22.8%	44.9%	36.0%	29.0%
2014	20.4%	23.6%	21.1%	23.2%	48.1%	37.3%	31.5%
2015	17.9%	21.5%	21.2%	24.7%	49.4%	39.6%	33.7%
2016	23.1%	21.5%	19.6%	25.1%	50.8%	39.7%	31.7%
2017	20.6%	21.1%	18.2%	26.0%	49.7%	39.5%	32.9%
2018	20.6%	21.7%	18.1%	27.9%	48.5%	38.5%	29.4%
2019	23.4%	20.6%	18.4%	27.7%	51.0%	39.7%	30.3%
2020	21.5%	23.1%	18.7%	30.8%	54.4%	43.5%	33.0%
2021	19.4%	23.4%	20.5%	26.2%	48.9%	40.5%	31.2%
2022	25.3%	24.5%	23.9%	32.4%	48.7%	40.6%	33.4%
PPT Change	3.6	2.2	3.5	6.9	10.1	10.4	8.4

The results show continued regional variation in CT claim rates. Looking at CT claims as a proportion of litigated claims over the 2010 – 2022 study period shows that the rates were fairly stable in Northern California and the Valleys between 2010 and 2021, though they did increase in 2022.

In contrast, Southern California and the Central Coast saw more consistent growth in the share of CT claims, with CT claims accounting for a record 54.4 percent of all litigated claims in Los Angeles County in notice year 2020. Over the 13-year study period, the sharpest increase was in the Inland Empire/Orange County, where the share of CT claims increased from 30.2 percent in 2010 to 40.6 percent in 2022 (+10.4 percentage points), just slightly more than Los Angeles County, which saw a 10.1 percentage point increase (from 38.6 percent to 48.7 percent). Farther south, San Diego saw CT claims' share increase by 8.4 percentage points (from 25.0 percent to 33.4 percent).

Stand-Alone vs. Group Claims

An individual can file multiple injury claims over time with an employer. Reviewing litigated CT claims from notice years 2018 through 2022, the authors categorized the claims as either stand-alone CT claims if there was no overlap in time from the date of injury to closure, or group claims if there were overlapping open periods. Exhibit 6 shows the mix of stand-alone versus group claims that involved at least one CT and at least one additional injury.

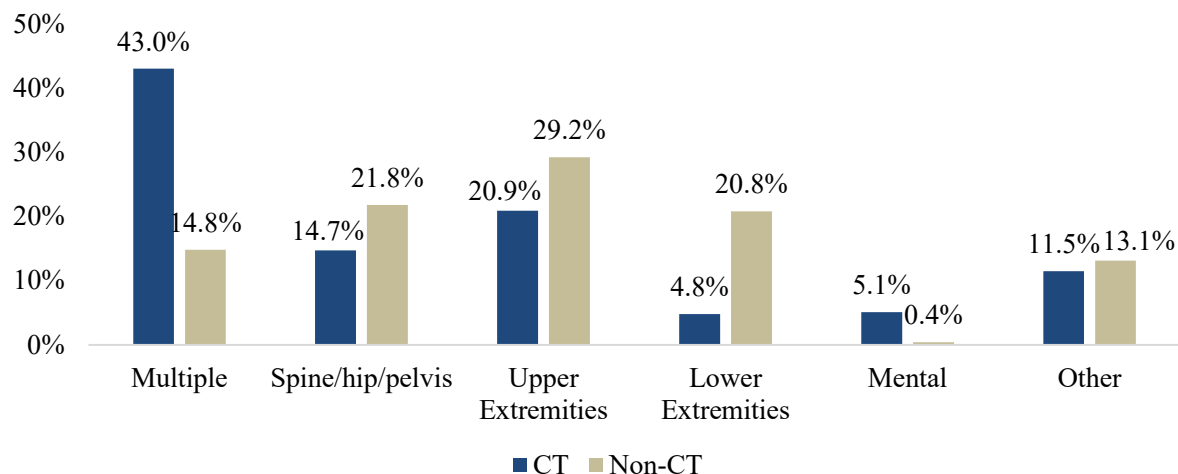
Exhibit 6: Distribution of Stand-Alone vs. Group (2018-2022 Litigated CT Claims)

As shown above, nearly 78.5 percent of the litigated CT claims from notice years 2018 – 2022 were stand-alone claims. The remaining 21.5 percent were group claims in which the injured worker had a CT claim and at least one other claim with the same employer.

The breakdown of the group CT claims, displayed on the right side of Exhibit 6, shows that 64.4 percent involved one CT and one specific injury, and 35.6 percent involved two or more CT injuries (6.8 percent involving CT injuries and a specific injury, and 28.8 percent involving multiple CT injuries with no specific injury). A review of the data back to notice year 2010 found that these relative proportions were consistent across the 13-year span of the study.

Injured Body Part

The distribution of the CT claims by injured body part shows that claims from notice years 2018 - 2022 were heavily concentrated within just a few categories, with five body part groups accounting for 88.5 percent of all CT claims during this period (Exhibit 7).

