

# Work-Related Immediate Inpatient Hospitalizations — Washington State, 2014–2018

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Christina Rappin, BS

David Bonauto, MD, MPH

Sara Wuellner, PhD



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## Definitions

CHARS	Comprehensive Hospital Abstract Reporting System
DAFW	Days Away From Work
DOSH	WA Dept. of Labor & Industries Division of Occupational Safety & Health
FTE	Full Time Equivalent employees
KOS	Kept on Salary
L&I	Washington State Department of Labor and Industries
NAICS	North American Industry Classification System
OIICS	Occupational Injury and Illness Classification System
OSHA	Occupational Safety and Health Administration
SF	Washington Industrial Insurance State Fund
SHARP	Safety and Health Assessment and Research for Prevention
SI	Self-Insured
WC	Workers' Compensation

## Executive Summary

Though work-related traumatic injuries that require immediate inpatient hospitalization make up a small proportion of Washington workers' compensation claims, they are severe, costly, and can have devastating long-term consequences for the workers that experience them. A better understanding of these serious injuries can lead to the development of more effective interventions to prevent them.

Employers in Washington State are required to report worker injuries that lead to inpatient hospitalization to the Washington State Department of Labor and Industries Division of Occupational Safety and Health (DOSH) within eight hours. However, employer reporting is sporadic and often incomplete. To better understand and track work-related immediate inpatient hospitalizations, SHARP developed a surveillance system that links workers' compensation claim information with Washington hospital discharge data from the Comprehensive Hospital Abstract Reporting System (CHARS). Workers' compensation claims from employers insured through the Washington State Department of Labor and Industries' industrial insurance State Fund (SF) and those from Self-Insured (SI) employers are included. This report uses this unique surveillance system to characterize work-related inpatient hospitalizations in Washington State from 2014 through 2018. The content from this report provides data to establish prevention priorities for Washington's newly funded *work-related immediate inpatient hospitalizations surveillance system*.

### Key Findings:

- From 2014 through 2018, there were 3,684 work-related immediate inpatient hospitalizations in Washington State.
- Over the five-year period, the annual average number of immediate inpatient hospitalizations was 737, and there was an average rate of 28.7 work-related immediate inpatient hospitalizations for every 100,000 Full Time Equivalent (FTE) employees.
- There were 3,031 (82.3%) immediate hospitalization claims filed by workers covered through the Washington State Fund. There were 653 (17.7%) hospitalizations among workers from Self Insured employers.
- The majority of hospitalized workers were men (n=2,957, 80.3%).
- Older workers had the highest hospitalization rates. Workers aged 65 and over had the highest hospitalization rates, 40.8 per 100,000 FTE. Workers age 55-64 had the second highest rates at 32.1 hospitalizations per 100,000 FTE.
- Over 15% of workers (n=582) with a work-related immediate inpatient hospitalization claim preferred to receive claim information in a language other than English. Of those, 87.5% preferred Spanish.

- Falls from elevation were the leading cause of immediate inpatient hospitalizations, accounting for over a quarter of injuries (n=938, 25.5%). Falls from ladders were the most common type of fall from elevation.
- Although falls were the leading cause of work-related immediate inpatient hospitalizations for both men and women, there were notable differences. For men, falls caused 38% (n=1,125) of hospitalizations; of which nearly three-quarters were falls from elevation. For women, 56.4% (n=410) of hospitalizations were due to falls, of which nearly three-quarters were falls on the same level.
- The Construction industry sector (NAICS 23) had the highest number of immediate inpatient hospitalizations with 926— almost one-quarter of all hospitalizations— and the highest rate of hospitalizations per 100,000 FTE (117.1).
- Fracture was the most common injury nature involved in work-related immediate inpatient hospitalizations. Forty percent of hospitalizations were due to fractures.
- The types of injuries leading to immediate inpatient hospitalization and worker characteristics varied by industry.
- Smaller employers had higher rates of work-related immediate inpatient hospitalizations. Employers with ten or fewer FTE had an immediate inpatient hospitalization rate of 56.8 per 100,000 FTE, which was almost four times the rate of employers with 1,000 or more FTE.
- Among State Fund immediate hospitalization claims, the median number of time loss days paid was eighty-seven days.
- For State Fund work-related immediate inpatient hospitalization claims, total claim costs paid (including medical costs and time loss payments) were approximately \$334,918,000. The average claim cost was \$110,000.

Information from SHARP’s work-related immediate inpatient hospitalization surveillance system shows that, while comprising only a subset of all Washington workers’ compensation claims, workplace injuries that lead to immediate inpatient hospitalization are severe, typically traumatic in nature, and often lead to extended periods of time away from work or disability.

The descriptive information in this report shows that some industry sectors and groups are at higher risk for work-related immediate inpatient hospitalizations, and that the type of injuries that lead hospitalization differ by industry. Hospitalization claim rates differ by employer and worker characteristics.

These results can be used to better focus workplace traumatic injury prevention efforts, and to tailor interventions to be as effective as possible.

## Introduction

Work-related injuries that require immediate inpatient hospitalization are severe and costly. Although a relatively small proportion of on-the-job injuries require immediate hospitalization, workers suffering these types of injuries may need extended periods of recovery before returning to work, or they may be permanently disabled.

The federal Bureau of Labor Statistics (BLS) reported that over 39,000 U.S. workers in private industry required inpatient hospitalization for injuries they sustained on the job in 2018.<sup>1</sup> While these cases made up only four percent of all day away from work (DAFW) cases, they were more severe. The median number of days a worker was away from the job due to a hospitalized injury was 41, over five times that of all DAFW cases. Information reported to the BLS, however, does not differentiate between injuries or illnesses that require immediate hospitalization and those that lead to a hospital admission at a later date.

The Division of Occupational Safety and Health (DOSH) of the Washington State Department of Labor and Industries (L&I) requires employers to report the inpatient hospitalization of an injured worker within eight hours.<sup>2</sup> The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) requires employer reporting within 24 hours of the work-related hospitalization.<sup>3</sup> Although employer reporting is required at both the state and federal level, there is no system in place to track or characterize work-related immediate inpatient hospitalizations.

Most Washington State employers are required to obtain workers' compensation (WC) insurance coverage through L&I's industrial insurance state fund (SF), unless they meet requirements that allow them to self-insure (SI) or are covered by alternative systems (e.g. Longshore and Harbor Workers' Compensation Program). Approximately two-thirds of Washington workers are covered through the State Fund. L&I collects administrative data for both SF and SI claims, however, information about SI claims is limited, including hospital admission and discharge data. Between 2014 and 2018, nearly 18% of work-related immediate inpatient hospitalization claims in WA were for SI employers. Looking exclusively to existing WC State Fund claims data for tracking would miss a significant number of these worker injuries.

The Safety and Health Assessment and Research for Prevention (SHARP)<sup>4</sup> program at L&I developed a unique surveillance system to identify work-related inpatient hospitalizations that occur within one day

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<sup>1</sup> U.S. Bureau of Labor Statistics, U.S. Department of Labor, November 2019. <https://www.bls.gov/news.release/osh.nr0.htm>

<sup>2</sup> Washington Administrative Code (WAC) 296-27-031, Reporting fatalities, inpatient hospitalizations, amputations, and losses of an eye as the result of work-related incidents. <https://apps.leg.wa.gov/wac/default.aspx?cite=296-27-031>

<sup>3</sup> Occupational Safety and Health Administration, 29 CFR 1904.39(a)(1). <https://www.osha.gov/laws-regs/regulations/standardnumber/1904/1904.39>

<sup>4</sup> SHARP: <https://lni.wa.gov/safety-health/safety-research/about-sharp>

of the injury event by linking Washington workers' compensation (WC) claim data to hospital discharge information from the Comprehensive Hospital Abstract Reporting System (CHARS).<sup>5</sup>

This report uses SHARP's work-related immediate inpatient hospitalization surveillance system (See Appendix A for methods) to describe these injuries in detail, including nature of injury, incident type, worker demographics, industry, occupation, and employer profiles, for hospital discharges that occurred from 2014 through 2018.

## Results

From 2014 through 2018, 3,684 work-related immediate inpatient hospitalizations in Washington State were detected through SHARP's work-related immediate inpatient hospitalization surveillance system. The average number of hospitalizations per year was 737. The annual number of hospitalizations, based on the year of hospital discharge, ranged from 700 (2014) to 775 (2015) (Table 1, Figure 1).

Over the five-year period, there was an average rate of 28.7 work-related immediate inpatient hospitalizations for every 100,000 Full Time Equivalent (FTE) employees.<sup>6</sup> In 2018, the rate of hospitalizations fell to a low of 27.1 per 100,000 FTE.

Fifty-three workers ultimately died of their injuries during the study period.

