

Impacts of Employee Tenure

on Workers'
Compensation
Claim Frequency
in California

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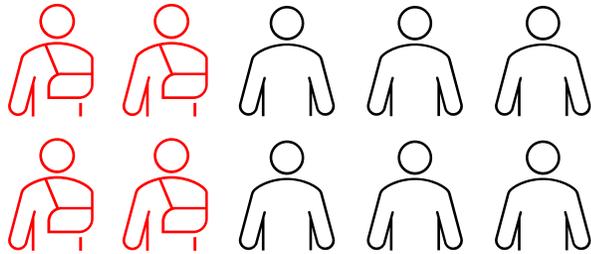
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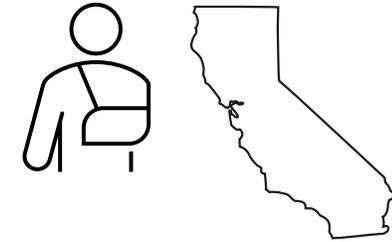
Summary of Key Findings



About 40% of workers' compensation claims come from workers with <1 year of tenure. Service-providing industries have a higher share of claims from these short-tenured workers than other industries ([Charts 1](#) and [2](#)).



From 2020 to 2022, all industry groups experienced a rise in the share of claims from workers with <1 year of tenure, largely driven by a strong labor market with increased job openings. This might have resulted in a higher number of new hires with less experience or training, who were more susceptible to work-related injuries ([Chart 3](#)).

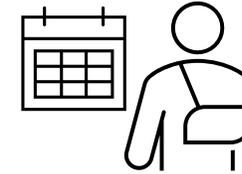


Workers with <1 year of tenure are more than 2X as likely to have a claim relative to the statewide average, largely driven by those in physical labor and service-providing industries ([Charts 8](#) and [10](#)).

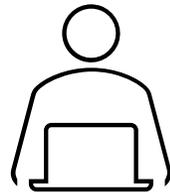
Summary of Key Findings



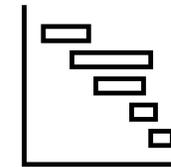
Workers with <1 year of tenure are more likely to have fall, struck or cut injuries, while longer-tenured workers tend to have more strain injuries (**Chart 13**).



For injured workers aged 16–34, the share of indemnity claims involving temporary disability (TD) only decreases with increased tenure; however, the share of claims involving permanent disability (PD) increases. The correlation between tenure and both TD and PD weakens for older workers within the 35–54 and 55+ age groups (**Charts 18 and 19**).



Workers with longer tenure tend to have a higher share of cumulative trauma (CT) indemnity claims, mostly because it takes time for CT injuries to occur. Health care & education and office workers with increased tenure tend to have a higher likelihood of CT injuries than workers in other industries (**Charts 16 and 17**).



After adjusting for age, the average incurred losses on indemnity claims, valued at approximately 18 months from policy inception, are generally higher for longer-tenured workers (**Chart 21**).

Introduction

Research shows that employees with shorter tenure are more likely to be involved in work-related injuries, potentially due to newer employees being less skilled and less aware of safety practices than more experienced employees. A 2016 WCIRB study also highlighted a decline in the average tenure of injured workers during a period of increased claim frequency. More recently, the COVID-19 pandemic further affected employment dynamics, with significant shifts observed between 2020 and 2022. Many shorter-tenured employees lost jobs in 2020, and subsequently, some gained jobs in the same industry while others entered new industries. The recent changes in the labor market and employee tenure may have long-term impacts on work-related injuries.

The WCIRB has conducted a study of employee tenure focusing on several key areas, including a comparison of shifts in employee tenure among injured workers and those among California workers and relative claim frequency and claim characteristics by tenure. For the purpose of this study, employee tenure is defined as the length of time that an employee has been employed by their current employer.

Research Questions

+ How do **shifts** in tenure distribution of injured workers compare to those of California workers?



By tenure group: <1 year, 1–4 years, 5–9 years and 10 years or more

By industry group: service-providing, physical labor, office-based and health care & education

+ How does **claim frequency differ** by workers of different tenure?



Claim count per 10,000 California employees in the insured system by tenure group and industry group relative to the statewide average

Changes in relative claim frequency by tenure group and industry group between 2018 and 2022

+ What are the **indemnity claim characteristics** among injured workers of different tenure?



- Median age
- Average weekly wage
- Type and severity of injury (cause of injury, diagnostic groups, initial medical care)
- Cumulative trauma claims
- Temporary and permanent disability
- Claim costs

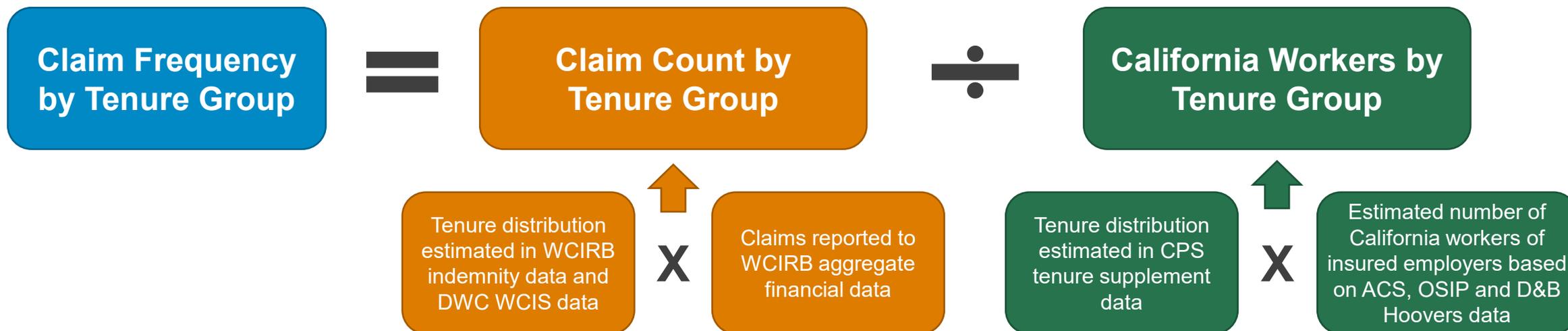
Research Methods

- + Employee tenure of an injured worker is calculated as the injury date relative to the hiring date using WCIRB data and DWC Workers' Compensation Information System (WCIS) data and represents tenure with their current employer at the time of injury. Employee tenure of a California worker in the private sector is estimated using the bi-annual tenure supplements to the Census Bureau's Current Population Survey (CPS) and represents tenure with their current employer at the time of the survey.
- + The study focuses on tenure patterns of injured workers who filed a workers' compensation claim and of California workers in the private sector. Only workers who are 16 years and above are included in the study. COVID-19 claims are excluded from the workers' compensation claims data.

Research Methods

- + **Claim frequency by tenure group** is estimated for the insured system only and calculated as claim count by tenure group relative to the number of California workers in the corresponding tenure group (Exhibit 1). Claim frequency by tenure group and industry group is estimated following the same method.
 - **Claim count by tenure group**: Applying the tenure distribution estimated using WCIRB indemnity transaction data and DWC WCIS data to the claim count in WCIRB aggregate financial data.
 - **Number of California workers by tenure group**: Applying the tenure distribution estimated using the CPS supplement data on employee tenure to the California employee count in the American Community Survey (ACS) data. The exclusion of workers of self-insured employers is based on WCIRB estimates using the information published by the Department of Industrial Relations Office of Self-Insurance Plans (OSIP) and D&B Hoovers data.

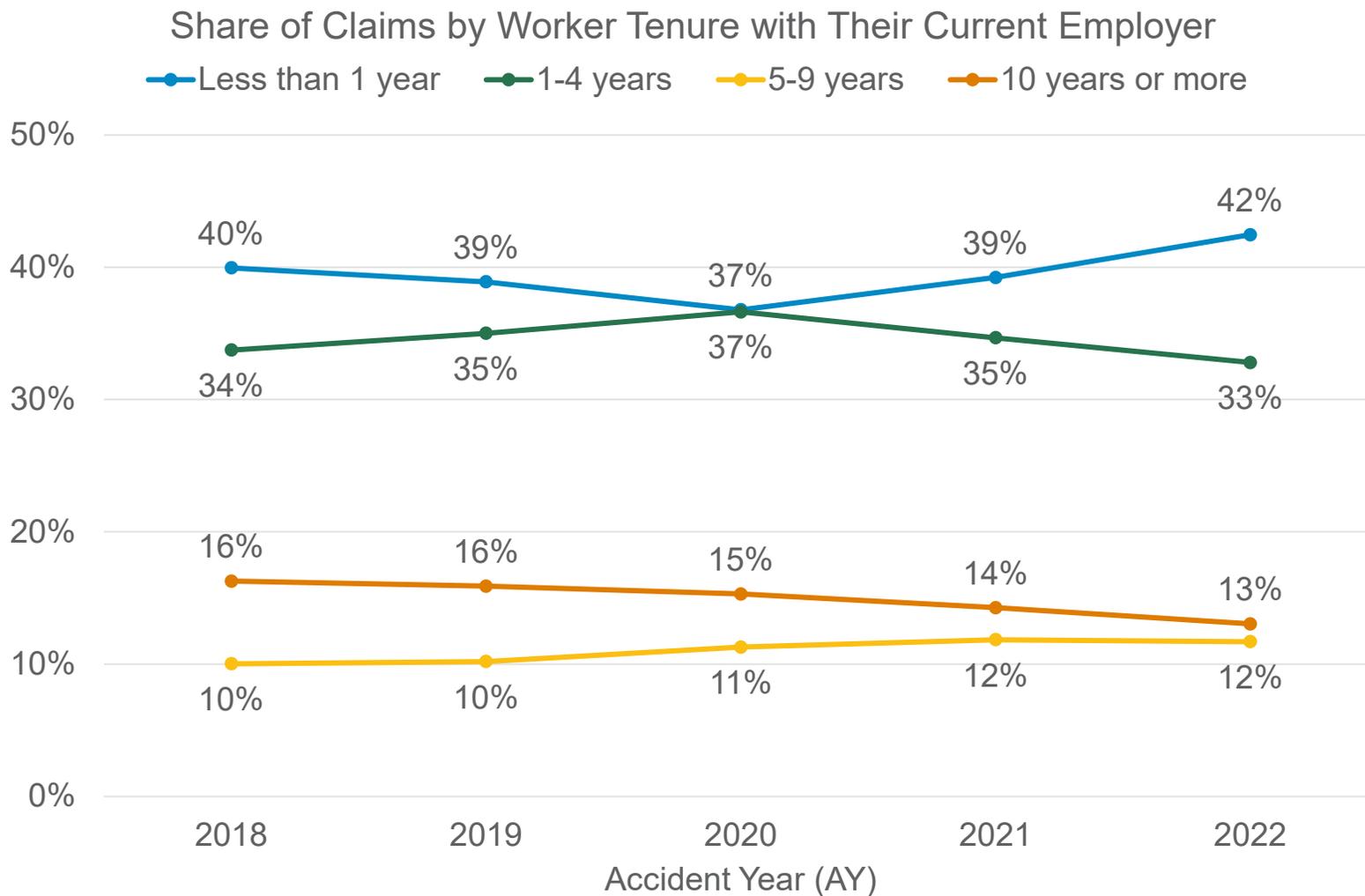
Exhibit 1



Tenure Distribution

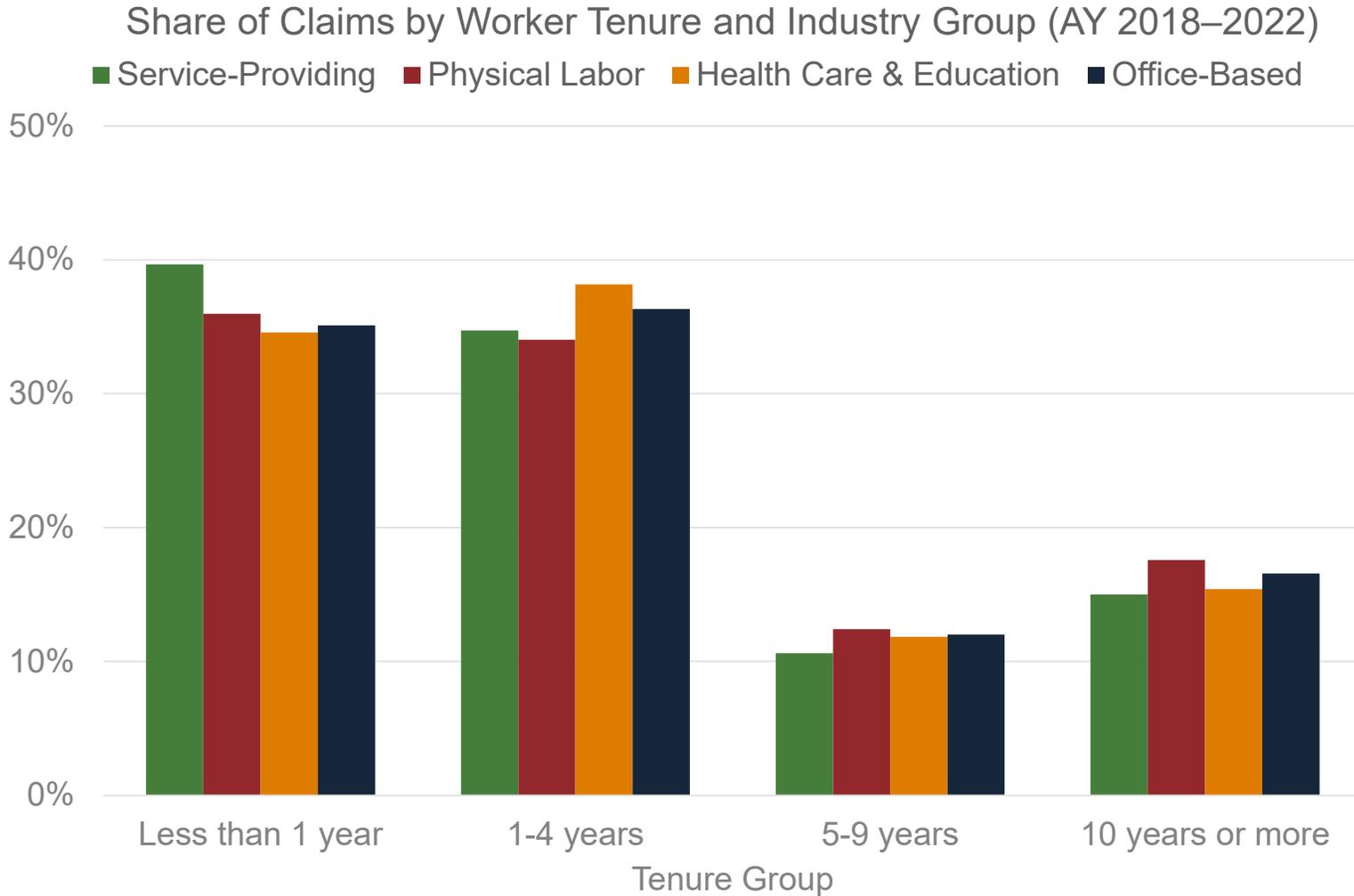


Chart 1: Share of Claims from Workers with Less than 1 Year of Tenure Has Increased since 2020



- + A higher share of claims comes from shorter-tenured workers. Approximately 40% of the claims are from those having less than 1 year of tenure, and those with 1 to 4 years of tenure account for about a third of the claims.
- + From 2018 to 2020, the share of claims coming from workers with less than 1 year of tenure decreased, while that from those with 1 to 4 years of tenure increased. However, a shift has occurred in the tenure distribution since 2020, with an increase in the share from workers with less than 1 year of tenure and a decline in the share from those with 1 to 4 years of tenure.
- + The share of claims from workers with 10+ years of tenure declined between 2018 and 2022, whereas the claim share from those with 5 to 9 years of tenure experienced a slight increase.

