

Immediate Work-Related Inpatient Hospitalizations in Crop & Animal Production Agriculture: Washington State, 2011-2015



Technical Report # 96-03-2017

February 16, 2017

Naomi J. Anderson, MPH

Sara E. Wuellner, PhD

Safety and Health Assessment and Research for Prevention (SHARP) Program

Washington State Department of Labor and Industries

PO Box 44330

Olympia, Washington 98504-4330

www.LNI.wa.gov/Safety/Research

Work-related injuries so severe they result in immediate hospitalization of the worker can be prevented. We examined in-patient hospitalization data and workers' compensation claims data to learn more about incidents involving hospitalization within one day of work-related injury among Washington workers in the Crop and Animal Production industries (NAICS subsectors 111, 112, and 1151-1152) during the 5-year period, 2011-2015.

- There were 305 immediate work-related hospitalizations in Crop/Animal Production Agriculture linked to WC claims over the 5-year period.
- On average, there were 61 immediate hospitalizations per year.
- The majority of hospitalized workers were men (85%)
- Hospitalized workers ranged in age from 15 to 77 years old.
- The leading cause of hospitalized injuries was falls (31%).
- The total Paid-To-Date cost of the 299 SF claims was: \$21.5 million dollars.
- SF claim cost ranged from \$395 to \$1.8 million dollars.
 - Average cost: \$72,066; median cost: \$39,993.

Table 1. Hospitalizations within one day of work-related injury by year of injury, Crop and Animal Production industries, Washington State, 2011 – 2015.

Year	Number	Annual rate per 10,000 workers
2011	59	7.6
2012	71	8.5
2013	54	6.3
2014	67	7.5
2015	54	6.1
Total	305	7.2

Figure 1. Average number of hospitalizations within one day of work-related injury by quarter of injury, Crop and Animal Production industries, Washington State, 2011 – 2015.

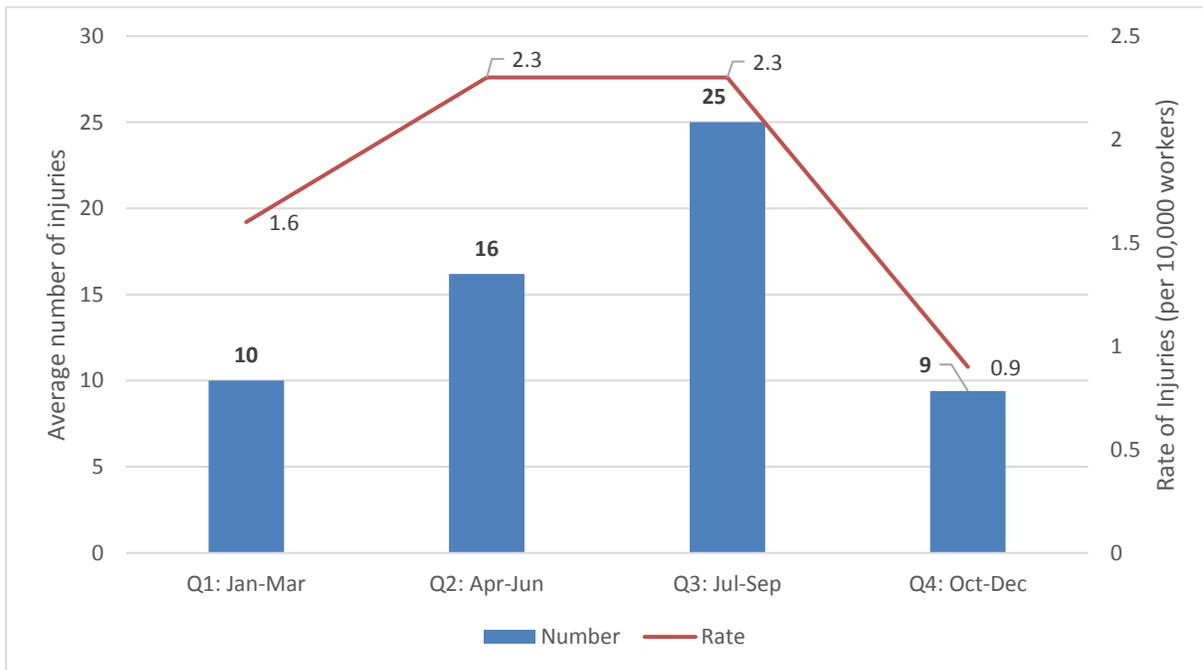
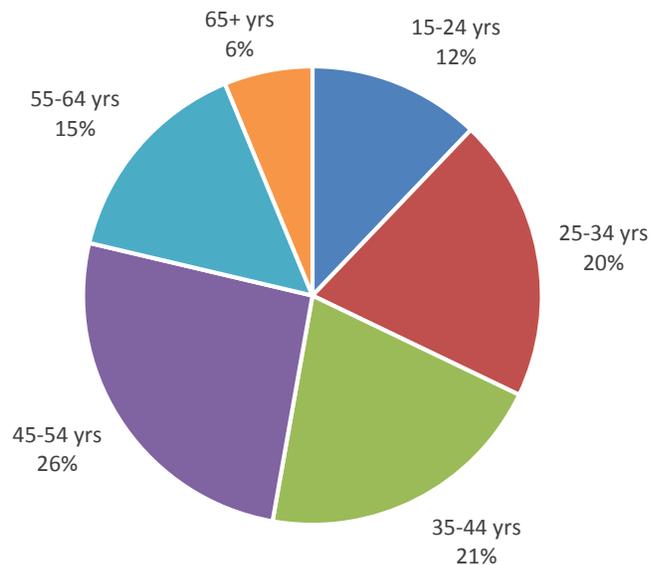


