
Prioritizing Industries for Occupational Injury and Illness Prevention, Washington State Workers' Compensation Claims Data, 1998-2002

Technical Report Number 64-1-2005

March 2005





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March 2005

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Acknowledgements:

This report was supported by the Washington State Department of Labor and Industries and in part by Cooperative Agreement 5 U01 OH007292 from the National Institute for Occupational Safety and Health (NIOSH). The contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH and the Centers for Disease Control and Prevention.

Report Summary:

Background: Resources to prevent occupational injury and illness are scarce. Effectively utilizing those resources is essential to provide the greatest benefit to workers and employers. This study examines the industries at high risk for seven common and costly occupational injuries and illnesses for allocation of prevention and research resources.

Methods: Washington State Fund workers' compensation data for compensable claims for the years 1998 – 2002 were analyzed. By aggregating ANSI Z16 injury types, high cost common workers' compensation claims were identified. Payroll hours were used to determine claims' incidence rates by industry per 10,000 FTE. We used a prevention index to rank industries for each of the aggregated injury types.

Results: Between 1998 – 2002, there were 166,722 compensable Washington State state fund claims costing an estimated 3.9 billion in direct workers' compensation costs and accounting for 24.3 million time loss days. Seven common, high cost, injury types were identified:

- 'Caught in/under/between',
- 'Fall from Elevation',
- 'Fall from Same Level',
- 'Struck By/Against',
- 'Motor Vehicle',
- Work-related musculoskeletal disorders of the lower extremity, and
- Work-related musculoskeletal disorders of the neck, back and upper extremity.

These seven aggregated injury types accounted for 91.6% of all compensable claims, 94.7% of all compensable claim costs and 95.5% of all compensable claim time loss days.

Using the prevention index, an average of the rank orders by NAICS industry group for claim count and claims rate was determined. Priority industries for prevention and research were determined for each aggregated injury type.

The top five industry groups by Prevention Index for research and prevention for compensable 'Caught In/Under/Between' workers' compensation claims were:

1. NAICS 3219 – Other Wood Product Manufacturing,
2. NAICS 1133 – Logging,
3. NAICS 3222 – Converted Paper Product Manufacturing,
4. NAICS 1121 – Cattle Ranching and Farming, and
5. NAICS 3323 – Architectural and Structural Metals Manufacturing.

The top five industry groups by Prevention Index for research and prevention for compensable 'Fall from Elevation' workers' compensation claims were:

1. NAICS 2381 – Foundation, Structure and Building Exterior Contractors,
2. NAICS 2383 – Building Finishing Contractors,
3. NAICS 2361 – Residential Building Construction,
4. NAICS 1113 – Fruit and Tree Nut Farming, and
5. NAICS 1133 – Logging.

The top five industry groups by Prevention Index for research and prevention for compensable 'Fall from Same Level' workers' compensation claims were:

1. NAICS 1133 – Logging,
2. NAICS 2381 – Foundation, Structure and Building Exterior Contractors,
3. NAICS 4841 – General Freight Trucking,
4. NAICS 2383 – Building Finishing Contractors, and
5. NAICS 7222 – Limited Service Eating Places.

The top five industry groups by Prevention Index for research and prevention for compensable 'Struck By/Against' workers' compensation claims were:

1. NAICS 2381 – Foundation, Structure and Building Exterior Contractors,
2. NAICS 1133 – Logging,
3. NAICS 2361 – Residential Building Construction,
4. NAICS 6222 – Psychiatric and Substance Abuse Hospitals, and
5. NAICS 3219 – Other Wood Product Manufacturing.

The top five industry groups by Prevention Index for research and prevention for compensable 'Motor Vehicle' workers' compensation claims were:

1. NAICS 4841 – General Freight Trucking,
2. NAICS 4842 – Specialized Freight Trucking,
3. NAICS 4921 – Couriers,
4. NAICS 1133 – Logging, and
5. NAICS 4922 – Local Messengers and Local Delivery.

The top five industry groups by Prevention Index for research and prevention for work-related musculoskeletal disorders of the lower extremity were:

1. NAICS 2383 – Building Finishing Contractors,
2. NAICS 2381 – Foundation, Structure and Building Exterior Contractors,
3. NAICS 2361 – Residential Building Construction,
4. NAICS 4841 – General Freight Trucking, and
5. NAICS 1133 – Logging.

The top five industry groups by Prevention Index for research and prevention for work-related musculoskeletal disorders of the neck, back and upper extremity were:

1. NAICS 2381 – Foundation, Structure and Building Exterior Contractors,
2. NAICS 2383 – Building Finishing Contractors,
3. NAICS 6231 – Nursing Care Facilities,
4. NAICS 6233 – Community Care Facilities for the Elderly, and
5. NAICS 2361 – Residential Building Construction.

Only two industry groups ranked within the top 20 by Prevention Index for all seven common high cost workers compensation claims. These two industries were NAICS 1133 – Logging and NAICS 4841 – General Freight Trucking.

Using Washington Industrial Classification, a risk classification system based on combining industry and occupation, Trucking, Logging, Road Construction, Garbage Collection, Roofing, and Wood Frame Building Construction rank highly across the seven types of workers' compensation claims.

Conclusions: Allocating prevention and research resources towards industry groups with high rates and high counts of common high cost workers' compensation claims in Washington State is needed. This process has identified both construction and trucking as high risk industry groups.

I. Introduction:

Resources to prevent occupational injury and illness are scarce. Effectively utilizing those resources is essential to provide the greatest benefit to workers and employers. Occupational health surveillance usually focuses on individual hazards or specific diseases associated with those hazards.^{1,2} Relatively little industry based non-fatal occupational injury and illness surveillance on a state or national level exists aside from the United States' Department of Labor Bureau of Labor Statistics' (BLS) Survey of Occupational Illness and Injury. As part of an attempt to improve occupational safety and health the Washington State Department of Labor and Industries' (L&I) Safety and Health Assessment and Research for Prevention (SHARP) sought to partner with an industry sector to prevent occupational injuries and illnesses and workers' compensation claims.

Partnering with industry and worker groups is a valuable method to improve occupational safety and health. The partnership allows the transfer of safety and health best practices across an industry and has the potential to change the organizational climate associated with safety and health in workplaces in the chosen industry.³

The primary intention of this report is to prioritize Washington State industries for injury surveillance and prevention based on the occurrence of high cost, common, workers' compensation claims. We employ a 'prevention index' to prioritize industries.⁴ The 'prevention index' is the average of the industries ranking in the number of workers' compensation claims and claims' rate. The effective allocation of scarce occupational health and safety resources demands an emphasis on industries with both a high number and high rate (cases/10,000 FTE) of occupational injury and illness.

II. Methods:

II. A 1. Washington Workers' Compensation System:

Washington State employers, except the federal government, those covered by alternative workers' compensation programs (i.e., Harbor and Longshore Workers' Compensation Program), or those that are able to self-insure, are required to obtain workers' compensation insurance through the Washington State Department of Labor and Industries industrial insurance system. L&I's **State Fund (SF)** provides workers' compensation coverage to approximately 160,000 employers and approximately 66% of the workforce. The remaining 400 (primarily large) employers **self-insure (SI)** and employ approximately one-third of the Washington workforce. Self-insured employers account for a large proportion of workers in hospitals, grocery stores, aerospace and city/county government. Following an initial description of the injury types associated with self-insured claims, this report is restricted to analysis of Washington workers' compensation SF claims only.

The system has elective workers' compensation coverage for self-employed workers and household employers with two or less workers, and other defined exemptions in Title 51.⁵ The worker pays a component of the workers' compensation insurance premium. All employers in Washington State, except the federal government and those covered by alternative workers' compensation systems, are regulated under Washington State Industrial Safety and Health Act, the Washington State OSHA state plan.

II. A 2. Workers' Compensation Databases:

Two primary databases are used in workers' compensation insurance claims processing. The Washington State Department of Labor and Industries' Industrial Insurance System (LINIIS) contains all administrative information necessary to adjudicate a SF claim. Information contained in LINIIS includes identification of the employer and injured worker, codes characterizing the injury or illness, and other necessary medical information. Costs associated with disability payments, wage replacement, and pensions are contained within this system. A second data processing system, the Medical Information and Payment System contains all billing information generated by health care providers including hospitals for SF claims. This system contains all medical billing information for procedures, treatment and physician diagnoses' as coded by the International Classification of Disease version 9 (ICD-9) system. Claim costs for closed claims reflect actual paid costs. For claims that are not closed, costs reflect actual totals paid to date plus case reserve estimates for future costs associated with the claim. Indirect costs and administrative costs of managing the claim are not included in claim costs.

II. A 3. Workers' Compensation Claim Information and Claims' Coding:

In Washington State, a physician and worker initiate a workers' compensation claim by filing a Report of Industrial Injury or Occupational Disease (RIIOD) form. The worker provides demographic information (date of birth, gender, marital status, address information) employment and wage information and a brief description of the incident. The physician provides a medical diagnosis (with ICD-9 code), subjective and objective information regarding the diagnosis, and a diagnostic and treatment plan.

All Washington workers' compensation SF claims are coded for *nature, type, body part, source, and associated source* according to the ANSI Z16.2 coding system⁶ from the information contained on the RIIOD form. The ANSI codes are assigned at the beginning of a claim and as such represent a static description of the injury or illness. As the medical course of the worker's injury evolves additional coding systems, i.e. ICD-9CM codes may reveal additional information about the injury or illness.

Each employer has a North American Industrial Classification System (NAICS)⁷ code assigned which identifies the industry associated with the firm's commerce. NAICS groups 'economic activity' into 20 sectors (two digit code), 100 subsectors (three digit code), and 317 NAICS industry groups (four digit code).⁷ Selected industry group examples include:

NAICS 1133 Logging: This industry comprises establishments primarily engaged in one or more of the following: (1) cutting timber; (2) cutting and transporting timber; and (3) producing wood chips in the field.

NAICS 2361 Residential Building Construction: This Industry comprises establishments primarily responsible for the construction or remodeling and renovation of single-family and multifamily residential buildings. Included in this industry are residential housing general contractors (i.e., new construction, remodeling or renovating existing residential structures), operative builders and remodelers of residential structures, residential project construction management firms, and residential design-build firms.

NAICS 2381 Foundation, Structure, and Building Exterior Contractors: This industry group comprises establishments primarily engaged in the specialty trades needed to complete the basic structure (i.e., foundation, frame, and shell) of buildings. The work performed may include new work, additions, alterations, maintenance, and repairs.

NAICS 2383 Building Finishing Contractors: This industry group comprises establishments primarily engaged in the specialty trades needed to finish buildings. The work performed may include new work, additions, alterations, or maintenance and repairs.

NAICS 4841 General Freight Trucking: This industry group comprises establishments primarily engaged in providing general freight trucking. General freight establishments handle a wide variety of commodities, generally palletized, and transported in a container or van trailer. The establishments of this industry group provide a combination of the

following network activities: local pickup, local sorting and terminal operations, line-haul, destination sorting and terminal operations, and local delivery.

NAICS 4842 Specialized Freight Trucking: This industry group comprises establishments primarily engaged in providing local or long-distance specialized freight trucking. The establishments of this industry are primarily engaged in the transportation of freight which, because of size, weight, shape, or other inherent characteristics, requires specialized equipment, such as flatbeds, tankers, or refrigerated trailers. This industry includes the transportation of used household, institutional, and commercial furniture and equipment.

NAICS 5621 Waste Collection: This industry comprises establishments primarily engaged in (1) collecting and/or hauling hazardous waste, nonhazardous waste, and/or recyclable materials within a local area and/or (2) operating hazardous or nonhazardous waste transfer stations. Hazardous waste collection establishments may be responsible for the identification, treatment, packaging, and labeling of waste for the purposes of transport.

Each employer reports hours worked by their employees for payment of the workers' compensation insurance premium. Hours are reported on an account level and reported by a risk-classification system referred to as the Washington Industrial Classification (WIC) system.⁸ The WIC system combines industry and occupation to group workplaces by similar risk of injury for insurance purposes (e.g., a painter and an electrician within the same construction company may have the same NAICS code but will be assigned different risk classes). A WIC classification assigned to a group of workers, called 'Preferred Workers' was excluded from analysis. This WIC is part of an insurance program dedicated to returning injured workers to gainful employment and is not specific to a particular industry or occupation. The claims for preferred workers are included in the NAICS analysis as they are assigned a NAICS Industry Group.

