Abstracts

Poster: 0060

Nature of Injury Data in the BLS Annual Survey Seriously Underestimate the Medical Burden of Work Injuries

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NORA Priority Areas: Risk Assessment Methods, Musculoskeletal Disorders, Traumatic Injuries
Industry Sectors: All Industries, Transportation Industry

Background: The BLS Annual Survey is the current source of national and state data on work injuries. Nature of injury is generally coded from a lay narrative by a lay coder using a quasi-medical taxonomy that requires that the case be coded to the most serious injury, if possible. There have been no published comparisons of the BLS taxonomy with the ICD-9-CM clinical diagnosis taxonomy at the state or national level.

Study Objectives: To compare nature of injury data from the nation and Great Lakes states with diagnoses accepted for payment by the Bureau of Workers Compensation in Ohio, where by statute the BWC is the exclusive provider of workers' compensation insurance for about 70% of the state workforce, with the exception of those employers who qualify to self-insure.

Methods: The Ohio BWC provided a data extract for all approved claims from employees of the for-hire carrier industry during the period 1997-1999 with follow-up through March, 2002. The extract included 34,165 medical diagnoses approved for payment in 23,491 claims for 20,802 individuals over the three year period. Software was developed to map potential work injury and illness diagnoses in the ICD-9-CM to the functional area affected by the diagnosis, to classify diagnoses within functional area by severity using pathology and clinical management criteria and to classify each diagnosis by proximity to any index functional area. Results were compared with the percent distributions of nature of injury by comparable part of body at the BLS national and regional level for all occupations and truck drivers.

Results: The mapping software captured 93.60% of the medical diagnoses in the study cohort and 100% of the diagnostic information for 92.82% of cases, with 83.34% of the uncategorized diagnoses in two groups, soft tissue and miscellaneous injuries of the trunk, for which a category was not created. Analyzing all diagnoses approved for payment indicates that BLS nature of injury data seriously underestimate the relative frequency of the severely disabling injury group consisting of dislocations,

dorsopathies and enthesopathies of the back, shoulder and knee (43.63% of the case-functional area combinations created by the software) by as much as an order of magnitude. Using all diagnoses to evaluate injury severity reveals that many serious injuries of the back, shoulder and knee are associated with concurrent injury morbidities in the same functional area or in proximal or distal functional areas.

Conclusions: Diagnoses accepted for payment give a more accurate picture of the medical burden of work injuries and make it feasible to apply to population data the results of studies in the medical literature classified by diagnosis. Since the software is independent of the particular cohort, far more accurate pictures of the medical, social and economic burden of work injuries in the priority areas specified should be available with further work as a basis for understanding them and setting research priorities.

Improving Worker Safety and Health: While translational research is required before this work will directly improve worker safety, having medical diagnoses along what is often a continuum of pathologic response to injury forces should facilitate field ergonomic studies to identify risk factors as a basis for prevention.

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