

# Refining the focus of construction injury surveillance

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## KEY WORDS

Injuries; construction industry

## SUMMARY

*We conducted two studies of construction injury occurring at Denver International Airport (DIA), whose construction required 31 million work hours. Initially we conducted a retrospective cohort study that allowed estimation of injury and workers' compensation (WC) payment rates for strata such as size of employer and type of work; risk factors were also estimated. The second study examined written injury reports for 4,000 injuries at DIA. We modified Haddon's matrix to classify factors contributing to injury. We identified 108 factors within 4 broad categories: human, object, environment and organization. This approach provided information on rates at which each factor contributed to injury and the WC payment rates for each factor. A study shortcoming was that injury reports varied in completeness and quality. In a third ongoing study, to compensate for the shortcomings of injury reports, particularly to improve consistency and completeness of data, we designed a worker questionnaire completed immediately after injury, which included questions specific to hazards associated with each type of injury. Upon completion, the interviewer (a safety professional) uses the modified Haddon's matrix to note contributors to the injury and explain briefly the reasons for each notation. This requires the interviewer to consider a full set of possible factors and determine whether they contributed to injury. This process elicits richer data and places specific factors within the four higher-level categories. This process confer advantages on both contractors and researchers. Contractors can become immediately aware of contributing factors and ameliorate them quickly. The data can also be used in post hoc analysis of injury etiology. Moreover, the data are sufficiently flexible and complete that they can be coded into schemes describing sequences of events leading to injury, as well as those simply identifying factors contributing to injury. Haddon's matrix is invaluable in such analysis because it leads to a fuller understanding of the origins of the most proximate contributors to injury than would otherwise occur. Particularly for contractors and owners with significant safety infrastructures, this approach may be attractive, because it allows for more complete and quicker correction of specific hazards and, with systematic evaluation, recognition of more general safety concerns present on many construction sites.*