II. B. Specific Methods Description:

II. B. 1. Data Ascertainment:

We identified all SF workers' compensation claims with dates of injury or illness from January 1, 1998 to December 31, 2002. Claims were extracted from the Washington State workers' compensation databases on November 29, 2004. Data extracted for each SF claim includes claim identification number, claim status (medical only; compensable), ANSI Z 16.2 codes for *nature*, *body part*, *source* and *type* of injury or illness, costs associated with the workers' compensation claim and time-loss information. A claim is considered a 'compensable' claim if it is categorized by the workers' compensation system as 'compensable', 'kept-on-salary', 'total permanent disability', 'fatal' or 'loss of earning power' claim. A claim will qualify as a 'compensable' claim if it involves four or more days of wage replacement to the injured worker. A claim may change its status, i.e., change from non-compensable to compensable over

time. Hours by NAICS industry group were obtained by workers' compensation account and aggregated over the five-year study period. For State Fund employers, hours are reported quarterly by WIC.

II. B 2. Data Analysis:

Descriptive analyses of workers' compensation claims were conducted describing the claims status and then limited to an analysis of claims defined as compensable (see above). To identify high cost, common, occupational injuries and illnesses for prevention efforts, claims were aggregated into similar 'types' of injuries {Figure 1}. Previous analyses of Washington workers' compensation data determined that work-related musculoskeletal disorders of the neck, back and upper extremity (WMSDs) account for a significant portion of workers' compensation claims and claims costs.⁹ The development of WMSDs are attributable to common hazards in the workplace generally including physical hazards such as high force, high repetition, vibration and awkward postures among others. Within the claims dataset, WMSD claims were identified utilizing the previously described data systems definition for a WMSD claim⁹ and grouped for analysis. After categorization of WMSD claims, the remaining claims were grouped for the presence of a lower extremity musculoskeletal disorder (LE-MSD). A LE-MSD claim was defined as having an ANSI Z16.2 type of injury as either 'overexertion' (ANSI Z16.2 type codes 120-129) or 'bodily reaction' (ANSI Z16.2 type code 100) combined with a lower extremity body part code (ANSI Z16.2 body part codes 500 -598). After exclusion of the WMSDs and LE-MSDs the claims were described by three-digit ANSI *type* code. One-hundred eight ANSI three digit individual injury type codes can be used to describe the injury and illness. Similar three-digit injury type codes were aggregated into sixteen groups – 'aggregated injury type' (see Appendix 1). These 'aggregated injury types' are referred to as 'injury type' in this study.

Seven 'injury types' represented a majority of compensable claims and claim costs - 'Caught In/Under/Between', 'Falls from Elevation', 'Falls from Same Level', 'Struck By/Against', 'Motor Vehicle', LE-MSDs, and WMSDs, and were described in detail related to ranking of industries for prevention opportunities. Analysis of industry rates, either by NAICS or WIC required attribution of the claim to an employer with an assigned NAICS or WIC code. Claims are not assigned when it is not clear which employer is responsible for the claim. This occurs when there is a long latency for disease associated with the claim or when the exposure culminating in disease occurs over a long duration. There were 4,056 claims (<2%) without an assigned NAICS or WIC code. Of these 4,056 claims, most are associated with hearing loss, asbestos-related lung disease and some WMSD claims.

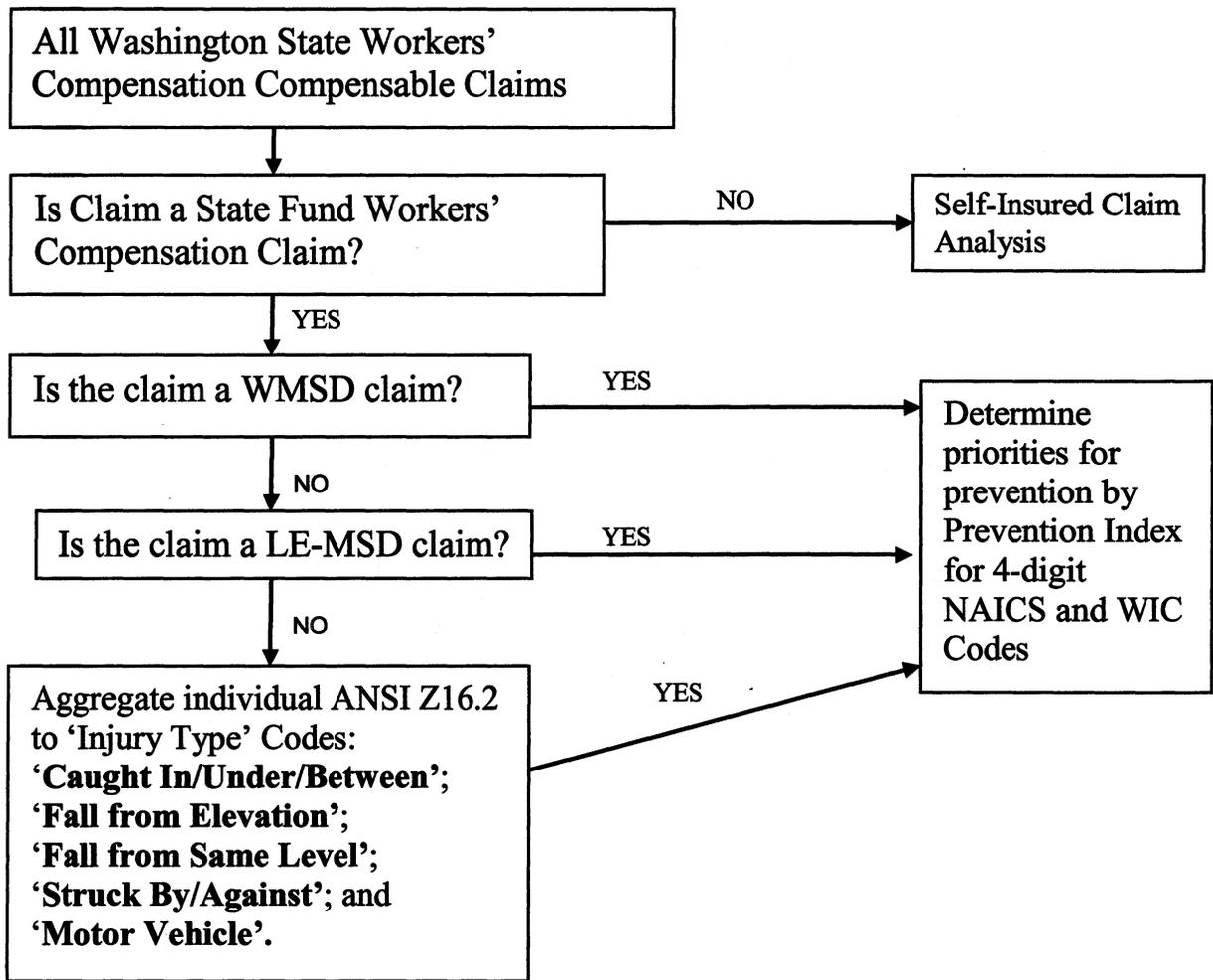


Figure 1. General Algorithm for Categorizing Claims by 'Type of Injury'

A full time equivalent employee (FTE) was defined as working 2,000 hours per year (40 hours per week for 50 weeks per year). Claim rates are expressed as cases per 10,000 FTE. For high cost, common, occupational injury types, we utilized a prevention index (PI) to rank industries for prevention activities by the seven different injury types. The PI is the average of the rank orders of the claim count and claim incidence rate or $PI = (Count\ Rank + Incidence\ Rank)/2$. For determination of the PI, WIC and NAICS industries were limited to those with ≥ 10 compensable workers' compensation claims and a cumulative FTE of ≥ 250 over the five year study period, from 1998 – 2002. Over the five year time period of the study, there were 288 WIC and 299 NAICS groups with cumulative FTEs ≥ 250 . Severity rate was calculated as the number of days of time loss per 10,000 FTE.

In order to prioritize industries which may benefit from prevention activities, we ranked the PI scores for the seven 'injury types'. The rankings were assigned from lowest PI to the highest

for each injury type. The PI rankings were averaged across the number of conditions for which the NAICS or WIC qualified (≥ 250 FTE and greater than or equal to 10 claims over the five year study period). The lower the average prevention index, the higher the priority for prevention.

Results:

From 1998 – 2002, 810,732 claims were filed with the Washington State workers' compensation state fund (Table 1). Of these 11.4 % were rejected, 67.5% were accepted but considered 'non-compensable' and 21.1% were considered a compensable claim. Actual compensation for lost time may occur in claims considered as 'non-compensable' but are due to changes in claim status over the course of a claim (i.e., claims may initially be paid time loss compensation but ultimately may be rejected by claims adjudicators). Compensable claims account for 92.1% of all claim costs (time loss payments, medical bills, disability payments, etc.) and for 99.9% of all time loss days paid by the workers' compensation system.

Claims filed that are 'compensable' and assigned an industry classification through NAICS or WIC accounted for 166,722 claims over the five-year period. For the years 1998 – 2002, when SF compensable claims are aggregated into 16 similar injury types, seven 'injury types' account for over 91.6% of all compensable claims, 94.7% of compensable claim costs and 95.5% of all compensable claims time loss days (Table 2). The seven 'injury types' are 'Caught In/Under/Between', 'Fall from Elevation' and 'Fall from Same Level', 'Struck By/Against', 'Motor Vehicle Injury', LE-MSDs, and WMSDs. WMSDs account for only 40.4% of the compensable claims but comprise 49.4% of all compensable claim time loss days. The seven 'injury types' account for 84.0% of all compensable claims in Washington State self-insured employers (Table 3).

1. High Risk NAICS Industry Groups for the Seven Common High Cost Injury Types

'Caught In/Under/Between' claims represent injuries produced by squeezing, pinching, or crushing between a moving object and a stationary object, between two moving objects or between parts of an object. Of the top twenty-five industry groups ranked by PI for 'Caught In/Under/Between' injuries (Table 4), ten are in the Manufacturing Sector (NAICS 31 – 33). Only 102 of 299 NAICS industry groups met the criterion for inclusion in the PI rankings (see above). Severity rates were low relative to other injury types.

A claim from a 'Fall from Elevation' represents an injury which occurs as a result of impact between the injured person and the source of injury where the force of impact was determined by gravity and the point of contact was lower than the individuals' footing. Of the top 25 industry groups ranked by PI for 'Fall from Elevation' claims (Table 5), nine are in the Construction Sector (NAICS 23). Only one construction sector NAICS industry group, Land Subdivision NAICS 2372, is not represented in the top 25 PI industry groups for 'Fall from Elevation'. Only 2 of the top 25 industry group by PI are in the manufacturing sector. A total of

171 NAICS industry groups met the criterion for inclusion in the PI rankings. Of the top 25 industry groups ranked by PI for 'Fall from Elevation' compensable claims, Foundation, Structure, and Building Exterior Contractors (NAICS 2381) had the highest severity rate with 30,905 time loss days per 10,000 FTE or 3 days of time loss per FTE. NAICS 2381 ranks first in the count of claims and second in claims' rate, only superseded by logging (NAICS 1133). Many industries requiring work from elevation in construction, such as glazing, roofing, framing, and siding, are included within the NAICS 2381.

Claims resulting from 'Fall from Same Level' include common industry groups with those in 'Falls from Elevation', specifically Logging (NAICS 1133), Foundation, Structure, and Building Exterior Contractors (NAICS 2381), General Freight Trucking (NAICS 4841) and Building Finishing Contractors (NAICS 2383) (Table 6). However, several industry subsectors are well represented in the top twenty-five PI industry groups for 'Falls from Same Level' that do not appear in the rankings for 'Fall from Elevation', including Accommodations - NAICS 721, Food Services and Drinking Places - NAICS 722, and Nursing and Residential Care Facilities - NAICS 623. One-hundred ninety-eight (62.5%) industry groups had at least 10 compensable claims during the time period of the study. The severity rate in Logging (NAICS 1133), 31,409/10,000 FTE was more than double that of Psychiatric and Substance Abuse Hospitals, the industry group with the second highest severity rate.

Claims are classified as being 'Struck By/Against' when the energy generated by the impact is supplied by the source of injury. Almost nine days of lost time per FTE occurs in Logging (NAICS 1133) industry group (Table 7).

As expected, the transportation and warehousing sector is well represented in those NAICS industry groups with a top 25 PI for 'Motor Vehicle' claims (Table 8).

Lower extremity MSDs involve overexertion or bodily motion affecting a lower extremity body part. These are by definition both acute and non-acute injuries which are non-impact injuries. Of the top 25 NAICS industry groups ranked by PI for 'LE MSDs' claims (Table 9), eight are in the Construction Sector (NAICS 23). LE-MSD claims had relatively low severity rates.