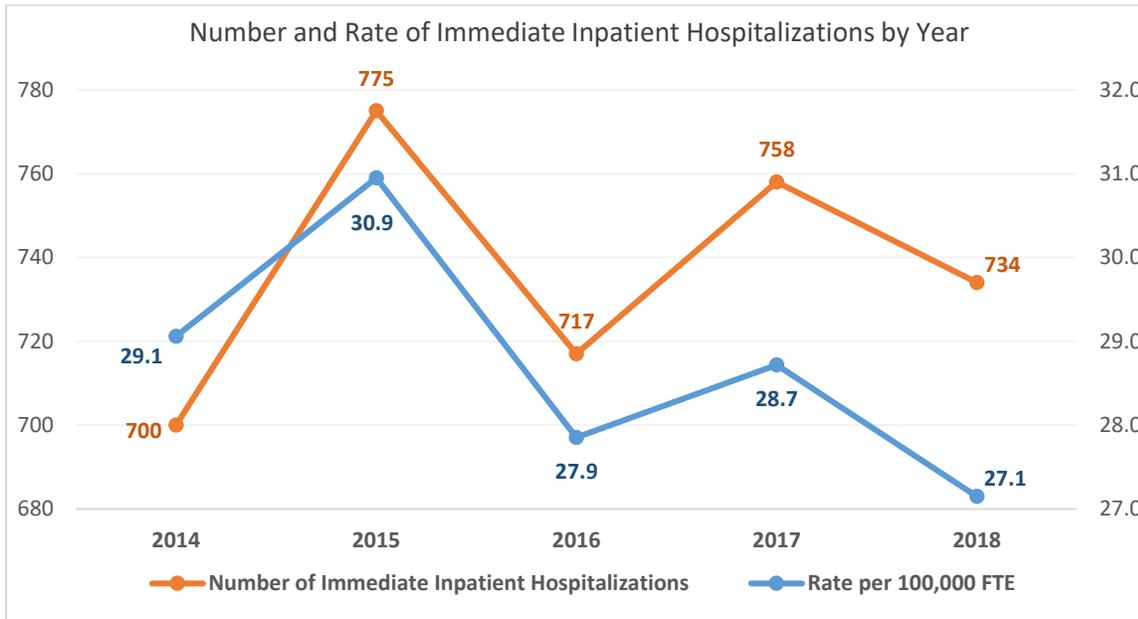
**Table 1. Work-Related Immediate Inpatient Hospitalizations and Total Workforce, Washington State, 2014–2018.**

Year	Total Hospitalizations	Total Washington FTE	Hospitalizations per 100,000 FTE
2014	700	2,408,809	29.1
2015	775	2,504,063	30.9
2016	717	2,574,125	27.9
2017	758	2,639,470	28.7
2018	734	2,703,578	27.1

<sup>5</sup> Comprehensive Hospital Abstract Reporting System (CHARS): <https://www.doh.wa.gov/DataandStatisticalReports/HealthcareinWashington/HospitalandPatientData/HospitalDischargeDataCHARS>

<sup>6</sup> One FTE=2000 hours worked in a year.

**Figure 1. Number and Rate of Work-Related Immediate Inpatient Hospitalizations, Washington State, 2014–2018.**



## Workers

### Gender

The majority of workers who suffered work-related immediate hospitalizations were male (80.3%). Over the five-year period 2,957 men and 727 women suffered immediate inpatient hospitalizations (Table 2). The hospitalization rate for men was over three times that of women— 36.9 vs. 9.6 hospitalizations per 100,000 FTE.

Among men, the three industry sectors<sup>7</sup> with the most work-related immediate inpatient hospitalizations were Construction (n=910, 30.8%), Manufacturing (n=335, 11.3%), and Agriculture, Forestry, Fishing and Hunting (n=291, 9.8%).

For women, Health Care and Social Assistance (n=124, 17.1%), Education Services (n=95, 13.1%), and Retail Trade (n=87, 12.0%) were the three industry sectors with the highest numbers of hospitalizations.

### Age

Older workers had higher rates of work-related immediate inpatient hospitalization than younger workers. Workers age 65 and older had a hospitalization rate of 40.8 per 100,000 FTE overall, nearly or

<sup>7</sup> Industries were designated using the North American Industry Classification System (NAICS) code assigned to the employer account. <https://www.census.gov/eos/www/naics/>

more than twice the rate for workers in age groups under age 55 (Table 2). For both men and women, workers aged 65 and over had the highest hospitalization rates— 46.4 per 100,000 FTE for men and 34.8 per 100,000 FTE for women. Workers age 55-64 had the second highest rates for both genders.

Workers over age 55 accounted for 52% of work-related immediate inpatient hospitalizations among women, but only approximately 27% of hospitalized men. Over half of men who suffered immediate hospitalizations were between the ages of 19-44 (51.7%).

Ten hospitalized workers were age 17, and four were 16 years old.

**Table 2. Work-Related Immediate Inpatient Hospitalizations by Age Group and Gender, Washington State, 2014-2018.**

Age Group	All Workers			Men			Women		
	Number	%	Rate per 100,000 FTE	Number	%	Rate per 100,000 FTE	Number	%	Rate per 100,000 FTE
18 & under	38	1.0	14.2	32	1.1	26.0	6	0.8	4.2
19-24	332	9.0	21.7	301	10.2	40.0	31	4.3	4.0
25-34	723	19.6	20.3	644	21.8	34.4	79	10.9	4.7
35-44	671	18.2	19.3	582	19.7	31.6	89	12.2	5.5
45-54	735	20.0	22.4	592	20.0	35.1	143	19.7	9.0
55-64	832	22.6	32.1	599	20.3	46.2	233	32.0	18.0
65 & over	353	9.6	40.8	207	7.0	46.4	146	20.1	34.8
<b>Total</b>	<b>3684</b>	<b>100.0</b>		<b>2957</b>	<b>100.0</b>	<b>36.9</b>	<b>727</b>	<b>100.0</b>	<b>9.6</b>

### *Language Preference*

Over 15% of workers (n= 582) with a work-related immediate inpatient hospitalization claim preferred to receive claim information in a language other than English. Of those, 87.5% preferred Spanish (n=509).

Other languages requested by hospitalized workers included Russian (n=12), Chinese (9), Korean (8) and Vietnamese (8).

## Injuries

### *Injury Type*

One quarter of work-related immediate inpatient hospitalization claims were due to injuries<sup>8</sup> caused by falls from elevation (n=938, 25.5%) (Table 3). Falls on the same level were the cause of another 16.2% of hospitalizations (n=597). Combined, hospitalizations for falls made up 41.7% of claims.

Injuries that occurred when a worker was struck by or against an object or equipment caused 16.6% of hospitalizations (n=611). Another 8.0% (n=293) of hospitalizations occurred after a worker was caught in, compressed, or crushed by equipment, objects, or other materials, which are grouped as “Caught in/under/between” injuries.

Highway accidents were the cause of 180 work-related hospitalizations (4.9%). Another 101 hospitalized workers were pedestrians struck by a vehicle or equipment (2.7%).

Of the 90 workers hospitalized due to exposure to extreme temperatures, 81 of the injuries were burns.

**Table 3. Work-Related Immediate Inpatient Hospitalizations by Injury Type, Washington State, 2014-2018.**

<b>Injury Type</b>	<b>Hospitalizations</b>	<b>Percent</b>
Fall from elevation	938	25.5
Struck by/against object or equipment	611	16.6
Fall same level	597	16.2
Caught in/under/between	293	8.0
Highway accident	180	4.9
Overexertion, Repetitive Motion	172	4.7
Bodily Conditions (fainting)	111	3.0
Pedestrian struck by vehicle or equipment	101	2.7
Extreme Temperature	90	2.4
Exposure to caustic, noxious, allergic substance	86	2.3
Transportation accident other than highway or pedestrian	83	2.3
Assault by person	70	1.9
Other contact with objects or equipment	61	1.7
Assault by animal	58	1.6
Fires and explosions	21	0.6
Other and Nonclassifiable	212	5.8
<b>Total</b>	<b>3684</b>	

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<sup>8</sup> For additional information on aggregated Injury Type classification, see SHARP technical report 64-1-2013, Prioritizing Industries for Occupational Injury and Illness Prevention and Research, Washington State Workers’ Compensation Claims Data, 2002-2010. [https://lni.wa.gov/safety-health/safety-research/files/2013/bd\\_3f.pdf](https://lni.wa.gov/safety-health/safety-research/files/2013/bd_3f.pdf)

Seventy-five percent of all hospitalized falls from elevation were due to one of five incident types (n=703) (Table 4). Falls from ladders accounted for 37.1% of all falls from elevation (n=348). Another 14.1% were due to falls from or through roofs (n=132). The third most common fall from elevation incident type was falls from non-moving vehicles (n=116, 12.4%).

