Weekend hospital stays prove more deadly than other times for older people with head trauma

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(Medical Xpress) -- A Johns Hopkins review of more than 38,000 patient records finds that older adults who sustain substantial head trauma over a weekend are significantly more likely to die from their injuries than those similarly hurt and hospitalized Monday through Friday, even if their injuries are less severe and they have fewer other illnesses than their weekday counterparts.

The so-called “weekend effect” on patient outcomes has been well documented in cases of heart attack, stroke and aneurism treatment, Hopkins investigators say, and the new research now affirms the problem in head trauma care as well."

A report on the findings, published online in the *Journal of Surgical Research*, suggests that reduced staffing levels and/or lack of ready access to specialists are factors in the higher weekend death rates after head injury.

“There isn’t a medical reason for worse results on weekends,” says study leader Eric B. Schneider, Ph.D., an epidemiologist at the Johns Hopkins University School of Medicine’s Center for Surgical Trials and Outcomes Research. “It’s more likely a difference in how hospitals operate over the weekend as opposed to during the week, meaning that there may be a real opportunity for hospitals to change how they operate and save lives.”

Approximately 1.4 million Americans suffer head trauma that results in a hospital visit each year, the researchers say, and more than 50,000 die annually as a result of their injuries. An estimated 235,000 require inpatient care.

Schneider notes that unlike other forms of trauma that disproportionately affect young people, head trauma and mortality associated with it increase as people age, with the highest rates of hospitalization and death for such injuries occurring in people over 75.

Using data from the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample from 2006 to 2008, Schneider and his colleagues examined records from 38,675 people between 65 and 89 years of age admitted to U.S. hospitals with head trauma. In the study group, 9,937 admissions (or 25.6 percent) occurred on weekends.

Overall, the researchers found that weekend patients were 14 percent more likely to die from their injuries than weekday patients, even after accounting for other factors. For example, the ages of patients admitted on weekends were similar to those admitted on weekdays, and weekend patients had less severe head trauma and were less sick with other illnesses than weekday admissions. Cost of care, measured as charges to patients, were roughly the same, the investigators note, suggesting that weekend and weekday patients got similar treatments, however differences in the timing of treatments could not be examined in the available data.

The patients in the study were evaluated and treated at trauma centers, teaching hospitals and community hospitals, but the researchers could not tell from the available data which type of facility saw which patient. Other research, however, has found a diminished weekend effect in patients taken to Level 1 trauma centers, where highly specialized staff is available 24 hours a day, seven days a week. The Johns Hopkins

Hospital is a Level 1 trauma center.

Schneider speculates that in addition to having fewer experienced doctors and nurses working on weekends, some hospitals may also experience delays in getting such specialists such as neurosurgeons to the hospital on Saturdays and Sundays.

Schneider says one obvious solution is to staff every hospital on weekends at the same optimal level as weekdays, which he acknowledges may be impractical and too expensive. Another more practical approach, he says, might be for emergency medical personnel to transport older patients with head injuries directly to the nearest trauma center, and bypass closer facilities that cannot provide that level of care.

Other Johns Hopkins researchers involved in the study include Salman A. Hirani, B.A.; Hali L. Hambridge, B.S.; Elliott R. Haut, M.D.; Anthony R. Carlini, M.S.; Renan C. Castillo, Ph.D.; David T. Efron, M.D.; and Adil H. Haider, M.D., M.P.H.

Provided by Johns Hopkins University

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