

Lifetime risk of injury and death in the construction industry: Traumatic injury

Risks of a lifetime in construction Part I: Traumatic injuries

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Overview

Using 2003-2007 data from the Census of Fatal Occupational Injuries (CFOI), the Survey of Occupational Injuries and Illnesses (SOII), and the Current Population Survey (CPS), the authors estimate the cumulative risk of occupational injury or fatality for a construction worker in the course of a forty-five year career.

Key Findings

- The researchers determined that if 2003-2007 fatality rates persist, approximately one out of every 200 full-time construction workers will suffer a fatal workplace accident in the course of a 45-year career. For certain highly hazardous trades, the risk is significantly higher – for ironworkers, approximately one in 30.
- Construction workers may expect to suffer an occupational injury severe enough to cost days away from work in the course of a lifetime in the industry. If 2003-2007 injury rates persist, the industry will witness 78 serious occupational injuries per 100 full-time construction workers or their equivalent.
- Falls are the most common cause of death in the construction trades. At 2003-2007 fall fatality rates, falls will claim the lives of one in 600 construction workers in the course of a 45-year career.
- Hispanic workers are at a significantly higher lifetime risk of fatalities than non-Hispanic Whites, especially fatalities from falls and transportation incidents.

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See abstract:

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Risks of a Lifetime in Construction Part I: Traumatic Injuries

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Background Estimates of occupational risk are typically computed on an annual basis. In contrast, this article provides estimates of lifetime risks for fatal and nonfatal injuries among construction workers. A companion paper presents lifetime risks for occupational illnesses.

Methods Using 2003–2007 data from three large data sources, lifetime risk was computed based on the number of fatal and nonfatal injuries per 100 FTEs for a working lifespan of 45 years.

Results For a working life in construction, the risk of fatal injuries were approximately one death per 200 FTE, and the leading causes were falls and transportation incidents. For nonfatal injuries resulting in days away from work, the adjusted lifetime risk was approximately 78 per 100 FTEs, and the leading causes were contact with objects/equipment, overexertion, and falls to a lower level.

Conclusions Lifetime risk estimates help inform both workers and policymakers. Despite improvements over the past decades, risks in construction remain high. *Am. J. Ind. Med.* 57:973–983, 2014. © 2014 Wiley Periodicals, Inc.

KEY WORDS: lifetime risk; construction; fatalities; nonfatal injuries; working lifespan; falls; contact with objects/equipment; overexertion

INTRODUCTION

Hazards of working life are usually described as relative risks based on annual injury rates. While such cross-sectional studies are useful, they tend to understate risks since they only reflect certain time points [Robinson, 1986]. Longitudinal cohort studies can improve on these deficiencies [Schubauer-Berigan et al., 2009; Neitzel et al., 2011], but those studies are difficult to maintain due to reasons such as investigators losing interest/funding or participants leaving the cohort. Consequently, there have been very few longitudinal studies of occupational risks [Arndt et al., 2005]. Additionally, most

studies present risks as relative rather than absolute risks, which makes it difficult for the general population to understand from a public health perspective.

It is well recognized that the construction industry is one of the largest and most dangerous industries in the U.S. [Ringen et al., 1995; National Research Council, 2009; CPWR, 2013]. Despite injury reductions due to continuous intervention efforts, the construction industry still reports more fatalities than any other industry (U.S. Bureau of Labor Statistics (BLS), 2013a). Moreover, deaths and injuries from falls represent a major and persistent problem in construction (BLS, 2013a). The nonfatal injury rate in construction also has been higher than in other goods-producing industries in most years. The rate of cases with days away from work in construction was about 40% higher than that of all private industries (BLS, 2013b). Therefore, construction is regarded as one of five “high risk professions” given special consideration in Paragraph 9001 of the 2010 Patient Protection and Affordable Care Act (Pub.L. 111–148; 124 Stat. 119, codified). While the Act does not define what “high risk” is, presumably it is based on the experience of the last

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