

## Demographic Shifts and Medical Utilization

by Yariv Fadlon, Casan Scott, Chase Rice, and Mike Lambesis

### Key Takeaways

- Age and gender gaps in medical care are driven by diagnosis mix, treated comorbidities, and job types
- Claims for workers aged 65 and older have doubled since 2012 and require 21% more care on average, primarily due to chronic health conditions and diagnoses
- Claims for male workers require 28% more care on average than claims for female workers, primarily due to industry mix and diagnosis types

### What Drives Differences in Medical Utilization Across Demographics?

At NCCI's [Annual Insights Symposium \(AIS\) 2026](#), Paul Hendrick and Raji Chadarevian's separate presentations highlighted how demographic shifts relate to broader claim patterns. While Hendrick focused primarily on the differences in medical utilization between older and younger workers, Chadarevian examined patterns across both age and gender groups.

These findings align with broader industry research,<sup>1</sup> demonstrating that concurrent health conditions and degenerative comorbidities significantly increase treatment intensity. Building directly on these insights, this paper takes a deeper look into NCCI medical claims data to isolate the specific drivers of medical utilization across age and gender demographic groups.

While demographic shifts are clear at the surface level, differences in medical utilization across demographic groups operate primarily through three key variables: diagnosed medical conditions, industry class, and treated comorbidities (including underlying chronic health conditions).

Age matters because it can reflect underlying physical vulnerabilities and a longer, more complex medical history, rather than directly determining treatment. Consider a common workplace event like a slip and fall. The exact same physical fall that results in a minor bruise for a 20-year-old worker is more likely to result in a far more serious diagnosis, such

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<sup>1</sup>[Workers Compensation Research Institute, March 27, 2025](#); [NCCI, October 2012](#).

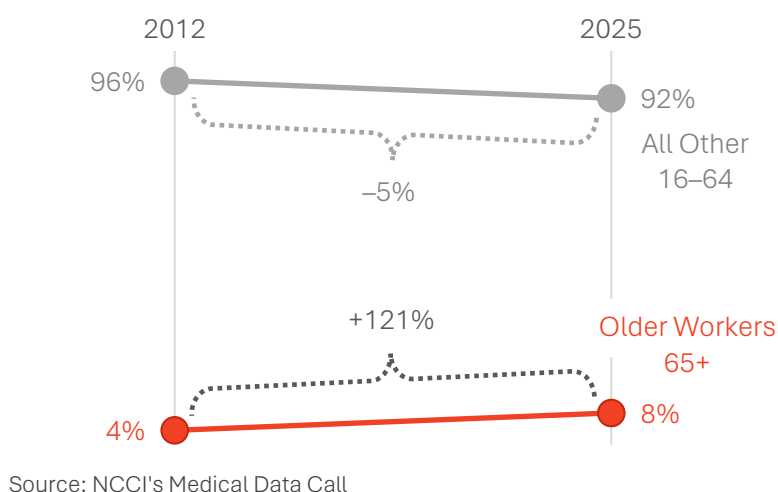
as a fracture, for a 60-year-old worker. The higher medical utilization for the older worker is driven by the fracture diagnosis and any treated comorbidities present during recovery, not by age itself.

Gender differences follow a similar pattern. Lower average medical utilization among female workers is not caused by women seeking healthcare differently. Instead, the utilization gender gap is driven by how men and women are represented across industry classes and the resulting diagnosis mix.

### Aging Workforce and the Drivers of Higher Medical Utilization Among Older Workers

While the broader workforce is aging, the impact on workers compensation is even more pronounced. As shown at [AIS 2026](#), older workers represent a larger share of medical claims than their share of the overall labor force. Because claims of older workers require substantially more medical care, this overrepresentation significantly increases the industry exposure to rising medical costs.

Claim Share Has Doubled for Older Workers  
Share of Lost-Time Claims



Specifically, the share of lost-time claims involving workers aged 65 and older doubled, rising from 4% in Accident Year 2012 to 8% in 2025.

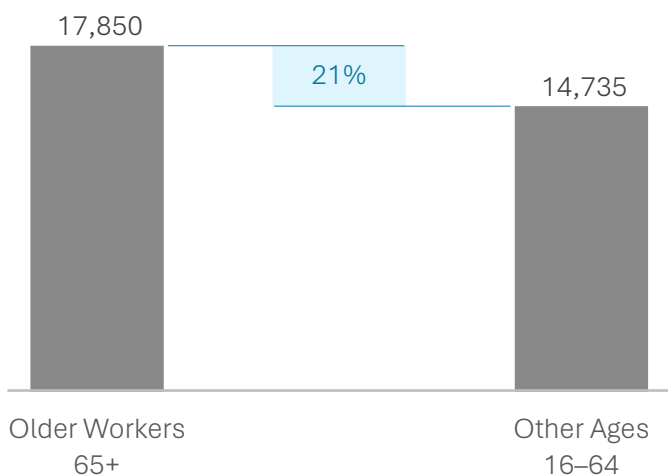
To quantify differences in medical care, we use NCCI's utilization measure, introduced at [AIS 2024](#). The measure does not have a natural unit; instead, it reflects the overall intensity of medical services used, with higher values indicating greater utilization. Because the measure is relative, a value that is twice as high represents twice the amount of medical services used.

