**HYPOTHESIS**

- We hypothesize that patient risk factors (demographics, injury severity, injury mechanism, transfer status, and insurance coverage) will have a stronger impact on mortality at smaller trauma centers.
- We anticipate patient risk factors to matter more for mortality at smaller centers due to a lack of higher quality equipment, decreased number of staff members, and a decreased provider to patient ratio.

**INTRODUCTION**

- Trauma is a major cause of pediatric mortality in the United States, where the death rate among pediatric patients suffering from unintentional trauma is twice that of mortality rates in other developed countries.
- Facility-level variations have been identified in pediatric trauma mortality, and must be addressed in order to improve and standardize care.
- Evidence on the independent association between facility bed size and pediatric trauma outcomes is mixed.
- It is possible that the significance of facility volume is dependent on patient or injury characteristics.

**METHODS**

- Deidentified data will be obtained from the Trauma Quality Improvement Program (TQIP) database, representing data collected by trauma centers participating in the Trauma Quality Improvement Program (TQIP) and Pediatric TQIP.
- Data will be compared between groups using Chi-square tests for categorical variables, and t-tests for continuous variables.
- **Primary Independent Variable:** Facility Bed Size
  - Large: >600 beds
  - Small/Medium: <600 beds
- We will use logistic regression to evaluate factors associated with mortality.
- **Other facility characteristics to be evaluated:** trauma center level, and pediatric vs. adult trauma center designation, with pediatric centers defined as those participating in the pediatric TQIP.
- **Patient-level characteristics to be evaluated:** demographics, primary injury mechanism, injury severity, transfer status, and insurance coverage.
- **Effect modification** analysis will allow us to see how the effects of bed size vary among patients with different characteristics (i.e., bed size has a more significant influence on patients with severe injury when compared to patients who have less severe injuries).

**RESULTS OVERVIEW**

**TOTAL NUMBER OF PATIENTS**

<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Total Number Treated</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall in-Hospital Mortality Rate</td>
<td>1,262</td>
<td>0.8%</td>
</tr>
<tr>
<td>Moderate Injury/Large Facility</td>
<td>41,136</td>
<td>27%</td>
</tr>
<tr>
<td>Moderate Injury/Small Facility</td>
<td>83,745</td>
<td>55%</td>
</tr>
<tr>
<td>Severe Injury/Large Facility</td>
<td>151,675</td>
<td>100%</td>
</tr>
</tbody>
</table>

**REFERENCES**