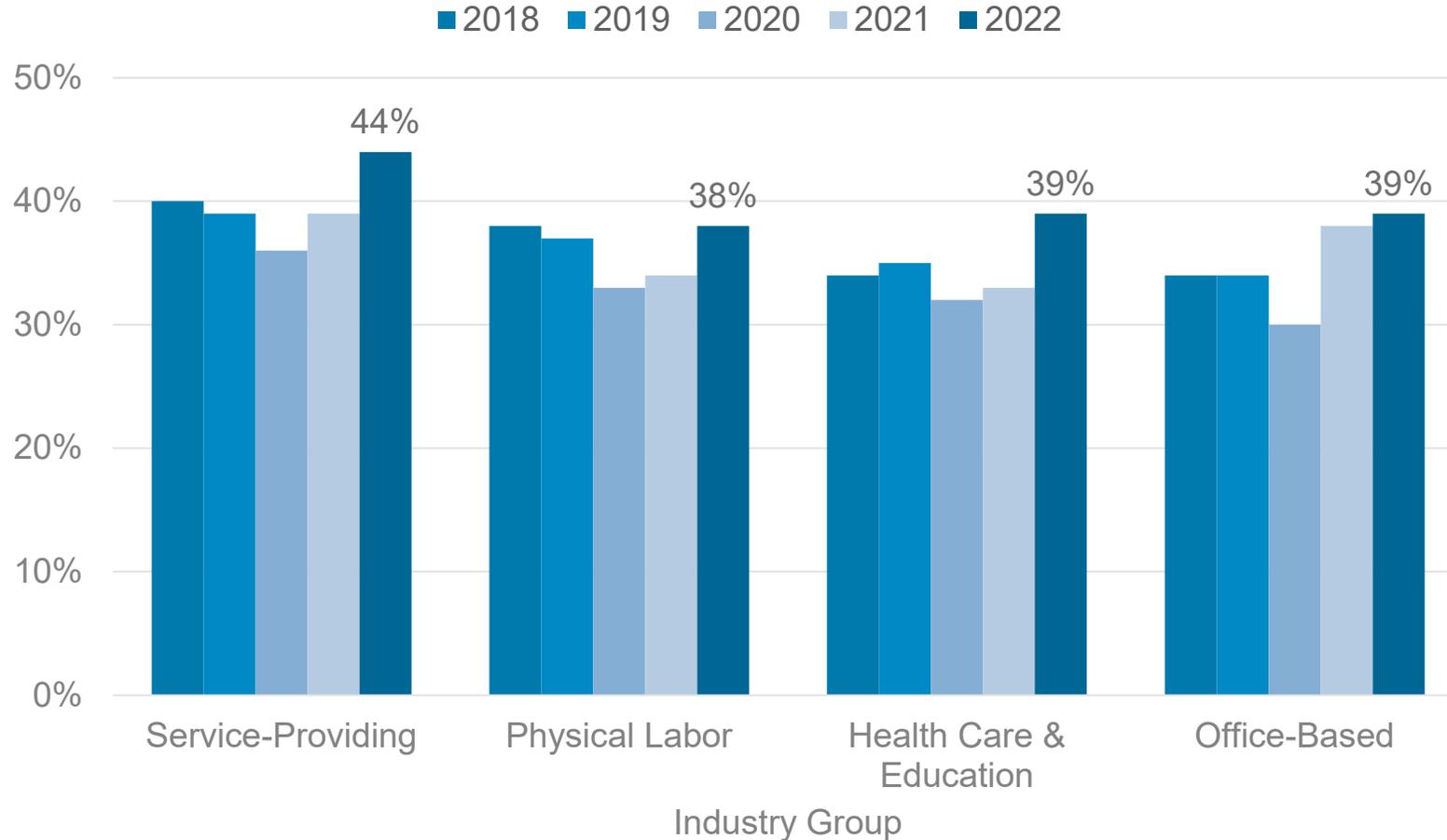
Chart 2: Higher Share of Claims from Workers with Less than 1 Year of Tenure in Service-Providing Industries



- + The distribution of tenure within each industry group mirrors the overall tenure distribution, with a significant share of claims from workers with less than 1 year and 1 to 4 years of tenure. However, variations exist within the same tenure groups across different industry groups.
- + Claims from workers with less than 1 year of tenure are more likely to be in service-providing industries, suggesting an elevated risk of injuries among less-experienced service workers compared to workers of similar tenure in other industries. The difference in the injury risks for workers in this tenure group could be related to a generally higher turnover in service industries, especially since 2020, as shown by the U.S. Bureau of Labor Statistics (BLS). As suggested by published research, changing jobs often requires workers to go through periods of training to learn new skills, during which workers may be more susceptible to accidents.
- + Claims from workers with 1 to 4 years of tenure are more likely to be in the health care & education industries.

Chart 3: Share of Claims from Workers with Less than 1 Year of Tenure Has Increased for All Industry Groups since 2020

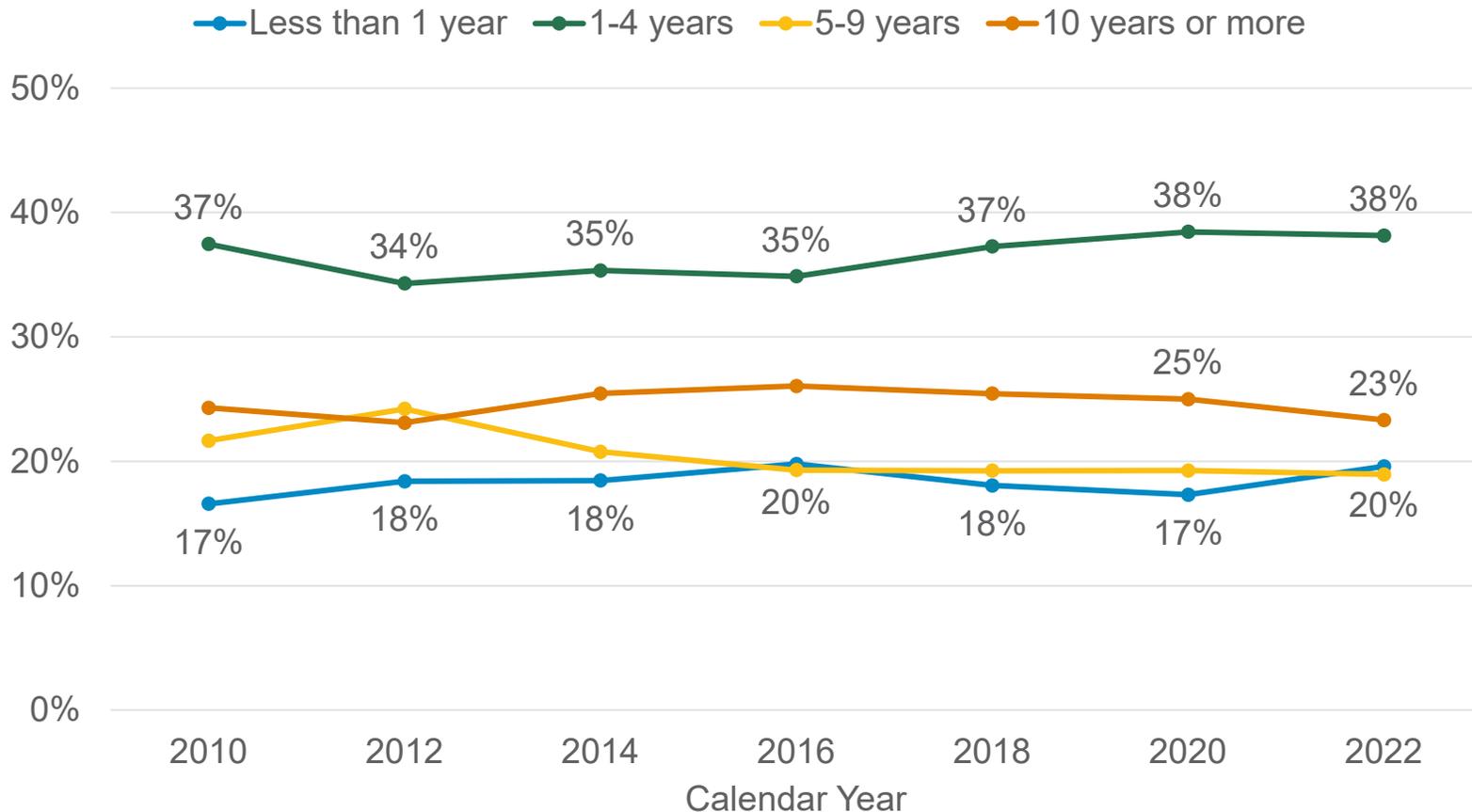
Share of Claims from Workers with Less than 1 Year of Tenure



- Between 2018 and 2020, all industry groups experienced a decrease in the share of claims from workers with less than 1 year of tenure. However, since 2020, there has been an upward trend for this tenure group; meanwhile, the share of claims from workers in other tenure groups has either decreased or remained stable across all industry groups.
- The shift in the share of injured workers with less than 1 year of tenure across different industry groups since 2020 in part reflects the economic impacts of the pandemic. In almost all industries, workers had more opportunities to change jobs or enter new employment, driven by a strong labor market where job openings outpaced hiring in California through 2022.

Chart 4: Share of All California Workers in Private Sector with Less than 1 Year of Tenure Has Increased since 2020

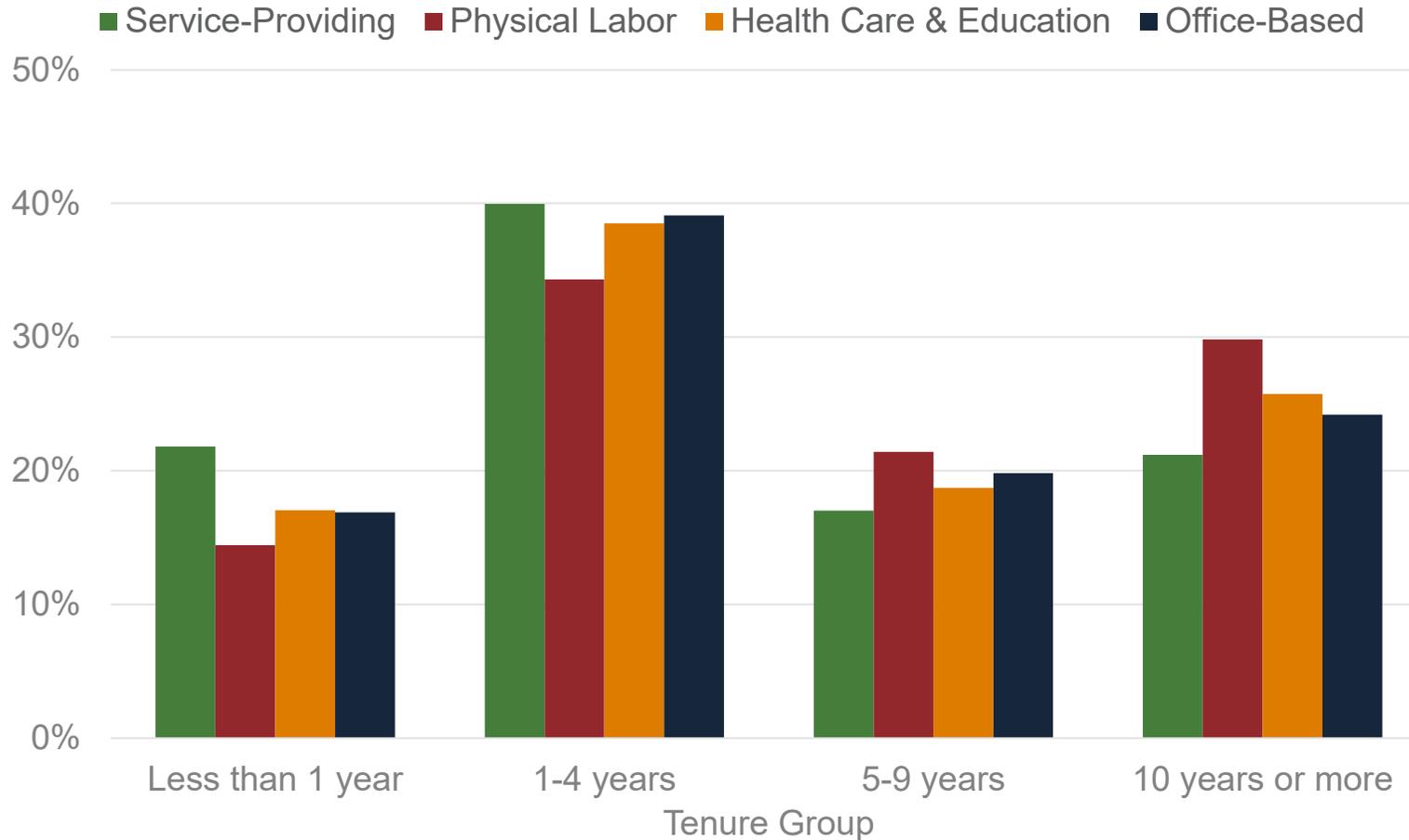
Share of All California Workers in Private Sector by Tenure with Their Current Employer



- + Workers with 1 to 4 years of tenure constitute the largest share of California workers in the private sector, followed by those with 10+ years of tenure.
- + The share of California workers in the private sector with less than 1 year of tenure is about 20% in 2022 – only half the share of injured workers (42%) (**Chart 1**). The difference suggests that workers with the shortest tenure are more likely to be involved in work-related injuries than those with longer tenure.
- + Since 2020, there has been a shift in the tenure distribution, with workers with less than 1 year of tenure on the rise and a corresponding decline among those with tenure of 10+ years. The shift is potentially attributed to workers starting new jobs, either as new to the workforce or job-changers, driven by a tight labor market in California following significant layoffs during the early months of the pandemic.