Although medical costs are often used to compare different types of claims, utilization more clearly measures differences in the amount of care received. Medical costs reflect both the quantity of services and their prices, whereas utilization isolates differences in treatment intensity. For example, an older worker who slips and falls may require more prescription medications than a younger worker with a comparable injury. The older

worker's claim will likely incur higher pharmacy costs because more medications are prescribed, but the price of each medication is not related to the worker's age.

In the NCCI claims data, this utilization age gap is substantial. On average, older injured workers have a utilization level of 17,850, about 21% higher than that of younger injured workers. With the [Bureau of Labor Statistics \(BLS\)](#) projecting continued growth in the share of older workers, this higher level of utilization is going to put upward pressure on overall medical intensity and claim severity. Assessing the potential impact of an aging workforce therefore requires understanding what drives the higher utilization observed among older workers.

Claim Intensity Is 21% Higher for Older Workers  
Medical Utilization Units



Age-gap differences are largely explained by three out of the four characteristics:

- ✓ comorbidity treated with the injury
- ✓ the primary diagnosed condition
- ✓ cause of injury to the worker
- industry of the injured worker

Any remaining differences are attributed to factors outside of this model.

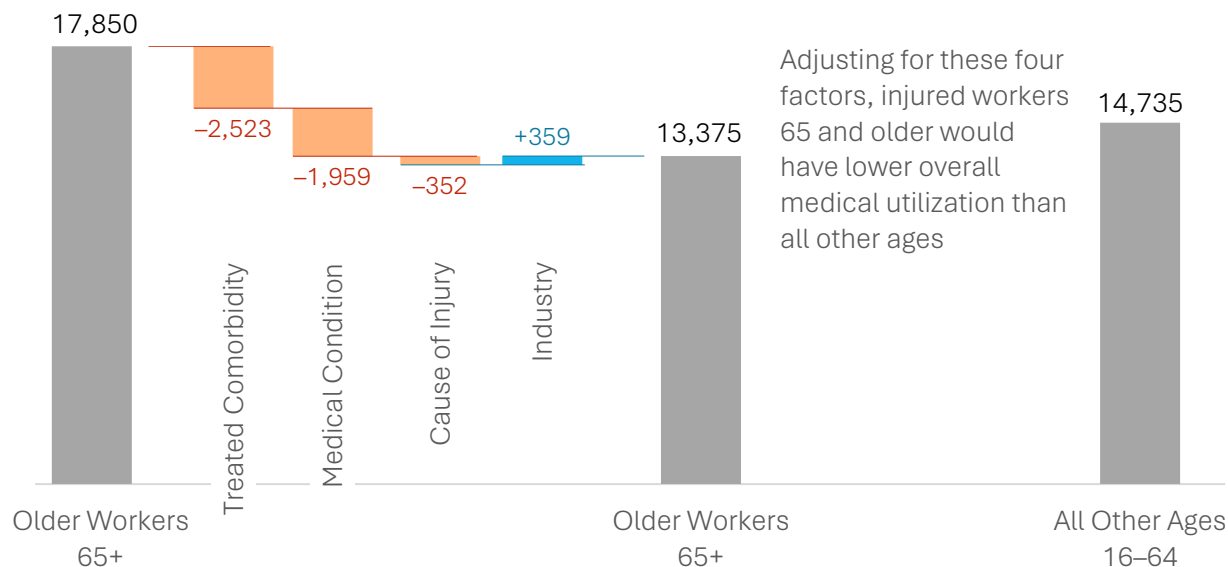
Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016–2023

Older and younger injured workers differ across key characteristics that affect medical care. To isolate these factors, we use an Oaxaca-Blinder decomposition on four variables: cause of injury, industry class, primary diagnosed medical condition, and treated comorbidity.

This method shows how much of the utilization gap is driven by differences in claim characteristics, as represented by our four variables. If both groups had identical characteristics, any remaining difference would reflect treatment variations or factors not measured by the model.

The chart below breaks down the contribution of each factor to the overall utilization gap.