PI rankings for WMSDs are included in Table 10. Detailed discussions of Washington State workers' compensation claims data for WMSDs are provided elsewhere.^{4,9,10} The findings for this study period, are consistent with the previously published Washington State literature.

2. High Risk WIC for the Seven Common High Cost Injury Types

Two ‘Temporary Help’ risk classes are in the top 25 WIC for ‘Caught In/Under/Between’ claims (Table 9). The highest severity rate for ‘Caught In/Under/Between’ injuries is within the logging WIC with an estimate of 2 days of time loss per FTE. Similarly, logging in the NAICS system has a high time loss but due to the greater specificity of the WIC, the rate and time loss data is more representative of workers performing logging activities.

As in the NAICS, the construction industry has a high number of WICs associated with ‘Fall from Elevation’ (Table 12). Temporary Help in Construction (WIC 7118) has a high rate of ‘Fall from Elevation’ claims as well. The impact of time loss related to ‘Fall from Elevation’ is high in ‘Roofing’ (WIC 0507), accounting for greater than 112,000 lost days per 10,000 FTE. Severity rates for the ‘Painting’ WIC are also quite high with an estimated 52,000 time loss days per 10,000 FTE. This finding likely represent high use of ladders and scaffolds in the Painting WIC. Additional WICs outside of construction, with high priorities for prevention (a low PI) include Logging (5001), Trucking (1102) and Orchards (4803). Of the 288 risk classes, 191 (66.3%) had 10 or more ‘Fall from Elevation’ claims. The top five industries by count rank had 25.2% of all ‘Fall from Elevation’ claims.

‘Fall from Same Level’ claims are broadly distributed throughout workplaces with 201 WICs having at least 10 or more claims (Table 13). Restaurants (WIC 3905) rank first by count of claims (n = 2,253) for ‘Fall from Same Level’, this is more than 5 times the count of the second highest ranked industry, Wood Frame Building Construction – WIC 0510. Approximately, fourteen percent or approximately 1 in 7 compensable claims for ‘Fall from Same Level’ occur in Restaurants. The rate ranking for ‘Fall from Same Level’ for Restaurants was low relative to other WIC, ranking 72nd among the 201 WIC. This reflects the large employment in restaurants with relatively low risk of an injury in any single restaurant.

As with the NAICS groups, Logging (WIC 5001) has an extraordinarily high severity rate for compensable claims for ‘Struck By/Against’ injuries, estimated at more than 222,000 time loss days per 10,000 FTE (Table 14). Workers in the ‘State Health Care Facilities’ are more likely to be assaulted than those workers in other risk classes and these claims are included in the ‘Struck By/Against’ injury group.¹⁰ Risk factors for being struck by or against objects are broadly dispersed with 82.6% of all WICs having at least 10 compensable claims.

WICs with expected high motorized vehicle use are well represented in the PI measures for ‘Motorized Vehicle Injury Claims’ e.g., Trucking, Parcel Package Delivery, and Bus Companies (Table 15). Only 113 (39.2%) of all WIC had 10 or more ‘Motor Vehicle Injury’ compensable claims.

As with the NAICS industry groups, construction WIC are well represented in the top 25 PI for 'LE-MSDs' claims (Table 16). Risk factors for LE-MSDs are broadly distributed throughout the workforce, since 195 (67.7%) have 10 or more claims during the time period of the study. The top five WIC by count rank account for only 14.2% of the total LE-MSD injuries.

PI rankings for WMSDs are included in Table 17. Detailed discussions of Washington State workers' compensation claims data for WMSDs are provided elsewhere.^{4,9,10} The findings for this study period, are consistent with the previously published Washington State literature. There is a broad distribution of hazards associated with WMSDs as 268 (93.1%) WICs had at least ten claims during the study period.

3. Identifying High-Risk Industry Groups for Occupational Injury and Illness

Hazardous industries in Washington State by NAICS and WIC system were determined by averaging the prevention index rankings for the seven, high cost, common workers' compensation claims (Table 18 and 19, respectively). Of the NAICS industry groups, with the lowest averaged PI rankings, only Logging and General Freight Trucking had all seven injury groups with PI rankings less than 20. Trucking and Logging also have the lowest PI rank averages among the WIC groups. If 'Fall from Elevation' are excluded from the Psychiatric and Substance Abuse (NAICS 6222) PI rank average, this industry group would be included among the top 5 lowest PI averages.

Greater than 50% of all claims occur within the top 10% of NAICS - rank ordered by claim count (Table 20) for each of the seven 'injury types'. Of the injury types, 'Fall from Elevation' appears more concentrated in the top 2% of NAICS; Over 37.5% of the injuries related to 'Falls from Elevation' occur in the top six NAICS groups, specifically identifying these industries as having work at elevation. Work-related Musculoskeletal Disorders of the Neck, Back and Upper Extremity appear more broadly distributed over all NAICS groups suggesting an omnipresence of injury risk factors across industries.

Discussion:

State resources for research and prevention of occupational injury and illness are limited and the benefit derived from the available resources needs to be maximized. We found that for a five year time period in Washington State, compensable claims for seven high cost common occupational injuries and illnesses account for 91.6% of all workers' compensation compensable claims, 94.7% of all compensable claim costs and 95.5% of all time loss days. A prevention index for each of the seven types of injuries identifies those industries that may most benefit from prevention activity. Several industries e.g., logging, trucking, and construction, rank highly on prevention index measures (low PI) for many types of injuries. Industries such as these may benefit from an industry wide based prevention effort, where best practices to prevent injury are identified and promoted for acceptance throughout the industry.

The utility of the prevention index measure is to identify industries for prevention and research activities through the equal weighting of the claim count and relative risk of injury.⁴ If resources are solely allocated on the basis of relative risk, the risk for injury may be concentrated in a small industry and reduction in the number of injuries may not yield a significant public health impact. If resources are solely allocated on the count of claims, a large number of claims may be distributed across a large number of workers and worksites, such as 'Fall from Same Level' claims in Restaurants, but there may be little risk of injury at an average individual worksite yielding potential difficulties in focusing intervention resources. With the exception of WMSDs, the industry based PI measures have not been applied to common, high cost workers' compensation claims e.g., falls from elevation, motor vehicle injuries. When looking at compensable time loss cases, the severity rate gives an added dimension to the burden of these injuries to workers and employers beyond the PI. Time loss is a major component of the costs associated with a workers' compensation claim.

The injury groupings in this report represent a form of hazard surveillance. For example, 'Falls from Elevation' can only occur if a worker is exposed to elevation in a work setting, or an injury from a vehicle can only occur through use of a vehicle as part of work. One can determine the distribution of the hazards throughout the Washington economy by assessing the proportion of industry groups with the specified type of injury. Work at elevation appears to be more concentrated in select industry groups whereas hazards for the development of work-related musculoskeletal disorders of the neck, back and upper extremity appear to be distributed broadly throughout the workforce.

In calculation of the average PI rank (Table 18/19), the uneven distribution of workplace hazards can impact the selection of industries for prevention activities. For example, NAICS

6222 – Psychiatric and Substance Abuse Hospitals has a low PI rank for ‘Falls from Elevation’ but ranks highly for other types of injuries. If ‘Fall from Elevation’ were excluded, this NAICS code would be among the top 5 industry groups for PI rank average. However, identifying industries that rank highly across a variety of injury types, minimizes the impact of one dominant injury type i.e. WMSDs, so it does not disproportionately effect the overall ranking. Likewise, when an industry ranks highly for a specific type of injury, in the absence of high ranking for other types of injury, individual PI rankings can reveal this industry specific finding. A good example of this is NAICS 7222 Limited Service Eating Places, where ‘Fall from Same Level’ has the 5 highest PI rank, but no other injury type PI ranks higher than forty-four. Additionally, for the large number of injuries in this industry, the severity rate is considerably lower than other industry groups with fewer injuries.

Previous surveillance efforts usually focus on specific injuries and illnesses. Prevention efforts aim at controlling the underlying hazard. In general surveillance efforts have not emphasized a systematic approach to identifying multiple injuries and illnesses distributed throughout an industry group. Systematically identifying industries at high risk for multiple types of injuries can promote a more comprehensive approach to hazard control through interventions directed at safety systems. The utility of this method to identify high risk industries accommodate the potential for systematic industry wide intervention efforts.

There are some significant limitations associated with this study. The aggregation of individual injury types associated with the ANSI coding system does not identify specific injury types which may be associated with specific industries e.g., ‘Fall from Ladder’ occurring in ‘Orchards – WIC 4803. Further differentiation for the seven common injury groups is appropriate to further refine the risks associated with each industry. This study represents a more broad analysis to identify those industries which may deserve further analysis.

WMSDs and LE-MSDs account for a significant portion of claims related to injury types related to ‘Overexertion’, ‘Bodily Reaction’ and ‘Abraded’ ANSI groups. The rationale for aggregating these injury types relates to the common physical hazards associated with the development of these disorders e.g. high repetition, awkward postures, high forces and vibration. Additionally, there is a detailed assessment of the impact of WMSDs on the Washington workforce⁹ and as such the focus of this work is to provide an overview of other additional high cost, common occupational injuries and illnesses.

There are other considerations when selecting industries or injuries for prevention beyond the magnitude and cost of injuries and illness. While this report focuses on the high cost, common injury types associated with claim filing to Washington’s workers’ compensation

system, additional factors such as the underreporting of occupational illnesses, an emerging exposure (e.g., nanotechnology), the interest of political stakeholders, known opportunities to easily transfer prevention technology, or the seriousness of an injury or illness might be considered. However, an emphasis related to the cost and magnitude of claims associated with an industry can provide a solid foundation for the development of partnerships with employers and workers dedicated to the effective allocation of resources.

An industry based allocation of prevention resources should not preclude dedication of resources towards claim types common across all industries. For example, new technologies or innovative methods to reduce the physical hazards associated with WMSDs might demand resources for dissemination of that technology broadly throughout all industries. A solely industry based approach limits resources only to a select group of workers.

The severity rate is a measure of burden. However, in this study it does not allow a meaningful comparison across injury types. As different injury types are aggregated into groups, the cumulative time loss data increases and consequently increases the severity rate. This is true as well for cumulative costs, claim counts and claim incidence rates. Nevertheless, the severity rate allows an assessment of an aggregated injury group's burden to an employer, to specific industries or to make comparisons of injury burden across industries.

The accuracy of injury and illness incidence rates in this study is dependent on the completeness of reporting of both cases and employee work hours to the workers' compensation system. There are many potential barriers to filing a workers' compensation claim, some of which include: 1. Fear of employer retribution for filing a claim; 2. Poor recognition of occupational injury and illness by the physician, worker, and employer; 3. Administrative barriers to physicians' or workers' filing a workers' compensation claim; and 4. The availability of alternative medical insurance providers. The magnitude of underreporting of injuries and illness to the Washington State workers' compensation system is unknown.

Workers' compensation premiums are dependent on employer reporting of work hours and underreporting of work hours may occur. Because insurance premiums are dependent on the claims' experience in a particular WIC, employers may underreport to high premium risk class and overreport to lower premium risk classes. If overreporting or underreporting occurs comparisons between injury and illness rates between WICs are problematic.

While the availability and general accuracy of Washington workers' compensation coding is reasonable for the administration of a workers' compensation claim, data quality is sometimes not optimal. Because claims are assigned ANSI codes from the RIIOD, if the RIIOD is incomplete there is a chance of miscoding. ANSI coding is based on the initial assessment of a

workers' injury or illness that is reported on the RIIOD form. Therefore, cases that may require additional diagnostic workup may be poorly defined on the RIIOD form and the ANSI coding may not reflect the true injury or illness associated with the claim.

When compared to other states, Washington State's criteria for 'compensability' is four or more days of time loss, so compensable claim rates may appear much higher than in other US states where time loss eligibility requires a longer waiting period. The lower compensable claim rates in other state may indeed be related to reporting biases associated with state workers' compensation laws. However, there is little reason to believe that the results of this report are not generalizable to other US States.¹¹

In conclusion, we identified industries with high cost common workers' compensation claims to focus research and prevention efforts. Compensable workers' compensation claims account for almost all time loss days, and over 92% of the direct workers' compensation claims costs. Over 90% of all compensable claims are associated with seven different groupings of injury type. By using the prevention index for each of the seven different injury type groups, we identified industries that may most benefit from injury prevention activities. Using the average of the prevention index ranks for the seven injury groups, industry groups associated with trucking (NAICS 4841 and 4842), Logging (NAICS 1133) and the Construction sector (NAICS 23) appear most in need of prevention efforts. Engaging in an industry-wide approach may lead to better dissemination and acceptance of preventive measures and best practices.

