

RESEARCH IN PROGRESS

Time to Definitive Care Following Traumatic Injury in Farmers

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Purpose/Objective:

Agriculture is one of the most hazardous industries in the United States and consistently exhibits high fatality rates from occupational injury. Following a traumatic injury, prompt access to trauma services can increase likelihood of survival. Previous studies have shown that certain groups, including rural populations, have poorer access to trauma services. Farmer's high risk for injury and increased time to reach trauma care may lead to poorer outcomes than other populations. In this study, we aim to determine whether the time to definitive care is longer for farming-related injuries compared to other occupational injuries.

Methods/Efforts:

A cohort was identified by querying the Iowa State Trauma Registry from 2005-2011 for all work-related injuries presenting for trauma care within 72 hours of the initial injury event. Patients were excluded if they were less than 14 years of age or were injured outside of Iowa. Agriculture-related injuries were compared to all other occupational injuries as determined by a dichotomous variable recorded in the registry by the treating hospital at the time of care. The primary outcome of this study was time to definitive care, calculated as the interval between the time of injury and arrival at the definitive care hospital, and was evaluated using a Wilcoxon rank sum test. Age, sex, injury severity, mode of prehospital transport, primary payer status, and rurality were examined as covariates using Pearson chi-squared tests.

Results/Findings:

Time to definitive care was longer for workers experiencing agricultural (n = 976) vs. non-agricultural (n = 3731) injury (median = 99.0 vs 61.0 minutes, p = <0.01). Significant differences were also observed in a number of secondary outcomes. Patients with agricultural injuries were more often older males injured in isolated rural locations; they more frequently arrived at the hospital by private vehicle as opposed to using emergency medical services (p <0.01) and were less likely to be covered by insurance/worker's comp (p <0.01). Notably, injury severity did not differ significantly between the two groups. Time to definitive care remained longer for agricultural injuries in a subset analysis including only cases with severe (ISS > 15) injury (p < 0.01).

Application to Field Research:

This study shows a disparity in timely access to trauma care for farmers compared to other occupations and suggests that improvements to the trauma system, such as increased availability of emergency medical services, may be warranted. Additionally, this work also highlights the inherent difficulties in providing trauma services to this population and underscores the needs for primary injury prevention, such as farm safety training programs, to decrease hazards in the agricultural setting and reduce traumatic events.

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