F1.2

Title: Evaluation of a Best Practices Back Injury Prevention Program in Nursing Homes

Authors: Collins JW, Wolf L, Bell J, Evanoff B

Bureau of Labor Statistics data indicate that nursing homes have the highest nonfatal injury rate of all health services industries. Among female workers in the U.S. in 2000, Nursing aides and orderlies comprise the highest risk occupation (prevalence rate = 18%) and reported the largest number of work-related cases of back pain (n=269,000). This NIOSH study, conducted in collaboration with BJC Health System, evaluated the impact of a "best practices" program for back injury prevention in six nursing homes. A laboratory study evaluated the biomechanical stresses on nursing personnel, the safety and comfort of the residents, and the time efficiency of nine battery powered lifts and three manual methods for transferring physically dependent residents. The field study utilized company records on injuries, hours worked, and staff demographics to examine the injury experience and injury-related costs of a cohort of nursing aides, orderlies, and assistants for an eight-year period (1995-2002, 36 month pre- and a 60-month post-intervention). The intervention included state-of-the-art patient lifting equipment to assist with transferring residents in and out of a bed or chair; and bathing, toiletting, and weighing tasks. A comprehensive worker training program, a zero-lift policy, and medical management of injured workers was also integral to the prevention program. The program was highly successful in reducing injury incidence (57% reduction) and injury-related costs (44% reduction). Injury rates presented will be stratified by nursing home, age, gender, length of employment, shift, and work-status (full-time, part-time, and per diem).

F1.3

Title: Evaluating the Effectiveness of a Logger Safety Training Program in Reducing Injuries to Loggers

Author: Bell JL

With an estimated lifetime fatality risk of 62.7 per 1,000 full-time workers, it is well documented that logging is one of the most hazardous occupations and industries in which to work. The state of West Virginia based on 1992-97 Bureau of Labor Statistics CFOI data, has one of the highest logging fatality rates in the nation. This study evaluated the effectiveness of a logger safety training program in reducing injuries to loggers. The voluntary program (the West Virginia [WV] Loggers Safety Initiative [LSI]) provided safety training for all members of enrolled logging companies, tailored to their primary work tasks. The program ran for four years, from July 1999 - June 2003. During this same time period, the rest of the WV logging industry, not in the LSI program, showed a general increasing trend in both total and struck-by injury claims rates. Eighty-nine companies enrolled in the LSI for at least part of the 4-year period. These 89 companies grouped together showed a significant decline in both total injuries and in struck-by injuries over the time period from July 1999 - June 2003. Of these 89 companies, 36 companies were present for the duration of the program. They enrolled in Year 1, and remained in the program through Year 4. When examined separately, this group of 36 showed no trend in overall injuries, but a declining trend in struck-by injuries. Additionally, this group had a lower total injury rate and a lower struck-by injury rate in comparison to companies that enrolled in the LSI program for less than 4 years. These preliminary results suggest this training program may be useful for reducing struck-by injuries (of major importance because they tend to be the most expensive and the most potentially fatal of all injury types).

F1.4

Title: Effectiveness of Narrative Approaches to Occupational Injury Prevention Interventions

Author: Cole H

In 1984 Professor Cole and his colleagues began using rate-based and case-based injury epidemiology to develop interactive narrative simulation exercises that teach and assess injury and disaster prevention skills to workers, managers, and safety inspectors. Approximately 400,000 copies of 70 simulation exercises designed for mining industry workers have been used in the US and additional copies in other countries. Narrative simulations also were developed for hazardous materials, construction, environmental protection, agriculture, and health care workers. Theories and design principles that underlie this approach, along with methods by which to evaluate program effectiveness and impact, are described using as an example a farm safety project. The project promoted use of roll over protective structures (ROPS) to reduce the risk of crush injuries to operators during overturns. Pre- and post-intervention telephone surveys were administered to large random samples of farmers in 2 intervention and 2 control counties. Farmers in the intervention counties assisted in developing, disseminating and field-testing a program of interactive narrative and hands-on community education materials. Three years later equipment dealers in the two intervention counties had retrofitted 81 tractors with ROPS compared to 4 in all four counties prior to the intervention. A repeated measures ANOVA found significant increases in intervention county farmers' favorable attitudes ($p = .0001$) toward ROPS as well as increased contemplation of installing ROPS ($p = .0016$) compared to the control county farmers. Intervention county farmers also acquired a significantly greater proportion of ROPS-protected tractors than did one control county ($p = .05$). (An equipment dealer in the other control county implemented his own ROPS promotion program after a friend died in a tractor overturn.) The study design, intervention methods, materials, and results are described. The origins of these methods in earlier studies and their generaliza-

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DAY ONE —TUESDAY, OCTOBER 28, 2003

CONCURRENT SESSION: A
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