References:

¹ National Institutes for Occupational Safety and Health. Tracking Occupational Injuries, Illnesses, and Hazards: The NIOSH Surveillance Strategic Plan. US Department of Health and Human Services, Washington DC. 2001.

² Markowitz SB. The Role of Occupational Health Surveillance. In: Environmental and Occupational Medicine, 3rd ed. Rom WN. Lippincott-Raven Publishers, Philadelphia, 1998.

³ Connon C, Cohen M, Silverstein B et al., Healthy Workplaces: Food Processing Industry; Final Report, Technical Report Number: 67-2-2001. Washington State Department of Labor and Industries, Safety and Health Assessment and Research for Prevention Program, Olympia, Washington. 2001.

⁴ Silverstein B, Viikari-Juntura E, Kalat J. Use of a Prevention Index to Identify Industries at High Risk for Work-Related Musculoskeletal Disorders of the Neck, Back, and Upper Extremity in Washington State, 1990 – 1998. 2002 AJIM 41:149-169.

⁵ Revised Code of Washington, Title 51; Chapter 12 Section 020. Available at <http://www.leg.wa.gov/RCW/index.cfm?fuseaction=section§ion=51.12.020>. Accessed 4/21/2003.

⁶ American National Standards Institute. Methods for recording basic facts relating to the nature and occurrence of work injuries. New York, New York, 1969.

⁷ North American Industrial Classification System, Executive Office of the President, Office of Management and Budget, United States, 2002.

⁸ Washington State Department of Labor and Industries (L&I). Workers' Compensation Insurance Manual, 2000.

⁹ Silverstein B, Adams D, Kalat J. Work-related Musculoskeletal Disorders of the Neck, Back, and Upper Extremity in Washington State, 1994-2002. Washington State Department of Labor and Industries, Technical Report Number 40-8a-2004. December 2004.

¹⁰ Foley M. Violence in Washington Workplaces, 1995 - 2000. Washington State Department of Labor and Industries, Technical Report Number 39-4-2002. January 2002.

¹¹ US Chamber of Commerce. 2003 Analysis of Workers' Compensation Laws. US Chamber of Commerce; Statistics and Research Center. Washington, D.C. 2003.

Table 1: WA State Fund Workers' Compensation Claims. Number of Claims, Claim Costs, Time Loss Days by Claim Status Categories, 1998 - 2002.

Status Code	Status Code Description	Compensable Claim	Number of Claims	Claim Cost (\$)	Time Loss Days
0	Not-yet Allowed	Non-Comp	159	33,254	46
1	Non-Compensable	Non-Comp	547,061	334,575,667	3,119
2	Compensable	Comp	159,381	3,530,280,905	23,101,696
3	Rejected	Non-Comp	92,703	8,536,611	28,837
4	Fatal	Comp	373	72,858,288	11,157
5	Total Permanent Disability	Comp	1,484	352,230,225	1,548,682
7	Kept-On Salary	Comp	8,849	50,788,048	44,056
8	Provisional	Non-Comp	16	81,278	686
9	Loss of Earning Power	Comp	691	14,295,975	106,365
	Invalid	Non-Comp	15	76,316	110

Table 2: WA State Fund Compensable Claims Grouped by Aggregated ANSI Z 16.2 Type Codes. Counts, Costs and Time Loss, 1998-2002.

TYPE Category	Claim Count	Claim Count %	Total Costs (\$)	% Total Cost	Time Loss Days	% Total Time Loss	Average Cost (\$)	Average # Time Loss Days
ABRADED	763	0.5	7,157,368	0.2	37,747	0.2	9,381	49
BODILY REACTION	433	0.3	5,721,104	0.1	36,233	0.1	13,213	84
CAUGHT IN/UNDER/BETWEEN	4,473	2.7	84,592,682	2.2	439,755	1.8	18,912	98
ELECTRICAL	198	0.1	12,062,750	0.3	42,651	0.2	60,923	215
EXPLODED	103	0.1	3,889,367	0.1	9,243	0.0	37,761	90
FALL from ELEVATION	13,843	8.3	443,063,351	11.4	2,586,688	10.6	32,006	187
FALL from SAME LEVEL	16,314	9.8	405,652,529	10.4	2,600,344	10.7	24,865	159
Lower Extremity WMSDs	12,441	7.5	244,594,060	6.3	1,535,013	6.3	19,660	123
OTHER	2,801	1.7	71,436,366	1.8	356,596	1.5	25,504	127
OVEREXERTION	6,507	3.9	56,925,441	1.5	391,690	1.6	8,748	60
SHOT	34	0.0	4,410,938	0.1	5,608	0.0	129,733	165
STRUCK BY/AGAINST	32,994	19.8	582,719,106	15.0	3,125,703	12.9	17,661	95
TEMPERATURE	1,624	1.0	12,124,855	0.3	55,871	0.2	7,466	34
TOXICS	1,552	0.9	30,943,418	0.8	157,875	0.6	19,938	102
MOTOR VEHICLES	5,244	3.1	196,743,153	5.1	928,328	3.8	37,518	177
WMSDs*	67,398	40.4	1,722,933,027	44.3	12,006,644	49.4	25,564	178

* Work-related Musculoskeletal Disorders of the Neck, Back and Upper Extremity

Table 3: WA State Self-Insured Compensable Claims Grouped by Aggregated ANSI Z 16.2 Type Codes. Counts, Costs and Time Loss, 1998-2002.

ANSI Injury Type	Claim Count	% Claim Count
ABRADED	397	0.4
BODILY REACTION	485	0.5
CAUGHT	1,688	1.7
ELECTRICAL	66	0.1
EXPLODED	31	0.0
FALLS	11,449	11.8
Falls From Elevation	3,824	3.9
Falls From Same Level	7,625	7.8
Lower Extremity MSDs	7,849	8.1
OTHER	9,170	9.4
OVEREXERTION	3,829	3.9
SHOT	13	0.0
STRUCK	13,883	14.3
TEMPERATURE	451	0.5
TOXICS	1,118	1.1
VEHICLES	2,556	2.6
WMSDs*	44,318	45.5

* Work-related Musculoskeletal Disorders of the Neck, Back and Upper Extremity

Table 4: Top 25 NAICS Industry Groups by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "CAUGHT IN/UNDER/BETWEEN" Injuries, 1998-2002.

NAICS INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
3219 OTHER WOOD PRODUCT MFG	32,274	148	45.9	3.0	4.0	3.5	4,102
1133 LOGGING	18,080	72	39.8	12.0	7.0	9.5	6,825
3222 CONVERTED PAPER PRODUCT MFG	11,863	54	45.5	21.0	5.0	13.0	2,401
1121 CATTLE RANCHING AND FARMING	21,517	66	30.7	16.0	15.0	15.5	3,885
3323 ARCHITECTURAL & STRUCTURAL METALS MFG	28,059	72	25.7	12.0	19.0	15.5	1,728
3116 ANIMAL SLAUGHTERING AND PROCESSING	15,695	51	32.5	24.0	12.0	18.0	3,858
3315 FOUNDRIES	12,666	43	33.9	29.5	10.0	19.8	1,255
3211 SAWMILLS & WOOD PRESERVATION	10,973	41	37.4	31.5	9.0	20.3	2,479
2371 UTILITY SYSTEM CONSTRUCTION	25,628	57	22.2	19.0	24.0	21.5	3,800
3273 CEMENT & CONCRETE PRODUCT MFG	14,361	43	29.9	29.5	17.0	23.3	1,674
3261 PLASTICS PRODUCT MFG	32,264	65	20.1	17.0	32.0	24.5	2,737
1151 SUPPORT ACTIVITIES FOR CROP PRODUCTION	34,688	68	19.6	15.0	34.0	24.5	2,320
4841 GENERAL FREIGHT TRUCKING	43,888	73	16.6	10.0	40.0	25.0	2,284
4244 GROCERY & RELATED PRODUCT WHOLESALERS	73,201	110	15.0	5.0	45.0	25.0	1,636
2381 FOUNDATION, STRUCT, AND BLDG EXT CONTRACTORS	118,899	164	13.8	2.0	48.0	25.0	1,820
1112 VEGETABLE & MELON FARMING	20,109	45	22.4	27.5	23.0	25.3	2,167
3212 VENEER, PLYWOOD, & ENGINEERED WOOD PROD MFG	11,288	35	31.0	40.0	14.0	27.0	3,143
5613 EMPLOYMENT SERVICES	142,519	179	12.6	1.0	53.0	27.0	1,081
8113 COMM & IND MACH AND EQUIP REPAIR & MAINT	10,144	32	31.5	42.5	13.0	27.8	2,606
1119 OTHER CROP FARMING	23,314	47	20.2	25.0	31.0	28.0	3,674
5621 WASTE COLLECTION	9,341	31	33.2	46.0	11.0	28.5	2,351
1111 OILSEED & GRAIN FARMING	14,727	37	25.1	37.0	20.0	28.5	3,115
4235 METAL & MINERAL (EXC PETROLEUM) MERCH WHSLE	10,318	31	30.0	46.0	16.0	31.0	1,186
4238 MACHINERY, EQUIPMENT, & SUPPLIES MERCH WHLSE	70,228	79	11.2	8.0	54.0	31.0	659
3324 BOILER, TANK, & SHIPPING CONTAINER MFG	5,846	24	41.1	58.0	6.0	32.0	2,617
3112 GRAIN & OILSEED MILLING	2,517	19	75.5	69.5	1.0	35.3	12,233
2382 BUILDING EQUIPMENT CONTRACTORS	176,816	141	8.0	4.0	70.0	37.0	1,105
3326 SPRING & WIRE PRODUCT MFG	1,856	14	75.4	82.0	2.0	42.0	1,778
3115 DAIRY PRODUCT MANUFACTURING	2,175	11	50.6	93.5	3.0	48.3	7,468

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 5: Top 25 NAICS Industry Groups by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "FALL From ELEVATION" Injuries, 1998-2002.

NAICS INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
2381 FOUNDATION, STRUCT, & BLDG EXT CONTRACTORS	118,899	1,448	121.8	1.0	2.0	1.5	30,905
2383 BUILDING FINISHING CONTRACTORS	66,141	776	117.3	5.0	3.0	4.0	25,740
2361 RESIDENTIAL BUILDING CONSTRUCTION	86,925	808	93.0	4.0	4.0	4.0	22,330
1113 FRUIT AND TREE NUT FARMING	113,062	950	84.0	2.0	6.0	4.0	15,535
1133 LOGGING	18,080	232	128.3	11.0	1.0	6.0	22,051
4841 GENERAL FREIGHT TRUCKING	43,888	362	82.5	7.0	7.0	7.0	14,896
4842 SPECIALIZED FREIGHT TRUCKING	28,830	237	82.2	10.0	8.0	9.0	16,323
2389 OTHER SPECIALTY TRADE CONTRACTORS	43,761	255	58.3	9.0	13.0	11.0	13,013
2362 NONRESIDENTIAL BUILDING CONSTRUCTION	46,064	262	56.9	8.0	15.0	11.5	16,514
2382 BUILDING EQUIPMENT CONTRACTORS	176,816	814	46.0	3.0	22.0	12.5	8,855
5617 SERVICES TO BUILDINGS AND DWELLINGS	82,301	393	47.8	6.0	20.0	13.0	8,159
2371 UTILITY SYSTEM CONSTRUCTION	25,628	119	46.4	22.0	21.0	21.5	6,555
2373 HIGHWAY, STREET, AND BRIDGE CONSTRUCTION	20,429	104	50.9	27.0	18.0	22.5	14,591
1151 SUPPORT ACTIVITIES FOR CROP PRODUCTION	34,688	133	38.3	18.5	32.0	25.3	6,893
1119 OTHER CROP FARMING	23,314	99	42.5	28.0	27.0	27.5	6,793
4244 GROCERY AND RELATED PRODUCT WHOLESALERS	73,201	213	29.1	14.0	43.0	28.5	5,530
5621 WASTE COLLECTION	9,341	57	61.0	46.5	12.0	29.3	7,190
2379 OTHER HEAVY & CIVIL ENGINEERING CONSTRUCTION	15,395	68	44.2	34.5	24.0	29.3	13,987
5311 LESSORS OF REAL ESTATE	69,407	201	29.0	15.0	44.0	29.5	5,659
3273 CEMENT AND CONCRETE PRODUCT MANUFACTURING	14,361	64	44.6	39.0	23.0	31.0	9,737
4441 BUILDING MATERIAL AND SUPPLIES DEALERS	83,609	215	25.7	13.0	49.0	31.0	4,662
3219 OTHER WOOD PRODUCT MANUFACTURING	32,274	89	27.6	29.0	46.0	37.5	4,346
4442 LAWN & GARDEN EQUIPMENT & SUPPLIES STORES	13,995	57	40.7	46.5	30.0	38.3	7,603
1111 OILSEED AND GRAIN FARMING	14,727	57	38.7	46.5	31.0	38.8	5,162
1121 CATTLE RANCHING AND FARMING	21,517	65	30.2	38.0	42.0	40.0	4,237
1152 SUPPORT ACTIVITIES FOR ANIMAL PRODUCTION	1,702	15	88.1	142.0	5.0	73.5	13,368

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 6: Top 25 NAICS Industry Groups by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "FALL From SAME LEVEL" Injuries, 1998-2002.

