



Work related injuries in Washington State's Trucking Industry, by industry sector and occupation[☆]



Caroline K. Smith*, Jena Williams

Washington State Department of Labor and Industries, Safety and Health Assessment and Research for Prevention (SHARP) Program, PO Box 44330, Olympia, WA 98501-4330, USA

ARTICLE INFO

Article history:

Received 25 July 2013
Received in revised form
17 December 2013
Accepted 18 December 2013

Keywords:

Musculoskeletal disorders
Truck drivers
Time loss
Occupational injuries
Rates
Logistic regression
Population based

ABSTRACT

Background: The trucking industry continues to have some of the highest work-related injury and illness rates and costs of any industry in the United States. Until recently, little focus has been placed on addressing non-motor vehicle collision related injuries within the trucking industry. Drivers are exposed to multiple physical risk factors that contribute to occupational injuries in order to complete their job duties, such as loading/unloading freight, decoupling trailers, strapping down loads and ingress and egress from the cab and trailer. About one-fourth of all truck driver injuries in the United States are related to slips, trips, and falls near the truck.

Purpose: The purpose of this descriptive study is to report on recent injuries in the trucking industry in Washington State. Data are presented by occupation and industry sector, in order to better understand the magnitude of specific injuries in terms of time-loss days and workers' compensation costs.

Methods: All accepted, compensable (time-loss) claims from 2005 to 2010 within the trucking industry in Washington State were reviewed. Counts, rates, median and quartile data are presented. Logistic regression models are presented to identify factors associated with more severe claims.

Results: Non-traumatic musculoskeletal disorders of the neck, back and upper extremities are the most frequent injuries across all industry sectors and occupations in the trucking industry. Vehicle related claims had the highest median costs and time loss days and Courier and Messenger claims had the highest risk for higher time loss claims. Injuries varied substantially by sector and within sectors by occupation.

Conclusion: It is important to review work-related injuries within the trucking industry by sector and occupation in order to maximize limited resources for injury prevention within this important sector.

© 2014 The Authors. Published by Elsevier Ltd. All rights reserved.

1. Introduction

The trucking industry continues to have some of the highest work-related injury and illness rates and costs of any industry in the United States (Leigh et al., 2004; Bonauto et al., 2006). Leigh et al. using the US Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII) data and BLS Census of Fatal Occupational Injuries (CFOI) data found that the trucking and courier services industry had the highest total cost of fatal and nonfatal occupational injuries and illnesses and ranked eighth across industries in the average cost of work-related injuries and illnesses per worker (Leigh et al., 2004).

In response to public pressure, the federal Department of Transportation, through the Federal Motor Carrier Safety Administration (FMCSA) regulates the trucking industry, tightly controlling rest breaks and drive time in an attempt to eliminate motor vehicle collisions. While it is important to protect truck drivers and the motoring public from motor vehicle collisions, the majority of work-related injuries to truck drivers are from other causes. Non-traffic related incidents account for 92.6% of the registered occupational injuries among truck drivers in Denmark (Shibuya et al., 2008) and non-vehicle related injuries account for 93% of injuries to truckers in Washington State (Rauser et al., 2008). The situation regarding injuries in trucking is critical to address now, as trucking is one of the largest growing industry sectors in the United States.

The 2010 Bureau of Labor Statistics data estimated that there were 1.6 million heavy and tractor-trailer truck drivers in the United States, and projected a 21% increase in employment over the next ten years. By 2020, there will be an estimated 330,000 new jobs in the trucking industry, the eighth highest occupation in terms of new jobs (Bureau of Labor Statistics, 2012).

[☆] This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial-No Derivative Works License, which permits non-commercial use, distribution, and reproduction in any medium, provided the original author and source are credited.

* Corresponding author. Tel.: +1 360 902 4528.

E-mail addresses: smcb235@LNI.wa.gov (C.K. Smith), joni235@LNI.wa.gov (J. Williams).

The trucking industry in the United States is regulated by several federal and state agencies; the Federal Department of Transportation (DOT) and the Federal Motor Carrier Safety Administration (FMCSA) whose primary concerns are road and public safety. Most trucking companies place a major emphasis on meeting FMCSA requirements rather than occupational health and safety regulations as monitored by Occupational Safety and Health Administration (OSHA) or state OSHA plans (Belzer et al., 2002).

1.1. Purpose of the study

Until recently, little focus has been placed on addressing work-related injuries within the trucking industry. Various job duties, such as loading/unloading freight, decoupling trailers, strapping down loads and ingress and egress from the cab and trailer, expose drivers to physical risk factors that contribute to occupational injuries. About one-fourth of all truck driver injuries in the United States are related to slips, trips, and falls near the truck (Helmkamp and Lundstrom, 2000).