**Table 4. Hospitalized Fall From Elevation Incident Types.**

Fall from Elevation Incident Type	Number	Percent of Falls from Elevation
Fall From Ladder	348	37.1%
Fall From Or Through Roof	132	14.1%
Fall From Nonmoving Vehicle	116	12.4%
Fall Down Stairs Or Steps	60	6.4%
Fall From Scaffold, Staging	47	5.0%
All other	235	25.0%
<b>Total</b>	<b>938</b>	<b>100.0%</b>

Although falls were the leading cause of work-related immediate inpatient hospitalizations for both men and women, there were notable differences. For men, falls caused 38% of hospitalizations; nearly three-quarters were falls from elevation. For women, 56.4% of hospitalizations were due to falls, and nearly three-quarters were falls on the same level (Table 5).

**Table 5. Hospitalized Fall Incident Types by Gender.**

Gender	Fall from elevation		Fall on same level		Other Injuries		Total Claims
	Claims	%	Claims	%	Claims	%	
Men	830	28.1%	295	10.0%	1832	62.0%	2957
Women	108	14.9%	302	41.5%	317	43.6%	727
<b>Total</b>	<b>938</b>	<b>25.5%</b>	<b>597</b>	<b>16.2%</b>	<b>2149</b>	<b>58.3%</b>	<b>3684</b>

The most common work-related injuries leading to immediate inpatient hospitalization differed by age group (Table 6). Workers in the youngest age group, age 18 and under, were most often hospitalized due to Caught in/under/between injuries (n=8, 21.1%).

Struck by or against object or equipment was the most common injury type leading to hospitalization for workers in the 19 to 24 year old (n=96, 28.9%) and 25 to 34 year old (n=173, 23.9%) age groups.

Falls from elevation were the most common cause of immediate inpatient hospitalizations for workers in age groups 35 to 44 years old (n=204, 30.4%) and 45 to 54 years old (n=212, 26.4%).

Falls on same level were the most common hospitalized injury type for workers in the two oldest age groups, 55 to 64 years old (n=220, 26.4%) and age 65 and older (n=148, 41.9%).

**Table 6. Most Common Injury Types of Work-Related Immediate Inpatient Hospitalizations by Age Group, Washington State, 2014-2018.**

Age Group	Hospitalizations	Age Group Percent
<b>18 and under</b>	<b>38</b>	
Caught in/under/between	8	21.1%
Struck by/against object or equipment	7	18.4%
Fall from elevation	4	10.5%
<b>19-24</b>	<b>332</b>	
Struck by/against object or equipment	96	28.9%
Fall from elevation	66	19.9%
Caught in/under/between	55	16.6%
<b>25-34</b>	<b>723</b>	
Struck by/against object or equipment	173	23.9%
Fall from elevation	166	23.0%
Caught in/under/between	73	10.1%
<b>35-44</b>	<b>671</b>	
Fall from elevation	204	30.4%
Struck by/against object or equipment	121	18.0%
Caught in/under/between	65	9.7%
<b>45-54</b>	<b>735</b>	
Fall from elevation	212	28.8%
Fall same level	111	15.1%
Struck by/against object or equipment	105	14.3%
<b>55-64</b>	<b>832</b>	
Fall same level	220	26.4%
Fall from elevation	209	25.1%
Struck by/against object or equipment	89	10.7%
<b>65 and over</b>	<b>353</b>	
Fall same level	148	41.9%
Fall from elevation	77	21.8%
Other and Nonclassifiable	23	6.5%

***While L&I collects administrative data for Self Insured employer claims, information about injury, cost, and days of time loss is often limited or incomplete. For this reason, some of the following information will indicate it is limited to State Fund claims only.***

### *Claim Costs by Injury Type*

From 2014 through 2018, among State Fund work-related immediate inpatient hospitalization claims, falls from elevation were the cause of 28.5% of injuries (n=864), and accounted for 35.5% of all hospitalization claim costs, with total claim costs equaling \$118,750,000. The average fall from elevation claim cost was \$137,000 and the median claim cost was \$85,000 (Table 7).

Claim costs for injured workers who were struck by or against an object or equipment totaled \$52,691,000 (555 total claims). The average claim cost was \$95,000, and the median claim cost was \$46,000.

Hospitalization claims that resulted from a pedestrian struck by a vehicle or equipment had the highest average claim cost, \$196,000 (median= \$111,000).

**Table 7. Work-Related Immediate Inpatient Hospitalization Claims and Costs by Injury Type, Washington State Fund, 2014-2018.**

Injury Type	Total SF Claims (%)	Total Claim Costs (%)	Average Cost per Claim	Median Cost per Claim
Fall from elevation	864 (28.5)	\$118,750,000 (35.5)	\$137,000	\$85,000
Struck by/against object or equipment	555 (18.3)	\$52,691,000 (15.7)	\$95,000	\$46,000
Fall same level	432 (14.3)	\$33,421,000 (10.0)	\$77,000	\$51,000
Caught in/under/between	263 (8.7)	\$29,469,000 (8.8)	\$112,000	\$66,000
Highway accident	158 (5.2)	\$26,764,000 (8.0)	\$169,000	\$70,000
Overexertion, Repetitive Motion	123 (4.1)	\$7,359,000 (2.2)	\$60,000	\$26,000
Pedestrian struck by vehicle or equipment	87 (2.9)	\$17,056,000 (5.1)	\$196,000	\$111,000
Extreme Temperature	83 (2.7)	\$4,468,000 (1.3)	\$54,000	\$19,000
Bodily Conditions (fainting)	80 (2.6)	\$4,880,000 (1.5)	\$61,000	\$14,000
Transportation accident other than highway or pedestrian	76 (2.5)	\$13,102,000 (3.9)	\$172,000	\$125,000
Exposure to caustic, noxious, allergic substance	74 (2.4)	\$4,518,000 (1.3)	\$61,000	\$10,000
Assault by animal	57 (1.9)	\$1,240,000 (0.4)	\$22,000	\$12,000
Other contact with objects or equipment	51 (1.7)	\$4,538,000 (1.4)	\$89,000	\$31,000
Assault by person	49 (1.6)	\$5,711,000 (1.7)	\$117,000	\$70,000
Fires and explosions	20 (0.7)	\$2,862,000 (0.9)	\$143,000	\$25,000
Other and nonclassifiable	59 (1.9)	\$8,090,000 (2.4)	\$137,000	\$48,000

### *Nature of Injury*

From 2014 through 2018, Fracture<sup>9</sup> was the most common injury nature involved in work-related immediate inpatient hospitalizations (n=1,466, 39.8%) (Table 8). The average State Fund claim cost for a hospitalization due to Fracture was \$110,000; the median claim cost was \$68,000 (Table 9).

Intracranial injuries had the highest average claim cost at \$187,000. Multiple Traumatic Injury claims had the highest median cost at \$105,000.

<sup>9</sup> For additional information on aggregated Nature of Injury classification, see SHARP technical report 64-1-2013, Prioritizing Industries for Occupational Injury and Illness Prevention and Research, Washington State Workers' Compensation Claims Data, 2002-2010. [https://lni.wa.gov/safety-health/safety-research/files/2013/bd\\_3f.pdf](https://lni.wa.gov/safety-health/safety-research/files/2013/bd_3f.pdf)

Amputations were the cause of ninety-six immediate hospitalizations (2.6%). The average claim cost for amputation hospitalizations was \$114,000; the median claim cost was \$67,000.

**Table 8. Nature of Injury of Work-Related Immediate Inpatient Hospitalizations, Washington State, 2014-2018.**

Nature of Injury	Hospitalizations	Percent
Fracture	1466	39.8%
Multiple traumatic injuries	534	14.5%
All other traumatic injuries	331	9.0%
Nonclassifiable	324	8.8%
Open wounds (other than amputations)	291	7.9%
Diseases, Disorders, Conditions	197	5.3%
Intracranial injuries	131	3.6%
Burns	126	3.4%
Traumatic injuries to muscles, tendons, ligaments	105	2.9%
Amputation	96	2.6%
Surface wounds and bruises	83	2.3%
<b>Total</b>	<b>3684</b>	<b>100.0%</b>

**Table 9. Hospitalization Claims and Costs by Nature of Injury, Washington State Fund, 2014-2018.**

Nature of Injury	Total SF Claims (%)	Total Claim Costs (%)	Average Cost per Claim	Median Cost per Claim
Fracture	1370 (45.2)	\$150,335,000 (44.9)	\$110,000	\$68,000
Multiple traumatic injuries	498 (16.4)	\$87,470,000 (26.1)	\$176,000	\$105,000
Open wounds (other than amputations)	262 (8.6)	\$14,826,000 (4.4)	\$57,000	\$21,000
Intracranial injuries	118 (3.9)	\$22,014,000 (6.6)	\$187,000	\$60,000
Burns	114 (3.8)	\$7,338,000 (2.2)	\$64,000	\$19,000
Amputation	91 (3.0)	\$10,417,000 (3.1)	\$114,000	\$67,000
Traumatic injury to muscle, tendon, ligament	78 (2.6)	\$4,057,000 (1.2)	\$52,000	\$29,000
Surface wounds and bruises	68 (2.2)	\$3,934,000 (1.2)	\$58,000	\$15,000
All other traumatic injuries	203 (6.7)	\$18,521,000 (5.5)	\$91,000	\$34,000
Diseases, Disorders, Conditions	160 (5.3)	\$9,329,000 (2.8)	\$58,000	\$13,000
Nonclassifiable	69 (2.3)	\$6,677,000 (2.0)	\$97,000	\$41,000

## Claims

### *Claim Liability*

The majority of claims for immediate inpatient hospitalizations were filed by workers insured through the State Fund (82.3%, n=3,031 claims); 17.7% were covered by Self Insured employers (n=653).