NAICS INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
1133 LOGGING	18,080	281	155.4	10.0	1.0	5.5	31,409
2381 FOUNDATION, STRUCT, & BLDG EXT CONTRACTORS	118,899	673	56.6	3.0	10.0	6.5	10,461
4841 GENERAL FREIGHT TRUCKING	43,888	269	61.3	12.0	8.0	10.0	12,284
2383 BUILDING FINISHING CONTRACTORS	66,141	350	52.9	8.0	12.0	10.0	12,245
7222 LIMITED-SERVICE EATING PLACES	191,660	915	47.7	2.0	20.0	11.0	5,580
5617 SERVICES TO BUILDINGS AND DWELLINGS	82,301	392	47.6	6.0	21.0	13.5	8,119
2361 RESIDENTIAL BUILDING CONSTRUCTION	86,925	411	47.3	5.0	23.0	14.0	9,721
7221 FULL-SERVICE RESTAURANTS	230,217	1,027	44.6	1.0	29.0	15.0	6,692
4842 SPECIALIZED FREIGHT TRUCKING	28,830	179	62.1	24.0	7.0	15.5	9,919
7211 TRAVELER ACCOMMODATION	85,895	375	43.7	7.0	30.0	18.5	7,235
6222 PSYCHIATRIC AND SUBSTANCE ABUSE HOSPITALS	14,147	118	83.4	35.0	3.0	19.0	14,829
7223 SPECIAL FOOD SERVICES	24,969	138	55.3	32.0	11.0	21.5	7,936
6233 COMMUNITY CARE FACILITIES FOR THE ELDERLY	53,767	244	45.4	15.0	28.0	21.5	7,695
6231 NURSING CARE FACILITIES	53,574	229	42.7	17.0	31.0	24.0	6,059
3116 ANIMAL SLAUGHTERING AND PROCESSING	15,695	89	56.7	41.0	9.0	25.0	12,382
3114 FRUIT & VEG PRESERVING & SPECIALTY FOOD MFG	18,227	92	50.5	39.0	15.0	27.0	10,175
4244 GROCERY AND RELATED PRODUCT WHOLESALERS	73,201	265	36.2	13.0	46.0	29.5	5,878
5621 WASTE COLLECTION	9,341	66	70.7	61.5	5.0	33.3	10,243
6232 RES MENTAL RETARD, HEALTH & SUBST ABUSE FAC	13,478	71	52.7	54.0	13.0	33.5	7,740
7213 ROOMING AND BOARDING HOUSES	38,896	157	40.4	29.0	38.0	33.5	6,673
9231 ADMINISTRATION OF HUMAN RESOURCE PROGRAMS	35,398	143	40.4	31.0	37.0	34.0	4,584
1153 SUPPORT ACTIVITIES FOR FORESTRY	6,620	57	86.1	68.0	2.0	35.0	13,299
2362 NONRESIDENTIAL BUILDING CONSTRUCTION	46,064	168	36.5	26.0	45.0	35.5	9,059
4451 GROCERY STORES	77,911	249	32.0	14.0	57.0	35.5	3,947
4471 GASOLINE STATIONS	53,842	187	34.7	23.0	52.0	37.5	7,007
2382 BUILDING EQUIPMENT CONTRACTORS	176,816	466	26.4	4.0	75.0	39.5	4,714
4542 VENDING MACHINE OPERATORS	4,655	36	77.3	97.5	4.0	50.8	12,894

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 7: Top 25 NAICS Industry Groups by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "STRUCK BY/AGAINST" Injuries, 1998-2002.

NAICS INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
2381 FOUNDATION, STRUCT, & BLDG EXT CONTR	118,899	2,310	194.3	1.0	4.0	2.5	18,162
1133 LOGGING	18,080	920	508.8	5.0	1.0	3.0	89,479
2361 RESIDENTIAL BUILDING CONSTRUCTION	86,925	1,434	165.0	2.0	11.0	6.5	14,705
6222 PSYCHIATRIC & SUBSTANCE ABUSE HOSPITALS	14,147	551	389.5	15.0	2.0	8.5	51,832
3219 OTHER WOOD PRODUCT MANUFACTURING	32,274	565	175.1	12.0	8.0	10.0	15,801
6232 RES MENTAL RETARD, HEALTH & SUBST ABUSE FAC	13,478	302	224.1	29.0	3.0	16.0	26,473
1121 CATTLE RANCHING AND FARMING	21,517	369	171.5	22.0	10.0	16.0	16,091
2389 OTHER SPECIALTY TRADE CONTRACTORS	43,761	557	127.3	13.0	25.0	19.0	13,364
4841 GENERAL FREIGHT TRUCKING	43,888	554	126.2	14.0	26.0	20.0	12,479
2373 HIGHWAY, STREET, & BRIDGE CONSTRUCTION	20,429	308	150.8	27.0	15.0	21.0	17,215
2383 BUILDING FINISHING CONTRACTORS	66,141	718	108.6	7.0	39.0	23.0	12,952
3212 VENEER, PLYWOOD, & ENG WOOD PROD MFG	11,288	197	174.5	39.0	9.0	24.0	14,235
2362 NONRESIDENTIAL BUILDING CONSTRUCTION	46,064	506	109.8	16.0	37.0	26.5	10,405
2371 UTILITY SYSTEM CONSTRUCTION	25,628	303	118.2	28.0	30.0	29.0	14,687
4842 SPECIALIZED FREIGHT TRUCKING	28,830	335	116.2	25.0	33.0	29.0	11,657
3116 ANIMAL SLAUGHTERING AND PROCESSING	15,695	203	129.3	38.0	22.0	30.0	12,566
3323 ARCH & STRUCT METALS MFG	28,059	314	111.9	26.0	35.0	30.5	8,921
3371 HSHLD & INSTIT FURN & KITCH CAB MFG	24,325	285	117.2	31.0	31.0	31.0	6,864
3315 FOUNDRIES	12,666	180	142.1	44.5	18.0	31.3	9,953
5617 SERVICES TO BUILDINGS AND DWELLINGS	82,301	665	80.8	8.0	56.0	32.0	7,321
2382 BUILDING EQUIPMENT CONTRACTORS	176,816	1,362	77.0	3.0	61.0	32.0	8,193
3211 SAWMILLS AND WOOD PRESERVATION	10,973	158	144.0	49.0	16.0	32.5	9,868
5621 WASTE COLLECTION	9,341	147	157.4	53.5	13.0	33.3	7,499
1153 SUPPORT ACTIVITIES FOR FORESTRY	6,620	118	178.2	69.5	7.0	38.3	29,198
2379 OTHER HEAVY & CIVIL ENG CONST	15,395	180	116.9	44.5	32.0	38.3	13,853
7221 FULL-SERVICE RESTAURANTS	230,217	929	40.4	4.0	137.0	70.5	2,308
3262 RUBBER PRODUCT MANUFACTURING	1,183	22	186.0	182.5	5.0	93.8	4,319

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 8: Top 25 NAICS Industry Groups by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "MOTOR VEHICLE" Injuries, 1998-2002.

NAICS INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
4841 GENERAL FREIGHT TRUCKING	43,888	261	59.5	1.0	9.0	5.0	16,466
4842 SPECIALIZED FREIGHT TRUCKING	28,830	175	60.7	4.0	8.0	6.0	17,319
4921 COURIERS	5,804	87	149.9	15.0	1.0	8.0	18,493
1133 LOGGING	18,080	90	49.8	13.0	10.0	11.5	12,006
4922 LOCAL MESSENGERS AND LOCAL DELIVERY	7,443	63	84.6	20.5	6.0	13.3	4,830
4855 CHARTER BUS INDUSTRY	6,020	56	93.0	23.0	4.0	13.5	16,165
4413 AUTOMOTIVE PARTS, ACCESSORIES, & TIRE STORES	38,929	112	28.8	7.0	20.0	13.5	4,109
4859 OTH TRANSIT & GROUND PASS TRANSPORT	4,059	47	115.8	27.5	2.0	14.8	14,198
2373 HIGHWAY, STREET, AND BRIDGE CONSTRUCTION	20,429	75	36.7	17.0	13.0	15.0	10,573
5617 SERVICES TO BUILDINGS AND DWELLINGS	82,301	190	23.1	3.0	27.0	15.0	3,337
4884 SUPPORT ACTIVITIES FOR ROAD TRANSPORTATION	4,732	42	88.8	32.0	5.0	18.5	20,427
2389 OTHER SPECIALTY TRADE CONTRACTORS	43,761	92	21.0	11.0	29.0	20.0	3,845
2382 BUILDING EQUIPMENT CONTRACTORS	176,816	225	12.7	2.0	44.0	23.0	2,493
5321 AUTOMOTIVE EQUIPMENT RENTAL AND LEASING	10,389	40	38.5	34.5	12.0	23.3	3,432
4231 MV & MV PARTS & SUPPLIES MERCHANT WHLSLERS	19,500	52	26.7	26.0	22.0	24.0	1,776
5616 INVESTIGATION AND SECURITY SERVICES	33,425	65	19.4	19.0	31.0	25.0	2,676
4244 GROCERY & RELATED PRODUCT WHOLESALERS	73,201	91	12.4	12.0	46.0	29.0	2,612
8111 AUTOMOTIVE REPAIR AND MAINTENANCE	80,087	98	12.2	9.0	49.0	29.0	1,491
5621 WASTE COLLECTION	9,341	33	35.3	42.5	16.0	29.3	7,677
3273 CEMENT AND CONCRETE PRODUCT MANUFACTURING	14,361	38	26.5	36.5	23.0	29.8	6,117
4852 INTERURBAN AND RURAL BUS TRANSPORTATION	2,361	24	101.6	58.5	3.0	30.8	15,152
2381 FOUNDATION, STRUCT, & BLDG EXT CONTRACTORS	118,899	134	11.3	5.0	57.0	31.0	2,099
2371 UTILITY SYSTEM CONSTRUCTION	25,628	46	17.9	29.0	34.0	31.5	4,540
1119 OTHER CROP FARMING	23,314	43	18.4	30.5	33.0	31.8	3,234
9261 ADMINISTRATION OF ECONOMIC PROGRAMS	45,509	59	13.0	22.0	42.0	32.0	2,821

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 9: Top 25 NAICS Industry Groups by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 Lower Extremity Work-related Musculoskeletal Disorders, 1998-2002.