The purpose of this descriptive analysis is to report on recent injuries in the trucking industry from the Trucking Injury Reduction Emphasis through Surveillance (TIRES) work-related injury surveillance system in Washington State. Data from the TIRES program allows directed education and prevention activities for the most common and highest cost injuries in the trucking industry (Tires, 2013).

2. Materials and methods

2.1. Workers' compensation system, data ascertainment, and variable definitions

The Washington State Department of Labor and Industries' (L&I) State Fund (SF) is the exclusive provider of workers' compensation insurance to Washington State employers, except for those employers who are able to self-insure (SI) or those covered by alternative workers' compensation systems (e.g., the federal government and the Longshore and Harbor Workers' Act). The L&I State Fund system covers approximately two-thirds of all employees in the State of Washington and approximately 99% of employers, and 100% of the companies classified under NAICS 4842 (Specialized Freight Trucking) in this study.

Workers' compensation compensable State Fund and Self-Insured claims with dates of injury from 2005 to 2010 were extracted from the Washington State Department of Labor and Industries workers' compensation data system. Although SI companies are not covered by L&I, they are required to submit some data for compensable claims to the department. Compensable claims are those with wage replacement following a three day waiting period, a permanent partial disability award, a fatality, a worker kept on salary by their employer,¹ or provisionally accepted claims. Data from both SF and SI companies consists of all compensable claims from workers' compensation accounts assigned to one of the following North American Industrial Classification System (NAICS) codes: 4841 (General Freight Trucking), 4842 (Specialized Freight Trucking), 492 (Couriers and Messengers) and 562 (Waste Collection).

¹ A worker "kept on salary" by their employer is an insurance designation that means the worker is being paid by their employer while they are off work with an injury. This lets the Department know that we will not be paying time loss payments for this claim. This keeps the money spent by workers' compensation down, which results in a lower cost assigned to the employer, thereby factoring in to lower premiums for that employer.

Claimant data extracted included: claimant's age at date of injury, gender, marital status, number of dependents, length of employment, health insurance benefits, occupation (SOC 2000 – Standard Occupational Code (OMB, 2000)), claimant's self-reported height and weight, Occupational Injury and Illness Classification System (OIICS) codes for injury nature, body part, source, secondary source, and event or exposure (Bureau of Labor Statistics, 2007).

For all State Fund claims, time loss days, total costs and medical costs were also obtained. Data on benefits were restricted to 2 years from the date of injury to allow each claim to have a common period of maturity. Claim costs data reflect that which had been paid during the 2-year period after the date of injury and adjusted to 2010 dollars.

2.2. Data calculations

For rates, denominator data were obtained from employment estimates calculated by the Washington State Department of Employment Security, Labor Market and Economic Analysis Division. Employment estimates were based on annual Occupational Employment Statistics (OES) surveys, which is a joint state and federal survey. The OES does not survey farms, the self-employed, owners in unincorporated firms, the military or unpaid workers (e.g., household and unpaid family members). The OES estimates provide a count of employees by industry (NAICS) and occupation; hours were estimated by multiplying each employee by 2000 h (assumed full-time 50 weeks per year of employment). Hours were calculated for OES data in order to standardize the denominator for injury rates.

Detailed Standard Occupational Classification (SOC) codes were aggregated into 4 categories: drivers, material handlers, vehicle service operators and other. Occupations were categorized based upon similar/related descriptions. In the OES data, there were over 900 five-digit SOC occupations within State Fund companies and over 700 listed for SI companies. Although most of the occupations were categorized in 'Other' occupations, Table 1 provides an overview of how detailed occupations were aggregated into the relevant occupational groups for this study.

Body Mass Index (BMI) was calculated from self-reported height and weight using weight (in pounds) divided by height (in.) squared, multiplied by 703 (weight (pounds)/[height (in.)]² × 703) equivalent to BMI = weight (kg)/height² (m²).

3. Data analysis

Descriptive analyses for demographic and claim data were performed and the data were either categorized or in most cases the median and first and third quartiles were reported. The averages were not used (except for age and BMI) because of the skewed nature of the data. Incidence rates (IR) were standardized to units of 100 full-time equivalent workers (FTE). Incident rates and 95% confidence intervals (95% CI) were calculated for all reported rates. Rate ratios (RR) compare select trucking industry occupation rates to the same occupations in all non-trucking industries in Washington State. Data on rates and costs are not reported where there are fewer than ten claims in a group.

Logistic regression models were run to identify relevant predictors or worker characteristics that are at higher risk for four distinct outcomes: (1) expensive medical claims (higher than median cost), (2) higher time-loss days (higher than median time loss), (3) for partial disability claims and (4) total permanent disability claims. Analyses were performed in SAS v9.3.

Download English Version:

<https://daneshyari.com/en/article/6965972>

Download Persian Version:

<https://daneshyari.com/article/6965972>

[Daneshyari.com](https://daneshyari.com)