#### Age Gap Decomposition: Older Workers and Everyone Else Medical Utilization Units



Lost-time claims valued eight quarters from date of injury experience

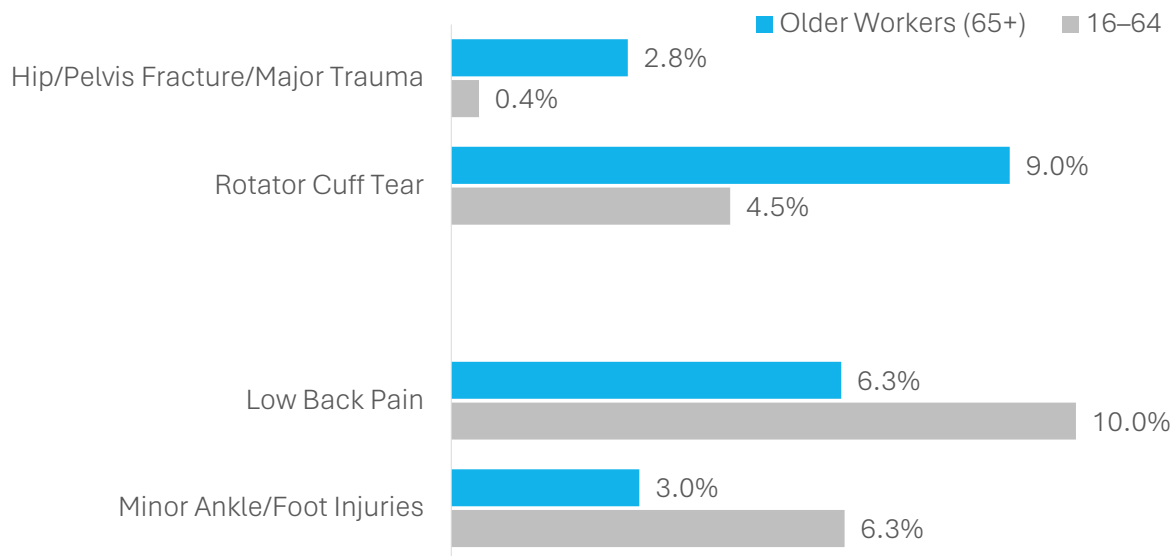
Source: NCCI's Medical Data Call, Accident Years 2016-2023

Medical conditions account for 1,959 utilization units, or approximately 63% of the age gap. If older workers had the same distribution of diagnosed medical conditions as younger workers, the utilization gap would fall from 21% to 8%. Older workers are more likely to experience injuries associated with serious medical conditions that require more extensive treatment. Younger workers, by comparison, are more likely to have injuries associated with lower levels of medical care.

Four medical conditions account for most of this effect, representing approximately one in five claims. Rotator cuff tears and hip or pelvis fractures are more common among older workers and are associated with higher utilization. By contrast, low back pain and minor ankle or foot injuries are more common among younger workers and generally require less treatment. Together, these four conditions account for 1,722 utilization units of the age gap.

## Older Workers Are More Likely to Have Intense Medical Conditions

### Share of Lost-Time Claims by Medical Condition



Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016–2023

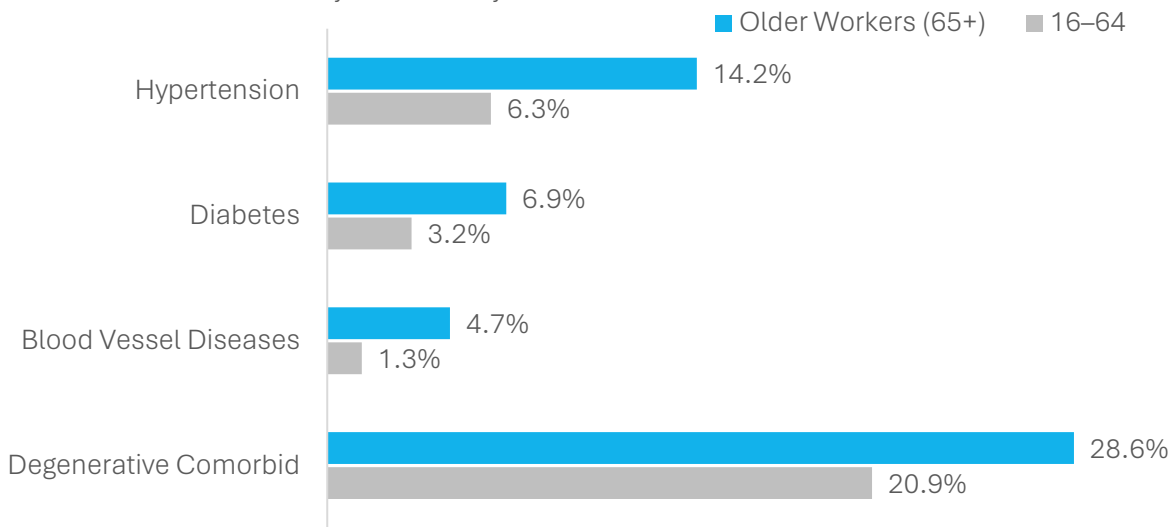
Treated comorbidities have an even larger association with the age-related utilization gap. If older workers had the same distribution of treated comorbidities as younger workers, the age gap in utilization would decrease from 21% to only 4%. The magnitude of this effect is substantial and consistent with prior research, showing that older individuals are more likely to have comorbid conditions that can complicate recovery and increase medical treatment needs.<sup>2</sup>

The combined contribution of diagnosed medical conditions and treated comorbidities exceeds the observed age gap in utilization (1,959 plus 2,523 versus 3,115 units). This means, after adjusting for differences in these two factors, the decomposition estimates that older workers would have 9% lower utilization than younger workers. In other words, age alone is not a useful predictor of medical utilization once differences in diagnosed medical conditions and treated comorbidities are considered.