Half of State Fund immediate inpatient hospitalization claims were still open one year after worker injury (50.1%, n=1,519).

### *Expected Payer*

Based on hospital discharge records, from 2014 through 2018, L&I was listed as the expected payer for 89% of work-related immediate inpatient hospitalizations (n=3,279), and 11% had another payer listed (n=405). Among State Fund claims, L&I was listed as the expected payer for 90.9% of hospitalizations. Among Self-Insured claims, L&I was the expected payer for 80.2% of hospitalizations.

### *Claim Status*

Accepted Washington State workers' compensation claims can be classified as either *medical aid only* or *compensable*. Approximately eight percent of claims were classified as medical aid only (n=304, 8.3%). Compensable claims are those that, after a three-day waiting period are eligible for wage replacement for lost work time, or involve permanent partial disability, or death. 91.7% of immediate inpatient hospitalization claims were classified as compensable at the time of data extraction (n=3,380).

### *Lost Work Time (Time Loss)*

Among State Fund immediate hospitalization claims, the median number of days that time loss wage replacement was paid to workers was eighty-seven. 60.4% of workers were still receiving time loss benefits after thirty days (n=1,831) (Table 11). Over one-quarter were still being paid for lost work time after one year (n=788, 26%).

Nearly one third of claims did not include payment for days of time loss (n=958, 31.6%). Of these, over one quarter were classified as medical aid only (n=248, 25.9%). Another 65.7% of claims were designated as Kept on Salary (KOS), which is a process in which employers continue to pay an injured worker's wages during the period of disability (n= 629). Of KOS hospitalization claims, 41.7% occurred in the Construction industry sector (n=262).

**Table 10. Work-Related Immediate Inpatient Hospitalizations by Days of Time Loss Paid, WA State Fund Claims, 2014-2018.**

Days of Time Loss Paid	Number of Claims	Percent of Claims	Cumulative Number	Cumulative Percent
0 days	958	31.6	958	31.6
1-10 days	96	3.2	1054	34.8
11-30 days	146	4.8	1200	39.6
31-90 days	339	11.2	1539	50.8
91-180 days	350	11.6	1889	62.3
181-365 days	354	11.7	2243	74.0
>365 days	788	26.0	3031	100.0

## Claim Costs

For State Fund immediate inpatient hospitalization claims with hospital discharges between 2014 and 2018, total claim costs paid to date (including medical costs and time loss payments) were approximately \$334,918,000. Claim costs ranged from less than \$500 to a maximum of \$2,383,000. The median claim cost was \$56,000, and the average claim cost was \$110,000.

**Table 11. Total Costs Paid by Discharge Year and Time From Injury, Work-Related Immediate Inpatient Hospitalizations, WA State Fund Claims, 2014-2018.**

Claim Year		1 year after injury	2 years after injury	3 years after injury	4 years after injury	5 years after injury
2014	Total	\$36,543,000	\$48,289,000	\$58,186,000	\$65,402,000	\$70,952,000
	Mean	\$65,000	\$85,000	\$102,000	\$115,000	\$124,000
	Median	\$42,000	\$52,000	\$53,000	\$53,000	\$55,000
2015	Total	\$41,288,000	\$56,058,000	\$66,278,000	\$76,366,000	
	Mean	\$64,000	\$87,000	\$103,000	\$118,000	
	Median	\$42,000	\$54,000	\$59,000	\$61,000	
2016	Total	\$41,834,000	\$55,211,000	\$66,188,000		
	Mean	\$72,000	\$95,000	\$114,000		
	Median	\$44,000	\$53,000	\$56,000		
2017	Total	\$46,085,000	\$59,805,000			
	Mean	\$74,000	\$95,000			
	Median	\$44,000	\$55,000			
2018	Total	\$48,404,000				
	Mean	\$81,000				
	Median	\$48,000				

## Employers

The majority of employers, 85.6%,<sup>10</sup> had a single immediate inpatient hospitalization claim between 2014 and 2018 (n=2,391). Another 261 employers had two claims (9.3%). Twelve employers had ten or more worker hospitalization claims.

### Employer Size

Smaller employers had higher rates of work-related immediate inpatient hospitalizations. The smallest employers, those with an average of ten or fewer FTE per year, had a hospitalization rate of 56.8 per 100,000 FTE (Table 10). Employers with one thousand or more annual FTE had the lowest rate, with 14.3 hospitalizations per 100,000 FTE.

<sup>10</sup> Excludes twenty-one claims that were not assigned to an employer account.

**Table 12. Work-Related Immediate Inpatient Hospitalizations by Employer Size, Washington State, 2014-2018.**

Average Annual FTE	Hospitalizations*	Rate per 100,00 FTE
10 or fewer	1055	56.8
11-49	754	34.9
50-249	786	30.1
250-999	468	23.4
1000 or more	600	14.3

\* Total hospitalizations exclude 21 claims that were not assigned to an employer account

## Industry and Occupation

### Industry

The Construction industry sector (NAICS 23) had the highest number of immediate inpatient hospitalizations (n=926) (Table 13). The Manufacturing (n=383) and the Agriculture, Forestry, Fishing and Hunting (n=335) industry sectors experienced the second and third highest numbers of hospitalized workers. Together, these three industry sectors accounted for 44.9% of all work-related immediate inpatient hospitalizations (n=1644).

**Table 13. Work-Related Immediate Inpatient Hospitalizations by NAICS Industry Sector, Washington State, 2014-2018.**

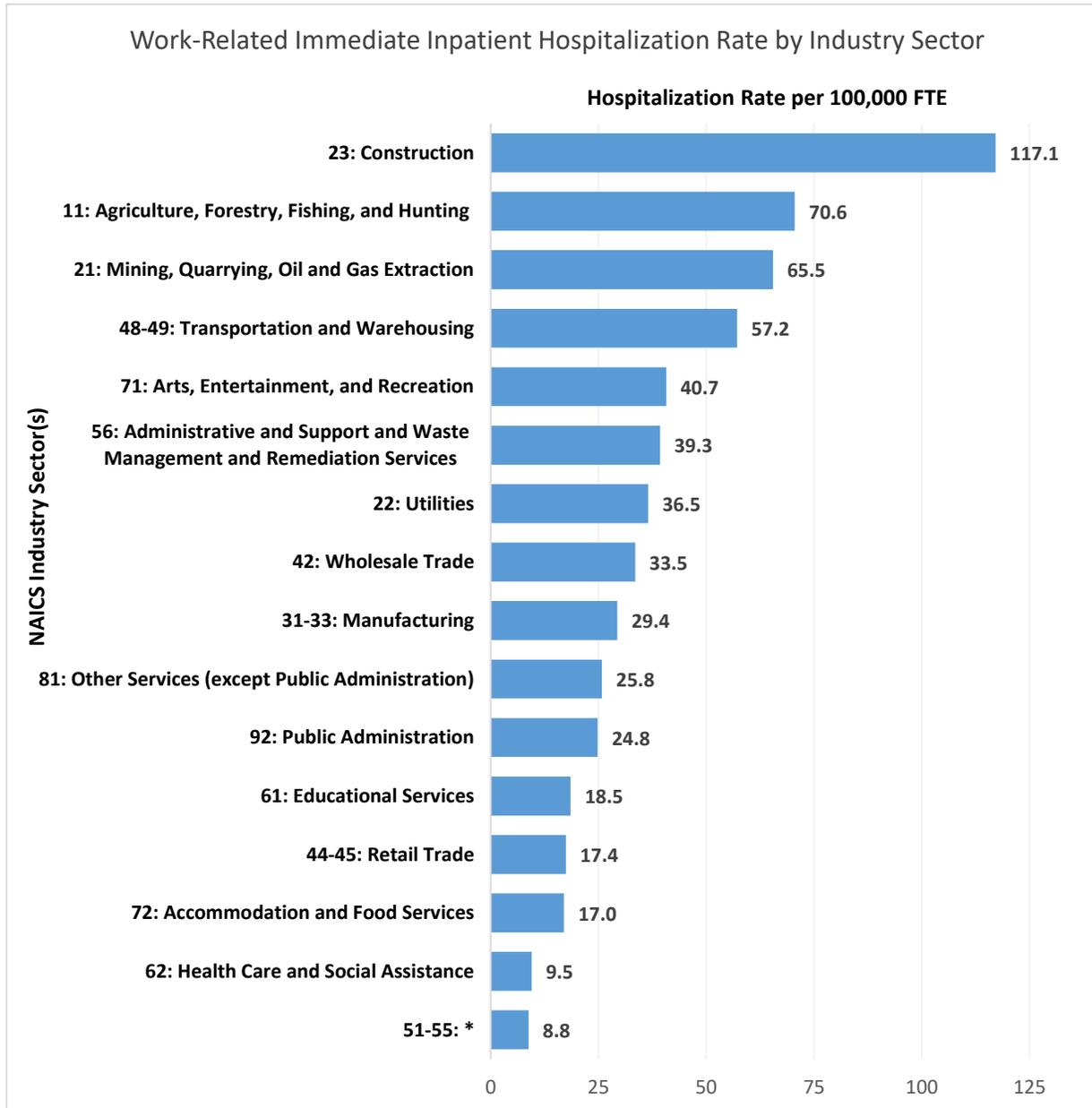
NAICS Sector Code and Description	Hospitalizations*	Average Annual Hospitalizations	Rate per 100,000 FTE
<b>23:</b> Construction	926	185	117.1
<b>31-33:</b> Manufacturing	383	77	29.4
<b>11:</b> Agriculture, Forestry, Fishing, and Hunting	335	67	70.6
<b>56:</b> Administrative and Support and Waste Management and Remediation Services	283	57	39.3
<b>44-45:</b> Retail Trade	273	55	17.4
<b>48-49:</b> Transportation and Warehousing	226	45	57.2
<b>42:</b> Wholesale Trade	212	42	33.5
<b>51-55:</b> Information; Finance and Insurance; Real Estate and Rental and Leasing; Professional, Scientific, and Technical Services; Management of Companies and Enterprises	185	37	8.8
<b>62:</b> Health Care and Social Assistance	171	34	9.5
<b>92:</b> Public Administration	164	33	24.8
<b>72:</b> Accommodation and Food Services	153	31	17.0
<b>61:</b> Educational Services	146	29	18.5
<b>81:</b> Other Services (except Public Administration)	122	24	25.8
<b>71:</b> Arts, Entertainment, and Recreation	50	10	40.7
<b>22:</b> Utilities	24	5	36.5
<b>21:</b> Mining, Quarrying, Oil and Gas Extraction	10	2	65.5