Chart 5: Higher Share of All California Workers in Private Sector with Less than 1 Year of Tenure in Service-Providing Industries

Share of All California Workers in Private Sector by Tenure Group and Industry Group (2018–2022)

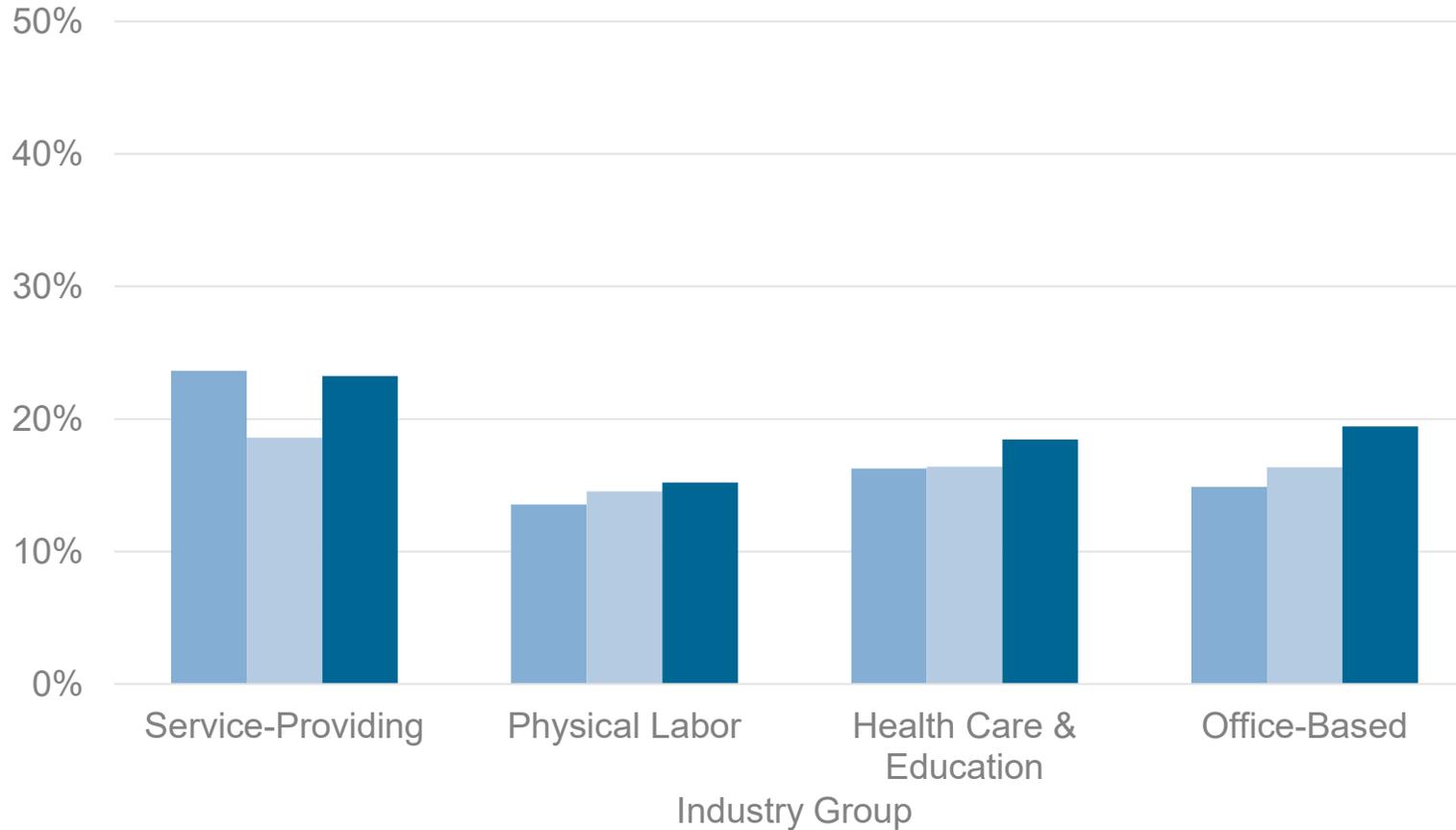


- + Of all industry groups, service-providing industries have a much higher share of workers with less than 1 year of tenure. Conversely, physical labor industries have the lowest share of workers in shorter tenure groups (less than 1 year and 1 to 4 years) and the highest share of workers in longer tenure groups (5 to 9 years and 10+ years).
- + The tenure distribution among California workers in the private sector is partly driven by the age distribution of workers within different industries, with younger workers more likely than older workers to be shorter-tenured. According to the BLS data, workers in physical labor industries tend to be older than workers in other industries, while service workers tend to be younger.

Chart 6: Share of All California Workers in Private Sector with Less than 1 Year of Tenure Has Increased since 2020 in All Industry Groups

Share of All California Workers in Private Sector with Tenure of Less Than 1 Year

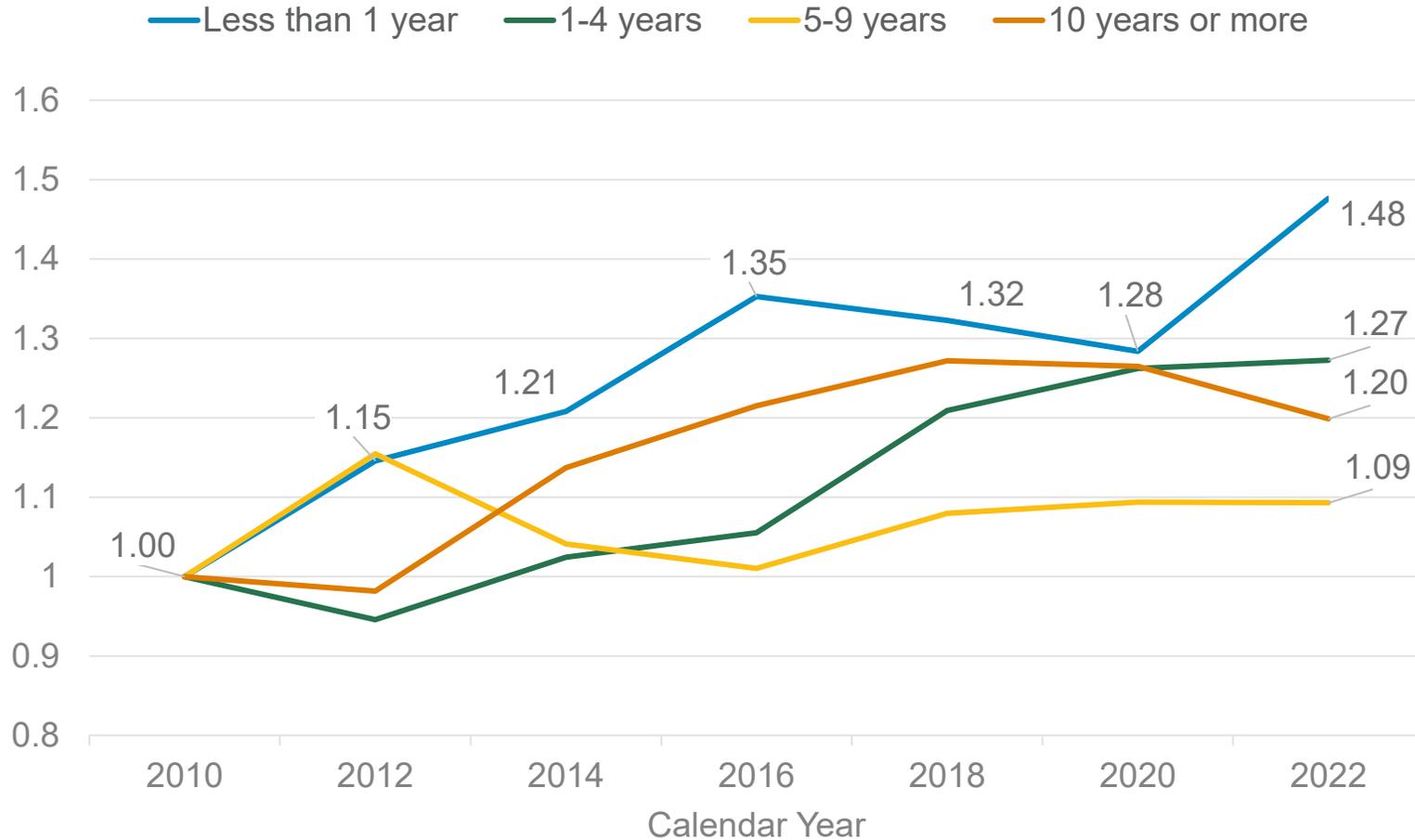
■ 2018 ■ 2020 ■ 2022



- Between 2018 and 2020, all industry groups, except for service-providing industries, had a slight increase in the share of workers with less than 1 year of tenure. The decline in the service-providing industries can be attributed, in part, to the temporary economic shutdowns in 2020 due to the pandemic, which disproportionately affected in-person services and the shortest-tenured workers.
- Since 2020, all industry groups have experienced an increase in the share of workers with less than 1 year of tenure, with varying degrees reflecting changes in the labor market as the economy began to recover. Workers in physical labor industries had the smallest increase, likely related to their lower turnover rates and higher share of long-tenured workers. In contrast, other industries, especially the service and health care sectors, likely faced a shortage of labor post-2020, prompting accelerated hiring. According to published research and industry surveys, the availability of remote work opportunities has also contributed to workers finding or switching jobs, especially in office-based industries.

Chart 7: Employment Level of California Workers in the Insured System with Less than 1 Year of Tenure Has Increased since 2020

Changes in California Employment Level in the Insured System Indexed to 2010 by Tenure Group



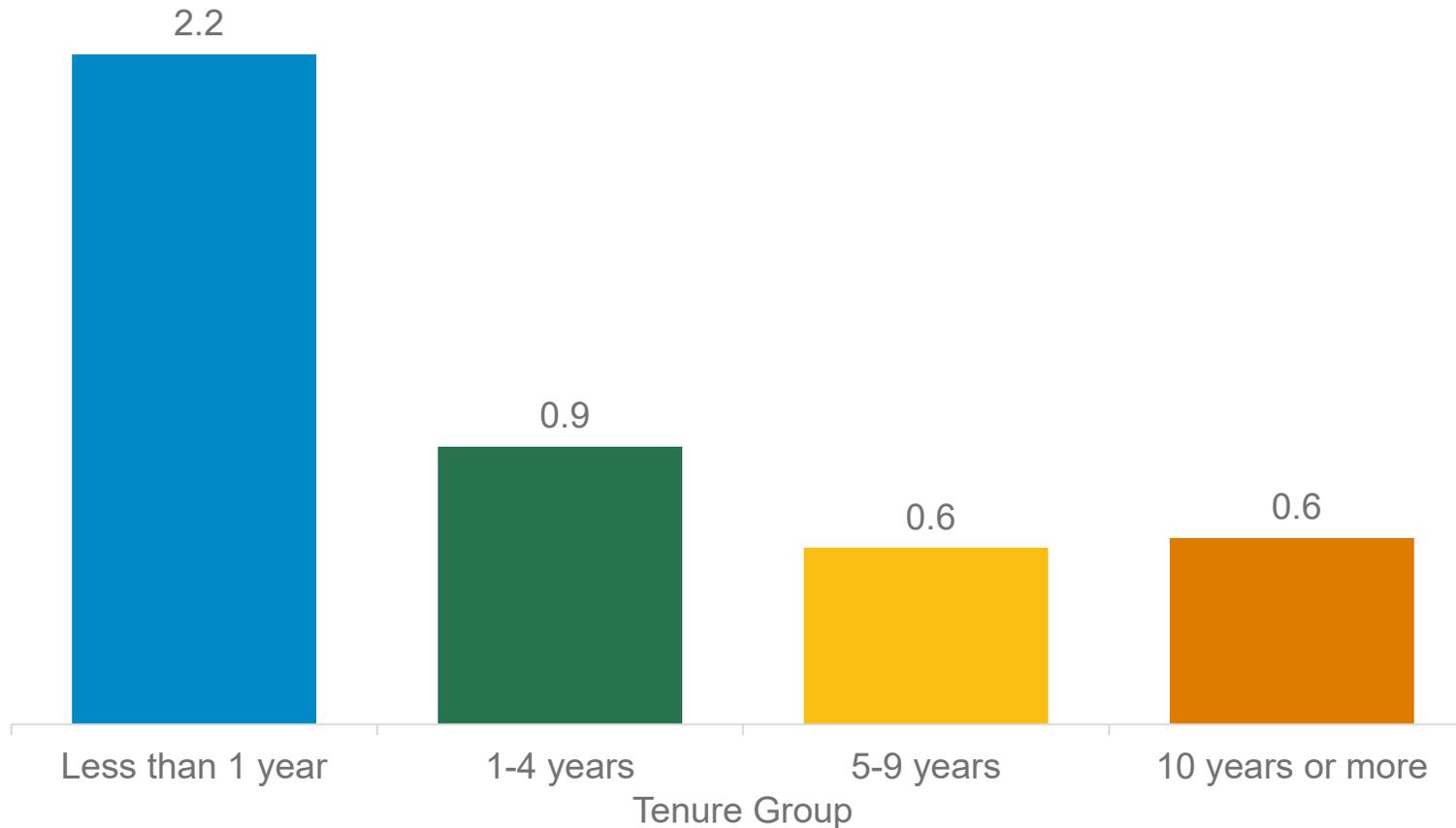
- Following a continuous upward trend after 2010, the employment level of California workers with less than 1 year of tenure declined in 2018, dropped further by 3% in 2020, largely driven by service-providing industries that were among the hardest hit during the pandemic. However, the number of workers with the shortest tenure rebounded in 2022, with a significant 15% increase. The increase is consistent across different industry groups ([Chart 6](#)).
- The number of California workers with 10+ years of tenure began declining after 2020 following an extended period of growth, with a 5% drop in 2022. The decline can be largely attributed to early retirements and job switches.
- The employment level for workers with 1 to 4 years of tenure has maintained a steady growth since 2012, while that of those with 5 to 9 years of tenure has remained consistent since 2018, following some volatility in prior years.

Relative Claim Frequency by Tenure Group



Chart 8: Workers with Less than 1 Year of Tenure More than Twice as Likely to Have a Claim

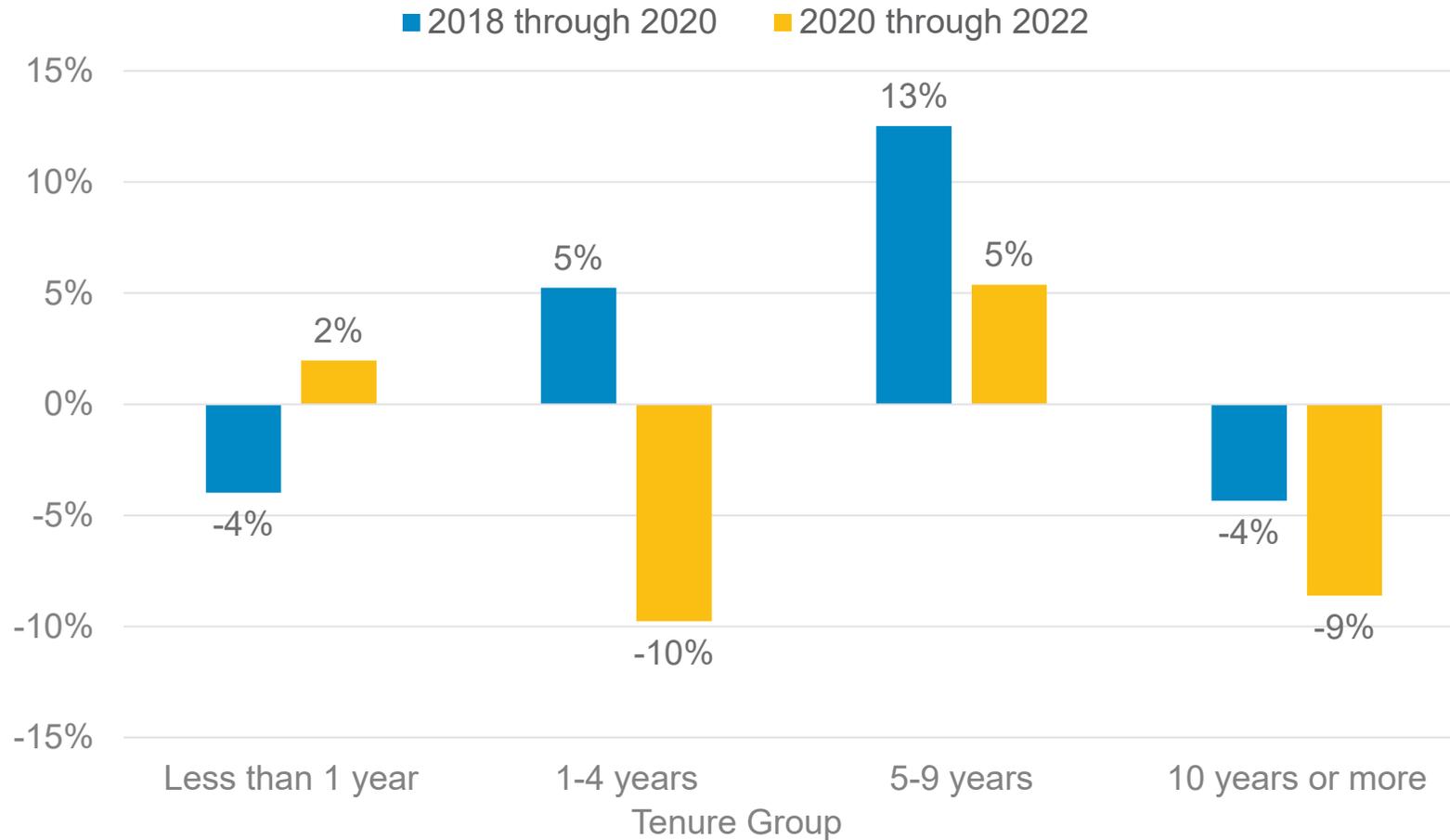
Claim Frequency by Tenure Group Relative to Statewide Average (AY 2018–2022)



- + Workers with less than 1 year of tenure are more than twice as likely to have a claim relative to the statewide average, while workers in other tenure groups have a lower-than-average likelihood of having a claim. In particular, workers with 5 to 9 years and 10+ years of tenure have an approximately 40% lower likelihood of having a claim than the statewide average.
- + The difference in relative claim frequency by tenure group reflects a higher risk of work-related injuries among those with the shortest tenure. Conversely, those with tenure of 5 years or more had a significantly lower injury risk, potentially driven by more on-the-job experience and safety training. The pattern is consistent with published research.