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<sup>2</sup>[Workers Compensation Research Institute, March 27, 2025](#); [NCCI, October 2012](#).

### Top Four Treated Comorbidities Drive the Age Gap in Medical Utilization Share of Lost-Time Claims by Comorbidity



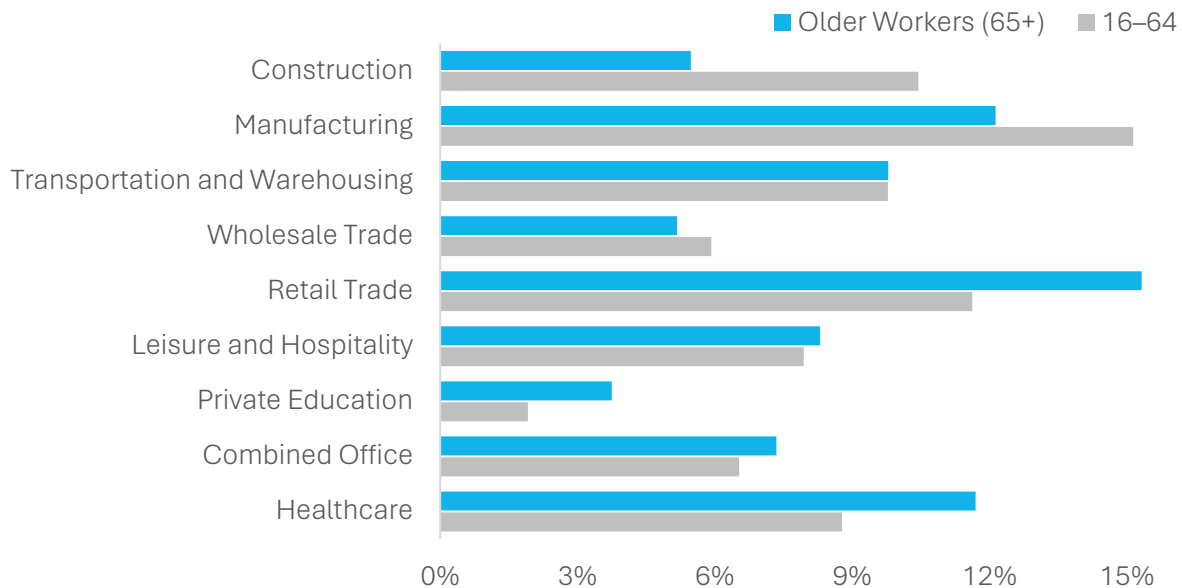
Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016–2023

Industry mix has a much smaller effect and actually works in the opposite direction. If older workers had the same industry distribution as younger workers, the utilization gap would increase from 21% to 24%. This suggests that older workers are more concentrated in industries that are associated with less serious injuries.

Two industries drive most of this result. Older workers are less likely to work in construction, an industry associated with more serious injuries, and more likely to work in healthcare, where average utilization is below the overall average. As a result, the industry distribution of older workers partially offsets the utilization increases associated with medical conditions and comorbidities.

## Older Workers' Claims: Less in Construction, More in Healthcare

Share of Lost-Time Claims by Industry



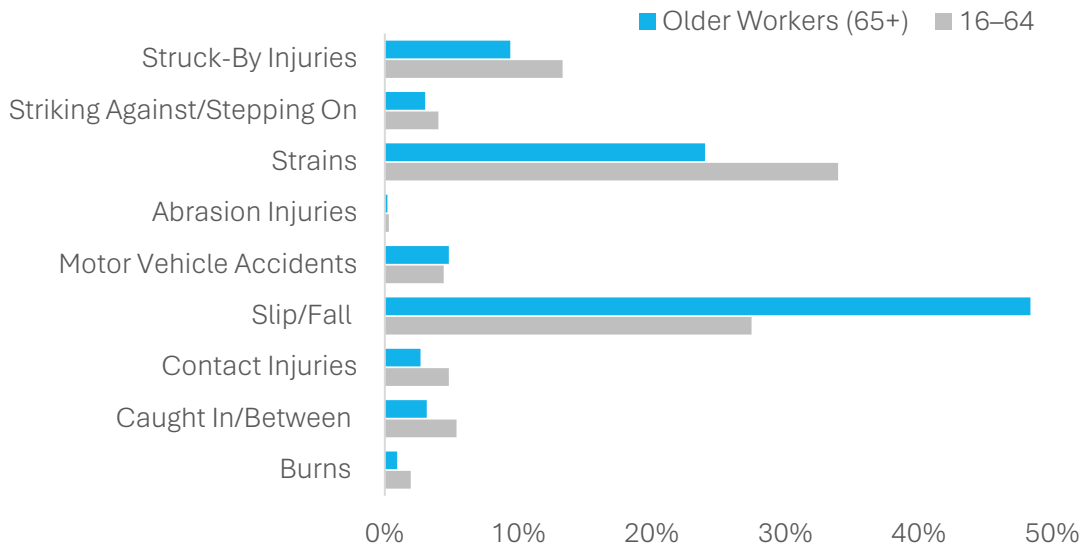
Lost-time claims valued eight quarters from date of injury experience