\* Total hospitalizations exclude 21 claims that were not assigned to an employer account

The Construction industry sector also experienced the highest rate of work-related immediate inpatient hospitalizations, with 117.1 per 100,000 FTE (Figure 2). The second highest hospitalization rate was in the Agriculture, Forestry, Fishing, and Hunting sector, with 70.6 hospitalizations per 100,000 FTE.

The small number of hospitalizations in the Mining, Quarrying, Oil and Gas Extraction sector makes the hospitalization rate for this industry unreliable.

**Figure 2. Work-Related Immediate Inpatient Hospitalizations Rates per 100,000 FTE by Industry Sector, Washington State, 2014-2018.**



\* Includes Sectors: Information; Finance and Insurance; Real Estate and Rental and Leasing; Professional, Scientific, and Technical Services; Management of Companies and Enterprises

## *Occupation*

Nearly a quarter of those hospitalized (23%, n=848) worked in Construction or Extraction occupations (SOC 2000 major code 47-0000)<sup>11</sup> (Table 14). Of those, over half (55.5%) were either Construction Craft Laborers (n=256), Carpenters (n=129), or Roofers (n=86). The majority of these workers were employed in the Construction industry sector (n=718, 84.7%).

Over half of hospitalizations of workers in Construction or Extraction occupations were due to falls from elevation (n=427, 50.4%). Nearly a quarter of hospitalized injuries occurred when workers were struck by an object or equipment (n=200, 23.6%).

Workers in Transportation and Material Moving occupations (SOC 53-0000) accounted for 15% of work-related immediate inpatient hospitalizations (n=551). Over half of these workers were in one of two occupation groups: Truck Drivers, Heavy and Tractor-Trailer (SOC 53-3032, n=166) and Laborers and Freight, Stock, and Material Movers, Hand (SOC 53-7062, n=146). The two industry sectors with the highest numbers of hospitalized Transportation and Material Moving workers were Transportation and Warehousing (n=162) and Wholesale Trade (n=82). 36.7% of hospitalized Transportation and Material Moving workers were age 55 or older (n=202).

Three types of injuries caused nearly half of all immediate hospitalizations for workers in Transportation and Material Moving occupations: fall from elevation (n=107, 19.4%), struck by object or equipment (n=91, 16.5%), and highway accidents (n=75, 13.6%).

Workers in Production occupations (SOC 51-0000) had the third highest number of hospitalizations with 351 (9.5%). Followed by workers in Installation, Maintenance, and Repair occupations (SOC 49-0000) (n=283, 737%), and Farming, Fishing, and Forestry occupations (SOC 45-0000) (n=266, 7.2%).

Workers age 55 or older accounted for half or more of the hospitalizations in four major occupation groups (of those occupation groups with twenty or more hospitalization claims): Education, Training, and Library Occupations, SOC 25-0000 (68.1%); Sales and Related Occupations, SOC 41-0000 (61.2%); Office and Administrative Support Occupations, SOC 43-0000 (60.9%); and Personal Care and Service Occupations, SOC 39-0000 (50%).

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<sup>11</sup> Standard Occupational Classification (SOC) system, 2000. <https://www.bls.gov/soc/home.htm>

**Table 14. Work-Related Immediate Inpatient Hospitalizations by Occupation, Washington State, 2014-2018.**

<b>Major Occupation Group (SOC 2000)</b>	<b>Total Hospitalizations (%)</b>
Detailed Occupation Groups with 20 or more Hospitalizations	Number of Hospitalizations
<b>47-0000 Construction and Extraction Occupations</b>	<b>848 (23.0%)</b>
47-2061 Construction Craft Laborer	256
47-2031 Carpenters	129
47-2181 Roofers	86
47-1011 First-Line Supervisors/Managers	72
47-2141 Painters, Construction And Maintenance	61
47-2111 Electricians	52
47-2073 Operating Engineers And Other Construction Equipment Operators	35
47-2152 Plumbers, Pipefitters, And Steamfitters	21
<b>53-0000 Transportation and Material Moving Occupations</b>	<b>551 (15.0%)</b>
53-3032 Truck Drivers, Heavy And Tractor-Trailer	166
53-7062 Laborers And Freight, Stock, and Material Movers, Hand	146
53-3033 Truck Drivers, Light Or Delivery Services	55
53-7051 Industrial Truck And Tractor Operators	44
<b>51-0000 Production Occupations</b>	<b>351 (9.5%)</b>
51-9199 Production Workers, All Other	99
51-1011 First-Line Supervisors/Managers of Production and Operating Workers	36
51-4121 Welders, Cutters, Solderers, and Brazers	30
51-2099 Assemblers And Fabricators, All Other	23
<b>49-0000 Installation, Maintenance, and Repair Occupations</b>	<b>283 (7.7%)</b>
49-9099 Installation, Maintenance, and Repair Workers, All Other	51
49-9042 Maintenance And Repair Workers, General	50
49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers	31
49-3023 Automotive Mechanics And Service Technicians	21
<b>45-0000 Farming, Fishing, and Forestry Occupations</b>	<b>266 (7.2%)</b>
45-2092 Farmworkers And Laborers, Crop, Nursery, and Greenhouse	132
45-2093 Farmworkers, Farm And Ranch Animals	48
45-4029 Logging Workers, All Other	33
<b>37-0000 Building and Grounds Cleaning and Maintenance Occupations</b>	<b>168 (4.6%)</b>
37-2011 Janitors And Cleaners, Except Maids and Housekeeping Cleaners	66
37-3011 Landscaping And Groundskeeping Workers	45
37-3013 Tree Trimmers And Pruners	34
<b>43-0000 Office and Administrative Support Occupations</b>	<b>128 (3.5%)</b>
<b>41-0000 Sales and Related Occupations</b>	<b>116 (3.1%)</b>
41-2031 Retail Salespersons	38
41-1011 First-Line Supervisors/Managers of Retail Sales Workers	29
41-2011 Cashiers	24
<b>33-0000 Protective Service Occupations</b>	<b>112 (3.0%)</b>
33-3051 Police And Sheriff's Patrol Officers	33
33-9032 Security Guards	25
33-2011 Fire Fighters	24
<b>11-0000 Management Occupations</b>	<b>111 (3.0%)</b>
11-9199 Managers, All Other	20
<b>35-0000 Food Preparation and Serving Related Occupations</b>	<b>107 (2.9%)</b>
35-2014 Cooks, Restaurant	27
<b>25-0000 Education, Training, and Library Occupations</b>	<b>72 (2.0%)</b>
25-2021 Teachers, Elementary School Teachers, Except Special Education	27
<b>39-0000 Personal Care and Service Occupations</b>	<b>68 (1.8%)</b>
39-9021 Personal & Home Care Aides	28
<b>29-0000 Healthcare Practitioners and Technical Occupations</b>	<b>57 (1.5%)</b>
29-1111 Registered Nurses	25
<b>31-0000 Healthcare Support Occupations</b>	<b>31 (0.8%)</b>
<b>Other Major Groups (less than 20 Hosp. each)</b>	<b>89 (2.4%)</b>
<b>Nonclassifiable or Blank</b>	<b>326 (8.8%)</b>

## Construction (NAICS 23)

From 2014 through 2018, there were 926 work-related immediate inpatient hospitalizations in the Construction Sector (NAICS 23), 25.3% of all hospitalizations. The average annual number of hospitalizations was 185, and the rate of hospitalizations was 117.1 per 100,000 FTE.

