

## Evaluating Social Disparities in Elderly Hip Fracture Patients at a Safety Net Hospital

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**INTRODUCTION:** Prior studies report racial disparities in management of hip fracture patients regarding mobility, mortality, and intervention timing. The purpose of this study was to assess racial disparities in the timing of management and outcomes of elderly hip fracture patients at an urban safety net academic hospital with a population of 70% black/Hispanic, 57% underserved, and 32% non-English speaking patients. We hypothesized no racial disparities in treatment timing or outcomes.

### **METHODS:**

Surgically treated hip fracture patients aged  $\geq 60$  from June 2014 to July 2021 at a single level I academic institution were identified via CPT codes and retrospectively reviewed. We excluded pathologic fractures, non-ED admissions, and those with incomplete data. Demographics and treatment times were obtained from EMR. The primary outcome was time from presentation to OR.

Chi-square and t-test were used to compare categorical and continuous variables, respectively. Multivariate linear and logistic regression models evaluated differences between races adjusting for potential confounding variables. Significance was set at an alpha of 0.05.

### **RESULTS:**

A total of 412 patients  $\geq 60$  years old (239 white, 132 black, 41 other race) with surgically treated hip fractures were included. The only differences in demographics found between racial groups were the proportion of English speakers (93% white, 79% black, 5% other;  $p < 0.001$ ) and hypertension (74% white, 90% black, 78% other;  $p = 0.001$ ). No differences were found between races for length-of-stay (LOS) and time from presentation to: evaluation by ED provider, obtaining X-ray studies, or operative management. Time from presentation to first X-ray order was statistically different between races ( $0.8 \pm 0.88$  hr white,  $0.9 \pm 1.7$  hr black,  $1.6 \pm 3.7$  hr other;  $p = 0.02$ ). No differences in 30- and 90-day readmission or 90-day mortality rates were found between races using univariate analysis.

After adjusting for CCI, ASA, hypertension, English speakers, and public insurance, "other" races were more likely to experience delays for time to first X-ray order ( $\beta$  0.72, 95% CI 0.01-1.42;  $p = 0.047$ ) and had a higher 90-day mortality (OR 71.6, 95% CI 3.2-1626;  $p = 0.007$ ) vs. white patients. No other significant differences were found in timing.

**DISCUSSION AND CONCLUSION:** In contrast to prior reports, at our diverse safety-net hospital patients' race did not delay time to OR, nor effect other factors in orthopaedic management. However, we were surprised that other race (non-white, non-black) was associated with increased 90-day mortality. Further investigation is needed to determine structural or medical factors that might be related to 90-day mortality and develop appropriate interventions to eliminate any differences in mortality.