

Link found between percentage of minority trauma patients in a hospital and increased odds of dying

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The odds of dying appear to increase for patients treated at hospitals with higher proportions of minority trauma patients, although racial disparities may partly explain differences in outcomes between trauma hospitals, according to a report published Online First by *Archives of Surgery*.

According to background information in the article, previous research has indicated that injuries are the third largest contributor to racial disparities in U.S. mortality, and that variations in quality of care and outcomes may significantly contribute to this problem. Other studies have suggested that [health care](#) is less complete and of poorer quality for minorities even when [socioeconomic status](#) and [insurance coverage](#) are controlled for. Treatment preferences, implicit biases and institutional and [health system](#)-related factors may also contribute to race-based differences in outcomes, note the authors. "The objective of our study is to use the largest available national trauma registry to determine whether patients treated at hospitals primarily serving minority patients with trauma have higher rates of in-hospital mortality," they write. "If this were found to be true, then these hospitals could be targeted for performance improvement initiatives that could help reduce disparities experienced by racial and ethnic minorities."

Adil H. Haider, M.D., M.P.H., from the Johns Hopkins School of Medicine, Baltimore, and colleagues analyzed the records of patients

included between 2007 and 2008 in the National Trauma Data Bank. The study included a total of 311,568 patients ages 18 to 64 years who were white, black or Hispanic with an Injury Severity Score of nine or greater and who were treated at 434 hospitals. Researchers categorized hospitals by the percentage of minority patients admitted with trauma. The reference group included hospitals with less than 25 percent of patients who were minorities; these were compared with hospitals with 25 percent to 50 percent of patients who were minorities and hospitals with more than 50 percent of patients who were minorities.

Hospitals classified as predominantly minority (more than 50 percent of patients were minorities) tended to have younger patients, fewer female patients, more patients with penetrating trauma and the highest rate of crude mortality (death from all causes). The overall crude mortality rate was 5 percent. When researchers adjusted the data for potential confounders, the odds of death appeared to increase 16 percent in hospitals with 25 percent to 50 percent minority patients and 37 percent in hospitals with more than 50 percent minority patients, compared with the reference group; hospitals with at least 25 percent of patients who were [minorities](#) were more likely to be level 1 trauma centers and teaching hospitals. When the subset of patients with a blunt injury was analyzed, the odds of death increased 18 percent in hospitals with 25 percent to 50 percent minority patients, and 45 percent in hospitals with greater than 50 percent minority patients. Compared with the reference group, hospitals with increased percentages of minority patients tended to have more patients without health [insurance](#), but the odds of mortality increased in all three [hospital](#) groups for these patients.

"The exact mechanisms that lead to the higher [mortality](#) rates observed at hospitals with a disproportionately high percentage of minority patients need to be investigated further," write the researchers. Such research could examine potential factors that affect patients' survival, such as prehospital transport variations, preexisting conditions and other

disparities as well as hospitals' adherence to trauma protocols and other process measures. The authors also suggest that hospitals serving predominantly minority patients and a high proportion of uninsured patients be the focus of initiatives to financially strengthen them.

"Augmenting the assets of resource-poor institutions and implementing culturally competent quality-of-care improvement programs at hospitals that primarily serve minority populations," they conclude, "may be an excellent first step toward reducing [racial disparities](#) in trauma outcomes and improving care for all patients."

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