**Table 15. Construction Industry Sector Work-Related Immediate Inpatient Hospitalizations by Year, Washington State, 2014-2018.**

Year	2014	2015	2016	2017	2018
Hospitalizations	153	188	188	193	204

In the Construction industry sector, 98.3% of hospitalized workers were men (n=910), 1.7% of workers were women (n=16).

Nearly one quarter of hospitalized workers in the Construction industry sector preferred to receive claim information in a language other than English (n=227, 24.5%); 22.6% preferred Spanish (n=209).

Over half of hospitalized workers in the Construction sector were between the ages of 25 and 44 (n=494, 53.3%). Just over 15% of hospitalized workers were age 55 or older. (Table 16)

**Table 16. Construction Industry Sector Work-Related Immediate Inpatient Hospitalizations by Age Group, Washington State, 2014-2018.**

Age Group	Number of Hospitalizations	Percent
18 and under	5	0.5%
19-24	107	11.6%
25-34	259	28.0%
35-44	235	25.4%
45-54	180	19.4%
55-64	121	13.1%
65 and over	19	2.1%

Within the Construction industry, the Foundation, Structure, and Building Exterior Contractors industry group (NAICS 2381) had the highest number and rate of hospitalizations (n=257, 210.7 per 100,000 FTE) (Table 17). The Residential Building Construction industry group (NAICS 2361) had the second highest number and rate (n=203, 172.7 per 100,000 FTE).

Four industry groups accounted for over three quarters of worker hospitalizations in the Construction industry sector (n=709, 76.6%): Foundation, Structure, and Building Exterior Contractors; Residential Building Construction; Building Finishing Contractors; and Building Equipment Contractors. Falls from Elevation were the leading injury type for all four industry groups.

**Table 17. Work-Related Immediate Inpatient Hospitalizations by Construction Industry Group, Washington State, 2014-2018.**

Industry Group (4-digit NAICS code)	Number of Hospitalizations (%)	Rate per 100,000 FTE
Foundation, Structure, and Building Exterior Contractors (2381)	257 (27.8%)	210.7
Residential Building Construction (2361)	203 (21.9%)	172.7
Building Finishing Contractors (2383)	130 (14.0%)	131.1
Building Equipment Contractors (2382)	119 (12.9%)	56.2
Other Specialty Trade Contractors (2389)	85 (9.2%)	124.7
Nonresidential Building Construction (2362)	45 (4.9%)	61.2
Highway, Street, and Bridge Construction (2373)	34 (3.7%)	107.8
Utility System Construction (2371)	27 (2.9%)	58.6
Other Heavy and Civil Engineering Construction (2379)	21 (2.3%)	131.1
Land Subdivision (2372)	5 (0.5%)	99.4

Falls from elevation were the leading type of injury resulting in immediate hospitalization in the Construction sector, accounting for nearly half of all claims (n=453, 48.9%) (Table 18). Another 22.2% of hospitalizations were due to workers being struck by or against objects or equipment (n=206).

**Table 18. Construction Industry Sector Work-Related Immediate Inpatient Hospitalizations by Injury Type, Washington State, 2014-2018.**

Injury Type	Number	%
Fall from elevation	453	48.9%
Struck by/against object or equipment	206	22.2%
Caught in/under/between	48	5.2%
Fall same level	44	4.8%
Other and Nonclassifiable	32	3.5%
Pedestrian struck by vehicle or equipment	25	2.7%
Highway accident	24	2.6%
Overexertion, Repetitive Motion	24	2.6%
Extreme Temperature	19	2.1%
Other contact with objects or equipment	16	1.7%
Exposure to caustic, noxious, allergic substance	13	1.4%
Transportation accident other than highway or pedestrian	9	1.0%
Bodily Conditions (fainting)	7	0.8%
Fires and explosions	4	0.4%
Assault by animal	1	0.1%
Assault by person	1	0.1%
<b>Total</b>	<b>926</b>	<b>100.0%</b>

## *Manufacturing (NAICS 31-33)*

From 2014 through 2018, there were 383 work-related immediate inpatient hospitalizations in the Manufacturing industry sector (NAICS 31-33), 10.5% of all hospitalizations. The average annual number of hospitalizations was 77, and the rate of hospitalizations was 29.4 per 100,000 FTE.

**Table 19. Manufacturing Industry Sector Work-Related Immediate Inpatient Hospitalizations by Year, Washington State, 2014-2018.**

Year	2014	2015	2016	2017	2018
Hospitalizations	82	71	82	79	69

In the Manufacturing industry sector, 87.5% of hospitalized workers were men (n=335), 12.5% were women (n=48).

8.4% of hospitalized workers in the Manufacturing industry sector preferred to receive claim information in a language other than English (n=32).

Over one-third of hospitalized workers in manufacturing were age 55 or older (n=136, 35.5%) (Table 20).

**Table 20. Manufacturing Industry Sector Work-Related Immediate Inpatient Hospitalizations by Age Group, Washington State, 2014-2018.**

Age Group	Number of Hospitalizations	Percent
18 and under	2	0.5%
19-24	34	8.9%
25-34	82	21.4%
35-44	56	14.6%
45-54	73	19.1%
55-64	102	26.6%
65 and over	34	8.9%

Fifty-six industry groups in the Manufacturing industry sector experienced at least one work-related immediate inpatient hospitalization. Ten industry groups experienced more than ten hospitalizations, and accounted for more than half of all hospitalizations (n=221, 57.7%).

The Aerospace Product and Parts Manufacturing industry group (NAICS 3364) had the highest number of hospitalizations, 62 (Table 21).

Three of the ten industry groups were in the Wood Product Manufacturing industry subsector (NAICS 321): Sawmills and Wood Preservation; Other Wood Product Manufacturing; and Veneer, Plywood, and Engineered Wood Product Manufacturing.

**Table 21. Work-Related Immediate Inpatient Hospitalizations by Manufacturing Industry Group, Washington State, 2014-2018.**

<b>Industry Group (4-digit NAICS code)</b>	<b>Number of Hospitalizations (%)</b>	<b>Rate per 100,000 FTE</b>
Aerospace Product and Parts Manufacturing (3364)	62 (16.2%)	14
Architectural and Structural Metals Manufacturing (3323)	26 (6.8%)	109.7
Sawmills and Wood Preservation (3211)	23 (6.0%)	96.1
Plastics Product Manufacturing (3261)	22 (5.7%)	57.1
Fruit and Vegetable Preserving and Specialty Food Manufacturing (3114)	21 (5.5%)	44.9
Other Wood Product Manufacturing (3219)	17 (4.4%)	78.7
Pulp, Paper, and Paperboard Mills (3221)	14 (3.7%)	60
Cement and Concrete Product Manufacturing (3273)	14 (3.7%)	71.9
Veneer, Plywood, and Engineered Wood Product Manufacturing (3212)	11 (2.9%)	76.7
Converted Paper Product Manufacturing (3222)	11 (2.9%)	66

Caught in/under/between injuries were the leading cause of work-related immediate inpatient hospitalizations in the Manufacturing industry sector (n=83, 21.7%) (Table 22). The second most frequent injury event type was Struck by/against object or equipment (n=76, 19.8%).

**Table 22. Manufacturing Industry Sector Work-Related Immediate Inpatient Hospitalizations by Injury Type, Washington State, 2014-2018.**

<b>Injury Type</b>	<b>Number</b>	<b>%</b>
Caught in/under/between	83	21.7%
Struck by/against object or equipment	76	19.8%
Fall same level	47	12.3%
Other and Nonclassifiable	46	12.0%
Fall from elevation	43	11.2%
Overexertion, Repetitive Motion	19	5.0%
Extreme Temperature	16	4.2%
Other contact with objects or equipment	12	3.1%
Bodily Conditions (fainting)	11	2.9%
Exposure to caustic, noxious, allergic substance	11	2.9%
Highway accident	7	1.8%
Fires and explosions	4	1.0%
Pedestrian struck by vehicle or equipment	4	1.0%
Transportation accident other than highway or pedestrian	4	1.0%
<b>Total</b>	<b>383</b>	<b>100.0%</b>

### *Agriculture, Forestry, Fishing, and Hunting (NAICS 11)*

From 2014 through 2018, there were 335 work-related immediate inpatient hospitalizations in the Agriculture, Forestry, Fishing, and Hunting Sector (NAICS 11), 9.1% of all hospitalizations. The average annual number of hospitalizations was sixty-seven, and the rate of hospitalizations was 70.6 per 100,000 FTE.