Source: NCCI's Medical Data Call, Accident Years 2016–2023

Finally, the actual cause of the injury plays a small part in the age gap. Older workers are twice as likely to slip and fall compared to younger workers. On the other hand, younger workers are more prone to strains, cuts, and burns. Because these different types of injuries balance each other out, their final impact on the age gap is small. If older employees had the same mix of injury causes as younger workers, the gap would drop by 352 units, bringing the total difference down from 21% to 19%.

## Older Workers Are Twice as Likely to Slip/Fall

Share of Lost-Time Claims by Cause of Worker Injury



Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016-2023

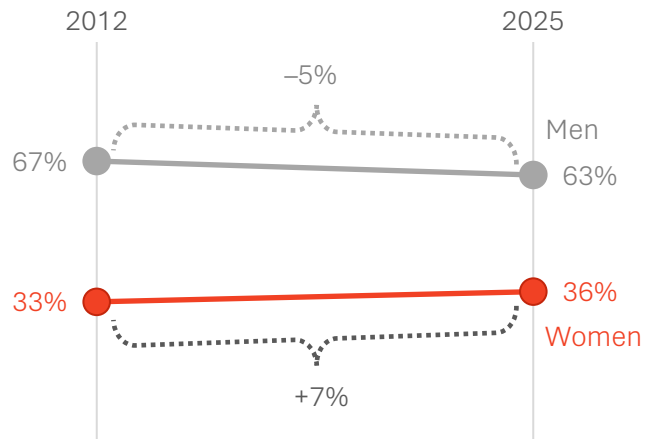
## Women in the Workforce and the Drivers of Lower Medical Utilization

The share of claims involving female workers also increased over the study period, rising from 33% in Accident Year 2012 to 36% in 2025.

Medical utilization also varies noticeably by gender, with male workers receiving 3,525 more utilization units, or 28% more medical services, than female workers.

### Women Have an Increased Portion of Claims

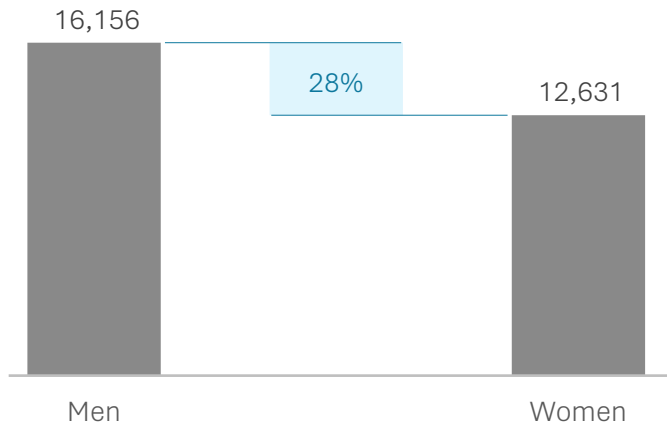
Share of Lost-Time Claims



Source: NCCI's Medical Data Call

Because male and female workers are often concentrated in distinct industries and frequently perform varying tasks within the same industry, they face different occupational hazards, resulting in different levels of injury intensity. In addition, females might have different types of chronic comorbidities than males. To determine how much each of these factors contributes to the gender gap, we apply the same Oaxaca-Blinder decomposition used in the age analysis.

## Claim Intensity Is 28% Higher for Male Workers Medical Utilization Units



Gender-gap differences are also explained by three out of the four characteristics, but different from age:

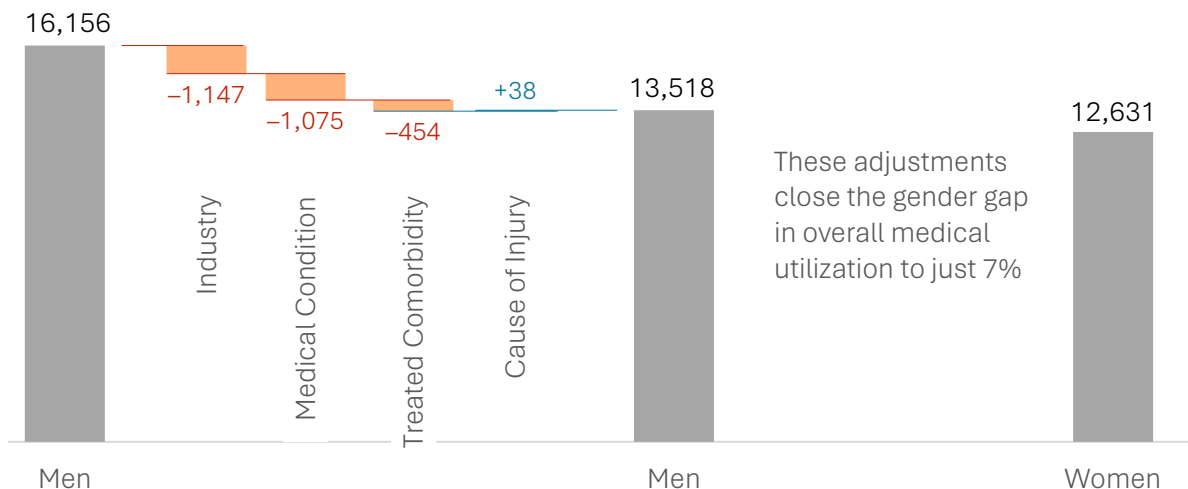
- ✓ industry of the injured worker
- ✓ the primary diagnosed condition
- ✓ comorbidity treated with the injury
- the cause of injury to the worker

