



Washington State Department of
Labor & Industries

Work-Related Immediate Inpatient Hospitalizations in Washington State

2023 Annual Report to the Legislature

August 2023

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Executive Summary

In 2019, the Washington State Legislature first provided funding to the Department of Labor & Industries' (L&I) Safety and Health Assessment and Research for Prevention (SHARP) program to develop a tracking system for work-related immediate inpatient hospitalizations and their likely causes. This is the fourth annual report updating the governor and legislature on the program's progress.

SHARP uses the work-related immediate inpatient hospitalization surveillance system to identify workplace injuries and illnesses that result in inpatient hospital admission within one day of the incident by linking hospital discharge data from the Washington State Department of Health's Comprehensive Hospital Abstract Reporting System (CHARS) with workers' compensation claim information from L&I.

Preliminary analysis of surveillance system data found that 588 Washington workers suffered work-related immediate inpatient hospitalizations in 2022.¹ Other key takeaways include:

- Construction industry workers again experienced the highest number and rate of immediate hospitalizations, but both were lower in 2022 than in the previous year.
- Falls from elevation remain the leading cause of hospitalized injury.
- Among women, more than half of hospitalized workers were 55 or older.
- Nearly one in five hospitalized workers requested to receive claim information in a language other than English; 18% of hospitalized claimants requested Spanish correspondence.

Industry-focused injury-prevention publications developed in the last year using surveillance system information included hazard alerts regarding:

- falls from elevation in the construction industry;
- conveyor injuries in agriculture; and
- forklift hazards in warehousing.

In addition, L&I published two one-page data summaries and a technical report providing more detail about work-related immediate inpatient hospitalizations in 2021.²

L&I's priorities for the coming year will be to publish a technical report further detailing work-related immediate inpatient hospitalizations for 2022, and continue analyzing specific hospitalized injuries in the manufacturing and construction industries. L&I continues working to improve and evaluate the tracking system, and to use the data to identify hazards and workers at risk and prioritize prevention activities.

¹ Based on date of hospital discharge.

² Work-Related Immediate Inpatient Hospitalizations-Washington State, 2021: https://lni.wa.gov/safety-health/safety-research/files/2023/96_09_2023_WorkRelatedImmediateInpatientHospitalizations_2021_Final.pdf

Introduction

A work-related immediate inpatient hospitalization is defined as a workplace injury or illness that results in inpatient hospital admission within one day of the incident. Work-related injuries that require immediate hospitalization are severe and costly, and can cause permanent disability. These injuries are preventable.

The work-related immediate inpatient hospitalization surveillance system links CHARS hospital discharge data to Washington workers' compensation State Fund and Self-Insured claim information to identify work-related injuries resulting in immediate hospital admission.³ These records provide valuable insight into a range of helpful data — from worker demographics to industry, occupation, and injury/illness classification codes.

Preliminary information about work-related immediate inpatient hospitalizations in 2022 are included in this report. A more detailed analysis will be published in a technical report in 2024.

Also included are synopses of information published in two one-page data summaries about injuries among hospitalized women and hospitalizations in the wood products manufacturing industry.

Prevention activities for 2022–2023 focused on hospitalization hazards identified through the work-related immediate inpatient hospitalization surveillance system, including injuries caused by falls from elevation in the construction industry, conveyor equipment hazards in the agriculture industry, and risks of working around forklifts in the warehousing industry.