Chart 9: Claim Frequency of Workers with 5 to 9 Years of Tenure Relative to Statewide Average Has Continued to Increase since 2018

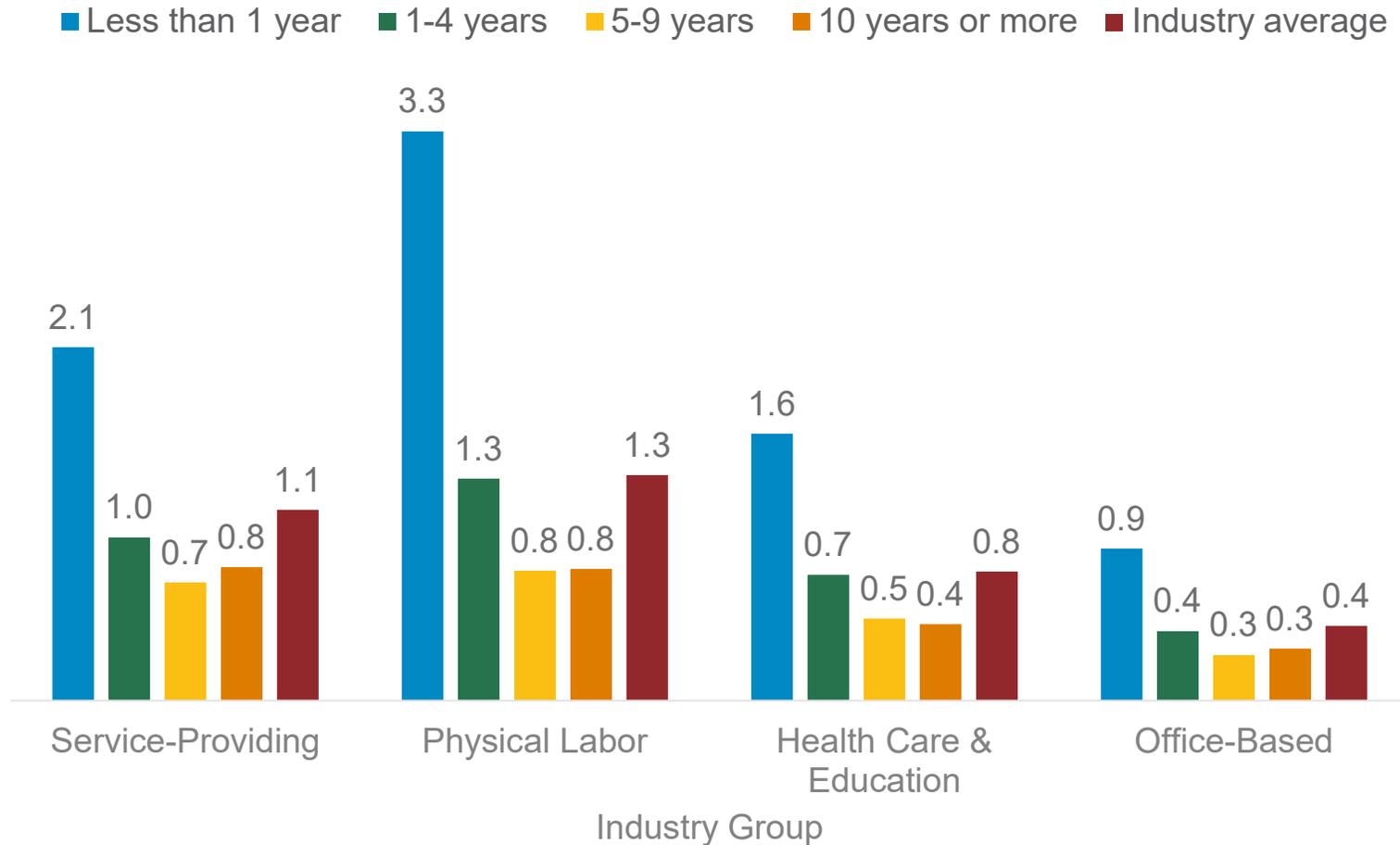
Change in Claim Frequency by Tenure Group Relative to Statewide Average



- + From 2018 to 2022, on a cumulative basis, injured workers in all tenure groups, except those with 5 to 9 years, experienced a decrease in claim frequency relative to the statewide average, with the largest decline among those with 10+ years of tenure.
- + Workers with 5 to 9 years of tenure, on the other hand, had a 19% cumulative increase in relative claim frequency during the same period, mostly driven by a higher volume of claims. The increase in the number of claims may be related to a slight shift in the industry mix, specifically an increased share of California workers in the higher-risk physical labor industries in 2020 and 2022 compared to 2018 and a decrease in the share of lower-risk office workers during the same period.

Chart 10: Workers with Tenure Less than 1 Year in Physical Labor Industries More than 3 Times as Likely to Have a Claim

Claim Frequency by Tenure Group and Industry Group Relative to Statewide Average (2018–2022)



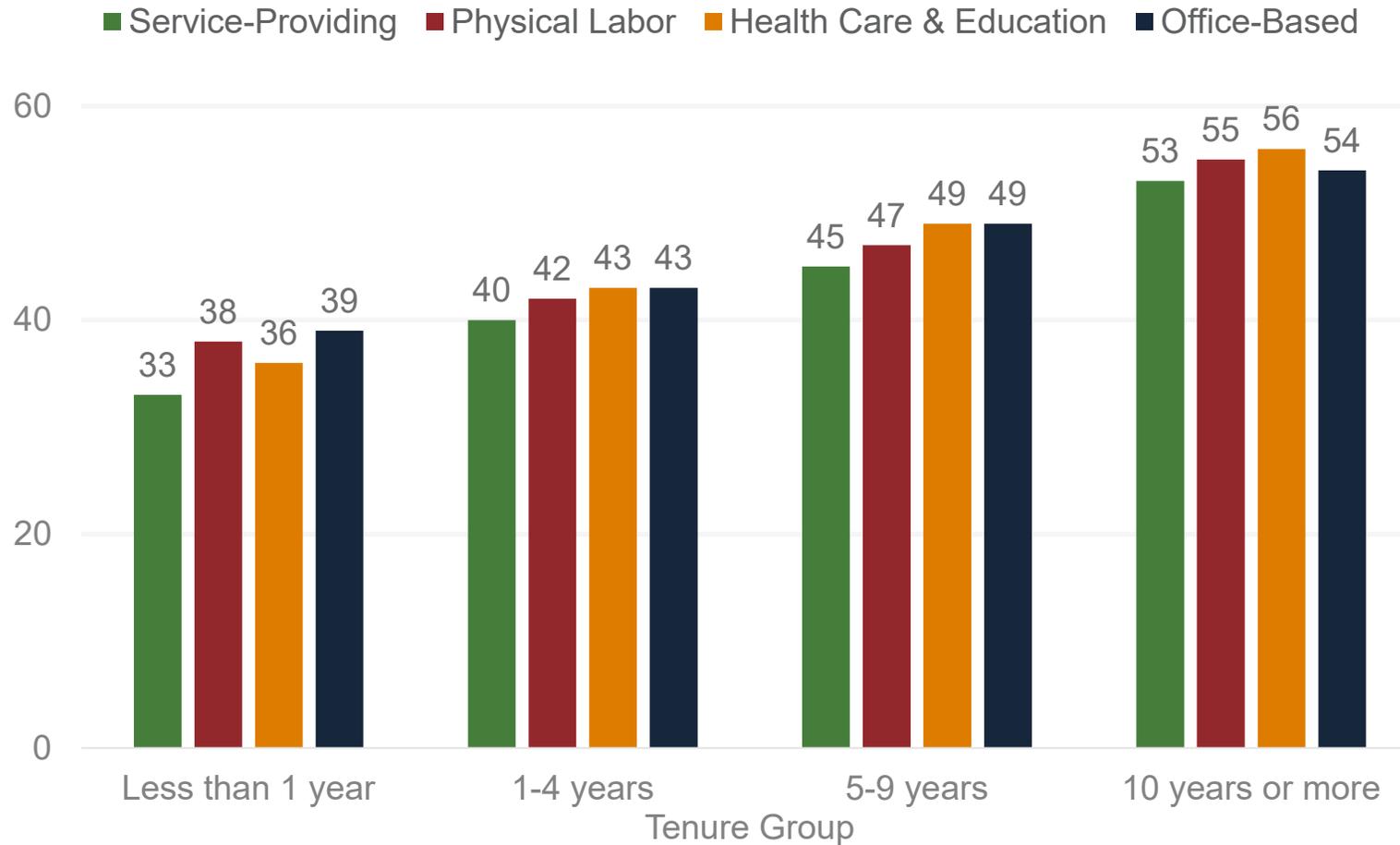
- + The higher likelihood of having a claim among workers with less than 1 year of tenure is largely driven by those in physical labor and service-providing industries, mostly related to the hazardousness of these industries as shown by the industry average frequency relative to the statewide. Those in physical labor industries are more than 3 times as likely to have a claim, the highest across all industries, while workers in service-providing industries are about twice as likely to have a claim.
- + Within physical labor industries, workers with 1 to 4 years of tenure also have a higher-than-average likelihood of injuries compared to workers in the same tenure group in other industries.
- + Workers in health care & education and office-based industries generally have a much lower relative risk of injuries, both overall and across all tenure groups than those in physical labor and service-providing industries. However, there remains a notable difference in the risk of injuries between workers with less than 1 year of tenure and those with longer tenure, even in these lower-risk industries.

Characteristics of Indemnity Claims by Tenure Group



Chart 11: Younger Workers More Likely to Be Shorter-Tenured; Service Workers Tend to Be Younger in All Tenure Groups

Median Age of Injured Workers by Tenure Group and Industry Group (AY 2020–2022)

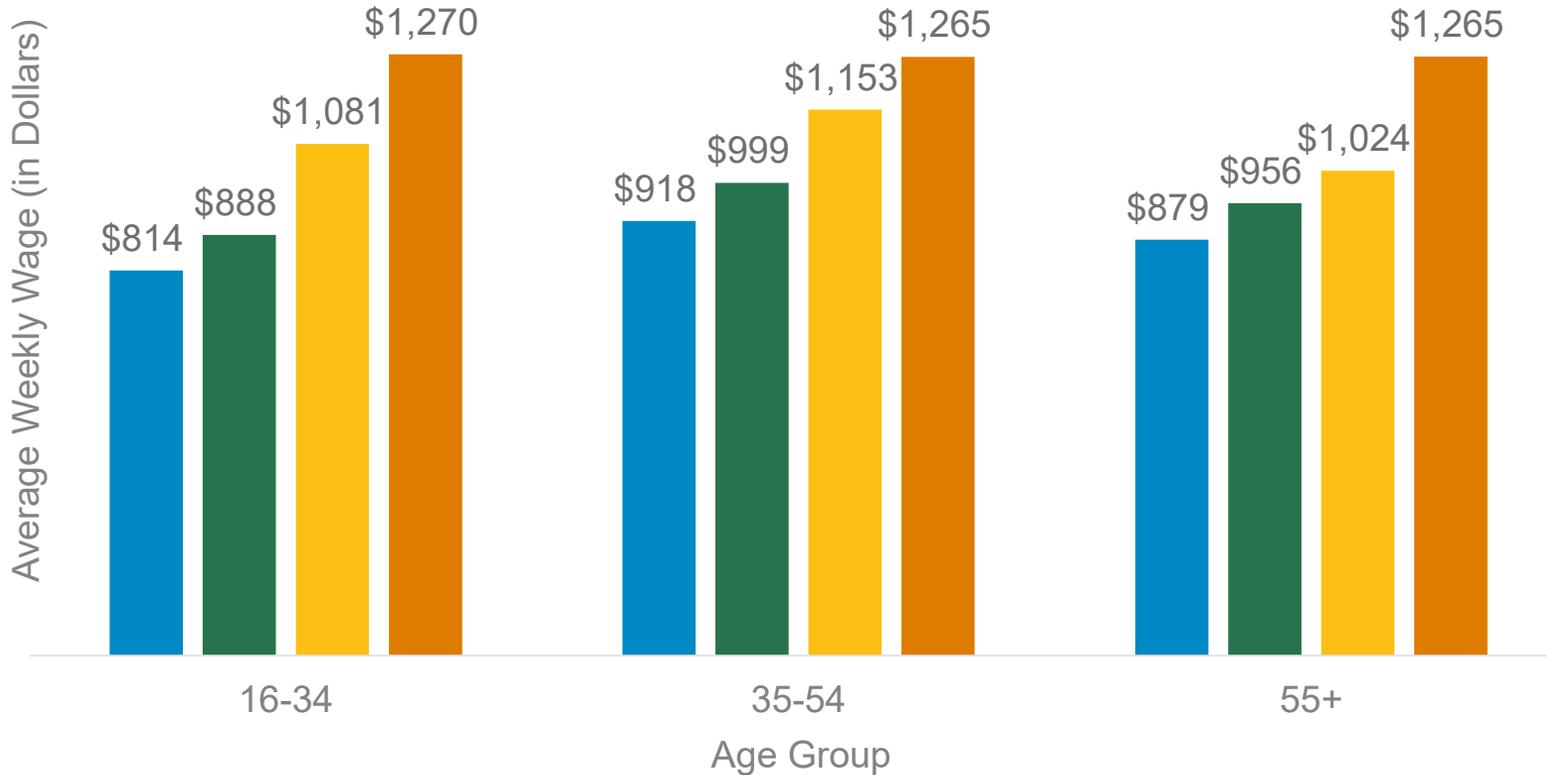


- + Consistently across all industry groups, the median age of injured workers with an indemnity claim tends to be younger for those with shorter tenure. This is unsurprising, as younger workers are more likely than older workers to be new to the workforce and to switch jobs when opportunities arise. When taking on new roles, these younger and often less-experienced workers may be more susceptible to work-related injuries than longer-tenured workers.
- + Within each tenure group, the median age varies slightly by industry group. Notably, service-providing industries consistently have younger injured workers across all tenure groups compared to other industry groups, with the most significant age gap observed among those with less than 1 year of tenure. The age difference in injured workers across different industry groups partly reflects the age distribution of California workers in these industries. As shown by BLS, service workers tend to be younger and experience higher turnover than workers in other industries, factors that could contribute to a higher risk of injury.