Any remaining differences are attributed to factors outside of this model.

Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016–2023

The chart below summarizes the estimates from the Oaxaca-Blinder decomposition model. Industry mix and diagnosed medical conditions explain nearly the entire gender gap, with comorbidities and injury cause playing minor roles.

## Four Factors Explain Two-Thirds of the Gender Gap for Injured Workers Medical Utilization Units



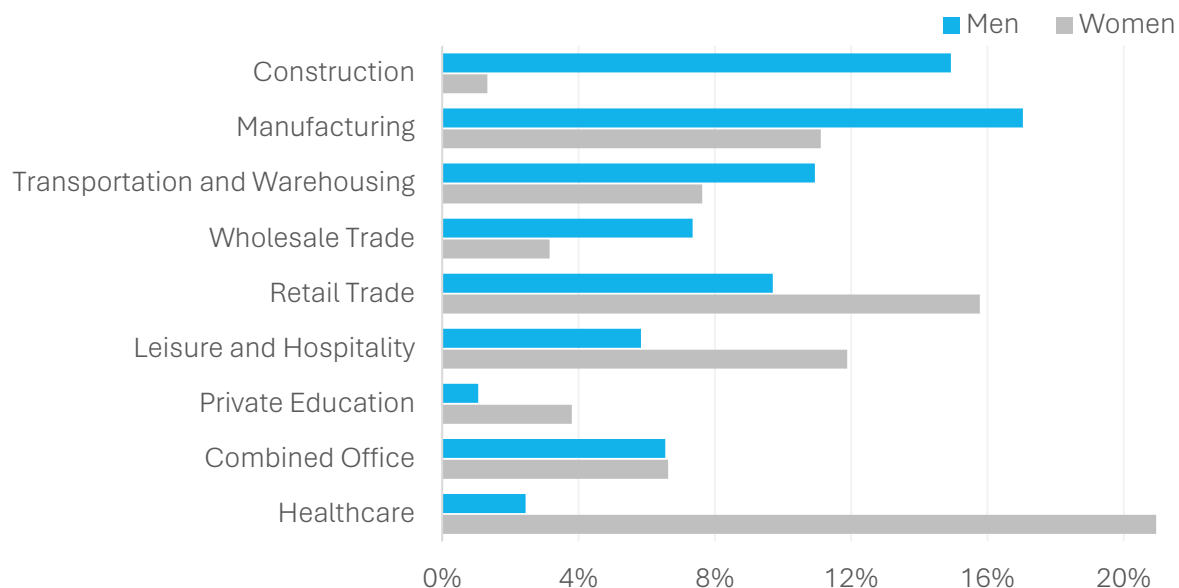
These adjustments close the gender gap in overall medical utilization to just 7%

Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016–2023

As in the age analysis, men and women work in different industries. However, these differences are much larger by gender and have a much bigger impact on medical utilization. Industry mix explains 1,147 utilization units. If male workers had the same industry distribution as female workers, the utilization gap would decline from 28% to 19%.

Two industries account for most of the effect: construction and healthcare. Among the injured male workers, 16% work in construction, compared with only 1% of injured female workers. By contrast, 21% of injured female workers are employed in healthcare, compared with only 2% of injured male workers. Because construction is associated with more serious injuries that require more medical care and healthcare is associated with less serious injuries that require less medical care, differences in these two industries explain about one-quarter of the overall gender gap. If men and women had the same distribution of claims across construction and healthcare, the utilization gap would decline from 28% to 21%.