2023 Progress

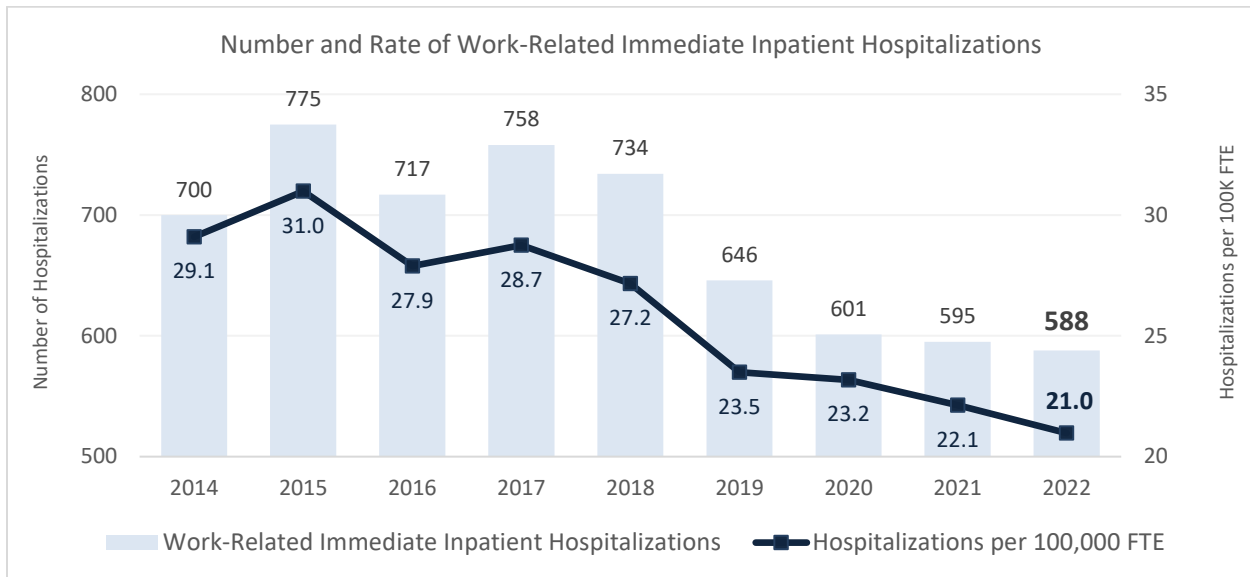
WORK-RELATED IMMEDIATE INPATIENT HOSPITALIZATIONS, 2022

In 2022, 588 Washington workers suffered work-related injuries or illnesses that required immediate hospitalization, a rate of 21.0 hospitalizations per 100,000 full-time equivalents (FTE) (Figure 1).⁴ Overall, both the annual number and rate of hospitalizations were the lowest yet observed.

³ Washington employers are required to obtain workers' compensation insurance through L&I's State Fund, unless they meet requirements to self-insure or are covered by an alternative system. Approximately 70% of Washington workers are covered through the State Fund. L&I administrative data collected for Self Insured claims is limited, including hospital admission and discharge information.

⁴ The data in this report are preliminary and may be revised due to updated information.

Figure 1. Number and Rate of Work-Related Immediate Inpatient Hospitalizations, Washington State, 2014–2022.



Workers

In 2022, men accounted for more than 80% of immediately hospitalized workers (n=480, 81.6%). There were 108 work-related immediate inpatient hospitalizations among women.

Overall, the highest number of hospitalized workers were in the 55- to 64-year-old age group, accounting for more than a quarter of immediate hospitalizations in 2022 (Figure 2).

Among women, over half of hospitalized workers were age 55 or older (n=63, 58.3%). Nearly 36% of hospitalized men were in this age range (Figure 3).

Figure 2. Work-Related Immediate Inpatient Hospitalizations by Age Group, 2022.

Age Group	Hospitalizations	Percent
18 and under	5	0.9%
19–24	35	6.0%
25–34	100	17.0%
35–44	116	19.7%
45–54	98	16.7%
55–64	156	26.5%
65 and above	78	13.3%
Total	588	100.0%

Figure 3. Work-Related Immediate Inpatient Hospitalizations by Age and Gender, 2022.

Age Group	Women (% Women)	Men (% Men)
24 and under	8 (7.4%)	32 (6.7%)
25–54	37 (34.3%)	277 (57.7%)
55 and over	63 (58.3%)	171 (35.6%)

Industry

In 2022, workers in Washington’s Construction industry sector (NAICS 23) again experienced the highest number and rate of work-related immediate inpatient hospitalization (n=142) (Figure 4).⁵ While still accounting for nearly one-quarter of immediate hospitalizations, both the number and rate of construction industry hospitalizations were lower than in 2021 (Figure 5).

The three industry sectors with the next highest case numbers accounted for another quarter of 2022 hospitalizations: Administrative and Support and Waste Management and Remediation Services, NAICS 56 (n=49); Manufacturing, NAICS 31–33 (n=49); and Agriculture, Forestry, Fishing and Hunting, NAICS 11 (n=48).

