

routine analysis of acute work-related injury hospitalization data for evaluation of OSHA-mandated employer reporting, compliance inspections, and public health intervention.

A4.4

Title: **Work injury compensation policies in the GCC countries**

Author: Ujwal Kharel

Objectives: Work injury compensation policies in the GCC (Gulf Cooperation Council) countries present compelling case studies because rates of occupational injury and fatality in these countries are far greater than industrially advanced countries and because they rely heavily on migrant labor. It is an interesting exercise to study how well defined work injury compensation laws are in the GCC countries and how well they protect the labor force that is primarily comprised of migrant workers. This paper looks at the benefits to which injured workers and their beneficiaries are entitled in the GCC countries and compares them against benefits awarded countries with similar labor force composition.

Methods: Legislations in the six GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates) were compared against those in Singapore, Indonesia, and Malaysia in terms of liability of medical care costs, temporary disability benefits, permanent partial disability benefits, death benefits, contributory negligence clauses, and enforcement mechanisms.

Results: Inadequacies of the work injury compensation laws in the GCC countries become more apparent when compared against those in countries like Singapore, a similarly wealthy economy with a very high proportion of foreign labor force. While entitlements concerning medical care costs and temporary disability benefits are similar across the countries, death and permanent disability benefits provided to injured workers and their beneficiaries are lacking in the GCC countries.

Conclusions: In comparison to other countries around the world, work injury compensation policies in the GCC countries seem to fall short of providing injured workers and their beneficiaries with fair and equitable compensation benefits. Labor laws and social insurance laws largely ignore workers in domestic and agriculture sectors, groups that form the most vulnerable population of migrant workers. Meanwhile, there are clauses in labor laws that allow employers to fault injured workers and thus reject liability for injuries. Migrant workers are especially vulnerable to these shortcomings because their employers are also in control of their visas. Moreover, enforcement mechanisms in place seem too weak to ensure employer's compliance.

Session A5.0

Title: **Motor Vehicles – Injury Prevention**

Moderator: Stephanie Pratt

A5.1

Title: **Workplace road safety: Safety management for the occupational driver**

Author: Sharon Newnam

Road traffic injury is the leading cause of work-related death in Australia and internationally. Despite this, limited attention has been given to systems-based preventive strategies. A safe driving environment at work not only depends on individual compliance with safe driving practices but on all individuals anticipating threats to safety, showing concern for the safety of others, and contributing to safety improvements in the organisation. In particular, workgroup supervisors (those who monitor and regulate drivers in their performance of assigned tasks, both driving and non-driving related) play a critical role in creating a safe work environment. For example, a supervisor showing concern for a driver through increased safety-related discussions has been associated with safer driving behaviour by the employee.

Objective: This presentation will describe the role of the supervisor in the safety management of work-related drivers.

Method: I will also present an evidence-based program (i.e., Safety Management for the Occupational Driver) that aims to develop the skills of supervisors in identifying situations in which their drivers may be at risk on the road (e.g., drivers are tired, stressed, under pressure to meet deadlines) and to manage these situations effectively.

Results: I will present some preliminary findings on the effectiveness of the program in modifying safety management practices.

Conclusion: The strength of this approach in addressing the challenges associated with managing the safety of work-related drivers will be discussed.

A5.2

Title: **Evaluation of telematics feedback to truck drivers to reduce risky driving behaviors**

Authors: Jennifer Bell, Oliver Wirth, Matthew Taylor, Guang-Xiang Chen, Rachel Kirk

Objective: The objective of this naturalistic driving study was to determine whether two types of feedback (instant feedback from an on-board video recording system (OVRs) and one-on-one coaching between supervisors and drivers) reduced risky driving behaviors in box-truck drivers.