Exhibit 7: Distributions of Body Part Groups, CT vs. Non-CT Claims (2018-2022 Litigated Claims)

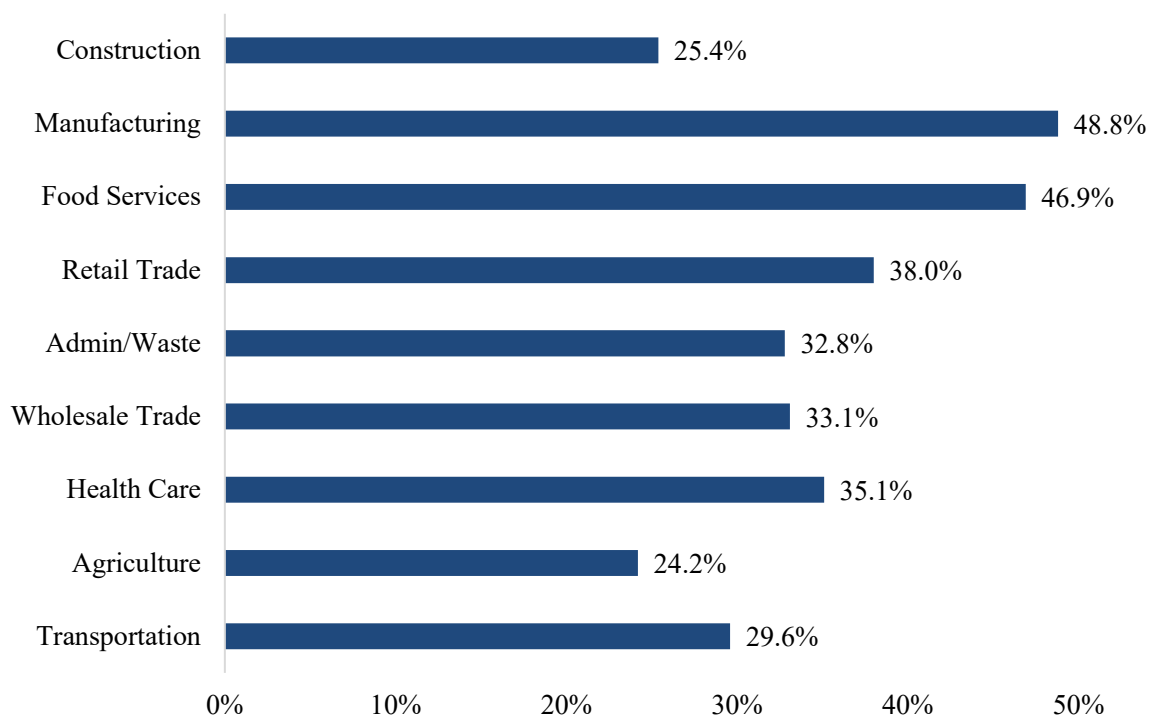
Multiple body parts/systems accounted for the largest share of the CT claims (43.0 percent) which was nearly three times the proportion noted for non-CT claims. Upper extremity injuries ranked second, representing 20.9 percent of the CT claims, followed by spine/hip/pelvis injuries (14.7 percent), injuries to “all other” body parts (11.5 percent), mental disorders (5.1 percent), and lower extremities (4.8 percent).

Most body part categories other than multiple body parts/systems represented a smaller share of CT claims than non-CT claims, the exception being mental disorders, which accounted for 5.1 percent of the CT claims, more than 12 times the proportion for non-CT claims.

Industry

As was noted in Exhibit 4, CT claims accounted for between 35.1 percent and 38.7 percent of litigated claims for the five-year period spanning 2018 through 2022. Exhibit 8 shows the percentage of claims from nine select industries that involved CT injuries. These nine industries represented 81 percent of the litigated claims in the study population.

Exhibit 8: CT Claim Rates by Industry (2018-2022 Litigated Claims)