Chart 12: Lower Average Weekly Wage for Injured Workers with Shorter Tenure

Average Weekly Wage for Injured Workers by Tenure Group and Age Group (AY 2020–2022)

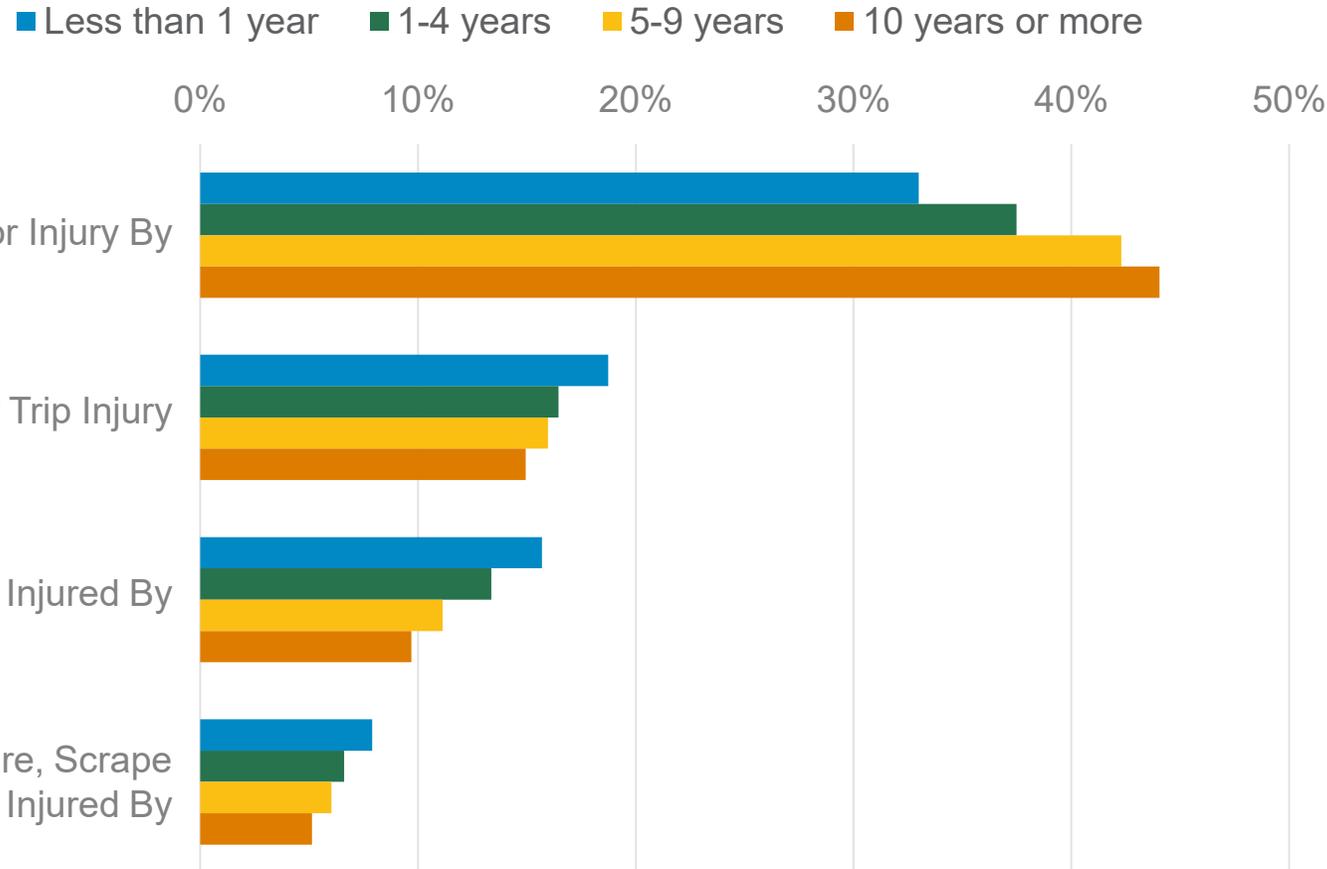
■ Less than 1 year ■ 1-4 years ■ 5-9 years ■ 10 years or more



- + Within each age group, the average weekly wage of injured workers positively correlates with tenure, as wage typically reflects work experience. The differential in the average weekly wage in part accounts for the difference in the average indemnity benefits (**Chart 21**), encompassing TD benefits largely determined by pre-injury wages and PD benefits determined by the level of work impairment.
- + In general, older injured workers are more likely to have a higher weekly wage than younger workers within the same tenure group, given the positive correlation between age and tenure. However, of all age groups, those aged 35 to 54 have the highest average weekly wage in almost all tenure groups, potentially reflecting the impact of prior experience, job switches for better paid employment and variations in the industry mix by tenure.
- + The positive correlation between tenure and weekly wage generally holds true across industry groups.

Chart 13: Shorter-Tenured Workers More Likely to Experience Fall, Struck or Cut Injuries and Less Likely to Have Strain Injuries

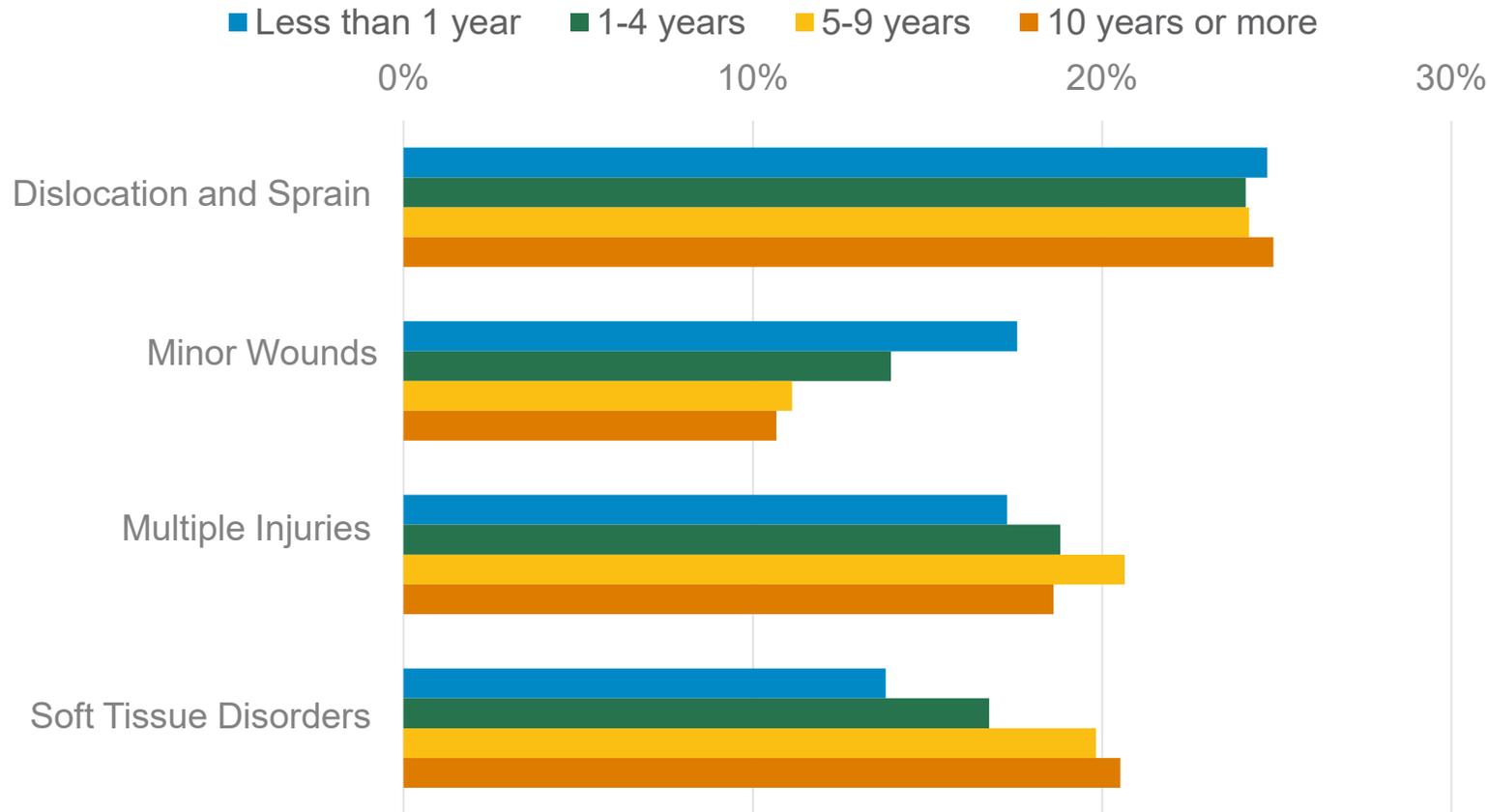
Share of Indemnity Claims by Leading Causes of Injury and Tenure Group for **Workers Aged 16–34** (AY 2020–2022)



- + Among injured workers aged 16 to 34, those with less than 1 year of tenure are more likely to have fall, struck or cut injuries. The injury pattern may be attributed, in part, to less training, experience and familiarity with the hazards and risks associated with their jobs.
- + In the same age group (16 to 34), those with longer tenure are more likely to have strain injuries, potentially because certain strain injuries, such as those caused by repetitive motions, take time to occur. Among injured workers with 5+ years of tenure, strain injuries occur on more than 40% of indemnity claims.
- + Similar injury patterns are observed among workers aged 35 to 54 and those aged 55+, except for a lower share of cut injuries and a higher share of fall injuries in all tenure groups. The difference may reflect the impact of age and potential comorbidities.
- + The leading causes of injury for workers of different tenure are consistent with published research.

Chart 14: Shorter-Tenured Workers More Likely to Experience Minor Wounds and Less Likely to Have Soft Tissue Disorders

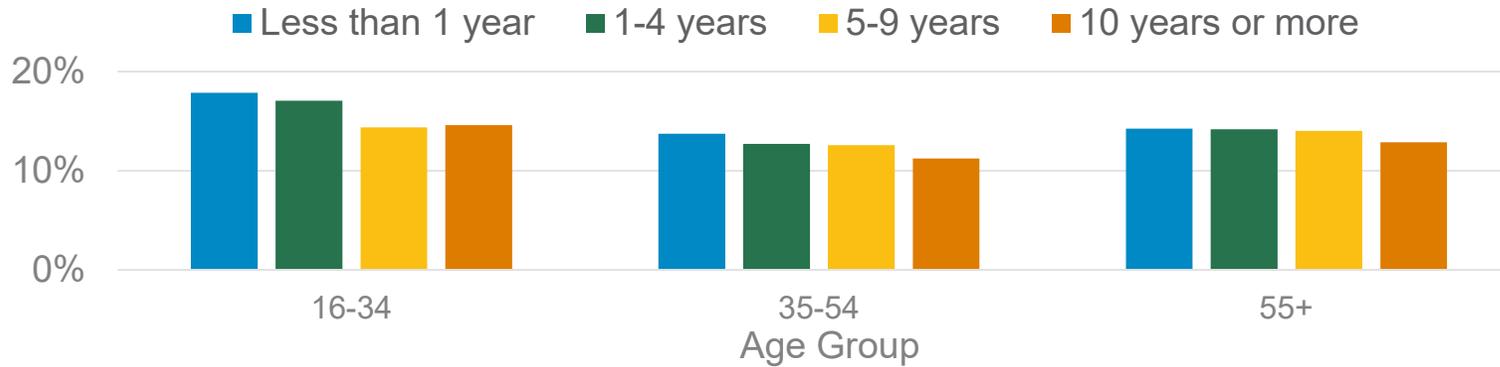
Share of Indemnity Claims by Leading Primary Medical Diagnoses and Tenure Group for **Workers Aged 16–34** (AY 2020–2022)



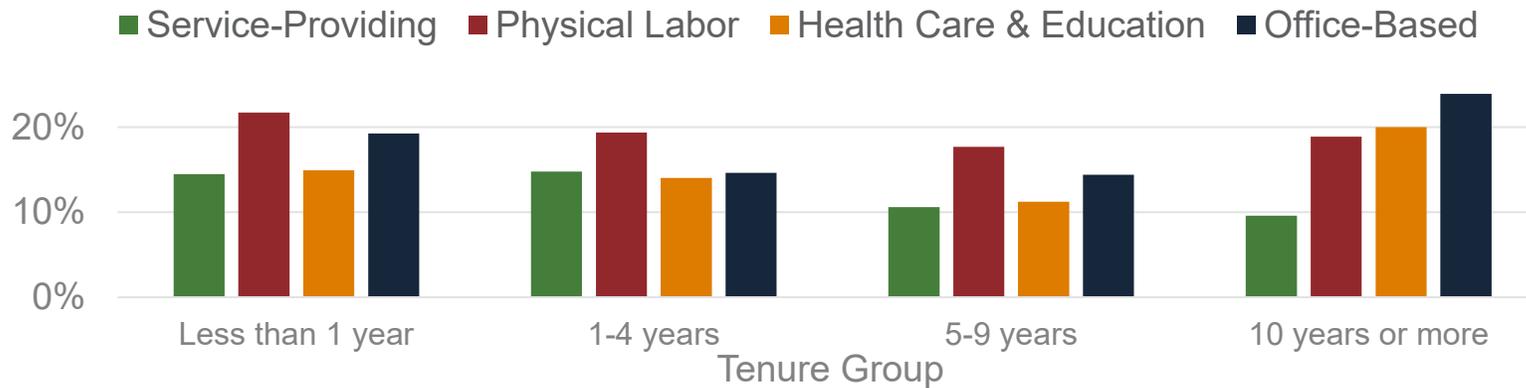
- + The primary medical diagnosis for injuries experienced by workers aged 16 to 34 is predominately dislocation and sprain, with a comparable share of claims across tenure groups. However, there is a higher share within the shortest and longest tenure group, potentially reflecting distinct underlying factors. The shorter-tenured workers may have less experience or training, while the longer-tenured could be more influenced by age and comorbidities.
- + Notable differences are evident in minor wounds and soft tissue disorders. Shorter-tenured workers are more prone to minor wounds, whereas those with longer tenure are more likely to have soft tissue disorders, such as those associated with lower back, shoulders and wrists. Similar patterns of minor wounds and soft tissue disorders by tenure are observed for workers aged 35 to 54 and 55+.