Construction and Healthcare Explain Much of Industry's Role in the Gender Gap  
Share of Lost-Time Claims by Industry



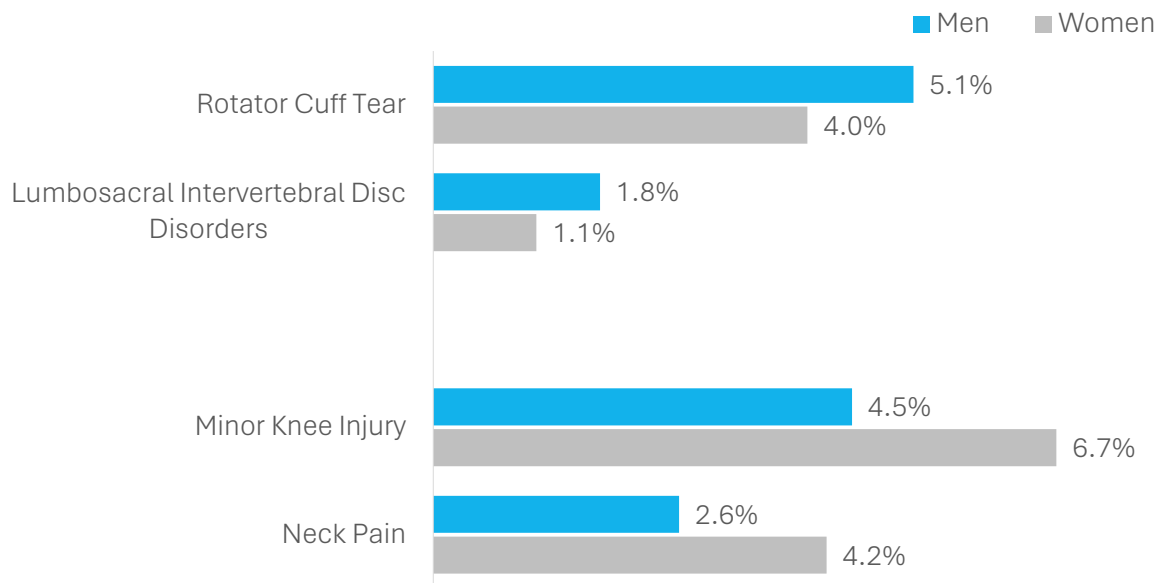
Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016–2023

Diagnosed medical conditions explain another 1,075 utilization units, or about 31% of the gender gap. Male workers are more likely to experience injuries associated with conditions that require more treatment, while female workers are more likely to experience conditions associated with lower utilization.

The largest medical condition contributors to the gender gap are disc disorders and rotator cuff tears, which are more common among male workers and are associated with higher utilization. By contrast, neck pain and minor knee injuries are more common among female workers and tend to require less treatment. Together, these four conditions explain about 15% of the overall gender gap.

#### Men Are More Likely to Have Intense Medical Conditions

Share of Lost-Time Claims by Medical Condition



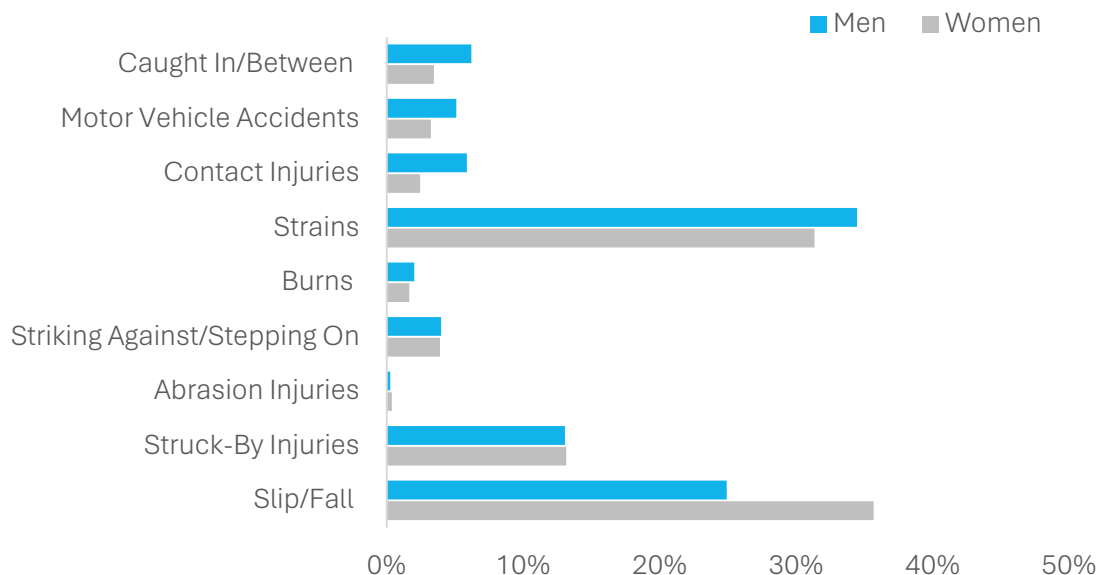
Lost-time claims valued eight quarters from date of injury experience

Source: NCCI's Medical Data Call, Accident Years 2016–2023

Comorbidities explain 454 utilization units, or about 13% of the gender gap. If male workers had the same distribution of treated comorbidities as female workers, the utilization gap would decline from 28% to 24%. Even though the share of comorbidities is similar across genders, the types of comorbidities can vary greatly. That means that not all comorbidity categories contribute equally to the overall gender gap. Male workers are more likely to be treated for hypertension, substance abuse, diabetes, and vascular disease. Female workers are more likely to be treated for degenerative conditions, mental health conditions, and chronic obstructive pulmonary disease (COPD).