**Table 23. Agriculture, Forestry, Fishing, and Hunting Industry Sector Work-Related Immediate Inpatient Hospitalizations by Year, Washington State, 2014-2018.**

Year	2014	2015	2016	2017	2018
Hospitalizations	88	77	57	56	57

Men accounted for 86.9% of hospitalized workers (n=291) in the Agriculture, Forestry, Fishing, and Hunting industry sector, 13.1% were women (n=44).

Over half of hospitalized workers in the Agriculture, Forestry, Fishing, and Hunting industry sector preferred to receive claim information in a language other than English (n=169, 50.4%); 49.3% of hospitalized workers preferred Spanish (n=165).

Workers age 25 to 34 accounted for over one-quarter of hospitalizations (n=88, 26.3%) (Table 24). Another 25.1% of hospitalized workers were age 55 or older.

**Table 24. Agriculture, Forestry, Fishing, and Hunting Industry Sector Work-Related Immediate Inpatient Hospitalizations by Age Group, Washington State, 2014-2018.**

Age Group	Number of Hospitalization	Percent
18 and under	8	2.4%
19-24	36	10.7%
25-34	88	26.3%
35-44	61	18.2%
45-54	58	17.3%
55-64	57	17.0%
65 and over	27	8.1%

Over ninety percent of hospitalizations occurred in seven industry groups (4-digit NAICS). Fruit and Tree Nut Farming experienced the highest number of hospitalizations, with 99 (Table 25).

The Logging industry group had the highest rate of hospitalizations per 100,000 FTE (199.8).

**Table 25. Work-Related Immediate Inpatient Hospitalizations by Agriculture, Forestry, Fishing, and Hunting Industry Group, Washington State, 2014-2018.**

Industry Group (4-digit NAICS code)	Number of Hospitalizations (%)	Rate per 100,000 FTE
Fruit and Tree Nut Farming (1113)	99 (29.6%)	56.6
Logging (1133)	54 (16.1%)	199.8
Support Activities for Crop Production (1151)	47 (14.0%)	38.3
Other Crop Farming (1119)	38 (11.3%)	105.9
Cattle Ranching and Farming (1121)	37 (11.0%)	122.9
Vegetable and Melon Farming (1112)	17 (5.1%)	67.7
Oilseed and Grain Farming (1111)	11 (3.3%)	111.2

Three types of injuries caused over half of hospitalizations: Struck by/against object or equipment (n=80, 23.9%); Falls from elevation (n=68, 20.3%); and Caught-in/under/between injuries (n=42, 12.5%) (Table 26).

**Table 26. Agriculture, Forestry, Fishing, and Hunting Industry Sector Work-Related Immediate Inpatient Hospitalizations by Injury Type, Washington State, 2014-2018.**

Injury Type	Number	%
Struck by/against object or equipment	80	23.9%
Fall from elevation	68	20.3%
Caught in/under/between	42	12.5%
Transportation accident other than highway or pedestrian	25	7.5%
Fall same level	24	7.2%
Pedestrian struck by vehicle or equipment	18	5.4%
Overexertion, Repetitive Motion	17	5.1%
Highway accident	14	4.2%
Assault by animal	12	3.6%
Exposure to caustic, noxious, allergic substance	10	3.0%
Other and Nonclassifiable	9	2.7%
Extreme Temperature	7	2.1%
Bodily Conditions (fainting)	6	1.8%
Other contact with objects or equipment	3	0.9%
<b>Total</b>	<b>335</b>	<b>1.0</b>

Of the 80 injuries due to being struck by or against objects or equipment, 30 (37.5%) occurred in the Forestry and Logging industry subsector (NAICS 113). Trees or logs were the source of 17 of these injuries.

Sixty-six percent of falls from elevation were from a ladder (n=45). Thirty-five ladder falls occurred in the apple orchard or non-citrus fruit farming industries.

### *Retail Trade (NAICS 44-45)*

From 2014 through 2018, there were 273 work-related immediate inpatient hospitalizations in the Retail Trade industry sector (NAICS 44-45), 7.5% of all hospitalizations. The average annual number of hospitalizations was 55, and the rate of hospitalizations was 17.4 per 100,000 FTE.

**Table 27. Retail Trade Industry Sector Work-Related Immediate Inpatient Hospitalizations by Year, Washington State, 2014-2018.**

<b>Year</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Hospitalizations</b>	41	64	51	58	59

In the Retail Trade industry sector, 68.1% of hospitalized workers were men (n=186), and 31.9% were women (n=87).

3.3% of hospitalized workers in the Retail Trade industry sector preferred to receive claim information in a language other than English (n=9).

Nearly half of all hospitalized workers were age 55 or older (n=125, 45.8%) (Table 28).

**Table 28. Retail Trade Industry Sector Work-Related Immediate Inpatient Hospitalizations by Age Group, Washington State, 2014-2018.**

<b>Age Group</b>	<b>Number of Hospitalizations</b>	<b>Percent</b>
18 and under	3	1.1%
19-24	20	7.3%
25-34	37	13.6%
35-44	33	12.1%
45-54	55	20.1%
55-64	83	30.4%
65 and over	42	15.4%

Eight industry groups within the Retail Trade industry sector experienced ten or more work-related immediate inpatient hospitalizations. These ten industry groups accounted for nearly three-quarters of all Retail Trade hospitalizations (n=203, 74.4%) (Table 29).

**Table 29. Work-Related Immediate Inpatient Hospitalizations by Retail Trade Industry Group, Washington State, 2014-2018.**

Industry Group (4-digit NAICS code)	Number of Hospitalizations (%)	Rate per 100,000 FTE
Department Stores (4521)	43 (15.8%)	19
Building Material and Supplies Dealers (4441)	41 (15.0%)	32.2
Grocery Stores (4451)	36 (13.2%)	17.8
Automobile Dealers (4411)	23 (8.4%)	19.8
Gasoline Stations (4471)	20 (7.3%)	42.3
Automotive Parts, Accessories, and Tire Stores (4413)	18 (6.6%)	32.3
Other General Merchandise Stores (4529)	12 (4.4%)	14.4
Clothing Stores (4481)	10 (3.7%)	9.6

Falls on same level were the most frequent injuries leading to immediate inpatient hospitalization in the Retail Trade industry sector (n=88, 32.2%) (Table 30). The second most frequent injury type was Fall from elevation (n=47, 17.2%).

Together, falls were the cause of nearly half of all worker hospitalizations in the Retail Trade sector (n=135, 49.4%).

**Table 30. Retail Trade Industry Sector Work-Related Immediate Inpatient Hospitalizations by Injury Type, Washington State, 2014-2018.**

Retail Trade	Number	%
Fall same level	88	32.2%
Fall from elevation	47	17.2%
Struck by/against object or equipment	26	9.5%
Other and Nonclassifiable	22	8.1%
Overexertion, Repetitive Motion	18	6.6%
Assault by person	14	5.1%
Highway accident	13	4.8%
Pedestrian struck by vehicle or equipment	10	3.7%
Caught in/under/between	9	3.3%
Bodily Conditions (fainting)	8	2.9%
Extreme Temperature	5	1.8%
Other contact with objects or equipment	4	1.5%
Fires and explosions	3	1.1%
Transportation accident other than highway or pedestrian	3	1.1%
Exposure to caustic, noxious, allergic substance	2	0.7%
Assault by animal	1	0.4%
<b>Total</b>	<b>273</b>	<b>100.0%</b>

### *Transportation and Warehousing (NAICS 48-49)*

From 2014 through 2018, there were 226 work-related immediate inpatient hospitalizations in the Transportation and Warehousing industry sector (NAICS 48-49), 6.2% of all hospitalizations. The average annual number of hospitalizations was 45, and the rate of hospitalizations was 57.2 per 100,000 FTE.

**Table 31. Transportation and Warehousing Industry Sector Work-Related Immediate Inpatient Hospitalizations by Year, Washington State, 2014-2018.**

Year	2014	2015	2016	2017	2018
<b>Hospitalizations</b>	49	46	37	49	45

In the Transportation and Warehousing industry sector, 92.5% of hospitalized workers were men (n=209), 7.5% were women (n=17).

7.1% of hospitalized workers in the Transportation and Warehousing industry sector preferred to receive claim information in a language other than English (n=16).

Workers age 55 and older accounted for 37.1% of all hospitalizations in the Transportation and Warehousing industry sector (n=84) (Table 32).

**Table 32. Transportation and Warehousing Industry Sector Work-Related Immediate Inpatient Hospitalizations by Age Group, Washington State, 2014-2018.**

Age Group	Number of Hospitalizations	Percent
18 and under	1	0.4%
19-24	15	6.6%
25-34	41	18.1%
35-44	39	17.3%
45-54	46	20.4%
55-64	64	28.3%
65 and over	20	8.8%

Seven Transportation and Warehousing industry groups experienced more than ten work-related inpatient hospitalizations, and accounted for 84.5% worker hospitalizations in the industry sector.