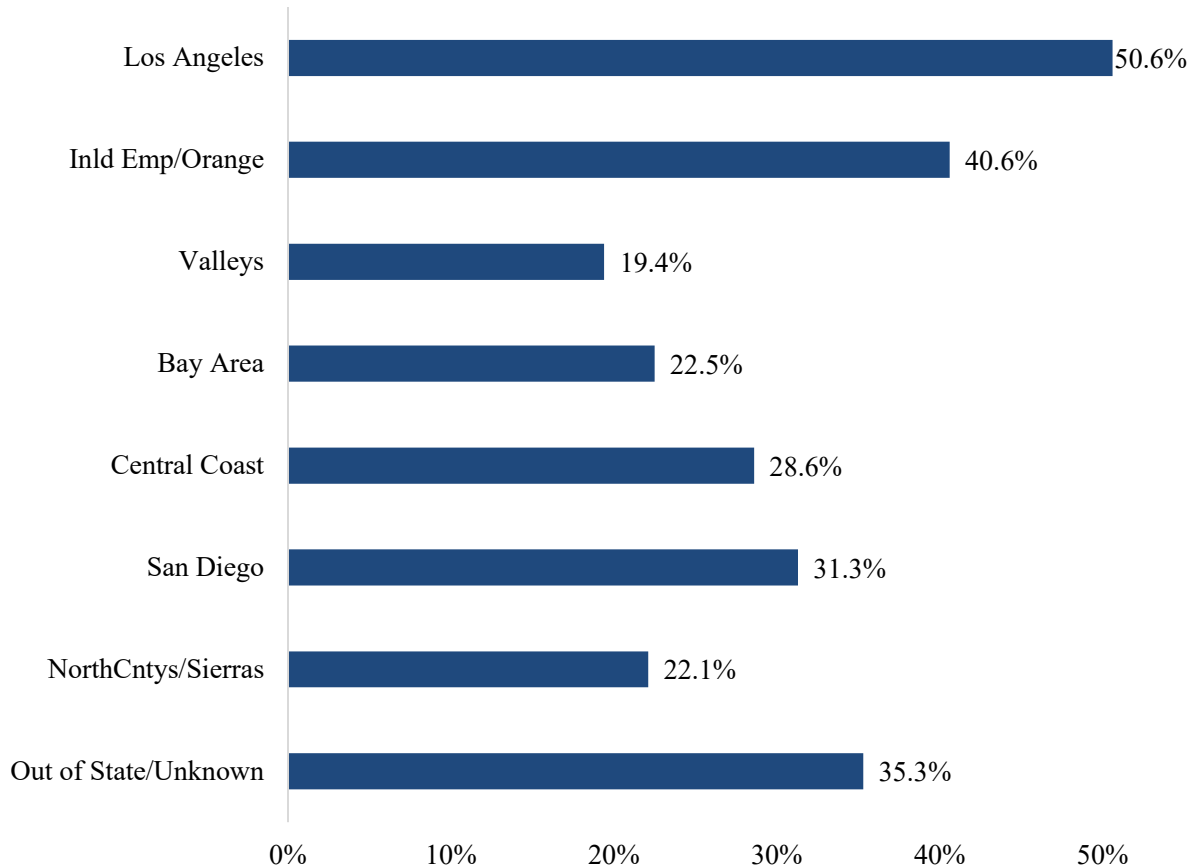


CT claims as a proportion of claims were most prevalent in the manufacturing sector, where they accounted for nearly half (48.8 percent) of the claims, which was almost twice the proportion noted in the construction sector. The food service sector had the second highest CT rate, with 46.9 percent of the claims in this sector involving cumulative trauma injuries.

Distribution of CT Claims by Region

The authors used the ZIP code from the injured worker's home address to determine the regional distribution of the 2018 – 2022 claims in the study sample. The percentage of claims that involved CT injuries by region is shown in Exhibit 9.

Exhibit 9: CT Claim Rates by Region (2018-2022 Litigated Claims)



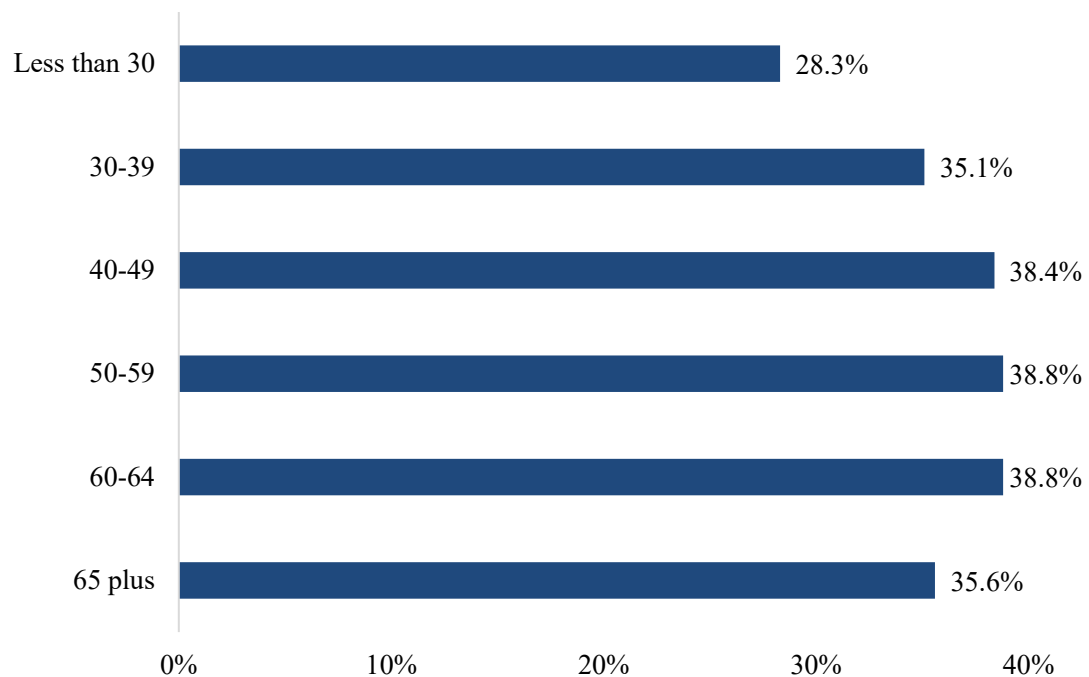
Historically there has been much debate over the “L.A. Effect” in California workers’ compensation, with research routinely finding that the L.A. Basin has higher work injury and litigation rates, and higher treatment costs, than the rest of the State. The results displayed in Exhibit 9 follow the same pattern, showing Los Angeles County with 50.6 percent of litigated claims classified as CT. The nearby Inland Empire/Orange County region ranked second at 40.6 percent.

Nearly a third of the claims in San Diego County (31.3 percent) involved CT injuries, while the Central Coast was next highest at 28.6 percent. Looking at other major regions, the Valleys region (Sacramento and San Joaquin Valleys) had the lowest rate at 19.4 percent while the nine-county Bay Area, had the lowest share of any of the major metropolitan regions at 22.5 percent. In the sparsely populated North Counties/Sierra region, a relatively low 22.1 percent of the claims were CTs.

Age Group

Conventional wisdom holds that CT claims are more likely among older workers as they are a natural consequence of longer periods of repetitive work. To examine the relationship between age and CT injury claims, the authors grouped claims by injured worker age on the recorded injury date into six age categories, then calculated the percent of claims in each age group that involved CT injuries (Exhibit 10).

