

Effect of Insurance Status on Burn Injury Outcome

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Introduction: Previous studies find that trauma patients who are uninsured have a higher mortality rate. We hypothesized that this relationship would be true for burn patients as well.

Study Design: Secondary analysis of the National Burn Repository (NBR) version 6.0. The NBR is a national repository of admissions for burn injury administered by the American College of Surgeons. **Setting:** Eighty three burn facilities nationwide contributing to the NBR between 2000-2009. **Subjects-** All burn patients included in the dataset with an insurance status recorded. **Measures:** Insurance status, demographics, injury characteristics (+/- inhalational injury, TBSA, and full thickness injury). **Outcomes:** Mortality as the primary outcome, hospital length of stay as a secondary outcome. **Data Analysis:** Descriptive statistics to summarize group characteristics, χ^2 and student's t tests for bi-variate analysis, multivariate logistic regression. **Results:** Of the 169,291 patients included, mean age was 31.4, 69.6% (22,787/30,373) were male, and 30,645 (18.1%) were uninsured. In bivariate analysis, uninsured patients had a lower mortality rate (2.9% 793/27,145 vs. 3.3% 3,119/91,520, $p < 0.001$) and lower mean hospital length of stay (8.1 days vs. 9.4 days) when compared to those who have insurance. In multivariate analysis when controlling for age, gender, race, burn characteristics (inhalation injury, full thickness injury, and TBSA), patients with insurance maintained an increased risk of mortality (OR=1.23, 95% CI 1.09-1.39) when compared to those who were uninsured. **Conclusions:** Contrary to studies seen in the general trauma patient population, having insurance was associated with an increased risk of mortality, even when controlling for burn severity.

Applicability of Research to Practice: Our study suggests that the unique regionalization of burn care might have successfully eliminated the quality chasm that the uninsured face in other areas of healthcare.