Table 2. Hospitalizations within one day of work-related injury by 4-digit NAICS Industry Group, Crop and Animal Production industries, Washington State, 2011 – 2015.

NAICS			
4-Digit Industry Group	Description	Number (%)	Rate per 10,000 workers
1111	Oilseed and Grain Farming	10 (3.3)	12.9
1112	Vegetable & Melon Farming	20 (6.6)	8.6
1113	Fruit & Tree Nut Farming	124 (40.7)	5.9
1114	Greenhouse, Nursery, and Floriculture Production	7 (2.3)	3.0
1119	Other Crop Farming	43 (14.1)	13.8
1121	Cattle Ranching & Farming	23 (7.5)	10.3
1123	Poultry & Egg Production	5 (1.6)	16.2
1125	Animal Aquaculture	4 (1.3)	9.7
1129	Other Animal Production	8 (2.6)	56.6
1151	Support Activities for Crop Production	58 (19.0)	6.0
1152	Support Activities for Animal Production	3 (1.0)	13.0
ALL INDUSTRIES		3542	2.5

Figure 2. Hospitalizations within one day of work-related injury by age group, Washington State, 2011 – 2015.



Hospitalized workers ranged in age from 15 – 77, the average age was 43 years.

Injury Type

A fall of some kind accounted for 31% of immediate hospitalizations (Table 3) and were the leading injury type in all age groups except one. The highest average cost per claim was associated with ‘Transportation accidents’ and ‘Caught in/under/between’ (Table 3).

- The length of hospital stays for injured workers in Crop/Animal Production ranged from 1-49 days.
 - Median: 2 days
- Time Loss days ranged from 0-2039
 - One-third of workers who were immediately hospitalized for a work-related injury did not have any recorded days of TL.

Table 3. Claim characteristics of hospitalizations within one day of work-related injury, Washington State, 2011 – 2015.

