

tion to other occupational injury prevention efforts are examined.

Session: F2.0

Title: Construction Injuries II

Moderator: David Fosbroke

F2.1

Title: Construction Injury: Patterns of Factors Contributing to Different Types of Injury Events

Authors: Glazner JE, Bondy J, Lezotte DC, Guarini K, Lipscomb HJ

Background: Patterns of injuries sustained on construction sites are fairly well documented, but less is known about factors contributing to different types of injuries. To explore these, we analyzed narratives from injury reports for 3683 injuries sustained during construction of Denver International Airport.

Method: We reviewed descriptions of injuries to identify the initial energy exchange leading to each injury. This we refer to as "mechanism of injury event" (MOIE), e.g., the slip/trip leading to a fall rather than the fall itself. To classify contributing factors, we adapted Haddon's matrix to encompass 4 primary categories of contributing factors: human, object, environmental and organizational. As many factors as could be identified were coded for each report. These data were linked to coded claims data including Workers' Compensation payment information.

Results: Different patterns of contributing factors emerged for different MOIEs. Victim actions were identified as contributing to the majority of injuries from burns, cumulative trauma, foreign body eye, straining motion leading to overexertion, struck by/against, and twisted by/pulled by. Environmental factors contributed to a majority of injuries with MOIEs of fall (without slip/trip), motor vehicle/heavy equipment, and slips/trips. Tools contributed to the majority of burns and twisted by/pulled by injuries.

Detailed analysis of slips/trips, the most expensive (\$10.6 million) and second most common MOIE, revealed that environmental factors and building materials were more often implicated (84.5% and 23% of injuries, respectively) than were victim actions (15%). Environmental factors contributing to slips/trips included walking surface, terrain, slippery conditions and stairs. Among materials, wire, pipe and lumber contributed most frequently. Information about the injury burden of an MOIE and its contributing factors identified in brief narratives can help focus prevention efforts and guide targeted research.

F2.2

Title: Training Effects on Work-Related Injuries among Construction Laborers

Authors: Dong S, Schneider S, Chowdhury R, Men R

Construction laborer is one of the most dangerous occupations in the United States. Occupational injuries are an enormous burden to construction laborers, their families, and the public. To reduce occupational injuries, many safety training programs have been provided to construction laborers in the last several decades. However, so far, there has been little systematic evaluation of the impact of those training programs. As a pilot study, we assessed the effects of safety training on work-related injuries among construction laborers. Our hypothesis is that safety training can reduce work-related injuries. A combination of data sources was used for the study, including medical records and workers' compensation data of unionized construction laborers provided by the Washington State Department of Labor and Industries, and Laborers' Safety and Training records provided by the Northwest Laborers Trust Fund. Around 8,570 observations matching our selection criteria were included in our study. To measure the effects quantitatively, workers' post training injury experience, in terms of workers' compensation rate, was compared with that of those who did not receive training during the same time period. The characteristics of the construction laborers in the cohort were examined and described. To test our hypothesis, T test, 2 test, and multiple logistic regression model were applied. The initial findings indicate that the training program significantly reduced the workers' compensation claim rate by 34% (95%CI: 0.57, 0.76) after controlling for age, gender, and other potential confounders. We plan on obtaining more workers comp data to expand our cohort over several more years and increase the power of our findings.

F2.3

Title: Disabling Traumatic Injuries in Construction -- Fractures and Their Antecedents

Authors: Courtney TK, Matz S, Webster BS

Construction is recognized worldwide for relatively high risks of occupational morbidity and mortality. The US construction industry increased its share of private sector employment by 11% from 1996 to 2000. However, its share of private sector injuries and illnesses and cases involving days away from work increased by 19% and 23% respectively over the same period. While data on construction injury frequency are reasonably available, less is known about the disability duration due to occupational injuries in construction and the specific events associated with the most disabling traumatic injuries.

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