NAICS INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
2383 BUILDING FINISHING CONTRACTORS	66,141	390	59.0	4.0	5.0	4.5	10,375
2381 FOUNDATION, STRUCT, & BLDG EXT CONTRACTORS	118,899	643	54.1	2.0	10.0	6.0	9,037
2361 RESIDENTIAL BUILDING CONSTRUCTION	86,925	400	46.0	3.0	13.0	8.0	6,706
4841 GENERAL FREIGHT TRUCKING	43,888	239	54.5	9.0	9.0	9.0	7,595
1133 LOGGING	18,080	156	86.3	19.0	2.0	10.5	13,436
2382 BUILDING EQUIPMENT CONTRACTORS	176,816	696	39.4	1.0	22.0	11.5	4,555
5617 SERVICES TO BUILDINGS AND DWELLINGS	82,301	315	38.3	5.0	27.0	16.0	4,837
5621 WASTE COLLECTION	9,341	99	106.0	31.5	1.0	16.3	8,043
4842 SPECIALIZED FREIGHT TRUCKING	28,830	153	53.1	22.0	11.0	16.5	7,652
2362 NONRESIDENTIAL BUILDING CONSTRUCTION	46,064	183	39.7	13.0	20.0	16.5	6,561
2389 OTHER SPECIALTY TRADE CONTRACTORS	43,761	174	39.8	15.0	19.0	17.0	5,629
9221 JUSTICE, PUBLIC ORDER, & SAFETY ACTIVITIES	77,992	298	38.2	6.0	28.0	17.0	3,003
2373 HIGHWAY, STREET, AND BRIDGE CONSTRUCTION	20,429	93	45.5	34.0	14.0	24.0	9,815
2371 UTILITY SYSTEM CONSTRUCTION	25,628	101	39.4	30.0	21.0	25.5	5,418
4248 BEER, WINE, & DISTILLED ALC BVG MERCHANT WHLSE	18,918	81	42.8	38.0	16.0	27.0	2,456
6222 PSYCHIATRIC & SUBSTANCE ABUSE HOSPITALS	14,147	60	42.4	46.5	17.0	31.8	3,146
6231 NURSING CARE FACILITIES	53,574	149	27.8	24.0	44.0	34.0	2,469
6233 COMMUNITY CARE FACILITIES FOR THE ELDERLY	53,767	147	27.3	25.0	46.0	35.5	4,677
4441 BUILDING MATERIAL AND SUPPLIES DEALERS	83,609	198	23.7	12.0	62.0	37.0	1,870
2211 ELECTRIC POWER GEN, TRANS & DISTRIBUTION	12,989	51	39.3	56.5	23.0	39.8	2,571
9211 EXEC, LEG, & OTHER GEN GOV SUPPORT	125,584	279	22.2	8.0	72.0	40.0	1,776
4244 GROCERY & RELATED PRODUCT WHOLESALERS	73,201	171	23.4	17.0	64.0	40.5	3,086
3273 CEMENT & CONCRETE PRODUCT MANUFACTURING	14,361	53	36.9	52.5	30.0	41.3	3,172
3219 OTHER WOOD PRODUCT MANUFACTURING	32,274	85	26.3	36.0	48.0	42.0	2,536
8111 AUTOMOTIVE REPAIR AND MAINTENANCE	80,087	177	22.1	14.0	73.0	43.5	2,946
7112 SPECTATOR SPORTS	4,020	30	74.6	100.0	4.0	52.0	7,206
3115 DAIRY PRODUCT MANUFACTURING	2,175	18	82.8	139.0	3.0	71.0	2,534

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 10: Top 25 NAICS Industry Groups by Prevention Index for WA State Fund Compensable Claims for Work-Related Musculoskeletal Disorders of the Neck, Back and Upper Extremity, 1998-2002.

NAICS INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
2381 FOUNDATION, STRUCTURE, & BLDG EXT CONTRACTORS	118,899	3,286	276.4	1.0	10.0	5.5	63,062
2383 BUILDING FINISHING CONTRACTORS	66,141	1,687	255.1	4.0	16.0	10.0	57,147
6231 NURSING CARE FACILITIES	53,574	1,407	262.6	8.0	14.0	11.0	35,003
6233 COMMUNITY CARE FACILITIES FOR THE ELDERLY	53,767	1,282	238.4	9.0	19.0	14.0	36,130
2361 RESIDENTIAL BUILDING CONSTRUCTION	86,925	1,922	221.1	3.0	29.0	16.0	50,331
6222 PSYCHIATRIC AND SUBSTANCE ABUSE HOSPITALS	14,147	468	330.8	30.0	4.0	17.0	37,215
3116 ANIMAL SLAUGHTERING AND PROCESSING	15,695	464	295.6	32.0	7.0	19.5	41,827
4841 GENERAL FREIGHT TRUCKING	43,888	1,020	232.4	16.0	24.0	20.0	40,370
4842 SPECIALIZED FREIGHT TRUCKING	28,830	696	241.4	25.0	17.0	21.0	42,033
5617 SERVICES TO BUILDINGS AND DWELLINGS	82,301	1,570	190.8	5.0	38.0	21.5	31,645
3219 OTHER WOOD PRODUCT MANUFACTURING	32,274	728	225.6	24.0	27.0	25.5	40,362
5621 WASTE COLLECTION	9,341	354	379.0	49.0	2.0	25.5	53,925
7213 ROOMING AND BOARDING HOUSES	38,896	787	202.3	21.0	34.0	27.5	34,488
2389 OTHER SPECIALTY TRADE CONTRACTORS	43,761	836	191.0	20.0	37.0	28.5	50,060
2362 NONRESIDENTIAL BUILDING CONSTRUCTION	46,064	849	184.3	19.0	42.0	30.5	44,051
2371 UTILITY SYSTEM CONSTRUCTION	25,628	496	193.5	28.0	36.0	32.0	37,163
4248 BEER, WINE, & DISTILLED ALC BVG MERCHANT WHLESLRS	18,918	426	225.2	38.0	28.0	33.0	21,419
1133 LOGGING	18,080	383	211.8	42.0	30.0	36.0	61,469
2382 BUILDING EQUIPMENT CONTRACTORS	176,816	2,692	152.2	2.0	72.0	37.0	28,626
4451 GROCERY STORES	77,911	1,226	157.4	10.0	67.0	38.5	21,947
3315 FOUNDRIES	12,666	295	232.9	58.5	23.0	40.8	42,844
2373 HIGHWAY, STREET, AND BRIDGE CONSTRUCTION	20,429	371	181.6	46.0	45.0	45.5	52,545
8111 AUTOMOTIVE REPAIR AND MAINTENANCE	80,087	1,126	140.6	12.0	80.0	46.0	33,739
4244 GROCERY AND RELATED PRODUCT WHOLESALERS	73,201	1,041	142.2	14.0	79.0	46.5	22,951
4441 BUILDING MATERIAL AND SUPPLIES DEALERS	83,609	1,167	139.6	11.0	83.0	47.0	20,078
3115 DAIRY PRODUCT MANUFACTURING	2,175	112	515.1	142.5	1.0	71.8	109,900
3379 OTHER FURNITURE RELATED PRODUCT MANUFACTURING	2,261	81	358.2	162.0	3.0	82.5	70,701
3279 OTHER NONMETALLIC MINERAL PRODUCT MANUFACTURINC	2,353	72	306.0	169.0	5.0	87.0	34,970

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 11: Top 25 WIC Classifications by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "CAUGHT IN/UNDER/BETWEEN" Injuries, 1998-2002.

WIC Code	WIC INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
7117	TEMP HELP-MACHINE OPERATION	3,661	65	177.6	15.0	1.0	8.0	10,228
2903	WOOD PRODUCTS MFG.	32,555	151	46.4	1.5	16.0	8.8	4,408
6908	PAPER PRODUCTS MFG.	6,722	56	83.3	18.0	4.0	11.0	4,044
3404	ALUMINUM PRODUCT MFG.	41,487	151	36.4	1.5	21.0	11.3	1,719
5001	LOGGING	7,140	52	72.8	21.0	5.0	13.0	19,265
1002	SAWMILLS	12,875	67	52.0	14.0	12.0	13.0	3,679
5208	IRON WORKS, SHOP	8,959	53	59.2	19.5	8.0	13.8	4,117
7114	TEMPORARY HELP-ASSEMBLY	9,423	50	53.1	25.0	9.0	17.0	4,710
3902	FOOD PRODUCTS MFG.	24,060	79	32.8	8.5	31.0	19.8	6,273
7301	DAIRY FARMS	15,502	53	34.2	19.5	26.0	22.8	4,180
2004	IRON MERCHANTS	4,983	30	60.2	39.0	7.0	23.0	2,336
2101	GRAIN MILLING	7,146	36	50.4	33.0	14.0	23.5	5,133
4808	DIVERSIFIED FIELD CROPS	21,430	68	31.7	13.0	34.0	23.5	4,548
3304	MEAT DEALERS WHOLESALE	23,761	71	29.9	11.0	38.0	24.5	3,983
2104	FRUIT & VEG. PACKING	55,825	138	24.7	4.0	48.0	26.0	2,697
3906	BAKERIES WHOLESALE NOC	12,546	44	35.1	30.0	24.0	27.0	5,788
4305	GARBAGE COLLECTION	9,708	35	36.1	34.0	22.0	28.0	2,335
2401	PULP OR PAPER MFG.	10,808	37	34.2	32.0	25.0	28.5	3,252
4101	PRINTING	28,250	71	25.1	11.0	46.0	28.5	2,007
0101	ROAD CONSTRUCTION	28,501	71	24.9	11.0	47.0	29.0	3,957
3402	MACHINE SHOPS	64,549	148	22.9	3.0	55.0	29.0	1,135
4802	VEGETABLE FARMS-MACHINE HARVEST	21,199	58	27.4	16.0	43.0	29.5	4,072
5103	FOUNDRIES, NOC	6,970	29	41.6	43.5	17.0	30.3	2,080
0107	UNDERGROUND UTILITIES	14,770	48	32.5	28.5	32.0	30.3	5,411
0103	DRILLING	2,182	22	100.8	59.5	3.0	31.3	11,387
5108	CABLE OR WIRE MFG.	760	10	131.6	118.5	2.0	60.3	1,816
3905	RESTAURANTS	490,257	112	2.3	5.0	116.0	60.5	127

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 12: Top 25 WIC Classifications by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "FALL From ELEVATION" Injuries, 1998-2002.

WIC Code	WIC INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
0507	ROOFING	10,765	456	423.6	4.0	1.0	2.5	112,313
0504	PAINTING	15,643	363	232.1	5.0	6.0	5.5	54,201
0510	WOOD FRAME BLDG. CONST.	55,634	998	179.4	2.0	12.0	7.0	45,166
5001	LOGGING	7,140	177	247.9	15.0	4.0	9.5	42,274
1102	TRUCKING, NOC	44,225	497	112.4	3.0	21.0	12.0	21,200
4803	ORCHARDS	108,197	1177	108.8	1.0	23.0	12.0	19,023
0516	CARPENTRY, NOC	22,298	265	118.8	9.0	19.0	14.0	34,563
0512	INSULATION INSTALLATION	7,487	129	172.3	21.0	15.0	18.0	28,737
0518	BUILDING CONST. NOC	28,330	258	91.1	11.0	27.0	19.0	26,865
0519	BUILDING CONSTR: SHEET METAL WORK	2,931	89	303.7	36.5	3.0	19.8	83,307
0307	HVAC SYSTEMS	26,892	236	87.8	12.0	29.0	20.5	14,656
0524	WALLBOARD INSTALLATION (DISC/SQ FT)	3,299	80	242.5	42.0	5.0	23.5	52,019
0101	ROAD CONSTRUCTION	28,501	200	70.2	14.0	38.0	26.0	15,862
1101	PARCEL PACKAGE DELIVERY	45,009	269	59.8	8.0	47.0	27.5	11,089
6907	MOVING COMPANIES	7,870	89	113.1	36.5	20.0	28.3	14,383
0601	ELECTRICAL WIRING	51,843	297	57.3	7.0	50.0	28.5	9,120
0526	WALLBOARD TAPING DISCOUNTED	4,030	71	176.2	47.0	13.0	30.0	33,500
7118	TEMPORARY HELP-CONSTRUCTION	2,999	63	210.1	55.0	9.0	32.0	25,100
6602	JANITORIAL SERVICE	36,927	204	55.2	13.0	53.0	33.0	10,471
0306	PLUMBING	30,054	169	56.2	17.0	52.0	34.5	11,844
0302	MASONRY CONSTRUCTION	7,222	73	101.1	45.0	25.0	35.0	30,022
0217	CONCRETE WK - FOUNDATIONS & SIDEWALKS	16,811	109	64.8	29.5	43.0	36.3	13,479
0511	GLASS INSTALLATION	5,896	64	108.6	52.5	24.0	38.3	19,428
4305	GARBAGE COLLECTION	9,708	75	77.3	44.0	36.0	40.0	13,583
0308	LAWN CARE MAINTAINENCE	22,755	120	52.7	59.0	25.0	42.0	7,791
0530	WALLBOARD INSTALLATION (UNDISC/SQ FT)	879	34	387.0	90.5	2.0	46.3	187,265

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 13: Top 25 WIC Classifications by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "FALL From SAME LEVEL" Injuries, 1998-2002.