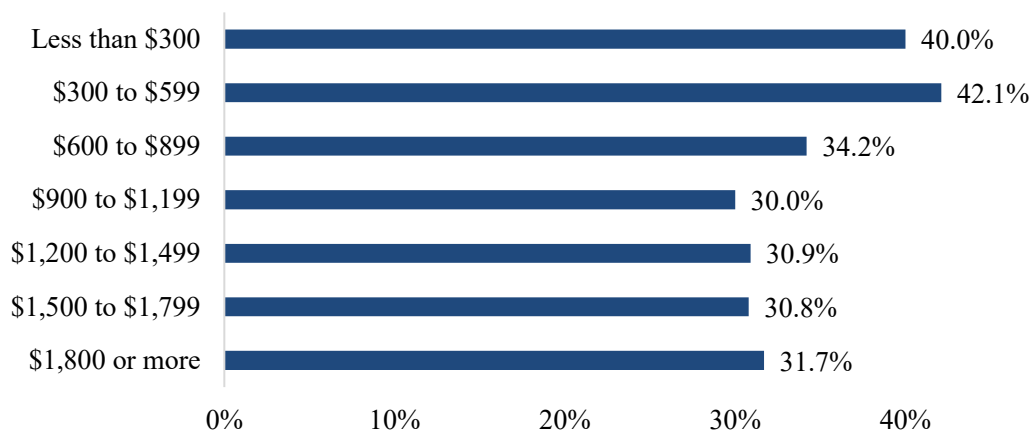
Exhibit 10: CT Claim Rates by Age (2018-2022 Litigated Claims)



The proportion of litigated claims that involved CTs showed was similar for claimants who were 30 or over, with CT rates ranging from 35.1 to 38.8 percent. The youngest workers in the sample (those under 30) had the lowest CT rate (28.3 percent), but that still represented a sizable share of their claims. Notably, more than a third of all CT claims in the study involved injured workers who were under 40.

Average Weekly Wage

In addition to looking at the prevalence of CT claims by injured worker age, the authors also examined the incidence of CT claims based on the injured worker's average weekly wage, categorizing the claims in the study sample into seven wage categories ranging from less than \$300 per week to \$1,800 or more per week. The percentage of litigated claims in each wage category that involved CT injuries is shown in Exhibit 11.

Exhibit 11: CT Claim Rates by Average Weekly Wage (2018-2022 Litigated Claims)

The results show considerably higher rates of CT injuries at the lower end of the average weekly wage scale with CT rates of 40 percent among workers making less than \$300 per week, and 42.1 percent for the second lowest wage category (\$300 to \$599 per week). In contrast, injured workers in the top four wage categories (anyone making more than \$900 per week) had similar CT rates, with CT claims representing between 30.0 percent and 31.7 percent of the claims in those wage categories.

Tenure

Tenure is defined as the time between the hire date of the injured worker's current employer and their date of injury. To better understand the extent to which job tenure may influence the proportion of litigated claims that are CT, the authors grouped the results into four categories: less than 1 year; 1-5 years; 6-10 years; and more than 10 years. The percentage of claims in each of the four tenure categories that involved CT injuries is shown in Exhibit 12.

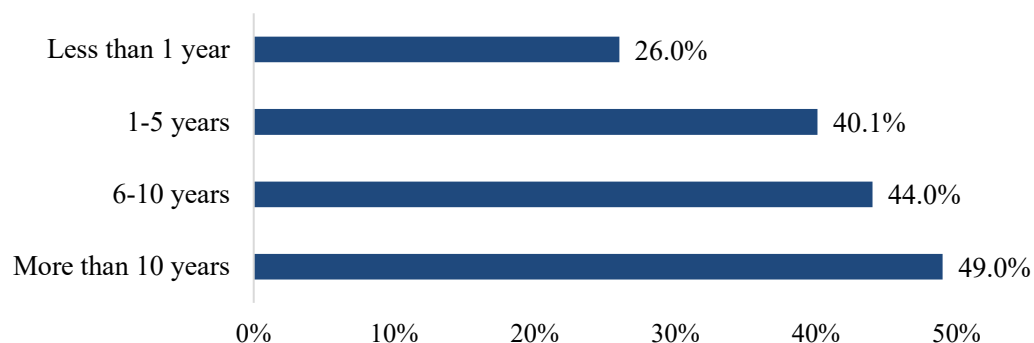
Exhibit 12: CT Claim Rates by Tenure (2018-2022 Litigated Claims)

Exhibit 12 shows that the rate of CT claims increases dramatically as tenure increases. Only 26.0 percent of the claims from workers with less than 1 year of tenure were CT claims, while that proportion was 40.1 percent for employees who had been on the job for one to five years; 44.0 percent for workers with six to ten years of tenure; and 49.0 percent for workers who had been with their at-injury employer for more than 10 years.