Chart 15: Shorter-Tenured Workers More Likely to Need Initial Emergency Room Care, More So for Those Aged 16–34 & Those in Physical Labor Industries

Share of Indemnity Claims Involving Initial Emergency Room Care by Tenure Group and Age Group (AY 2020–2022)



Share of Indemnity Claims with Initial Emergency Room Care by Tenure Group and Industry Group for **Workers Aged 16–34** (AY 2020–2022)

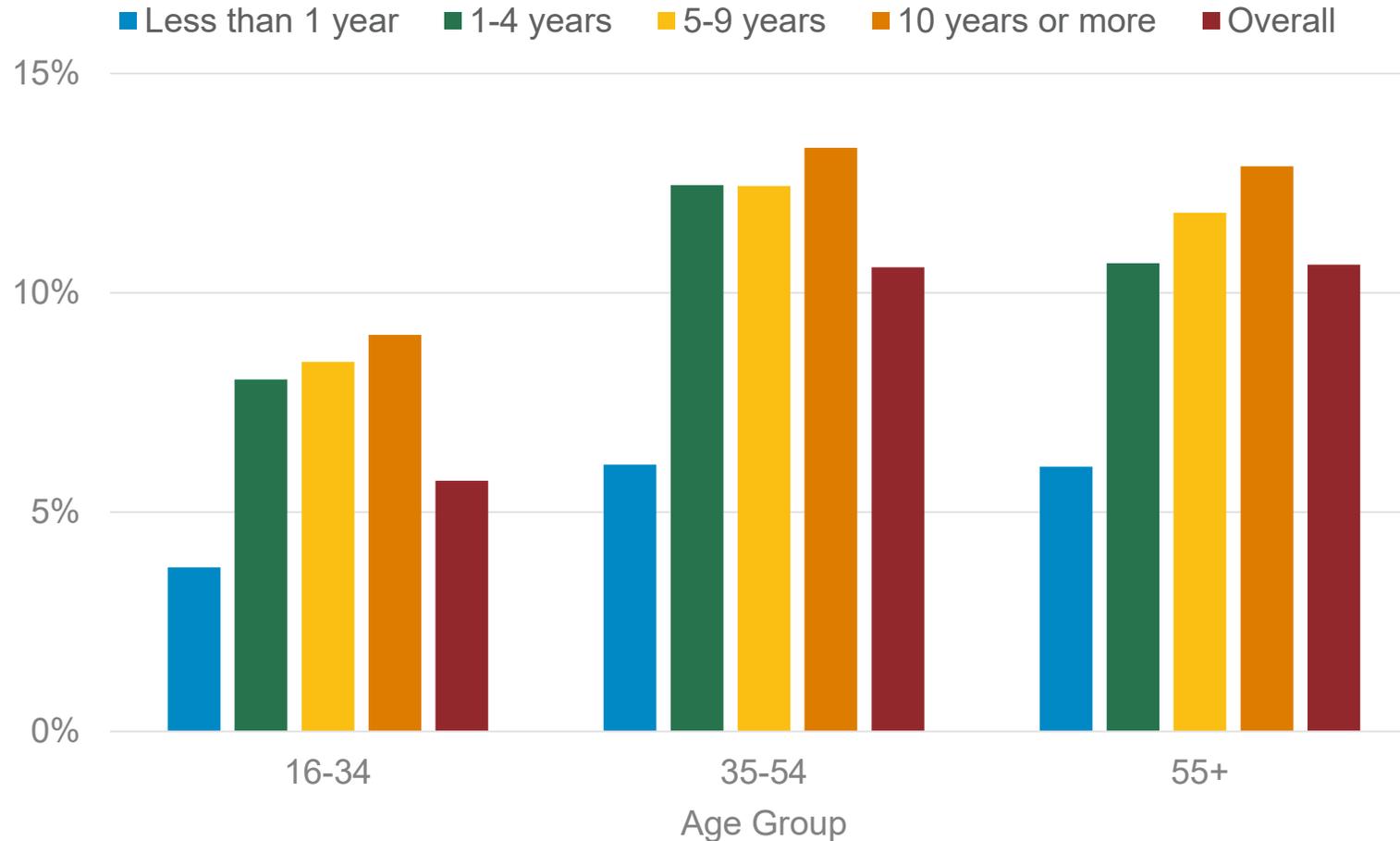


+ In general, injured workers with shorter tenure are more likely to need initial emergency room (ER) care than longer-tenured workers. This can be attributed, in part, to the acute nature of injuries more prevalent among shorter-tenured workers, such as fall, cut and struck injuries (**Chart 13**), which often need immediate medical attention. In comparison, longer-tenured workers tend to sustain strain injuries, with a large share of injuries caused by cumulative exposure to injury risks over an extended period.

+ The difference in the share of claims involving initial ER care based on tenure is more pronounced among workers aged 16 to 34, primarily driven by those in physical labor and office-based industries. Workers in physical labor industries tend to perform more physically demanding and hazardous jobs and are more prone to having severe traumatic injuries. Workers in office-based industries have a disproportionate share of fall injuries, particularly among those with the shortest and longest tenure.

Chart 16: Higher Share of Cumulative Trauma Indemnity Claims for Workers with Tenure Longer than 1 Year

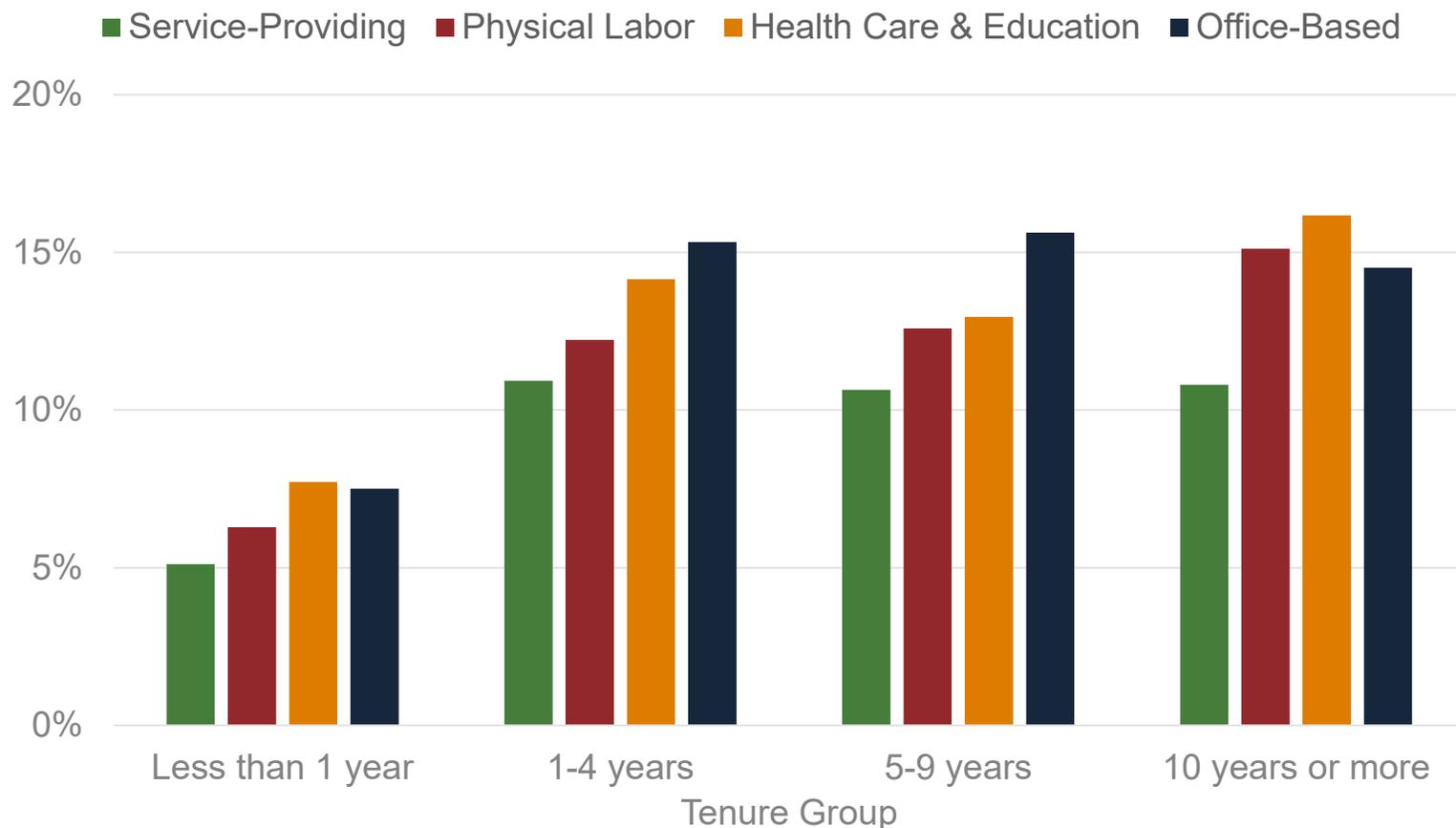
Share of Indemnity Claims Involving Cumulative Trauma by Tenure Group and Age Group (AY 2020–2022)



- + The share of CT claims increases for workers with longer tenure, mostly because it takes time for CT injuries to occur. The correlation between longer tenure and a higher share of CT claims remains consistent within each age group.
- + Injured workers aged 35 to 54 had the highest share of CT claims in all tenure groups. In this age group, the share of CT claims increased from 6% for those with less than 1 year of tenure to over 12% for those with tenure longer than 1 year, a two-fold increase.
- + Injured workers aged 55+ had a comparable share of CT claims to those aged 35 to 54, both overall and within the tenure group of 10+ years.

Chart 17: Higher Share of Cumulative Trauma Indemnity Claims for Health Care & Education and Office-Based Workers

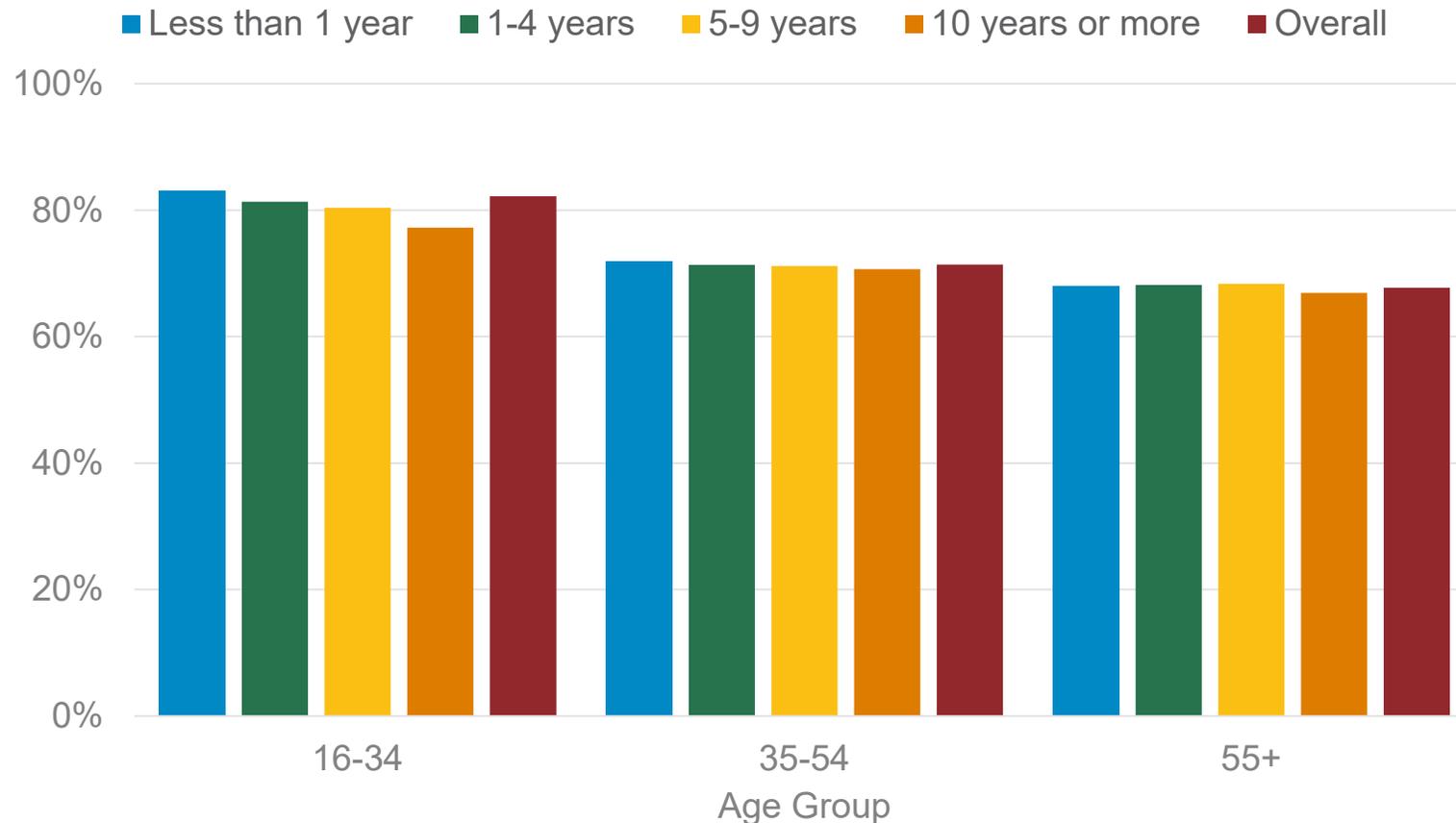
Share of Indemnity Claims Involving Cumulative Trauma by Tenure Group and Industry Group for **Workers Aged 35–54** (AY 2020–2022)



- Among workers aged 35 to 54, health care & education and office-based workers generally have a higher share of CT claims than other industry groups. For workers in office-based industries, in particular, the share of CT claims increases from 8% for those with less than 1 year of tenure to about 15% for workers with more than 1 year of tenure. The significant increase in the share of CT claims among office workers with longer tenure is likely related to the nature of desk jobs and extended periods of computer use.
- The significantly elevated risk of CT injuries for workers with 10+ years of tenure in health care & education and physical labor industries likely reflects cumulative exposure to the physical demands of the jobs within these industries.