Injury Type	Number (%)	Median WC costs (\$)*	Median Hosp. stay	Median days of time loss	Median worker age
Falls from elevation	81 (27.1)	48,006	3	287	46
Struck by/against	51 (17.1)	25,715	2	75	39
Transportation accidents	50 (16.7)	57,083	3	173.5	39.5
Caught in/under/between	45 (15.1)	53,271	2	180	38
Falls from same level	17 (5.7)	52,954	3	105	48
Assaults & violent acts	9 (3.0)	15,723	2	43	32
Toxics	6 (2)	8,730	1.5	0	46.5
All other (categories w/<5 ea.)	28 (9.4)	15,420	3	0	44.5
Nonclassifiable, Unknown	12 (4.0)	37,840	2.5	156	52
Total	299 (100)	39,993	2	121	43

*Workers’ compensation costs calculated as medical-aid plus wage replacement costs paid to date.

Table 4. Hospitalizations within one day of work-related injury, injury type by quarter, Washington State, 2011 – 2015.

Injury Type	Q1:		Q2:		Q3:		Q4:		Total	
	Jan - Mar		Apr - Jun		Jul - Sep		Oct - Dec			
Falls from elevation	11	22%	23	29%	40	32%	7	15%	81	27%
Transportation accidents	4	8%	22	28%	16	13%	8	17%	50	17%
Struck by/against	15	30%	10	13%	20	16%	6	13%	51	17%
Caught in/under/between	8	16%	9	11%	22	18%	6	13%	45	15%
Falls from same level	3	6%	4	5%	6	5%	4	9%	17	6%
Assaults & Violent Acts	1	2%	3	4%	4	3%	1	2%	9	3%
Toxics	2	4%	1	1%	3	2%	0	0%	6	2%
Nonclassifiable	0	0%	3	4%	4	3%	5	11%	12	4%
All Other (categories w/<5 ea.)	6	12%	4	5%	9	7%	9	20%	28	9%
Total	50	100%	79	100%	124	100%	46	100%	299	100%

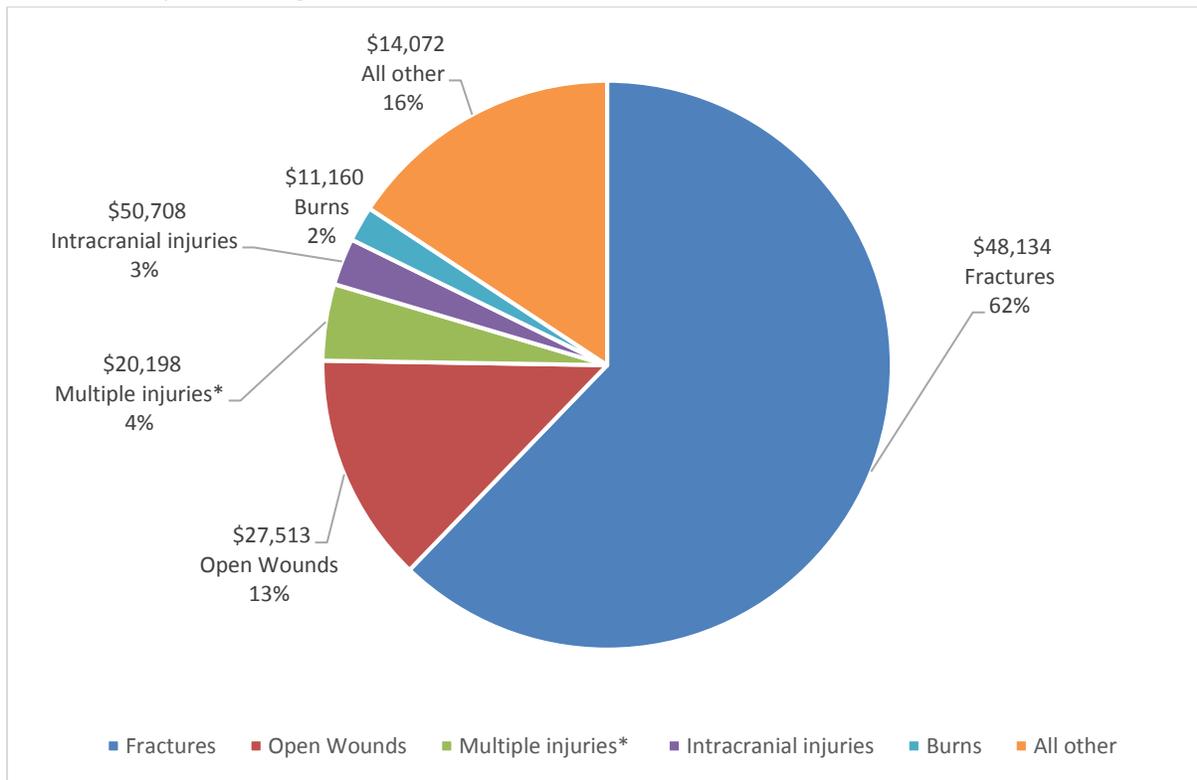
Table 5. Common injury sources by injury type of hospitalizations within one day of work-related injury, Washington State, 2011 – 2015.