Figure 4. Work-Related Immediate Inpatient Hospitalizations by NAICS Industry Sector, 2022.

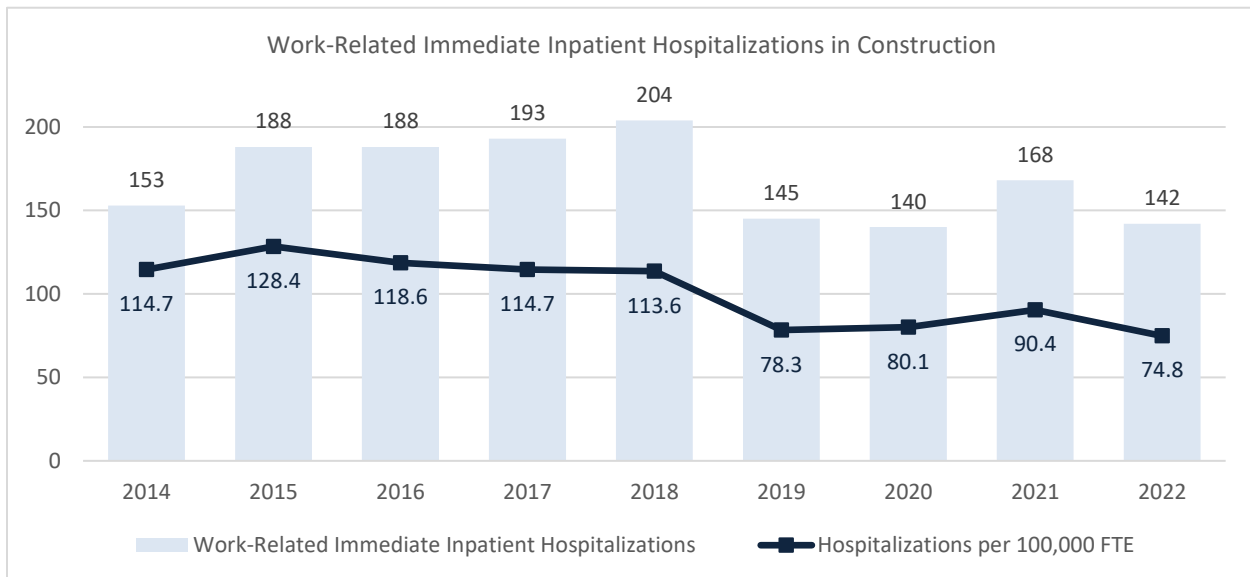
NAICS Industry Sector Code and Description*	Hospitalizations‡ (%)	Rate per 100,000 FTE
23: Construction	142 (24.1%)	74.8
56: Administrative and Support and Waste Management and Remediation Services	49 (8.3%)	22.7
31-33: Manufacturing	49 (8.3%)	21.5
11: Agriculture, Forestry, Fishing and Hunting	48 (8.2%)	54.1
44-45: Retail Trade	47 (8.0%)	16.9
48-49: Transportation and Warehousing	43 (7.3%)	47.7
62: Health Care and Social Assistance	38 (6.5%)	9.6
92: Public Administration	32 (5.4%)	22.0
42: Wholesale Trade	28 (4.8%)	21.7
72: Accommodation and Food Services	28 (4.8%)	16.7
61: Educational Services	19 (3.2%)	11.7
81: Other Services (except Public Administration)	15 (2.6%)	15.8
71: Arts, Entertainment, and Recreation	10 (1.7%)	39.9
53: Real Estate and Rental and Leasing	10 (1.7%)	15.3
54: Professional, Scientific, and Technical Services	10 (1.7%)	4.3

* Industry Sectors with 10 or more hospitalizations are listed.

‡ Excludes four claims that were not assigned to an employer account.

⁵ Industries designated using the North American Industry Classification System (NAICS) code assigned to the employer account. <https://www.census.gov/naics/>.