Methods: The driver population drove box trucks, delivering goods to convenience stores. This study used an on-board video recording system (OVRs) with forward- and driver-facing cameras which recorded driver behaviors, and accelerometers that detected vehicle maneuvers such as hard braking, acceleration, and speeding. When a vehicle event was triggered by a harsh maneuver, the OVRs saved a 30-second video/audio clip, 15 seconds before and after the triggering event. The videos were viewed by the OVRs vendor's trained observers and coded for approximately 60 different risky driving behaviors of varying severity. Two types of feedback to the drivers were evaluated: instant feedback from lights on the dashboard that flashed yellow or red to denote harsh vehicle maneuvers, and one-on-one coaching between supervisor and driver, consisting of viewing the recorded video events involving the driver and discussing safe driving behaviors. All trucks at seven business sites were equipped with OVRs, for a total of 158 OVRs at the start of the study. The seven sites were assigned to an intervention group (n=5) that received instant driver feedback and supervisory coaching, or control group (n=2) that received no feedback. The data presented here cover 17 months of monitoring using OVRs in the intervention and control groups.

Results: Over the 17 months, there were approximately 237,000 useable trigger events recorded. Driving unbelted was the most common risky behavior; using hand-held electronic devices ranked 4th. Coaching varied among the sites, from a low of 52% of the drivers that should have been coached at one site to a high of 96% at another. The rate of overall risky driving behaviors decreased significantly in the intervention (lights plus coaching) group (RR=0.47, p<0.001), with no significant change seen in the control group (RR=0.93, p=0.44).

Conclusions: Preliminary results show that the OVRs intervention was associated with a decrease in risky driving behaviors that may reduce collisions, injuries and fatalities.

A5.3 **Title: Impact of a motor-vehicle crash prevention program in a large police department**

Authors: Hope Tiesman, Jeff Rojek, Geoff Alpert, Melody Gwilliam, Srinivas Konda, Jennifer Bell, Scott Hendricks

Objectives: Motor-vehicle crashes (MVCs) are the leading cause of on-duty injury death among law enforcement officers. In 2009, a large municipal police agency developed a three-pronged crash prevention program that included policy changes, new training requirements, and a marketing campaign. We evaluated the impact of this program on MVCs and motor-vehicular injuries.

Methods: Data were obtained from four agency databases: hours worked from human resource/payroll, MVCs from internal crash files, mileage data from fleet services, and injuries from workers' compensation claim data. Motor-vehicular injury rates were defined as the total number of workers' compensation claims for a MVC divided by the total productive hours and expressed per 100 full-time equivalents (FTEs). MVC rates were defined as the total number of MVCs divided by total miles driven and expressed per 100,000 miles. MVC rates and motor-vehicular injury rates were compared between the three years before program implementation (2007-2009) and three years after full implementation (2011-2013). The year of implementation was not included in the analysis (2010). Differences between the pre- and post-intervention rates were evaluated using Poisson regression.

Results: Preliminary analyses show that the agency's motor-vehicular injury rate significantly declined 41% from pre- to post-intervention (pre-intervention=3.5; post-intervention=2.1; RR = 0.59, 95% CI = 0.48 - 0.72). This was most pronounced in the patrol divisions where the motor-vehicular injury rate was cut in half (pre-intervention=4.0; post-intervention=1.9; RR=0.47, 95% CI=0.36 - 0.62). The agency's MVC rate also significantly declined 15% from 2.2 to 1.9 crashes per 100,000 miles driven (RR = 0.85, 95% CI = 0.79 - 0.91).

Conclusions: Preliminary analyses indicate that the crash prevention program was associated with a significant reduction in both motor-vehicular injury and MVC rates. Future analyses will measure changes in injury severity and characteristics of MVCs pre- and post-intervention. Additionally, the 2007-2013 MVC trends from two other large municipal law enforcement agencies will be used as comparison groups for the current study results.

A5.4

Title: ATV and UTV safety training for agricultural workers: A safety workshop piloted with Iowa farmers

Authors: Charles Jennissen, Karisa Harland, Andy Winborn, Gerene Denning

Objectives: Although some occupational all-terrain vehicle (ATV) and utility task vehicle (UTV) safety education resources are available, few operators receive any formal training. The study objective was to develop and evaluate a workshop that provides farmers education on the safe occupational use of ATVs/UTVs.

Methods: Training with evidence-based safety information for agricultural workers was developed, and is being piloted. Demographic information, safety behaviors, crash experiences, and safety knowledge (20 questions) is being collected prior to training. The reported likelihood of using the workshop information,

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