Claim Characteristics: Regression Analyses

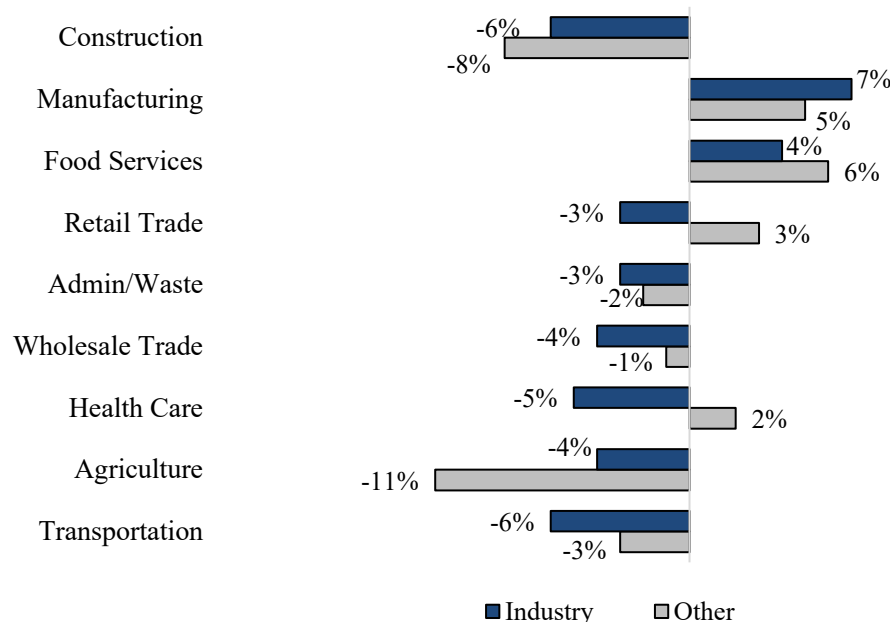
Descriptive statistics provide an unadjusted view of the proportions of CT claims for each claim characteristic variable, but they do not control for other variables that may influence the relationship between a specific claim characteristic and the percentage of CT claims. Regression modeling is best suited to determine the interaction and association of other variables (independent variables) against the primary variable of interest (the dependent variable).

To control for independent variables, the authors ran separate regression analyses for each claim characteristics studied. For example, to analyze the association between industry and CT rates, when a specific industry was evaluated (*e.g.*, manufacturing) it was coded as a 0/1 indicator variable and the other industries were only included implicitly in the regression in the intercept. This was done to make it clear what the probabilities meant when changing the indicator variable from one to zero, showing the effect the indicator had on the probability that a CT injury was involved.

Industry

Exhibit 13 summarizes the extent to which industry (versus the other variables in the model) contributed to the differences in CT rates among the various industry sectors. The other variables included age, tenure at job, average weekly wage, and others.¹⁰

Exhibit 13: Relative Contribution: Industry vs. Other Factors (2018-2022 Litigated Claims)



Logistic regression isolates the impact of a specific industry as well as the contribution of other variables to explain the variation in CT rates attributed to the given industry. For example, the CT rate for the agriculture sector is 15 percentage points lower than the rate for all other industries, with -4 percentage points explained by the agriculture industry alone, and an additional -11 percentage points explained by

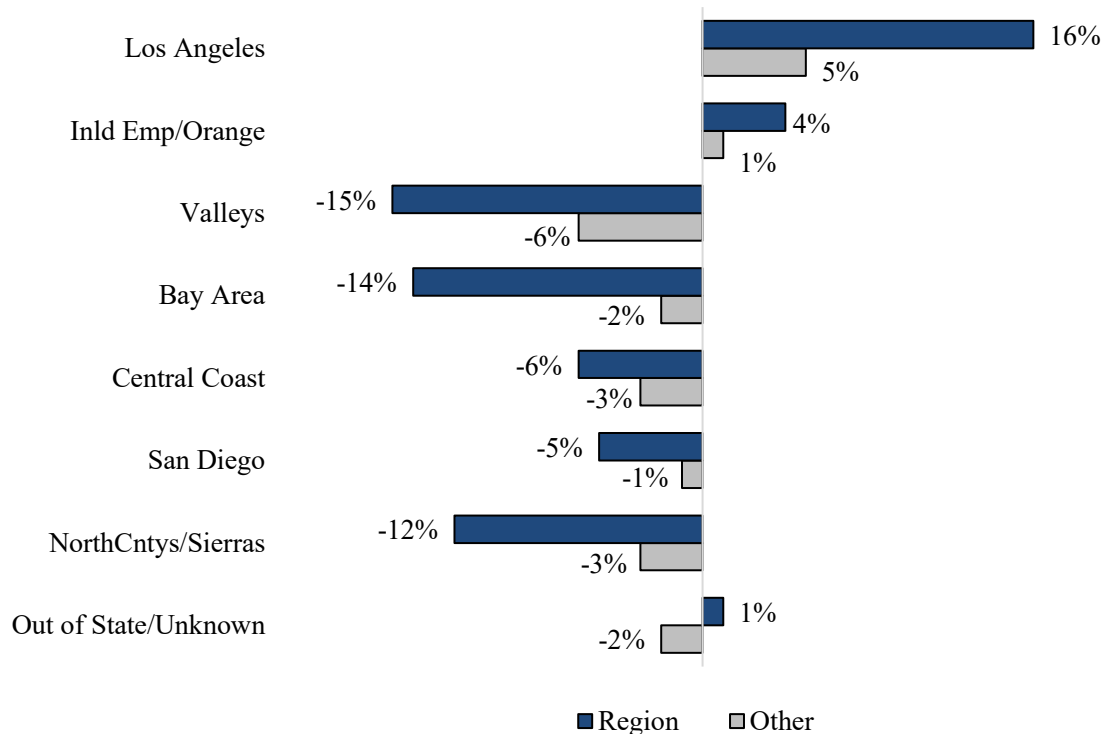
¹⁰ Appendix B further itemize the component variables of the “Other” category.

the combination of other variables present in CT claims, such as the region, injury mix, injured worker age, tenure, and average weekly wage. Conversely, the manufacturing sector has a CT rate that is 12 percentage points higher than the average of the other industries, with 7 percentage points attributed to manufacturing and 5 percentage points attributed to other variables.

Region

Exhibit 14 summarizes the extent to which the region where the injured worker lived, as opposed to other factors, contributed to the differences in the CT rates among the eight different regions.