Over half of all hospitalizations occurred in two industry groups: General Freight Trucking (NAICS 4841) and Specialized Freight Trucking (NAICS 4842) (n=117, 51.8%) (Table 33). Falls from elevation were the leading injury type for both industry groups.

**Table 33. Work-Related Immediate Inpatient Hospitalizations by Transportation and Warehousing Industry Group, Washington State, 2014-2018.**

Industry Group (4-digit NAICS code)	Number of Hospitalizations (%)	Rate per 100,000 FTE
General Freight Trucking (4841)	70 (31.0%)	99.4
Specialized Freight Trucking (4842)	47 (20.8%)	123.7
Couriers and Express Delivery Services (4921)	17 (7.5%)	33.1
Warehousing and Storage (4931)	17 (7.5%)	56.9
Support Activities for Road Transportation (4884)	14 (6.2%)	153.4
Local Messengers and Local Delivery (4922)	14 (6.2%)	116.5
Support Activities for Air Transportation (4881)	12 (5.3%)	41.2

Falls from elevation were the most frequent injury type leading to immediate inpatient hospitalization in the Transportation and Warehousing industry sector (n=49, 21.7%) (Table 34). Over half of falls from elevation were falls from a non-moving vehicle (n=29).

Falls on the same level accounted for another 26 worker hospitalizations. Together, falls were the cause of 33.2% of hospitalizations in the Transportation and Warehousing sector (n=75).

**Table 34. Transportation and Warehousing Industry Sector Work-Related Immediate Inpatient Hospitalizations by Injury Type, Washington State, 2014-2018.**

Injury Type	Number	%
Fall from elevation	49	21.7%
Struck by/against object or equipment	39	17.3%
Highway accident	38	16.8%
Fall same level	26	11.5%
Caught in/under/between	13	5.8%
Pedestrian struck by vehicle or equipment	13	5.8%
Other and Nonclassifiable	11	4.9%
Overexertion, Repetitive Motion	11	4.9%
Transportation accident other than highway or pedestrian	9	4.0%
Bodily Conditions (fainting)	8	3.5%
Assault by person	3	1.3%
Extreme Temperature	3	1.3%
Exposure to caustic, noxious, allergic substance	2	0.9%
Assault by animal	1	0.4%
<b>Total</b>	<b>226</b>	<b>100.0%</b>

## Discussion

In the five years from 2014 through 2018, 3,684 workers in Washington State were injured on the job severely enough to require immediate inpatient hospitalization within a day of their injury— an average of nearly eight hundred worker hospitalizations a year. Most of these injuries were traumatic in nature and led to extended periods of time away from work. These injuries were preventable.

Older workers had higher rates of work-related immediate inpatient hospitalization than younger workers did, with the highest hospitalization rates suffered by workers age 65 and older, followed by workers age 55–64. For women, over half of hospitalizations were to workers age 55 or older. Hospitalizations to workers over age 55 were most frequently caused by falls on the same level. In 2019, workers age 55 and older made up 22.8% of the Washington State labor force.<sup>12</sup> As the population ages and workers remain in the labor force longer, it will be important to understand more about the unique injury risks faced by older workers.

More than one in seven hospitalized workers indicated that they preferred to receive workers' compensation claim information in a language other than English. The majority of these workers preferred Spanish language communication. This result highlights that effective injury prevention information and training must be provided to workers in the language that they best understand.

Smaller employers experienced higher rates of work-related immediate inpatient hospitalizations. Workers at the smallest employers, those with ten or fewer employees, were hospitalized at a rate nearly four times higher than workers at the largest companies. Small employers have been historically difficult to reach with prevention efforts. Renewed focus on ways to provide smaller employers and their workers with injury prevention training and intervention is warranted.

The frequency and rate of hospitalizations differed by industry sector, and within sectors by industry groups. The Construction industry sector experienced both the highest number and highest rate of work-related immediate hospitalizations. The Manufacturing sector had the second highest number of hospitalizations, but the rate of hospitalization was lower than for workers in eight other industry sectors. The Agriculture, Forestry, Fishing and Hunting sector had the second highest rate of work-related hospitalizations, and within the sector, workers in the logging industry group suffered the highest rate of claims. Thoughtful observation of the number and rate of immediate hospitalizations between and within industry sectors will lead to better-targeted prevention efforts.

One quarter of all work-related immediate inpatient hospitalizations were due to falls from elevation. While nearly half of these falls occurred in the Construction industry sector, hospitalized injuries due to

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<sup>12</sup> Quarterly Workforce Indicators (QWI) data, from the Longitudinal Employer-Household Dynamics (LEHD) program at the United States Census Bureau. <https://lehd.ces.census.gov/>

falls from elevation occurred in nineteen out of twenty industry sectors. When falls on the same level are included, injuries from falls were the cause of more than four out of every ten immediate hospitalizations. It is clear that efforts to identify hazards and prevent hospitalized falls are needed across industries.

The immediate inpatient work-related hospitalization surveillance system provides valuable descriptive information that can inform prevention efforts. Linking workers' compensation claim information with hospital discharge data makes it possible to develop a fuller picture of serious work-related injuries that lead to immediate hospitalization than would be possible using a single existing system. Using this unique surveillance system, we can identify high-risk industries and occupations, detect vulnerable worker populations, and monitor trends over time.

## Appendix A: Methods

A *work-related immediate inpatient hospitalization* is a work-related injury or illness that leads to an inpatient hospital admission on the day of injury event or exposure or the day following the injury event or exposure, in a Washington State acute care hospital. The work-related immediate inpatient hospitalization surveillance system links two data sources to identify cases meeting the case definition above: Washington State Department of Labor and Industries (L&I) accepted state fund and self-insured workers' compensation claims data, and the Washington Comprehensive Hospital Abstract Reporting System (CHARS). Washington State workers compensation claims data have been described in detail elsewhere.<sup>13,14</sup> The CHARS data system is operated by the Washington State Department of Health.

To identify cases, discharges for inpatient hospitalizations in Washington State hospitals for calendar years 2014–2018 were obtained. We extracted all accepted workers compensation claims with injury dates from one day before the earliest admission date in the hospitalization data through the most recent admission date. Records were linked across datasets based on name (last, first name or initial, middle), birthdate, workers' compensation injury date within one day of hospital admission date, sex, and worker's residence zip code; the dataset was limited to one discharge per claim (earliest admission). Unlinked records were excluded. Expected bill payer is not a data element necessary for linkage or for identification of a work-related injury event.

Limitations of our tracking system are due to the inclusion and exclusion criteria associated with the data sources. CHARS data includes inpatient hospitalizations in Washington State acute care hospitals. CHARS does not include hospitalization data from out-of-state facilities, Veterans' Affairs, or military hospitals. The CHARS data include only individuals 14 years or older. Workers compensation data are known to have specific limitations related to incomplete capture of claims eligible for benefits and statutory exclusions from coverage (RCW 51.12.020). Specific exclusions, which significantly limit the completeness of these data, include self-employed workers unless they choose elective coverage, non-mandatory coverage for company owners, and workers covered by alternative workers' compensation insurance (e.g. federal workers compensation programs or reciprocal state agreements for employees).

In the descriptive analyses, CHARS data provides information specific to year of admission and the designation that the person was hospitalized as an inpatient. All additional data elements were obtained through the Washington State Department of Labor and Industries workers' compensation claims data, including, worker demographics, preferred language for claim communications, industry and occupation

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<sup>13</sup> Wuellner SE, Bonauto DK. Injury classification agreement in linked Bureau of Labor Statistics and workers' compensation data. *Am J Ind Med.* 2014 Oct; 57(10):1100-1109.

<sup>14</sup> Bonauto DK, Silverstein BA, Adams DA, Foley M. Prioritizing industries for occupational injury and illness prevention and research, Washington state workers' compensation claims, 1999-2003. *J Occ Env Med* 2006; 48(8):840-851.

of employment, occupational injury and illness classification codes (OIICS v1.01)<sup>15</sup> and, for state fund workers' compensation claims only, claim benefit costs, and time loss duration.

For this report, work-related immediate inpatient hospitalization rates were calculated using two sources of employment data. Hospitalizations rates by year and employer characteristics were calculated using payroll hours reported by employers to L&I converted to full-time equivalent (FTE). Employers do not report worker demographic information with payroll hours. Hospitalization rates by worker age and gender were calculated using U.S. Census Bureau Quarterly Workforce Indicators Data.<sup>16</sup>

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<sup>15</sup> Occupational Injury and Illness Classification System, v1.01, U.S. Department of Labor, Bureau of Labor Statistics: <https://wwwn.cdc.gov/Wisards/oiics/default.aspx>

<sup>16</sup> Quarterly Workforce Indicators (QWI) data, from the Longitudinal Employer-Household Dynamics (LEHD) program at the United States Census Bureau. <https://lehd.ces.census.gov/>