Proceedings of the 4th Annual World Conference of the Society for Industrial and Systems Engineering, Fort Lauderdale, Florida, USA October 19-21, 2015

Occupational Injuries and Costs Associated with Aging Construction Workers

S.D. Choi

Center for Occupational Safety and Ergonomics Research Department of Occupational & Environmental Safety & Health University of Wisconsin - Whitewater Whitewater, WI 53190-1790, USA

Corresponding author's Email: chois@uww.edu

Author Note: Dr. Sang D. Choi, Ph.D., CSP, CPE is Professor and Director of Graduate Program in the Department of Occupational & Environmental Safety & Health at the University of Wisconsin – Whitewater, WI. He is also the Director of the Center for Occupational Safety and Ergonomics Research and the Coordinator for Occupational Ergonomics Program. Dr. Choi's main research interests include occupational ergonomics and safety, fall prevention, aging workforce, human-system interaction, and prevention through design (safety by design). Professor Choi is a Board Certified Safety Professional (CSP) and a Board Certified Professional Ergonomist (CPE).

Abstract: The construction industry's employment is expected to grow more than double the growth rate projected for the nation's economy. Construction is consistently ranked among the most dangerous occupations and accounts for a disproportionately large percentage of all occupationally related illnesses, injuries, and deaths. Moreover, the number and proportion of US aging workers have been increasing. According to the NIOSH, physically demanding jobs like construction work present the danger of more severe injuries and longer recovery times incurred by the older workers. The purpose of this study was to examine the trends/issues of work-related injuries as it relates to the age and occupation/trade of the construction workers. More than one hundred-forty recordable injuries data were gathered during a heavy and highway road construction project. The uppermost injury rates were associated with the occupational groups of laborers, carpenters, iron workers, and operators. Recordable injuries by body part in each age group revealed that younger workers were generally to their wrist/hand/fingers injuries due to contusion and cut/lacerations, whereas older workers had increased sprains/strains injuries to their foot/ankles, lower legs and knees, and multiple body parts caused by overexertion and falls. It is suggested that more proactive preventative ergonomic interventions should be undertaken to sustain the aging workforce. Older workers should be retrained and redeployed in terms of manual material handling (lifting) activities. The industrial safety and ergonomic (IS&E) professionals should review and amend work processes to accommodate the growing presence of elderly workers in construction. Understanding the individual occupational tasks may help to achieve a more accurate depiction of the incident and will also identify trends and intervention methods in the industry.

Keywords: Aging Workforce, Construction, Injury, Costs