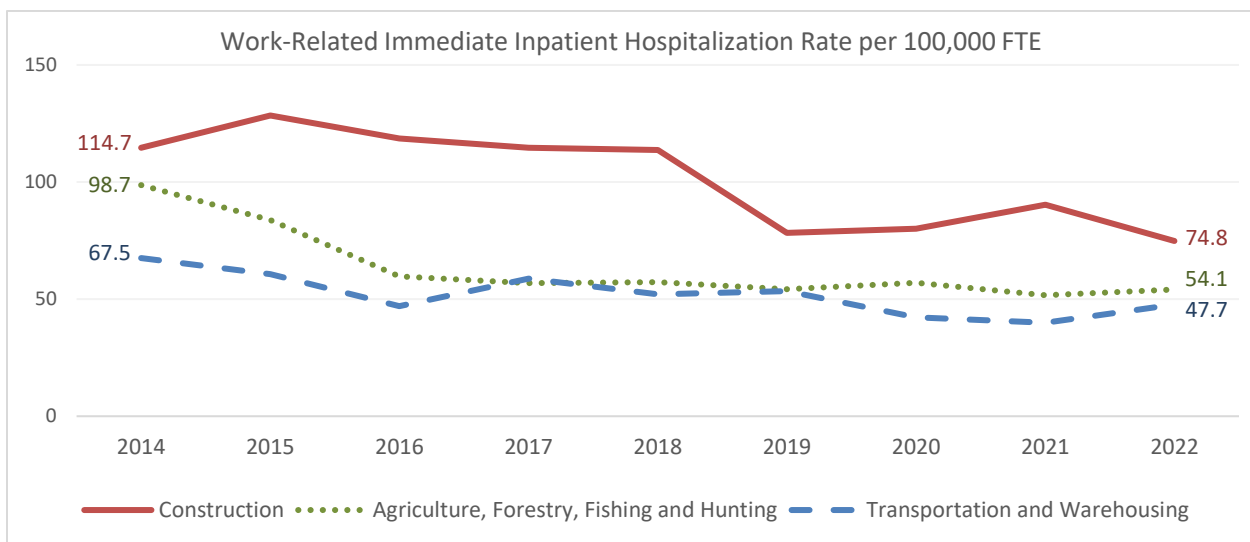
Figure 5. Number and Rate of Work-Related Immediate Inpatient Hospitalizations, Construction Industry, Washington State, 2014–2022.



The second-highest rate of worker hospitalization occurred in the Agriculture, Forestry, Fishing and Hunting industry sector, with 54.1 worker hospitalizations per 100,000 FTE. Included in this sector’s 2022 hospitalization count were 10 injured logging-industry workers.

Hospitalization rates in the three highest-rate industry sectors — Construction; Agriculture, Forestry, Fishing and Hunting; and Transportation and Warehousing — have all declined from 2014 to 2022 (Figure 6).

Figure 6. Decline in Rate of Work-Related Immediate Inpatient Hospitalizations in High-Rate Industry Sectors, 2014 to 2022.



Injury Event

In 2022, falls from elevation were again the leading cause of work-related immediate inpatient hospitalizations. Falls from ladders were the most common type of fall.

Falls on the same level and being struck by objects or equipment were the next most frequent causes of injury leading to worker hospitalization.

These were the same top three causes of injury as in prior years.

Employers

In 2022, 486 claims (82.7%) for immediately hospitalized injuries were among workers whose employers received workers' compensation coverage through the Washington State Department of Labor & Industries industrial insurance state fund, and 102 (17.3%) were among self-insured employers.

Workers at small employers again experienced higher hospitalized injury rates than those at larger employers. The smallest employers — those with 10 or fewer FTEs, had an immediate inpatient hospitalization rate of 42.4 per 100,000 FTEs, nearly four-times that of the largest employers (Figure 7).

Figure 7. Work-Related Immediate Inpatient Hospitalizations by Employer Size, 2022.

Employer Size	Hospitalizations	Percent	Rate per 100,000 FTE
Less than or equal to 10 FTE	160	27.2%	42.4
11–49 FTE	123	20.9%	26.3
50–249 FTE	116	19.7%	21.0
250–999 FTE	82	13.9%	19.1
1000 or more FTE	107	18.2%	11.0

WORK-RELATED HOSPITALIZATIONS AMONG WOMEN

Each year, women typically account for around 20% of workers who suffer job-related injuries severe enough to require immediate hospitalization in Washington. In 2022, SHARP published a one-page data summary describing these injuries among women from 2014 through 2020.⁶

More than half of hospitalizations among women were due to falls. Falls on the same level led to 41% of hospitalizations, followed by falls from elevation (15%).