Exhibit 14: Relative Contribution: Region vs. Other Factors (2018-2022 Litigated Claims)



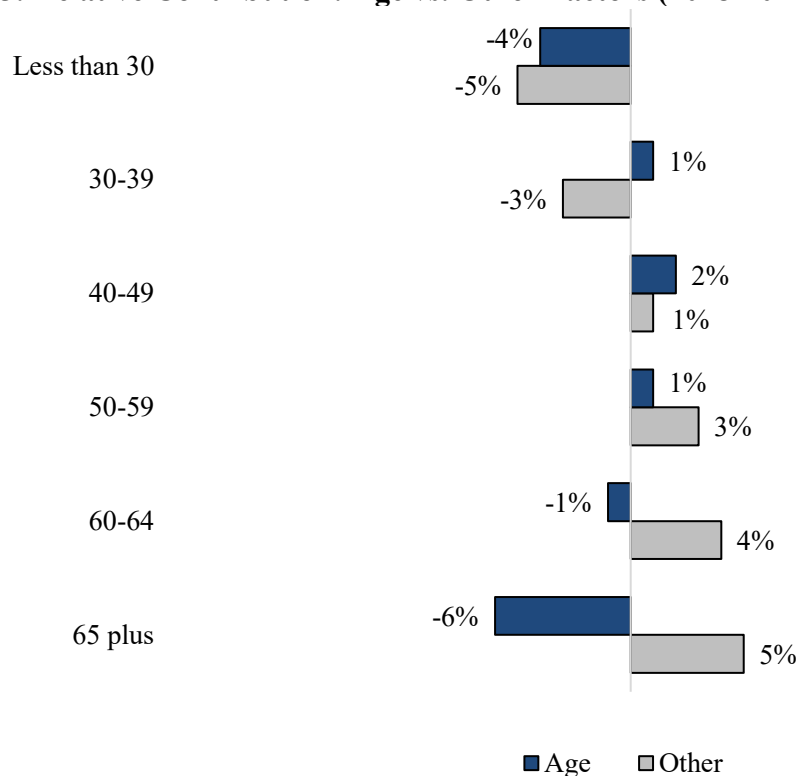
The CT rate for Los Angeles is 21 percentage points higher than the rate for the rest of the state, with 16 percentage points explained by the Los Angeles region alone, and an additional 5 percentage points explained by other variables present in CT claims in Los Angeles (such as the industry mix, age, tenure, and average weekly wage).

Conversely, the CT rate in the Valleys is 21 percentage points lower than the rest of the state, with -15 percentage points due to the injured worker residing in this region, and an additional -6 percentage points due to the mix of the other variables. As the following models will show, Region, particularly Los Angeles, is the greatest predictor of the prevalence of CT.

Age Group

Exhibit 15 shows the extent to which the injured worker's age, versus other factors, contributed to the differences in the CT injury rates among the six age categories.

Exhibit 15: Relative Contribution: Age vs. Other Factors (2018-2022 Litigated Claims)



The CT rate for those 65 or older is 1 percentage point lower than the rate of other age cohorts. While the age effect alone is -6 percentage points, the effect of other variables such as region, industry, and tenure, work in the opposite direction, making it 5 percentage points more likely to have a CT, thus resulting in a total regression score of -1 percentage point.

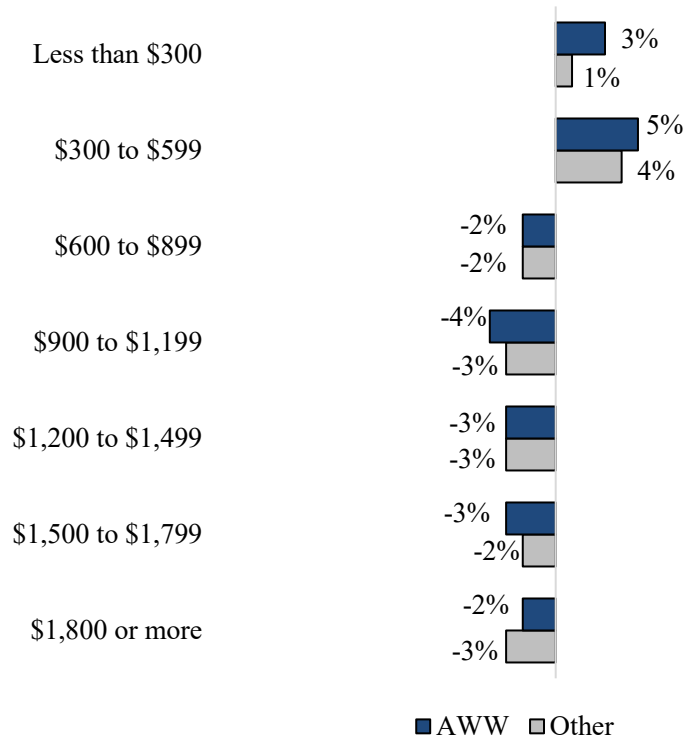
The CT rate for the youngest age cohort (workers who were less than 30) is 9 percentage points lower than other age groups with -4 percentage points explained by that age group and -5 points due to other variables. The 40-49, 50-59, and 60-64 age groups all had combined positive regression scores that ranged between 3 to 4 percentage points, reflecting the different levels of influence linked to the age group and other variables.

Despite conventional wisdom and results from Exhibit 11 that the older you are, the more likely you are to develop a CT injury, the model shows there is a more complex relationship due to other factors across and within the age categories.

Average Weekly Wage

The extent to which the average weekly wage, as opposed to other variables, contributed to the differences in the CT rates among the seven different wage categories is summarized in Exhibit 16.