WIC Code	WIC INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
5001	LOGGING	7,140	255	357.2	11.0	1.0	6.0	62,552
0510	WOOD FRAME BLDG. CONST.	55,634	434	78.0	2.0	16.0	9.0	14,662
1102	TRUCKING, NOC	44,225	365	82.5	4.0	15.0	9.5	15,175
7201	STATE HEALTH CARE FACILITIES	21,328	245	114.9	12.5	8.0	10.3	14,379
4905	MOTELS & HOTELS	45,203	310	68.6	7.0	22.0	14.5	11,406
0507	ROOFING	10,765	158	146.8	26.0	6.0	16.0	22,247
0518	BUILDING CONST. NOC	28,330	187	66.0	19.0	25.0	22.0	14,048
6602	JANITORIAL SERVICE	36,927	212	57.4	17.0	35.0	26.0	9,678
3304	MEAT DEALERS WHOLESALE	23,761	149	62.7	27.0	29.0	28.0	10,617
1101	PARCEL PACKAGE DELIVERY	45,009	237	52.7	14.0	47.0	30.5	8,620
6108	NURSING HOMES	83,224	410	49.3	3.0	61.0	32.0	7,191
0512	INSULATION INSTALLATION	7,487	69	92.2	55.0	11.0	33.0	20,817
6705	SKI FACILITIES	2,501	61	243.9	67.5	2.0	34.8	20,274
3905	RESTAURANTS	490,257	2253	46.0	1.0	71.0	36.0	6,069
0524	WALLBOARD INSTALLATION (DISC/SQ FT)	3,299	56	169.8	72.0	4.0	38.0	25,488
7103	STATE GOV'T, LAW ENF.	26,205	138	52.7	31.0	46.0	38.5	8,543
4305	GARBAGE COLLECTION	9,708	66	68.0	59.0	23.0	41.0	11,657
0101	ROAD CONSTRUCTION	28,501	142	49.8	29.0	55.0	42.0	8,563
0217	CONCRETE WK - FOUNDATIONS & SIDEWALKS	16,811	91	54.1	42.0	43.0	42.5	8,578
0516	CARPENTRY, NOC	22,298	115	51.6	36.0	49.0	42.5	13,569
6907	MOVING COMPANIES	7,870	61	77.5	67.5	18.0	42.8	13,393
7114	TEMPORARY HELP-ASSEMBLY	9,423	64	67.9	62.5	24.0	43.3	8,114
3902	FOOD PRODUCTS MFG.	24,060	121	50.3	34.0	54.0	44.0	10,472
1501	COUNTIES-ALL OTHER EMPL. NOC	27,071	134	49.5	32.0	58.0	45.0	6,405
6905	LAW ENFORCEMENT OFFICERS	15,972	84	52.6	43.0	48.0	45.5	7,437
6509	BOARDING HOMES	77,956	317	40.7	5.0	87.0	46.0	6,522
5004	REFORESTATION	2,236	36	161.0	102.0	5.0	53.5	14,479
0531	WALLBOARD TAPING - UNDISCOUNTED	1,043	25	239.8	133.0	3.0	68.0	103,700

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 14: Top 25 WIC Classifications by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "STRUCK BY/AGAINST" Injuries, 1998-2002.

WIC Code	WIC INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
5001	LOGGING	7,140	833	1166.7	4.0	1.0	2.5	222,450
7201	STATE HEALTH CARE FACILITIES	21,328	1079	505.9	3.0	3.0	3.0	67,257
0510	WOOD FRAME BLDG. CONST.	55,634	1752	314.9	2.0	12.0	7.0	26,989
0507	ROOFING	10,765	352	327.0	20.0	10.0	15.0	24,769
0101	ROAD CONSTRUCTION	28,501	629	220.7	8.0	27.0	17.5	24,435
0516	CARPENTRY, NOC	22,298	458	205.4	12.0	30.0	21.0	19,333
0518	BUILDING CONST. NOC	28,330	574	202.6	10.0	34.0	22.0	23,278
2903	WOOD PRODUCTS MFG.	32,555	638	196.0	7.0	37.0	22.0	15,211
1002	SAWMILLS	12,875	295	229.1	30.0	24.0	27.0	17,452
7117	TEMPORARY HELP-MACHINE OPERATION	3,661	158	431.6	55.0	4.0	29.5	37,789
7114	TEMPORARY HELP-ASSEMBLY	9,423	228	242.0	39.0	21.0	30.0	16,057
1102	TRUCKING, NOC	44,225	686	155.1	5.0	59.0	32.0	13,675
0513	INTERIOR FINISH CARPENTRY	23,201	368	158.6	18.0	54.0	36.0	15,864
7301	DAIRY FARMS	15,502	284	183.2	32.0	41.0	36.5	17,609
5208	IRON WORKS, SHOP	8,959	188	209.8	44.5	29.0	36.8	21,590
0511	GLASS INSTALLATION	5,896	143	242.6	59.0	20.0	39.5	18,621
7118	TEMPORARY HELP-CONSTRUCTION	2,999	121	403.5	74.5	5.0	39.8	39,228
0217	CONCRETE WORK - FOUNDATIONS & SIDEWALKS	16,811	276	164.2	33.0	50.0	41.5	15,884
0107	UNDERGROUND UTILITIES	14,770	236	159.8	37.0	52.0	44.5	21,888
2907	CABINET/COUNTERTOP MFG.	18,703	293	156.7	31.0	58.0	44.5	9,414
0524	WALLBOARD INSTALLATION (DISC/SQ FT)	3,299	110	333.5	82.5	9.0	45.8	63,066
4305	GARBAGE COLLECTION	9,708	177	182.3	52.0	42.0	47.0	10,888
6409	MACHINERY DEALERS, NOC	23,488	325	138.4	24.5	71.0	47.8	12,477
2004	IRON MERCHANTS	4,983	115	230.8	78.0	23.0	50.5	14,830
5003	LOG HAULING	5,250	118	224.8	76.0	26.0	51.0	26,258
3905	RESTAURANTS	490,257	1823	37.2	1.0	191.0	96.0	2,540
6809	BASEBALL TEAMS	267	25	937.6	197.0	2.0	99.5	64,319

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 15: Top 25 WIC Classifications by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 "MOTOR VEHICLE" Injuries, 1998-2002.

WIC Code	WIC INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
1102	TRUCKING, NOC	44,225	399	90.2	1.0	7.0	4.0	25,181
1101	PARCEL PACKAGE DELIVERY	45,009	315	70.0	2.0	9.0	5.5	9,581
1407	BUS COMPANIES - PRIVATE	6,833	88	128.8	9.0	4.0	6.5	20,588
5003	LOG HAULING	5,250	68	129.5	14.0	3.0	8.5	26,071
0101	ROAD CONSTRUCTION	28,501	125	43.9	7.0	19.0	13.0	11,902
1404	BUS COMPANIES	3,583	49	136.8	25.0	2.0	13.5	36,963
1109	AUTO TOWING CO.	3,428	48	140.0	26.5	1.0	13.8	36,572
1501	COUNTIES-ALL OTHER EMPL. NOC	27,071	107	39.5	8.0	22.0	15.0	5,844
6905	LAW ENFORCEMENT OFFICERS	15,972	54	33.8	19.0	24.0	21.5	3,058
0308	LAWN CARE MAINTENANCE	22,754	67	29.4	15.0	28.0	21.5	4,866
7103	STATE GOV'T, LAW ENF.	26,205	71	27.1	11.0	33.0	22.0	1,846
5001	LOGGING	7,140	37	51.8	33.5	12.0	22.8	12,168
4305	GARBAGE COLLECTION	9,708	44	45.3	30.5	15.0	22.8	6,516
3101	REDI-MIX CONCRETE DEALERS	6,321	35	55.4	37.0	11.0	24.0	13,678
3411	AUTO DEALERS, SERVICE GARAGES	89,709	164	18.3	5.0	53.0	29.0	2,321
0307	HVAC SYSTEMS	26,892	61	22.7	17.0	42.0	29.5	3,697
6309	HARDWARE VARIETY STORES	105,831	172	16.3	4.0	56.0	30.0	1,175
0608	TELEPHONE SYSTEM INSTALLATION	17,191	47	27.3	28.5	32.0	30.3	4,762
4808	DIVERSIFIED FIELD CROPS	21,430	50	23.3	24.0	39.0	31.5	4,316
6602	JANITORIAL SERVICE	36,927	70	19.0	12.5	52.0	32.3	2,474
1105	SEPTIC TANK PUMPING & STREET SWEEPING	3,660	23	62.8	60.0	10.0	35.0	3,347
6601	DETECTIVE AGENCIES	26,345	53	20.1	20.0	51.0	35.5	2,278
0607	HOUSEHOLD APPL. INSTALLATION	14,164	35	24.7	37.0	36.0	36.5	5,460
0507	ROOFING	10,765	30	27.9	45.0	30.0	37.5	2,601
0306	PLUMBING	30,053	51	17.0	22.5	54.0	38.3	3,047
6303	SALES PERSONEL - OUTSIDE, NOC	319,534	270	8.4	3.0	79.0	41.0	1,704
6803	FLIGHT INSTRUCTORS	1,391	16	115.0	80.0	5.0	42.5	4,334

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 16: Top 25 WIC Classifications by Prevention Index for WA State Fund Compensable Claims for ANSI Z16.2 Lower Extremity Work-related Musculoskeletal Disorders, 1998-2002.

WIC Code	WIC INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
5001	LOGGING	7,140	149	208.7	19.0	2.0	10.5	40,511
0507	ROOFING	10,765	135	125.4	23.0	5.0	14.0	22,265
1102	TRUCKING, NOC	44,225	292	66.0	3.0	31.0	17.0	8,081
0306	PLUMBING	30,054	208	69.2	10.0	25.0	17.5	7,168
0510	WOOD FRAME BLDG. CONST.	55,634	359	64.5	2.0	34.0	18.0	8,862
0518	BUILDING CONST. NOC	28,330	195	68.8	12.0	26.0	19.0	13,004
4305	GARBAGE COLLECTION	9,708	111	114.3	34.5	8.0	21.3	8,964
6904	FIRE FIGHTERS	15,546	126	81.1	26.5	19.0	22.8	5,473
6907	MOVING COMPANIES	7,870	93	118.2	43.0	7.0	25.0	12,434
0101	ROAD CONSTRUCTION	28,501	175	61.4	14.5	37.0	25.8	9,099
0307	HVAC SYSTEMS	26,892	168	62.5	16.0	36.0	26.0	6,555
7103	STATE GOV'T, LAW ENF.	26,205	158	60.3	18.0	40.0	29.0	4,595
0502	FLOOR COVERING INSTALLATION	7,049	79	112.1	50.0	10.0	30.0	14,014
0217	CONCRETE WK - FOUNDATIONS & SDWLKS	16,811	111	66.0	34.5	30.0	32.3	14,942
0524	WALLBOARD INSTALLATION (DISC/SQ FT)	3,299	53	160.7	62.5	3.0	32.8	33,476
2105	BEER DISTRIBUTORS	12,101	92	76.0	44.0	23.0	33.5	5,391
1101	PARCEL PACKAGE DELIVERY	45,009	222	49.3	9.0	60.0	34.5	5,194
0601	ELECTRICAL WIRING	51,843	240	46.3	6.0	66.0	36.0	4,859
0516	CARPENTRY, NOC	22,298	126	56.5	26.5	47.0	36.8	9,345
0511	GLASS INSTALLATION	5,896	53	89.9	62.5	17.0	39.8	8,769
0504	PAINTING	15,643	96	61.4	42.0	38.0	40.0	9,892
0512	INSULATION INSTALLATION	7,487	58	77.5	59.0	22.0	40.5	13,790
0308	LAWN CARE MAINTENANCE	22,754	116	51.0	30.0	57.0	43.5	6,569
5307	STATE GOV'T, MANUEL LABOR	55,138	227	41.2	8.0	79.0	43.5	4,896
7118	TEMPORARY HELP-CONSTRUCTION	2,999	38	126.7	86.5	4.0	45.3	17,487
6108	NURSING HOMES	83,224	247	29.7	4.0	102.0	53.0	3,193
3411	AUTO DEALERS, SERVICE GARAGES	89,709	244	27.2	5.0	107.0	56.0	3,582
6809	BASEBALL TEAMS	267	18	675.1	148.5	1.0	74.8	80,895
3905	RESTAURANTS	490,257	629	12.8	1.0	167.0	84.0	1,555

* Severity Rate Time Loss Days per 10,000 FTEs

Included are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 17: Top 25 WIC Classifications by Prevention Index for WA State Fund Compensable Claims for Work-related Musculoskeletal Disorders of the Neck, Back and Upper Extremity, 1998-2002.