⁶ SHARP Stats: [Work-Related Hospitalizations Among Women](#)

Over half of hospitalized women were 55 or older, and the percentage of hospitalizations due to falls on the same level increased with age. Nearly one-third of hospitalizations from falls on the same level were due to hip injuries.

The three industry sectors in which women experienced the highest numbers of hospitalized injuries were Health Care and Social Assistance, Retail Trade, and Educational Services.

WOOD PRODUCTS MANUFACTURING HOSPITALIZATIONS

Information from the work-related immediate inpatient hospitalization surveillance system can be used to examine trends over time in specific industries, and SHARP's analysis of worker hospitalizations in Washington's Manufacturing sector is ongoing.

In 2023, SHARP published a one-page data summary focusing on hospitalized injuries that occurred in the Manufacturing industry from 2014 through 2021.⁷ Over that time period, Manufacturing was second only to Construction in the number of workers who experienced injuries requiring immediate hospitalization.

Within the Manufacturing NAICS industry sector, workers in the Wood Products Manufacturing subsector had the highest hospitalization rate with 89.4 hospitalizations per 100,000 FTEs. This is more than three-times the hospitalization rate for the Manufacturing industry overall (27.5 per 100,000 FTEs).

More than half of Wood Products Manufacturing workers were hospitalized due to being struck by or against an object or caught in or compressed by equipment or objects. Nearly half of Wood Products Manufacturing injuries that required hospitalization occurred at sawmills.

In the coming years, L&I anticipates publishing more information about hospitalized injuries in the manufacturing industry through technical reports and data summaries.

PREVENTION PUBLICATIONS

Data from the work-related immediate inpatient hospitalization surveillance system identifies high-hazard industries, equipment, and tasks that frequently lead to worker hospitalization. From this information, SHARP creates industry-focused injury-prevention alerts: Worker Hazard Alerts and Hospitalization Hazard Alerts.

⁷ SHARP Stats: [Wood Products Manufacturing Hospitalizations](#)

Worker Hazard Alerts, developed by a certified safety professional, are available free on the L&I website and distributed to a growing list of email subscribers.^{8,9} The alerts tell the stories of real-life, on-the-job injuries that required immediate hospitalization, list safety requirements, offer injury-prevention recommendations, and provide further resources for workers and employers.

English is often not the preferred language of workers in high-hazard industries in Washington. In 2022, 19.6% of immediately hospitalized workers indicated that they preferred to receive workers' compensation claim information in a language other than English, and the majority of these workers preferred Spanish-language correspondence. For this reason, prevention material is also published in Spanish.

In addition, SHARP queries industry and other safety and health stakeholders to determine if the translation of specific alerts would increase accessibility to at-risk workers. Based on the information, SHARP publishes prevention material in other languages.

In the past year, SHARP developed the following industry-focused Worker Hospitalization Alerts, which are designed to be used interactively in safety trainings or tool box talks.

Construction

Falls from elevation continue to be the leading cause of hospitalized injuries across the Construction industry. Construction fall hazards are numerous and exist in residential, commercial, and civil construction. These falls are preventable. In the previous year, SHARP developed two Worker Hospitalization Alerts that address fall hazards. Both alerts are available in Spanish and Russian as well as English.

Roofer Falls from Extension Ladder

SHARP developed a Worker Hospitalization Alert that tells the story of a residential roofing laborer who was severely injured when the extension ladder he was climbing slipped.¹⁰

The ladder he was using to access the roof was placed at the edge of a flowerbed, with one ladder foot in the soft mulch and the other on the concrete walkway. The top of the ladder was placed against the rain gutter and did not extend properly above the roof. The worker was halfway up the ladder when the ladder feet slipped, causing him to fall with the ladder. He suffered multiple fractures in his lower back that needed surgery. He spent almost a year on modified duty.

In this case, contributing factors that created the hazardous situation included the fact that he had not been trained by his employer to recognize or respond to ladder hazards, and the ladder had not been set on a smooth, level surface or extended at least three feet above the surface of the roof.