## Injury Cause Does Not Close the Gender Gap

Share of Lost-Time Claims by Cause of Worker Injury



Lost-time claims valued eight quarters from date of injury experience

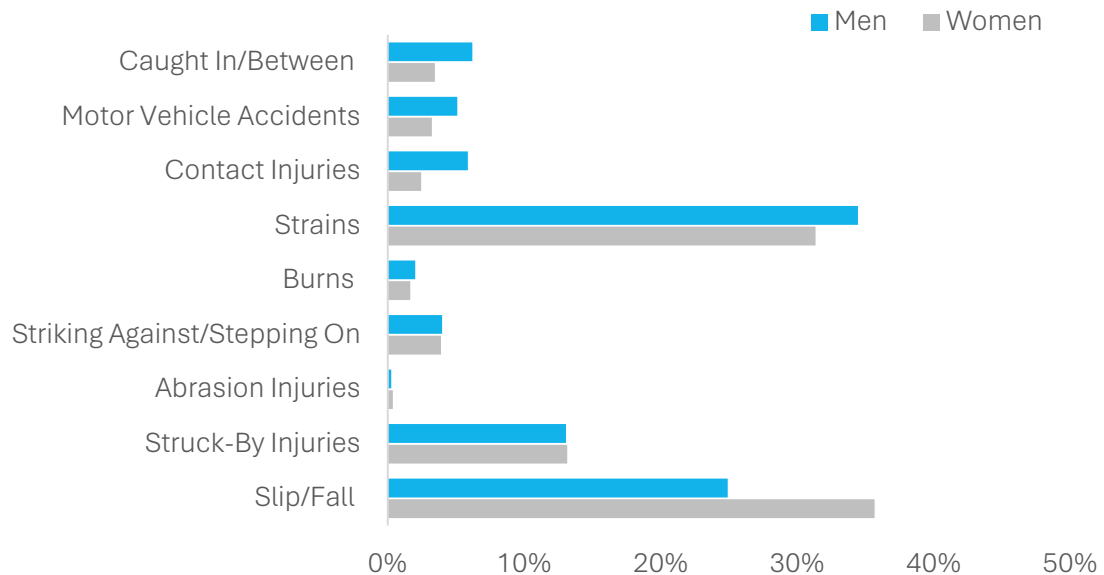
Source: NCCI's Medical Data Call, Accident Years 2016–2023

Cause of injury explains only a small share of the overall gender gap. Differences in injury causes account for only 38 utilization units, or 1% of the gap.

Female workers are more likely to experience falls, slips, and trips, which tend to be associated with higher utilization. Male workers are more likely to experience strains, cuts, motor vehicle accidents, and injuries involving objects or equipment.

## Injury Cause Does Not Close the Gender Gap

### Share of Lost-Time Claims by Cause of Worker Injury



Lost-time claims valued eight quarters from date of injury experience  
Source: NCCI's Medical Data Call, Accident Years 2016–2023

Taken together, if male injured workers had the same industry mix, medical conditions, comorbidity profile, and causes of injury as female injured workers, the gender gap in medical utilization would fall from 28% to 7%.

### Conclusion

This study examines how changes in the age and gender demographic of injured workers relate to medical utilization and what factors explain those differences. The estimates show that utilization gaps across demographic groups operate primarily through differences in jobs, injuries, and underlying health conditions rather than age or gender themselves. As the workforce evolves, demographic shifts will reshape the distribution and shares of these key claim characteristics and comorbidities, which in turn will drive changes in expected claim intensity. Understanding these underlying drivers can help improve future utilization projections and provide valuable insight into emerging trends in workers compensation medical severity.

## Appendix A: Data

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

This study uses medical claims from 37 states and the District of Columbia.<sup>3</sup> The analysis of claim shares is based on accident-year data spanning 2012 through 2025. Medical utilization analyses are also conducted at the accident-year level and include claims from Accident Years 2016 through 2023, with utilization measured over the first eight quarters (two years) following the injury. Because each claim is observed for two years after the accident date, medical bills are accumulated through Calendar Year 2025.

The analysis of medical conditions is limited to the 41 conditions with the highest aggregate medical costs. This restriction is motivated by the decomposition framework used to examine gender and age differences in medical utilization. Rare conditions often account for a small share of claims and exhibit limited variation, making it difficult to estimate their contribution to utilization differences with precision. By focusing on the most prevalent and costly conditions, the analysis captures the conditions responsible for most medical spending while ensuring sufficient variation to explain observed utilization gaps across demographic groups.

Comorbidities are identified using NCCI's definition of comorbidities and are limited to treated comorbidities, meaning conditions for which medical treatment was provided and paid for by the insurance carrier. As a result, the comorbidities included in the analysis have a direct impact on medical costs and utilization. This approach focuses on conditions that contribute to the medical burden of a claim rather than any underlying health conditions that may be present but do not generate medical treatment or costs directly.

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<sup>3</sup>The following states are included: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VA, VT, and WV.