WIC Code	WIC INDUSTRY	FTEs	Count	Rate	Count Rank	Rate Rank	Prevention Index	Severity Rate*
7201	STATE HEALTH CARE FACILITIES	21,328	926	434.2	14.0	16.0	15.0	46,671
0507	ROOFING	10,765	595	552.7	32.0	10.0	21.0	120,879
0510	WOOD FRAME BLDG. CONST.	55,634	1749	314.4	3.0	42.0	22.5	66,912
6108	NURSING HOMES	83,224	2419	290.7	2.0	48.0	25.0	38,154
6907	MOVING COMPANIES	7,870	444	564.2	47.0	8.0	27.5	76,855
2105	BEER DISTRIBUTORS	12,101	502	414.9	41.0	19.0	30.0	34,058
4305	GARBAGE COLLECTION	9,708	445	458.4	46.0	14.0	30.0	62,083
0524	WALLBOARD INSTALLATION (DISC/SQ FT)	3,299	322	976.1	63.0	2.0	32.5	197,212
1102	TRUCKING, NOC	44,225	1209	273.4	7.0	59.0	33.0	51,948
0516	CARPENTRY, NOC	22,298	705	316.2	25.0	41.0	33.0	86,351
0518	BUILDING CONST. NOC	28,330	825	291.2	20.0	47.0	33.5	71,281
0217	CONCRETE WORK - FOUNDATIONS AND SIDEWAL.	16,811	572	340.3	34.0	36.0	35.0	63,806
7114	TEMPORARY HELP-ASSEMBLY	9,423	387	410.7	52.0	20.0	36.0	50,789
1101	PARCEL PACKAGE DELIVERY	45,009	1090	242.2	9.0	72.0	40.5	39,056
2903	WOOD PRODUCTS MFG.	32,555	834	256.2	17.0	66.0	41.5	34,804
0306	PLUMBING	30,054	784	260.9	22.0	63.0	42.5	53,055
0502	FLOOR COVERING INSTALLATION	7,049	297	421.3	68.0	18.0	43.0	103,458
0302	MASONRY CONSTRUCTION	7,222	288	398.8	69.0	23.0	46.0	98,321
0511	GLASS INSTALLATION	5,896	251	425.7	78.0	17.0	47.5	109,464
7117	TEMPORARY HELP-MACHINE OPERATION	3,661	212	579.1	90.0	7.0	48.5	90,715
3304	MEAT DEALERS WHOLESALE	23,761	588	247.5	33.0	70.0	51.5	39,480
0307	HVAC SYSTEMS	26,892	633	235.4	30.0	75.0	52.5	43,037
0101	ROAD CONSTRUCTION	28,501	667	234.0	28.0	78.0	53.0	55,282
5001	LOGGING	7,140	254	355.7	76.5	31.0	53.8	92,597
6110	HOME HEALTH CARE NURSING	12,114	337	278.2	59.0	54.0	56.5	51,957
6509	BOARDING HOMES	77,956	1434	183.9	4.0	117.0	60.5	33,239
0530	WALLBOARD INSTALLATION (UNDISC/SQ FT)	879	80	910.5	162.5	3.0	82.8	358,891
0403	SIGN ERECTION	889	55	619.0	184.0	4.0	94.0	95,001
7119	TEMPORARY HELP-VEHICLE OPERATION	864	52	601.5	188.0	5.0	96.5	64,641
6809	BASEBALL TEAMS	267	33	1237.6	218.0	1.0	109.5	131,900
3905	RESTAURANTS	490,257	3133	63.9	1.0	226.0	113.5	9,974
4904	CLERICAL OFFICE, NOC	1,062,422	1360	12.8	5.0	261.0	133.0	2,332

*Severity Rate is Time Loss Days per 10,000 FTE

Gray shaded cells are Industry Groups in the Top 5 by Count or Rate Rank (Gray Shade) but not in the Top 25 by Prevention Index

Table 18: Top 15 NAICS Industry Groups by Average of Seven Common Injury Types Prevention Index Ranks and Industry Groups with High Prevention Index Ranks for Individual Types of Injury, Washington State Fund Compensable Claims, 1998 - 2002.

NAICS INDUSTRY GROUP	Caught	Fall from	Fall Same	Struck	MV Inj	Lowex	WMSDs*	Number of	PI Avg
		Elev	Level			WMSDs			
1133 LOGGING	2.0	5.0	1.0	2.0	4.0	5.0	18.0	7	5.3
2381 FOUND, STRUCT, & BLDG EXT CONTR	14.0	1.0	2.0	1.0	22.0	2.0	1.0	7	6.1
4841 GENERAL FREIGHT TRUCKING	14.0	6.0	3.5	9.0	1.0	4.0	8.0	7	6.5
2361 RES BLDG CONSTR	33.0	3.0	7.0	3.0	38.5	3.0	5.0	7	13.2
4842 SPECIALIZED FREIGHT TRUCKING	45.0	7.0	9.0	14.5	2.0	9.0	9.0	7	13.6
2383 BUILDING FINISHING CONTRACTORS	46.0	3.0	3.5	11.0	30.5	1.0	2.0	7	13.9
5617 SERV TO BUILDINGS & DWELLINGS	38.0	11.0	6.0	20.5	9.5	7.0	10.0	7	14.6
5621 WASTE COLLECTION	21.5	17.5	18.0	23.0	19.0	8.0	11.5	7	16.9
2389 OTH SPECIALTY TRADE CONTRCTRS	28.5	8.0	39.0	8.0	12.0	11.0	14.0	7	17.2
2371 UTILITY SYSTEM CONSTRUCTION	9.0	12.0	35.0	14.5	23.0	14.0	16.0	7	17.6
2382 BUILDING EQUIP CONTRACTORS	37.0	10.0	27.0	20.5	13.0	6.0	19.0	7	18.9
4244 GROCERY & REL PROD WHLESLRS	14.0	16.0	17.0	32.5	17.5	22.0	24.0	7	20.4
2373 HWY, STREET, & BRIDGE CONSTR	54.0	13.0	36.0	10.0	9.5	13.0	22.0	7	22.5
8111 AUTOMOTIVE REPAIR & MAINT	25.5	30.0	38.0	26.0	17.5	25.0	23.0	7	26.4
3273 CEMENT & CONCRETE PROD MFG	10.0	20.5	51.5	28.0	20.0	23.0	34.0	7	26.7
3219 OTHER WOOD PRODUCT MFG	1.0	22.0	48.0	5.0	77.0	24.0	11.5	7	26.9
6222 PSYCH & SUBST ABUSE HOSP		135.0	11.0	4.0		16.0	6.0	5	34.4
3323 ARCH & STRUCT METALS MFG	4.5	57.0	91.0	17.0		59.0	31.5	6	43.3
1121 CATTLE RANCHING AND FARMING	4.5	25.0	29.0	6.5	61.0	77.0	130.0	7	47.6
1113 FRUIT AND TREE NUT FARMING	31.0	3.0	46.0	48.5	47.0	67.0	129.0	7	53.1
7222 LIMITED-SERVICE EATING PLACES	58.5	85.0	5.0	62.5	44.0	72.0	95.0	7	60.3
4921 COURIERS		58.0	68.5	104.0	3.0	110.0	31.5	6	62.5
4922 LOCAL MESSENGERS & LOCAL DEL		40.5	51.5	118.0	5.0	106.0	72.0	6	65.5
3222 CONVERTED PAPER PRODUCT MFG	3.0	122.0	161.0	94.5		175.0	37.0	6	98.8

Shaded in Gray are for Prevention Index Ranks in the Top Five NAICS Industry Groups

* Work-related Musculoskeletal Disorders of the Neck, Back and Upper Extremity

Table 19: Top 15 WIC by Average of Seven Common Injury Types Prevention Index Ranks and WIC with High Prevention Index Ranks for Individual Types of Injury, Washington State Fund Compensable Claims, 1998 - 2002.

WIC Code	WIC INDUSTRY	Caught	Falls from Elev	Falls Same Level	Struck	MV Inj	Lowex WMSDs	WMSDs*	Number of PI Ranks	PI Avg
5001	LOGGING	5.5	4.0	1.0	1.0	12.5	1.0	24.0	7	7.0
1102	TRUCKING, NOC	29.0	5.5	3.0	12.0	1.0	3.0	9.5	7	9.0
0101	ROAD CONSTRUCTION	20.5	13.0	18.0	5.0	5.0	10.0	23.0	7	13.5
4305	GARBAGE COLLECTION	17.0	24.0	17.0	22.0	12.5	7.0	6.5	7	15.1
0507	ROOFING	86.0	1.0	6.0	4.0	24.0	2.0	2.0	7	17.9
0510	WOOD FRAME BLDG. CONST.	44.0	3.0	2.0	3.0	80.0	5.0	3.0	7	20.0
0518	BUILDING CONST. NOC	35.0	9.0	7.0	7.5	92.0	6.0	11.0	7	23.9
1101	PARCEL PACKAGE DELIVERY	68.0	14.0	10.0	48.0	2.0	17.0	14.0	7	24.7
0524	WALLBOARD INSTALL (DISC/SQ FT)	87.0	12.0	15.0	21.0		15.0	8.0	6	26.3
0307	HVAC SYSTEMS	62.0	11.0	48.0	26.5	16.0	11.0	22.0	7	28.1
6907	MOVING COMPANIES	81.0	15.0	21.0	32.0	38.0	9.0	5.0	7	28.7
7114	TEMP HELP-ASSEMBLY	8.0	62.0	22.0	11.0		58.0	13.0	6	29.0
0306	PLUMBING	74.0	20.0	45.0	29.0	25.0	4.0	16.0	7	30.4
0308	LAWN CARE MAINTENANCE	51.0	25.0	35.0	37.0	9.5	23.5	32.0	7	30.4
0107	UNDERGROUND UTILITIES	23.5	35.0	51.0	19.5	32.0	27.5	29.5	7	31.1
7117	TEMP HELP-MACHINE OPERATION	1.0	95.0	37.0	10.0		30.0	20.0	6	32.2
7201	STATE HEALTH CARE FACILITIES	97.0	93.0	4.0	2.0		33.0	1.0	6	38.3
2903	WOOD PRODUCTS MFG.	2.0	51.0	52.0	7.5	99.0	64.0	15.0	7	41.5
1002	SAWMILLS	5.5	47.0	60.0	9.0	107.0	35.0	34.0	7	42.5
0504	PAINTING	103.0	2.0	38.0	53.5	89.0	21.0	42.5	7	49.9
5003	LOG HAULING	47.5	26.5	28.5	25.0	4.0	102.0	120.0	7	50.5
6108	NURSING HOMES	88.0	166.0	11.0	71.0		32.0	4.0	6	62.0
4905	MOTELS & HOTELS	104.0	58.0	5.0	109.0	108.5	42.5	36.5	7	66.2
4803	ORCHARDS	56.5	5.5	65.0	85.0	43.0	73.0	167.0	7	70.7
3404	ALUMINUM PRODUCT MFG.	4.0	111.0	114.0	28.0	98.0	98.5	46.0	7	71.4
1407	BUS COMPANIES - PRIVATE		143.0	61.0	210.0	3.0	47.0	102.0	6	94.3
6908	PAPER PRODUCTS MFG.	3.0	181.5	193.0	124.0		190.0	68.5	6	126.7

Shaded in Gray are for PI Ranks in the Top Five NAICS Industry Groups

* Work-related Musculoskeletal Disorders of the Neck, Back and Upper Extremity

Table 20: The Proportion of Claims by Injury Type for Various Proportions of NAICS Industry Groups, Washington State Fund Compensable Claims, 1998 - 2002.

Proportion of Total NAICS Industry Groups (Ordered by Descending Claim Count)	Injury Type						
	Caught In/ Under/ Between n=4,473	Fall from Elevation n=13,843	Fall from Same Level n=16,314	Struck By/Against n=32,994	Motor Vehicle Injury n=5,244	Lower Extremity WMSDs n=12,441	WMSDs** n=67,398
Top NAICS Industry Group (n=1)	4.0%	10.5%	6.3%	7.0%	5.0%	5.6%	4.9%
Top 1% (n=3)	11.0%	23.2%	16.0%	15.5%	12.9%	14.0%	11.7%
Top 2% (n=6)	18.9%	37.5%	23.8%	23.6%	21.2%	22.1%	18.8%
Top 5% (n=15)	33.7%	53.4%	39.7%	39.9%	37.7%	38.2%	35.0%
Top 10% (n=30)	51.2%	66.4%	57.5%	56.8%	54.2%	55.6%	51.4%
Top 25% (n=76)	79.4%	83.0%	79.5%	79.6%	78.8%	77.4%	74.1%
Top 50% (n=152)	94.5%	95.3%	93.7%	94.1%	95.3%	92.9%	92.0%
Top 75% (n=228)	99.3%	99.3%	98.9%	99.0%	99.5%	98.9%	98.4%
Top 90% (n=274)	100.0%	100.0%	99.9%	99.9%	100.0%	99.9%	99.8%
Number of NAICS Industry Groups Without Claims	45	24	12	6	49	16	2

* NAICS Groups Limited to the those with ≥ 50 FTE

** Work-related Musculoskeletal Disorders of the Neck, Back and Upper Extremity