Exhibit 16: Relative Contribution: Average Weekly Wage vs. Other Factors (2018-2022 Litigated Claims)



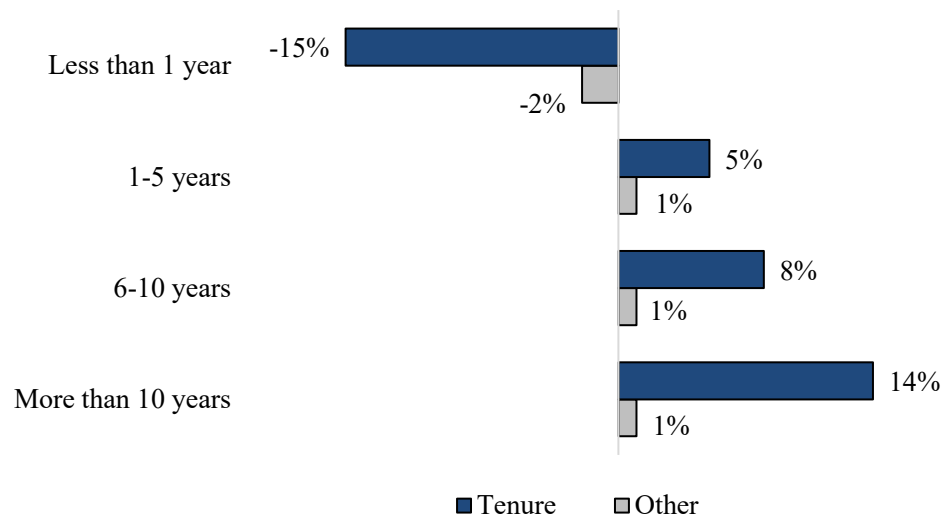
The CT rate for injured workers in the two lowest wage categories (those earning less than \$600 per week) is positively associated with both the injured worker's average weekly wage and other factors. The CT rate for injured workers earning less than \$300 per week is 4 percentage points higher than the rate for injured workers who earn more, with 3 percentage points due to their wage level and one percentage point due to independent variables such as industry mix, age, and tenure that are present in the claims of these low-wage employees. Similarly, the CT rate for those earning \$300-\$599 per week is 9 percentage points higher, with 5 percentage points explained by their earning category and 4 percentage point due to other factors.

The regression analysis reveals that the higher wage categories (those with injured workers earning an average of at least \$600 per week) have lower shares of CT claims, due to both their wage level and other independent variables found in the litigated claims of higher wage employees. The combined contribution of the age and independent variables for injured workers in the top five wage categories ranges from -4 percentage points to -7 percentage points.

Tenure

Exhibit 17 estimates the extent to which the injured worker's tenure with their at-injury employer, versus other variables, contributed to the differences in the CT rates among the four tenure categories.

Exhibit 17: Relative Contribution: Tenure vs Other Factors (2018-2022 Litigated Claims)



The regression analysis for the claimant's tenure with their at-injury employer shows an increasing likelihood of CT claims as employees gain more tenure. The CT rate for injured workers with less than one year of tenure at the time of injury is 17 percentage points below the rate of more tenured employees, with -15 percentage points due to the amount of time with the employer and -2 percentage points due to other factors.

That stands in stark contrast to the results for the claims from longer-term employees with tenure of 1 to 5 years (5 percentage points higher), 6 to 10 years (8 percentage points higher) and tenure of more than 10 years (14 percentage points higher). At all levels, tenure is a significant factor contributing to the likelihood of a CT injury, while most other factors play less of a role.

Discussion

Cumulative trauma claims have been a point of interest and debate in the California workers' compensation system for almost 50 years. This is perhaps due to the insignificant to nonexistent role that CT claims play in other workers' compensation jurisdictions. In 2022, CT claims accounted for 37.5 percent of the litigated claims in the California system, a quantum leap from the findings in CWCI's 1977 report which noted that CT claims had increased from 1 percent of indemnity claims in 1974 to 2.5 percent in 1976.

This analysis isolates the regional influence of Los Angeles and the Inland Empire/Orange County as a leading cause of CT claims in the California workers' compensation system. Notably, CT claims represented a record 54.4 percent of all litigated claims in Los Angeles County in 2020 and in 2022 they still accounted for 48.7 percent. Regression results showed that the differences between the regions were only partially explained by differences in other underlying claim characteristics (Exhibit 14).

Regression results also showed that in addition to region, differences in tenure have a strong impact on differential CT rates (Exhibit 17). Employees with less than a year of tenure at the time of injury had a much lower CT rate (26.0 percent) than more tenured workers, as CT rates increased incrementally as tenure increased, climbing as high as 49.0 percent among workers with more than 10 years on the job (Exhibit 12).

Taken together, the combined results of the regression analyses of other claim characteristics, including industry, average weekly wage, and age, provide little clear evidence that CT can be simply explained by other injured worker demographic and occupational variables. Manufacturing and food service industries have the highest CT rates, yet regression results show that the other claim characteristics outside of industry are just as influential in increasing the likelihood of a CT claim for these industries (Exhibit 13). Similarly, after controlling for the impact of other factors, the regression analysis of average weekly wage differences shows only a modest increased association between low wage earners and the likelihood of CT injuries compared to higher wage earners (Exhibit 16).

Likewise, although conventional wisdom states that age drives higher CT rates, once other variables are taken into account, the regression results do not bear that out, showing that other factors are the driving factors (Exhibit 15). In fact, more than one-third of all reported CT claims are for injured workers less than 40 years old.