Chart 18: Similar Share of Indemnity Claims Involving Temporary Disability Only among Workers of Different Tenure, except among Those Aged 16-34

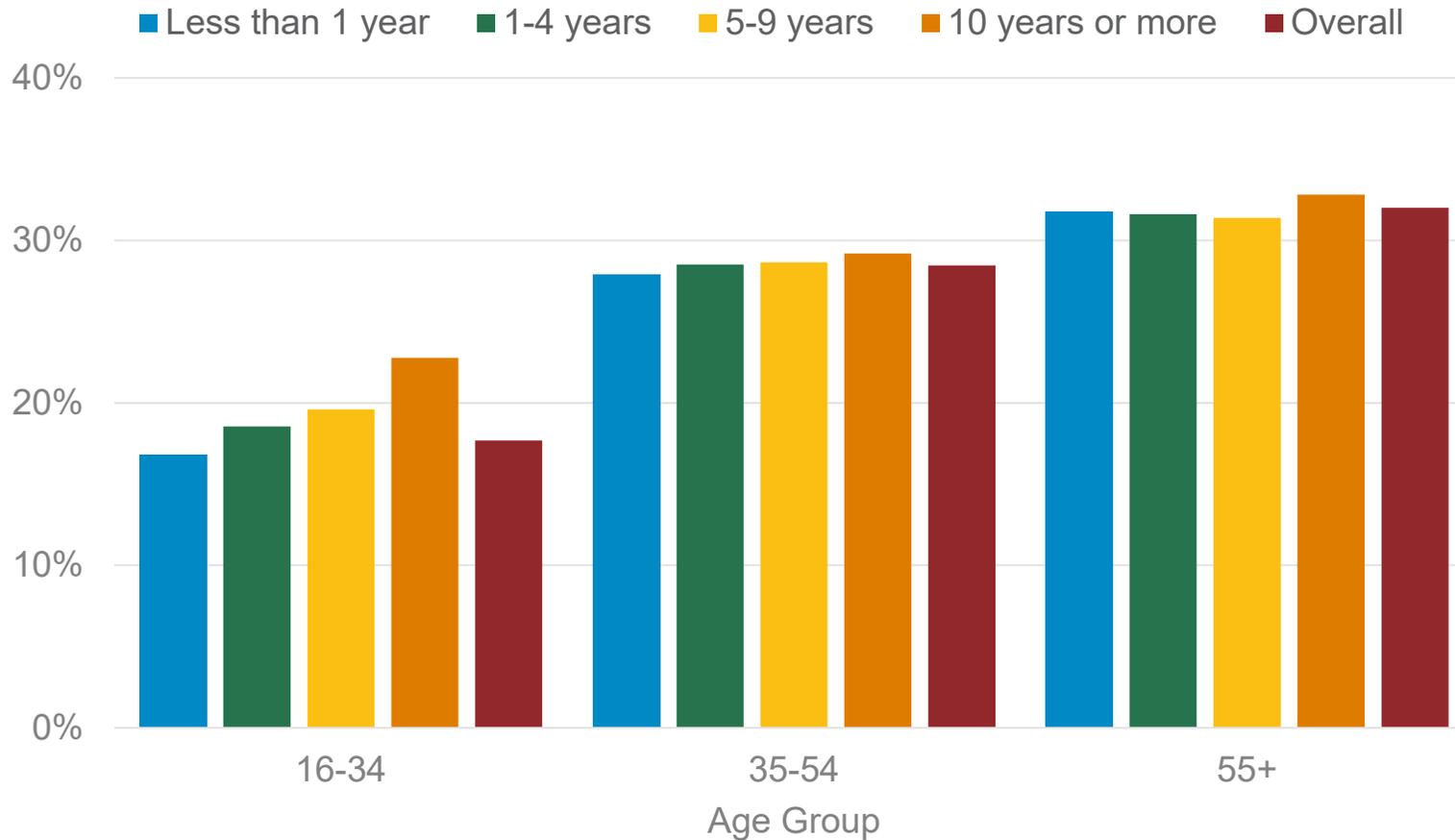
Share of Indemnity Claims Involving Temporary Disability Only by Tenure Group and Age Group (AY 2020–2022)



- + The share of claims involving temporary disability (TD) only is similar across tenure groups within the same age group, except for workers aged 16 to 34, where the share of claims involving TD only decreases for longer-tenured workers.
- + The relationship between TD and tenure for workers aged 16 to 34 suggests that longer tenure is associated with fewer minor injuries, which could potentially be mitigated with increased work experience and safety training. This is not surprising, as younger workers might benefit more from experience and training to avoid more preventable injuries. However, for workers aged 35 to 54 and 55+, the tenure-related impacts on TD appear to be limited after adjusting for age.

Chart 19: Similar Share of Indemnity Claims Involving Permanent Disability among Workers of Different Tenure, except for Those Aged 16–34

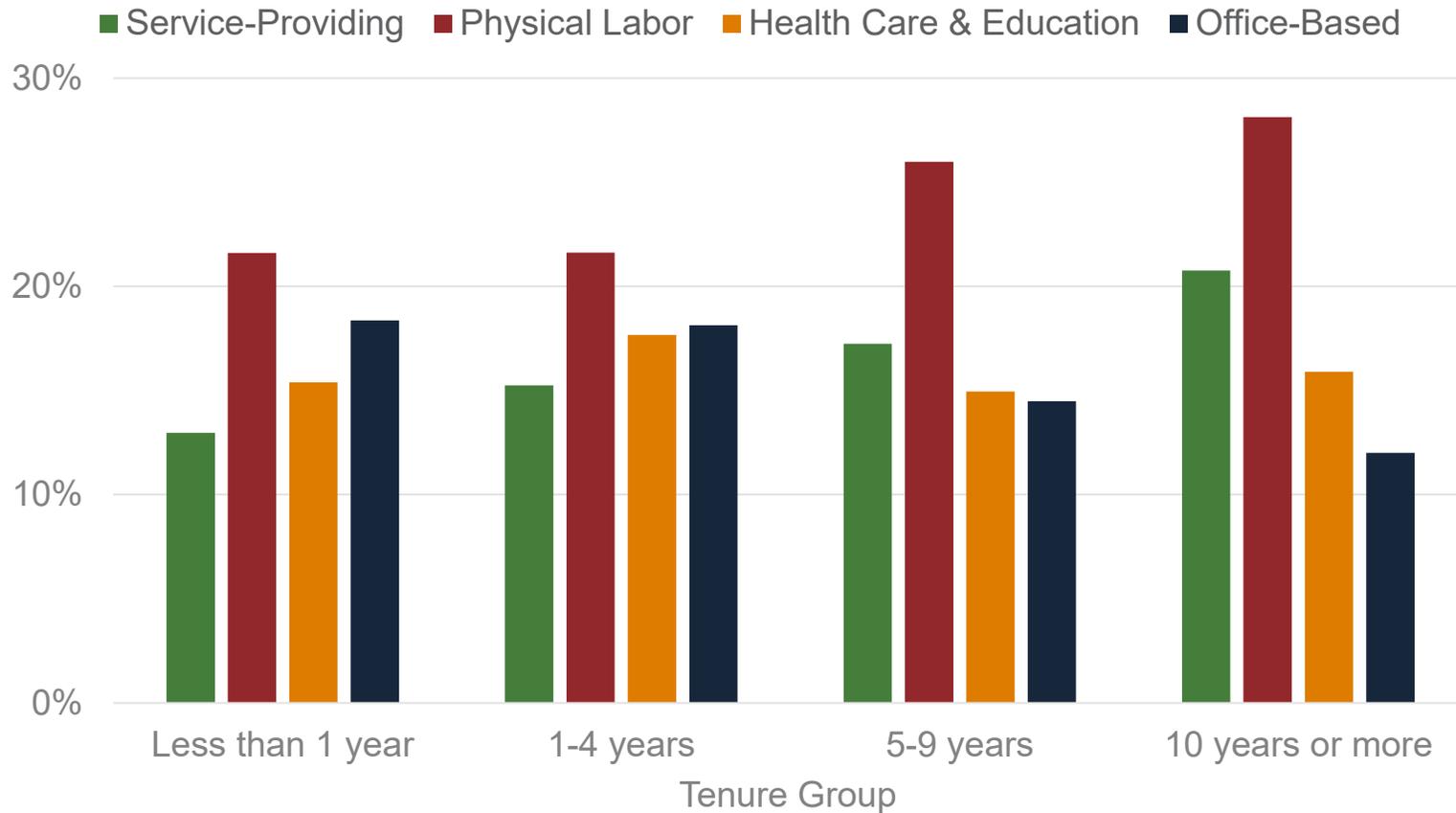
Share of Indemnity Claims Involving Permanent Disability by Tenure Group and Age Group (AY 2020–2022)



- + The share of claims involving permanent disability (PD) is higher for workers in the 35-54 and 55+ age groups. This may not be surprising as older age can exacerbate the impact of injury on permanent disability. For injured workers within these age groups, the share of PD claims varies little by tenure, suggesting limited tenure-related impacts on permanent disability after adjusting for age.
- + The correlation between tenure and PD is more pronounced for workers aged 16-34, potentially because, unlike workers in the 35-54 and 55+ age groups, the median age of workers in this age group differs slightly by tenure. Another potential factor is a slight difference in the industry mix, as injured workers with longer tenure are more likely to be service workers and less likely to be office workers. As claims from longer-tenured service workers are more likely to involve PD, the industry mix could contribute to a higher share of PD claims with increased tenure ([Chart 20](#)).

Chart 20: Workers in Physical Labor & Service-Providing Industries More Likely to Have Injuries Resulting in Permanent Disability with Increased Tenure

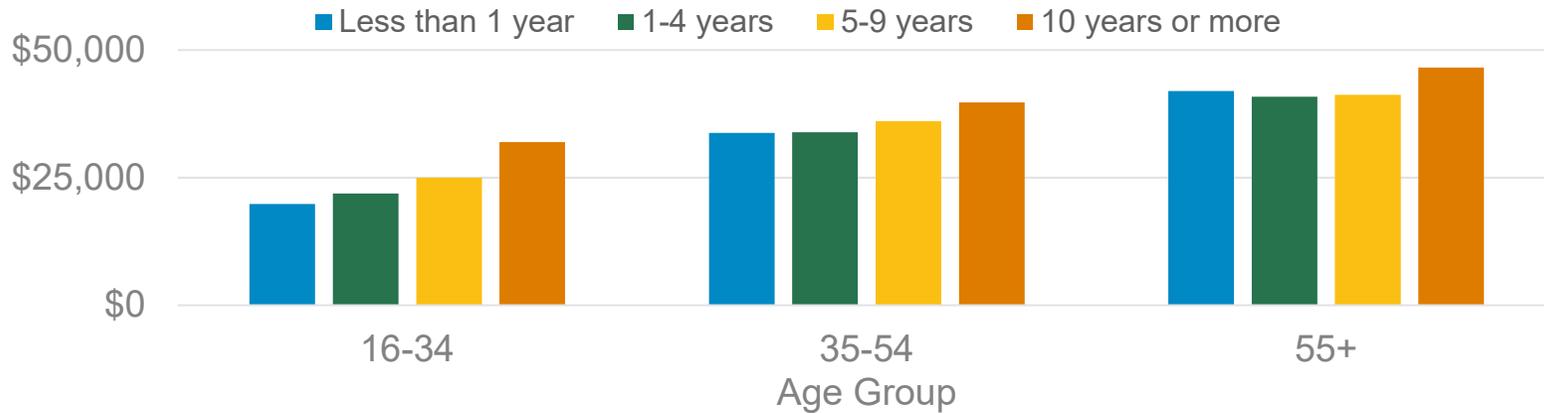
Share of Indemnity Claims Involving Permanent Disability by Tenure Group and Industry Group for **Workers Aged 16–34** (AY 2020–2022)



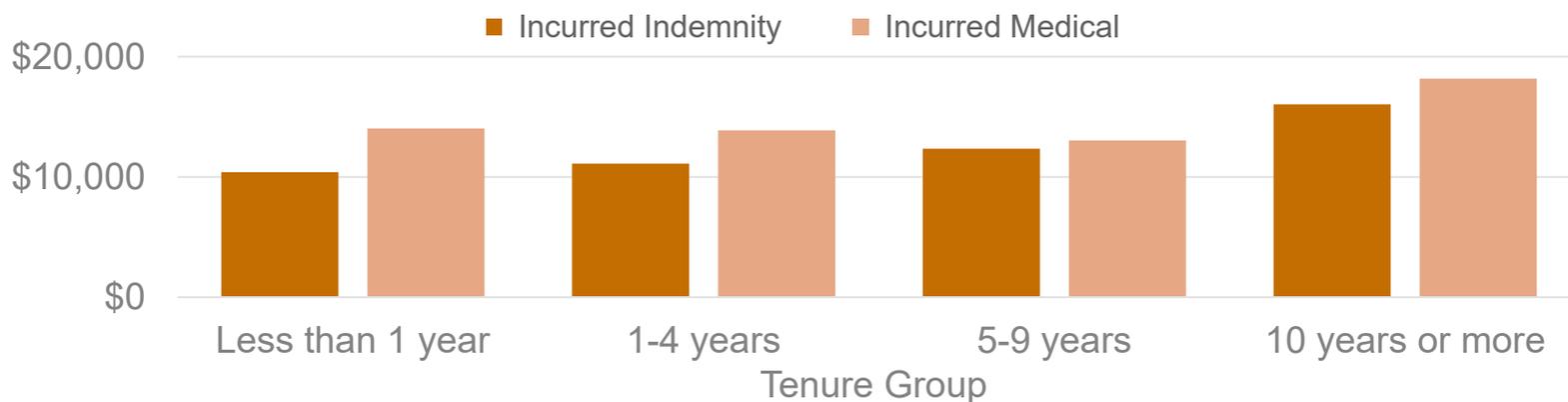
- + Among injured workers aged 16-34, those in physical labor and service-providing industries exhibit a positive relationship between tenure and the share of PD claims, reflecting the cumulative exposure to injury risks over time in these industries.
- + Physical labor industries, in particular, have the highest share of PD claims in all tenure groups, reflecting higher risks of severe injuries in these industries due to their more hazardous working conditions compared to other industries.
- + Injured workers aged 16-34 in office-based industries have a lower share of PD claims with increased tenure, while those in the health care & education industry have a higher share of PD claims among those with 1 to 4 years of tenure than those in other tenure groups.

Chart 21: Average Incurred Losses Increase with Tenure, Largely Driven by Indemnity

Average Capped Incurred Losses by Tenure Group and Age Group (AY 2020–2022)



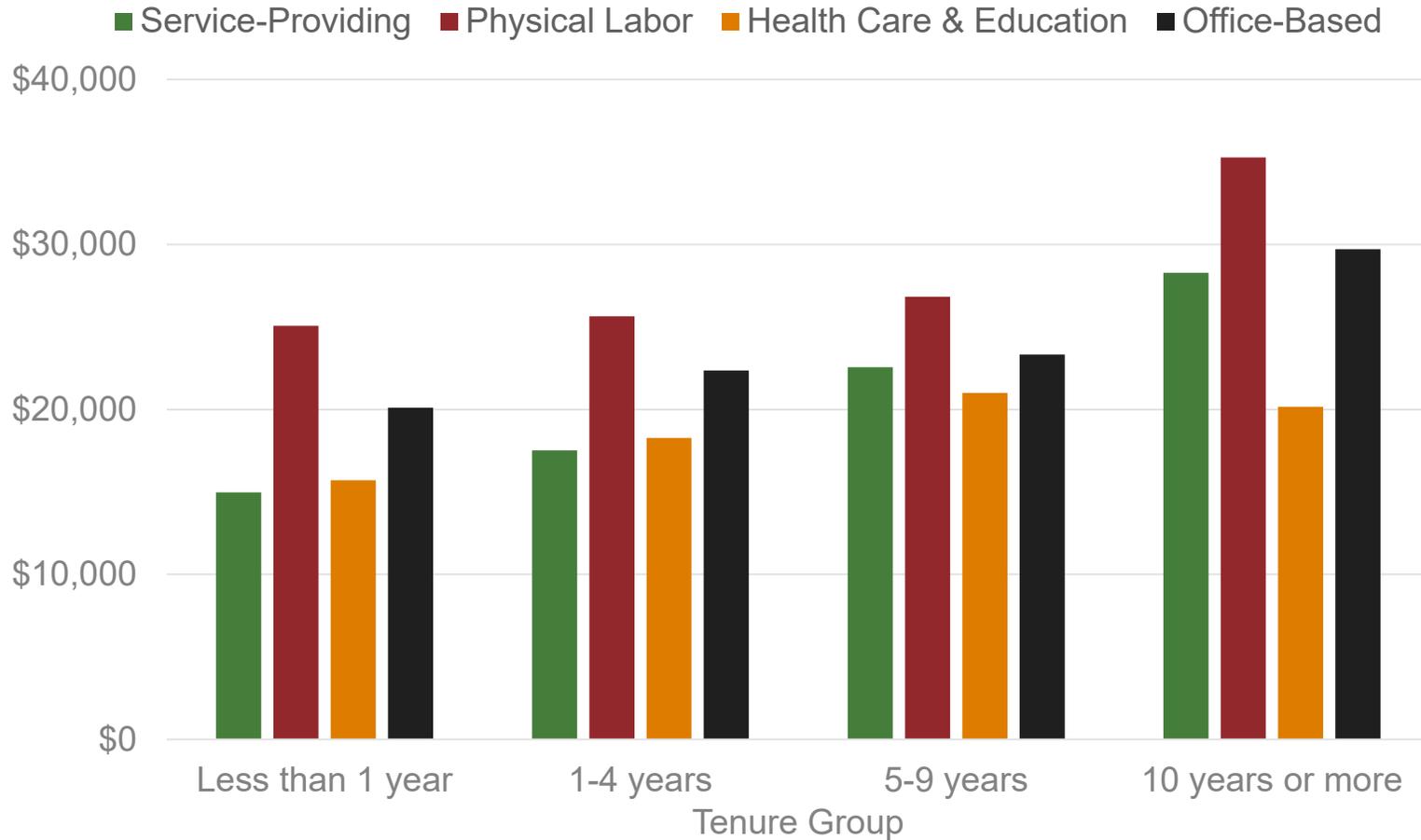
Average Incurred Indemnity and Incurred Medical by Tenure Group for **Workers Aged 16–34** (AY 2020–2022)



- + The average incurred losses on indemnity claims, valued at approximately 18 months from policy inception, tend to increase with tenure. The correlation largely persists after adjusting for age differentials, as indicated by the pattern within each age group. The pattern is partly driven by PD claims that typically have higher average incurred losses.
- + The correlation between incurred losses and tenure is the strongest for injured workers aged 16 to 34. Of the total incurred losses, medical losses are much higher only among those with 10+ years of tenure, but indemnity losses increase with tenure, potentially driven by PD benefits ([Chart 19](#)) and weekly wages, which largely determine TD benefits ([Chart 12](#)). Both factors are higher for longer-tenured workers in this age group.
- + The patterns of incurred indemnity and medical losses by tenure generally hold for other age groups.