Injury Type	Number of injuries	Source	Number of injuries	Percent of Injury type
Falls from elevation	81	Ladders	59	73%
Transportation accidents	50	Tractors	22	44%
		Highway vehicles	15	30%
Struck by	51	Machinery, tools, equipment	17	33%
		Persons, animals	15	29%
Caught in	44	Machinery	33	73%
Falls from same level	17	Floors, walkways, ground	13	76%
Assaults and Violent Acts	9	Animals	7	78%

Nature of Injury

Fractures of some kind accounted for 62% of all immediate work-related hospitalizations in crop/animal production Agriculture (Figure 3). Of the most common injury natures, Intracranial injuries had the highest median claim cost (Figure 3).

Figure 3. Hospitalizations within one day of work-related injury by nature of injury (and median cost), Washington State, 2011 – 2015.



Select injury event descriptions from workers & employers:

- “I was pruning trees from the 6th rung of ladder, the pole sunk into a hole and I fell.”
- “I was driving the tractor, the brake did not work, steering wheel got hard. I was unable to remove it & fell into a ditch.”
- “Disconnecting a part off a tractor and it fell on top of me. I was stuck under it for about 1 and one half hours.”
- “Was pruning grape vines did not see snake.”
- “Bagger caught right arm while cleaning potatoes.”
- “In a corridor with a cow and the cow crushed worker against the metal bars.”
- “Motorcycle crashed into the oncoming truck in an orchard intersection.”
- “I stepped on portion of roof that was icy and slipped and fell about 15 ft onto ground.”
- “Leg vs forklift: leg trapped under forklift.”
- “I was cleaning metal parts to grind them and the grinder caught my glove mashing my left hand.”

Acknowledgements:

This report was supported in part by Grant Number 5U60OH008487 from CDC – NIOSH. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH or the Centers for Disease Control and Prevention.

Technical Notes:

Hospitalizations were identified from Washington hospital discharge records linked to Washington workers' compensation claims data (state funded workers' compensation claims and claims among self-insured employers). Immediate hospitalizations were defined as in-patient hospitalizations that occurred at a Washington State hospital within one day of the work-related injury.

This report was limited to 2011 – 2015 injuries among workers in the Crop and Animal Production industry subsector, defined by the North American Industry Classification System codes 111, 112, and industry groups 1151-1152. Employment data for calculating rates was obtained using the US Census Bureau's QWI explorer: <https://qwiexplorer.ces.census.gov/static/explore.html#x=0&g=0>.

We report median claim cost in Table 3 because it is a measure of central tendency that is less influenced by outliers.

In Washington State, non-federal employers are required to obtain workers' compensation insurance through the Department of Labor and Industries' (L&I) industrial insurance system, unless they meet specific requirements to self-insure, or are covered by an alternative workers' compensation system (e.g. Longshore and Harbor Workers' Compensation Program). L&I administers the State Fund (SF), an industrial insurance program that provides coverage for approximately two-thirds of Washington 3.5 million workers. The SF generally does not cover self-employed workers and other excluded types of workers; though elective coverage is available. Outside of the SF, there are approximately 450 self-insured (SI) entities (individual companies or groups of companies) that are not included in the State Fund insurance pool.