The high rate of CT claims is a unique California public policy phenomenon. What makes California so special? Some of the disparity can be traced to the statutory differences between California and other jurisdictions, most notably California's relatively low burden of proof for a CT claim, which requires only a 1 percent causation threshold. But at the same time, region-specific characteristics also play a key role. If claim characteristics such as age, industry, and earning power are materially less of a contributing factor than the unique regional experience associated with Southern California claims, additional research on what drives that regional difference would add to any future public policy discussions regarding CT claims.

Appendix A: All reported claims

Logistic Regression – Includes attorney involvement as an independent variable

Label	Coefficient	Exponentiated Coefficient	Pr > Chi-Square
Intercept	-2.641	0.071	<.0001
Attorney	1.976	7.216	<.0001
Avg Weekly Wage: <\$300	0.156	1.168	<.0001
Avg Weekly Wage: \$300-\$599	0.172	1.188	<.0001
Avg Weekly Wage: \$600-\$899	0.078	1.081	<.0001
Avg Weekly Wage: \$1,200-\$1,499	0.076	1.079	0.0041
Avg Weekly Wage: \$1,500-\$1,799	0.059	1.061	0.0818
Avg Weekly Wage: \$1,800+	0.206	1.228	<.0001
Age Under 30	-0.253	0.777	<.0001
Age 40 - 49	0.057	1.059	0.0002
Age 50 - 59	0.013	1.013	0.4062
Age 60 - 64	-0.057	0.945	0.0107
Age 65+	-0.270	0.763	<.0001
Industry: Ag, Forestry, Fishing, Hunting	-0.556	0.573	<.0001
Industry: Construction	-0.662	0.516	<.0001
Industry: Retail Trade	-0.380	0.684	<.0001
Industry: Admin, Waste Mgt (Ex 8810)	-0.447	0.639	<.0001
Industry: Wholesale Trade	0.012	1.012	0.5595
Industry: Food Services	-0.224	0.8	<.0001
Industry: Prof, Scientific, and Tech Srcs	0.067	1.069	0.0279
Industry: Manufacturing	0.060	1.062	0.0011
Female	0.423	1.527	<.0001
Premium: <\$10K	0.215	1.24	<.0001
Premium: \$10K-\$49K	0.053	1.054	0.0077
Premium: \$50K-\$99K	0.114	1.12	<.0001
Premium: \$100K-\$499K	0.014	1.014	0.433
Premium: >= \$1M	0.032	1.033	0.1257
Region: North Counties/Sierras	-0.430	0.65	<.0001
Region: Bay Area Counties	-0.223	0.8	<.0001
Region: Valley Counties	-0.321	0.726	<.0001
Region: Central Coast Counties	-0.145	0.865	<.0001
Region: Los Angeles County	0.526	1.692	<.0001
Region: Inland Empire/Orange	0.252	1.286	<.0001
Region: Out of State/Unk	0.165	1.179	<.0001
Tenure: <1 Year	-0.477	0.621	<.0001
Tenure: 6 - 10 Years	0.171	1.186	<.0001
Tenure: >10 Years	0.354	1.425	<.0001

Appendix B: Litigated Claims

Logistic Regression

Label	Coefficient	Exponentiated Coefficient	Pr > Chi-Square
Intercept	-0.824	0.439	<.0001
Avg Weekly Wage: <\$300	0.366	1.442	<.0001
Avg Weekly Wage: \$300-\$599	0.395	1.485	<.0001
Avg Weekly Wage: \$600-\$899	0.169	1.185	<.0001
Avg Weekly Wage: \$1,200-\$1,499	0.023	1.023	0.5029
Avg Weekly Wage: \$1,500-\$1,799	-0.016	0.984	0.7151
Avg Weekly Wage: \$1,800+	0.051	1.052	0.2137
Age Under 30	-0.228	0.796	<.0001
Age 40 - 49	0.046	1.047	0.0198
Age 50 - 59	-0.020	0.98	0.3205
Age 60 - 64	-0.090	0.914	0.0015
Age 65+	-0.304	0.738	<.0001
Industry: Ag, Forestry, Fishing, Hunting	-0.443	0.642	<.0001
Industry: Construction	-0.551	0.576	<.0001
Industry: Retail Trade	-0.366	0.693	<.0001
Industry: Admin, Waste Mgt (Excl 8810)	-0.350	0.704	<.0001
Industry: Wholesale Trade	-0.377	0.686	<.0001
Industry: Food Services	-0.035	0.966	0.1561
Industry: Prof, Scientific, & Tech Srvcs	0.028	1.029	0.5131
Industry: Manufacturing	0.081	1.084	0.001
Female	0.163	1.177	<.0001
Premium: <\$10K	0.352	1.421	<.0001
Premium: \$10K-\$49K	0.191	1.21	<.0001
Premium: \$50K-\$99K	0.213	1.238	<.0001
Premium: \$100K-\$499K	0.074	1.077	0.002
Premium: >= \$1M	-0.009	0.991	0.7585
Region: North Counties/Sierras	-0.428	0.652	<.0001
Region: Bay Area Counties	-0.396	0.673	<.0001
Region: Valley Counties	-0.441	0.643	<.0001
Region: Central Coast Counties	-0.086	0.917	0.0342
Region: Los Angeles County	0.749	2.115	<.0001
Region: Inland Empire/Orange	0.426	1.532	<.0001
Region: Out of State/Unk	0.307	1.359	<.0001
Tenure: <1 Year	-0.625	0.535	<.0001
Tenure: 6 - 10 Years	0.194	1.214	<.0001
Tenure: >10 Years	0.423	1.526	<.0001

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