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## Trauma Patients Have Higher Rate of Death for Several Years Following Injury

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In a study that included more than 120,000 adults who were treated for trauma, 16 percent of these patients died within 3 years of their injury, compared to an expected population mortality rate of about 6 percent, according to a study in the March 9 issue of JAMA. The researchers also found that trauma patients who were discharged to a skilled nursing facility had a significantly increased risk of death compared with patients discharged home without assistance.

Trauma can lead to significant illness or death. "To date, there have been few large studies evaluating long-term mortality in trauma patients and identifying predictors that increase risk for death following hospital discharge," according to background information in the article. "Information on the short- and long-term causes of death following discharge for injury could potentially identify gaps in care amenable to improvement, and allow for counseling of patients and their families about prognosis following traumatic injuries."

Giana H. Davidson, M.D., M.P.H., of the Harborview Injury Prevention and Research Center, Seattle, and colleagues conducted a study to examine the long-term mortality of Washington State trauma patients and to identify risk factors for death following hospital discharge. The study included 124,421 injured adult patients, from January 1995 to December 2008, and used the Washington State Trauma Registry linked to death certificate data. The average age of the patients was 53 years; 59 percent were male. Of the patients in the study, 7,243 died (5.8 percent) during their trauma hospitalisation; 21,045 died following hospital discharge. The proportion of patients who died while in the hospital declined each year of the study, from 8 percent in 1995 to approximately 4.9 percent in 2008, whereas long-term cumulative mortality increased from 4.7 percent to 7.4 percent. Analysis indicated that cumulative mortality following injury was 9.8 percent at 1 year and 16 percent at 3 years. Age and discharge to a skilled nursing facility strongly predicted risk of death during the follow-up period and time to death following injury.

Among patients discharged from the hospital, more than half were discharged home without assistance and nearly one-quarter were discharged to a skilled nursing facility. "Overall, cumulative mortality was significantly lower for those patients discharged home with or without assistance and patients discharged to rehabilitation facilities than for patients discharged to a skilled nursing facility, who had a 34 percent cumulative mortality by 3 years postdischarge," the authors write. "... our results indicate that skilled nursing facility discharge status may at least be a marker for significantly higher risk of subsequent mortality and may be the focus for future research and intervention, especially in the age group of 31- to 80-year-olds. There are significant differences in physical therapy and occupational therapy for patients in rehabilitation programs compared with patients at skilled nursing facilities, even when comparing similar demographic characteristics and medical complexity."

Other significant predictors of death after discharge included a maximum score for head injury on an injury scale, a measure of functional independence, the mechanism for injury being a fall, and having Medicare or other government insurance. The researchers add that future research in surgical patients should focus on outcomes longer than the standard reporting of 30-day mortality because a downwind shift in mortality may be occurring from improvements in the acute care period. "Interventions should be aimed at improving the care of the injured patient following discharge from the hospital and narrow the gap in outcomes for those patients discharged to skilled nursing facilities."

Story Source: The above story is reprinted (with editorial adaptations by ScienceDaily staff) from materials provided by JAMA and Archives Journals.

Journal Reference: G. H. Davidson, C. A. Hamlat, F. P. Rivara, T. D. Koepsell, G. J. Jurkovich, S. Arbabi. Long-term Survival of Adult Trauma Patients. JAMA: The Journal of the American Medical Association, 2011; 305 (10): 1001 DOI: 10.1001/jama.2011.259

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Published on : Mon, 14 Mar 2011