⁸ Board of Certified Safety Professionals: <https://www.bccsp.org/CSP>

⁹ Work-Related Immediate Inpatient Hospitalization Prevention Resources: <https://lni.wa.gov/safety-health/safety-research/ongoing-projects/immediate-inpatient-hospitalizations#prevention-resources>

¹⁰ Worker Hazard Alert: [Roofer Falls From Extension Ladder](#)

Recommendations to employers to prevent similar incidents include conducting pre-shift safety meetings to discuss jobsite hazards, as well as how to move tools and materials safely, ensuring that workers are using ladders safely through training and spot-checks.

Ironworker Falls 53-feet down Elevator Shaft

The second Worker Hospitalization Alert published in the past year is about an ironworker foreman who fell while helping his crew set a steel beam over an open elevator shaft during a nightshift operation.¹¹

He was not wearing fall protection when he sat on the edge of the deck to secure one end of the steel beam. When the beam started to slip and he attempted to stop it, he was pulled from the edge and fell 53 feet down the elevator shaft into six feet of water at the bottom. The worker suffered a wrist fracture that required multiple surgeries.

In this case, contributing factors that created the hazardous situation included not wearing fall protection, as well as trying to stop the beam from falling by reaching for it.

Prevention recommendations include performing spot checks to ensure workers use fall protection correctly whenever required, considering safer options to place beams, and training and encouraging workers to be cognizant of and report hazardous situations.

Agriculture

Worker's Leg Caught in Overloaded Conveyor

Conveyor systems are used in many industries, including agriculture, but workers can be severely injured if they become entangled in a conveyor's rollers, sprockets, or belts.

SHARP developed a Worker Hospitalization Alert about a young worker at a processing plant who was severely injured while monitoring a load of potatoes being emptied from a semi-truck onto a mobile elevator conveyor.¹²

The conveyor stopped when it became overloaded and jammed from the potatoes. The worker lifted the roller guard and tried to dislodge the jam with his leg while the conveyor was still powered on. As the jam came free, his leg became entangled in the conveyor belt. This life-changing incident resulted in an above-the-knee amputation.

In this case, lack of safety training provided by the employer and a conveyor guard that was easily bypassed contributed to the hazardous situation.

Prevention recommendations included training workers to recognize and report hazards, and to reinforce training and emergency procedures through hands-on practice.

¹¹ Worker Hazard Alert: [Ironworker Falls 53-feet down Elevator Shaft](#)

¹² Worker Hazard Alert: [Worker's Leg Caught In Overloaded Conveyor](#)

Warehousing

Worker Crushed Between Two Forklifts

Forklifts are essential tools and used extensively in the warehousing industry, but they can pose serious risks to operators and those working around them.

SHARP developed a Worker Hospitalization Alert about a warehouse facility worker who was severely injured when he was crushed between two forklifts.¹³ He was standing with his back toward oncoming warehouse traffic at the same time a forklift operator backed out of a row of pallets without checking his blind spot. The standing worker was struck and pinned between two forklifts. He suffered a spine fracture and multiple pelvic fractures that required surgery followed by time in a rehabilitation facility.

In this case, several contributing factors created the hazardous situation. In addition to unsafe forklift operation, the employer had covered the forklift's back-up alarm to reduce noise, and the injured worker was standing with his back to oncoming warehouse traffic and did not see the other forklift approaching.

Recommendations to employers to prevent similar incidents include planning for safety by separating pedestrians from forklift traffic in warehouses, using manufacturer-installed safety features and keeping them in working condition, and ensuring that workers are operating forklifts safely and conducting retraining when needed.

¹³ Worker Hazard Alert: [Worker Crushed Between Two Forklifts](#)

Ongoing Priorities

In the coming years, L&I will continue to use data from the work-related immediate inpatient hospitalization surveillance system to identify hazards that put workers at risk of severe injuries. The goal remains to help decrease both the number and rate of work-related immediate inpatient hospitalizations by using information to empower workers and employers.