Chart 22: Difference in Average Incurred Losses by Tenure More Pronounced among Service Workers

Average Capped Incurred Losses by Tenure Group and Industry Group for **Workers Aged 16–34** (AY 2020–2022)



- + Among injured workers aged 16 to 34, within each tenure group, those in physical labor industries have the highest average incurred losses, followed by those in office-based industries. The highest average incurred losses for physical labor workers are potentially related to a higher share of PD claims reflecting more severe injuries ([Chart 20](#)).
- + With increased tenure, injured workers in this age group across industry groups generally have higher average incurred losses, with service workers experiencing a faster acceleration. These industry patterns are largely influenced by a positive correlation between tenure and PD, as well as between tenure and weekly wage in these industries.
- + The patterns of average incurred losses and tenure within service industries hold for other age groups.

Technical Appendix



Key Definitions

The definitions of tenure groups, industry groups and age groups are consistent across all charts.

+ Tenure groups:

Employee tenure is categorized in four groups, including less than 1 year, 1 to 4 years, 5 to 9 years and 10 years or more. For example, an employee with 4½ years of tenure is in the tenure group of 1 to 4 years.

+ Industry groups:

The industry groups are based primarily on published industry groupings from the BLS and the Census Bureau using the North American Industry Classification System (NAICS) information, including service-providing, physical labor, health care & education and office-based industry groups. Specifically, the service-providing industry group includes the retail, wholesale, hospitality, transportation and warehousing, utilities, arts and entertainment sectors. The physical labor industry group includes the construction, manufacturing, agriculture and mining sectors. The office-based industry group includes the real estate, professional services, information, finance and insurance sectors. The health care & education industry group includes the health care and social assistance as well as education sectors.

The NAICS sector of each claim is identified based on the reported NAICS codes in DWC WCIS data and WCIRB indemnity transaction data. The NAICS sectors of all California workers in the private sector are identified based on the reported NAICS codes in both the CPS tenure supplement data and ACS data.

+ Age groups:

Ages of injured workers are categorized in three groups, including 16–34 years, 35–54 years and 55+ years, based on the reported information in WCIRB indemnity transaction data. The median age is similar across tenure groups within each age group. For injured workers with indemnity claims in AY 2020–2022, the share of indemnity claims is 32% for 16–34 years, 44% for 35–54 years and 23% for 55+ years. The purpose of analyzing indemnity claim characteristics by age group is to adjust for the impacts of age on tenure.

More Info and Sources

Note: Charts 1–3 are based on workers' compensation data of employees in the insured system. **Charts 4–6** are based on the Census Bureau's Current Population Survey (CPS) tenure supplement data of private wage and salary employees in California and do not include public sector employees who constitute the majority of those in the self-insured system across industries, except for the health care sector.

Chart 1: Share of Claims from Workers with Less than 1 Year of Tenure Has Increased since 2020

- + For each accident year, the share of claims by tenure group is calculated as the number of claims in each tenure group relative to all claims.
- + Source: DWC WCIS data, WCIRB indemnity transaction data and WCIRB Unit Statistical Report data.

Chart 2: Higher Share of Claims from Workers with Less than 1 Year of Tenure in Service-Providing Industries

- + The share of claims by tenure group within each industry group is calculated as the average of the claim share by tenure group in each accident year between 2018 and 2022.
- + Source: DWC WCIS data, WCIRB indemnity transaction data and WCIRB Unit Statistical Report data. Penn R. and Nezamis E. (2022). Job Openings and Quits Reach Record Highs in 2021, Layoffs and Discharges Fall to Record Lows. *Monthly Labor Review*, BLS. Penn R. and Huang V. (2023). Job Openings Reach Record Highs in 2022 as the Labor Market Recovery Continues. *Monthly Labor Review*, BLS. Negrusa S. (2022). Changes in the Workforce and Their Impact on Workers' Compensation Outcomes. Workers' Compensation Research Institute.

Chart 3: Share of Claims from Workers with Less than 1 Year of Tenure Has Increased for All Industry Groups since 2020

- + For each accident year, the share of claims from workers with less than 1 year of tenure within each industry group is calculated as the number of claims from workers with less than 1 year of tenure relative to all claims in the corresponding industry group.
- + Source: DWC WCIS data, WCIRB indemnity transaction data and WCIRB Unit Statistical Report data. BLS: California Job Openings and Labor Turnover – December 2022.

Chart 4: Share of All California Workers in Private Sector with Less than 1 Year of Tenure Has Increased since 2020

- + For each calendar year, the share of California workers in the private sector by tenure group is calculated as the number of California workers in each tenure group relative to all California workers in the private sector. Public sector employees are excluded.
- + Source: The Census Bureau's CPS Displaced Worker, Employee Tenure, and Occupational Mobility Supplement data accessed through the Census Bureau's microdata files. BLS: California Job Openings and Labor Turnover – December 2022.

Chart 5: Higher Share of All California Workers in Private Sector with Less than 1 Year of Tenure in Service-Providing Industries

- + The share of California workers in the private sector by tenure group within each industry group is calculated as the average of the worker share by tenure group in each year between 2018 and 2022. Public sector employees are excluded.
- + Source: The Census Bureau's CPS Displaced Worker, Employee Tenure, and Occupational Mobility Supplement data accessed through the Census Bureau's microdata files. BLS: Employee Tenure in 2022.

More Info and Sources

Chart 6: Share of All California Workers in Private Sector with Less than 1 Year of Tenure Has Increased since 2020 in All Industry Groups

- + For each calendar year, the share of California workers in the private sector with less than 1 year of tenure within each industry group is calculated as the number of California workers with less than 1 year of tenure relative to all California workers in the corresponding industry group. Public sector employees are excluded.
- + Source: The Census Bureau's CPS Displaced Worker, Employee Tenure, and Occupational Mobility Supplement data accessed through the Census Bureau's microdata files. BLS: Employee Tenure in 2022. Penn R. and Huang V. (2023). Job Openings Reach Record Highs in 2022 as the Labor Market Recovery Continues. *Monthly Labor Review*, BLS. Coate P. (2022). The Great Reshuffle and Workers Compensation Frequency. National Council on Compensation Insurance. Remote Work: A Win-Win-Win for Employees, Employers, and the Economy. ZipRecruiter Economic Research.

Chart 7: Employment Level of California Workers in the Insured System with Less than 1 Year of Tenure Has Increased since 2020

- + For each calendar year, the number of California workers in the insured system by tenure group is calculated by applying the tenure distribution of California workers in the private sector to the total California employment excluding employees in the self-insured system.
- + Source: The Census Bureau's American Community Survey (ACS) data and CPS Displaced Worker, Employee Tenure, and Occupational Mobility Supplement data accessed through the Census Bureau's microdata files, D&B Hoovers data and the California Department of Industrial Relations Office of Self-Insurance Plans (OSIP) data.

Source Data for Charts 8–10: DWC WCIS data, WCIRB indemnity transaction data, WCIRB Unit Statistical Report data and WCIRB Aggregate Financial data; The Census Bureau's ACS data and CPS Displaced Worker, Employee Tenure, and Occupational Mobility Supplement data accessed through the Census Bureau's microdata files, D&B Hoovers data and OSIP data.

Chart 8: Workers with Less than 1 Year of Tenure More than Twice as Likely to Have a Claim

- + Claim frequency for each tenure group is calculated as the claim count per 10,000 California workers in the insured system. The methodology for estimating claim frequency by tenure group is detailed in the Research Methods section. The relativity claim frequency of each tenure group shown in the chart is calculated as claim frequency of each tenure group relative to the statewide average.
- + Source: Bena A, Giraudo M, Leombruni R, Costa G. Job Tenure and Work Injuries: A Multivariate Analysis of the Relation with Previous Experience and Differences by Age. *BMC Public Health*. 2013 Sep 22;13:869.

Chart 9: Claim Frequency of Workers with 5 to 9 Years of Tenure Relative to Statewide Average Has Continued to Increase since 2018

- + Percentage change in relative claim frequency is calculated from 2018 to 2020 and from 2020 to 2022.

Chart 10: Workers with Tenure Less than 1 Year in Physical Labor Industries More than 3 Times as Likely to Have a Claim

- + For each industry group, claim frequency for each tenure group is calculated as the claim count per 10,000 California workers in the insured system. The methodology for estimating claim frequency by tenure group for each industry group is described in the Research Methods section. The relativity claim frequency of each tenure group and of each industry group shown in the chart is calculated as the claim frequency in the corresponding group relative to the statewide average.

More Info and Sources

Source Data for Charts 11–22: WCIRB indemnity transaction data and WCIRB Unit Statistical Report data of indemnity claims for AY 2020 through 2022. The Unit Statistical Report data is valued at approximately 18 months after policy inception. Charts 14 and 15 also include analysis of WCIRB medical transaction data of indemnity claims for AY 2020 through 2022. Claims for AY 2020 include those with an accident month between April and December, while claims for AY 2022 represent those reported on 2021 policies in WCIRB Unit Statistical Report data.

Chart 11: Younger Workers More Likely to be Shorter-Tenured; Service Workers Tend to Be Younger in All Tenure Groups

- + The age information represents a worker's age at the time of injury.
- + Source: BLS: Employee Tenure in 2022. BLS: Employee Tenure in 2020. Penn R. and Huang V. (2023). Job Openings Reach Record Highs in 2022 as the Labor Market Recovery Continues. *Monthly Labor Review*, BLS.

Chart 12: Lower Average Weekly Wage for Injured Workers with Shorter Tenure

- + The average weekly wage information represents the pre-injury weekly wage.

Chart 13: Shorter-Tenured Workers More Likely to Experience Fall, Struck or Cut Injuries and Less Likely to Have Strain Injuries

- + For each tenure group, the share of indemnity claims by cause of injury for workers aged 16–34 is calculated as the number of indemnity claims within each cause of injury relative to all indemnity claims.
- + Source: Loss Prevention COMPInsiders® by Summit: Workplace Injuries and Employee Tenure. 2023 Travelers Injury Impact Report.

Chart 14: Shorter-Tenured Workers More Likely to Experience Minor Wounds and Less Likely to Have Soft Tissue Disorders

- + The chart is based on the primary medical diagnosis for the injury involved in each claim. Primary medical diagnosis was developed based on an algorithm using International Classification of Diseases information, medical transactions and payment information during the first 90 days from the first medical services on the claim.

Chart 15: Shorter-Tenured Workers More Likely to Need Initial Emergency Room Care, More So for Those Aged 16–34 & Those in Physical Labor Industries

- + Emergency room care is identified in WCIRB medical transaction data using the medical procedure code information.

Chart 16: Higher Share of Cumulative Trauma Indemnity Claims for Workers with Tenure Longer than 1 Year

- + Cumulative trauma (CT) claims are defined as claims with loss type code of 02 or 03 or nature of injury code of 71, 78 or 80 reported in WCIRB Unit Statistical Report data.

Chart 17: Higher Share of Cumulative Trauma Indemnity Claims for Health Care & Education and Office-Based Workers

- + CT claims are defined as claims with loss type code of 02 or 03 or nature of injury code of 71, 78 or 80 reported in WCIRB Unit Statistical Report data.

More Info and Sources

Chart 18: Similar Share of Indemnity Claims Involving Temporary Disability Only among Workers of Different Tenure, except among Those Aged 16–34

- + Claims involving temporary disability (TD) only include indemnity claims that do not involve permanent disability (PD) or fatality.
- + For each age group, the share of indemnity claims involving TD only by tenure group is calculated as the number of TD claims relative to all indemnity claims in the same tenure group.

Chart 19: Similar Share of Indemnity Claims Involving Permanent Disability among Workers of Different Tenure, except for Those Aged 16-34

- + Claims involving PD include those involving permanent partial disability and those involving permanent total disability.
- + For each age group, the share of indemnity claims involving PD by tenure group is calculated as the number of PD claims relative to all indemnity claims in the same tenure group.

Chart 20: Workers in Physical Labor & Service-Providing Industries More Likely to Have Injuries Resulting in Permanent Disability with Increased Tenure

- + Claims involving PD include those involving permanent partial disability and those involving permanent total disability.
- + For each industry group, the share of PD claims by tenure group is the number of PD claims relative to all indemnity claims in the same tenure group.

Chart 21: Average Incurred Losses Increase with Tenure, Largely Driven by Indemnity

- + The upper chart shows the average incurred losses by tenure group and age group and includes incurred medical and indemnity losses. The total incurred losses are limited to \$500,000 per claim.
- + The lower chart shows the average incurred medical and indemnity losses separately and includes incurred medical and indemnity losses that are not limited.

Chart 22: Difference in Average Incurred Losses by Tenure More Pronounced among Service Workers

- + The average incurred losses are incurred losses limited to \$500,000 per claim and include both incurred medical and indemnity losses.

Conditions and Limitations

- + Estimated tenure distribution of all California workers.** Using the Census Bureau's CPS tenure supplement data, the tenure distribution is estimated for all private salary and wage employees in California and does not include data of public sector employees who constitute the majority of those in the self-insured system across industries, except for the health care sector. Although the underlying data for the tenure distribution may include employees of private self-insured employers, it is unlikely to represent a large share of employees. The analysis was conducted under the assumption that the distribution of tenure is comparable between employees of private insured and private self-insured employers.
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- + Future projections can differ from estimates based on current data.** WCIRB estimates were based on information available at the time of this study. If subsequent information becomes available that changes the basis of our assumptions, these estimates could be affected.
- + Individual insurer results can differ.** The amounts and ratios shown represent statewide totals based on the amounts reported by insurers writing workers' compensation insurance in California. The results for any individual insurer can differ significantly from the statewide average. An individual insurer's results are related to factors such as its underwriting book of business, claims and reserving practices as well as the nature of its reinsurance arrangements.
- + Unaudited data from third parties.** The information presented herein may have relied upon publicly available sources of information. While in such circumstances we deemed the sources credible for the purposes for which we used the information, we did not independently validate the underlying information.
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