Ongoing, multi-year priorities for the work-related immediate inpatient hospitalization surveillance system include:

- **Analyzing specific industry hazards, including:**
 - Hospitalized injuries in manufacturing — specifically those that occur when workers are caught in or compressed by equipment or objects, and identifying machinery or equipment frequently involved in worker injury.
 - Hospitalized falls from elevation in construction — to determine common causes of falls, including identifying fall-restraint system use, specifically for roofers and other exterior building construction contractors.
- **Evaluating and improving case capture.** Initial evaluations suggest that a small portion of Washington workers' compensation State Fund claims for immediate inpatient hospitalizations are those for out-of-state hospitalizations and therefore ineligible for reporting in Washington State CHARS. SHARP will explore how best to modify the data collection system to incorporate these claims into the surveillance system.
- **Using surveillance system data to evaluate mandatory employer reporting.** Employers are required to report certain injuries, including those that require immediate in-person hospitalization, to the Division of Occupational Safety and Health (DOSH). SHARP will compare employer reports to DOSH with the surveillance system to evaluate the completeness of mandatory reporting of worker hospitalizations. From this comparison, SHARP will develop recommendations for DOSH to improve employer reporting of immediate inpatient hospitalizations and track enforcement actions with employers.
- **Enhancing prevention publication outreach and accessibility.** Educational materials developed as a result of this surveillance must be understandable and accessible. SHARP will seek input from experts and advocates to improve accessibility of prevention materials on an array of topics. In addition, SHARP will extend the surveillance system information by publishing program material in select industry trade journals, through direct mailing, and at safety outreach events.

Conclusion

The work-related immediate inpatient hospitalization surveillance system is a valuable tool to identify industries, tasks, and worker populations at risk of severe occupational injuries. L&I continues to monitor and report on trends in work-related immediate hospitalizations to empower employers and workers to reduce work-related injuries. SHARP's research continues to inform injury prevention priorities to *keep Washington safe and working*.

List of Publications

Published August 2022 through August 2023

Technical Report

- **Work-Related Immediate Inpatient Hospitalizations, Washington State, 2021:** https://lni.wa.gov/safety-health/safety-research/files/2023/96_09_2023_WorkRelatedImmediateInpatientHospitalizations_2021_Final.pdf

Data Summaries

- **Wood Products Manufacturing Hospitalizations:** https://lni.wa.gov/safety-health/safety-research/files/2023/76_40_2023_WoodProductsHospitalizations.pdf
- **Work-Related Hospitalizations Among Women:** https://lni.wa.gov/safety-health/safety-research/files/2022/76_34_2022_HospitalizationsAmongWomen.pdf

Resources for Prevention

- **Roofer Falls From Extension Ladder:** https://lni.wa.gov/safety-health/safety-research/files/2022/100_14_2022_ExtensionLadderFall.pdf
 - Spanish: https://lni.wa.gov/safety-health/safety-research/files/2022/100_14_2022SP_ExtensionLadderFall_Spanish.pdf
 - Russian: https://lni.wa.gov/safety-health/safety-research/files/2022/100_14_2022RU_ExtensionLadderFall_Russian.pdf
- **Worker Crushed Between Two Forklifts:** https://lni.wa.gov/safety-health/safety-research/files/2023/100_15_2023_CrushedBetweenTwoForklifts.pdf
 - Spanish: https://lni.wa.gov/safety-health/safety-research/files/2023/100_15_2023SP_CrushedBetweenTwoForklifts_Spanish.pdf
- **Ironworker Falls 53-feet down Elevator Shaft:** https://lni.wa.gov/safety-health/safety-research/files/2023/100_16_2023_IronworkerFall.pdf
 - Spanish: https://lni.wa.gov/safety-health/safety-research/files/2023/100_16_2023SP_IronworkerFall_Spanish.pdf
 - Russian: https://lni.wa.gov/safety-health/safety-research/files/2023/100_16_2023RU_IronworkerFall_Russian.pdf
- **Worker's Leg Caught In Overloaded Conveyor:** https://lni.wa.gov/safety-health/safety-research/files/2023/100_17_2023_PotatoConveyorCaughtIn.pdf
 - Spanish: https://lni.wa.gov/safety-health/safety-research/files/2023/100_17_2023SP_PotatoConveyorCaughtIn_Spanish.pdf