**7.) Measure # ACSTrauma3**  
Mortality Rate Following Penetrating Traumatic Injury to the Chest and/or Abdomen

**National Quality Strategy (NQS) Domain:** Effective Clinical Care

**Measure Type (Process/Outcome):** Outcome

**DESCRIPTION:**
In-hospital mortality rate for patients with severe penetratin injury to the abdomen and/or chest (Abbreviated Injury Score [AIS] ≥ 3).

**INSTRUCTIONS:**
This measure is to be reported each time a trauma patient presents with severe penetratin injury to the abdomen and/or chest.

**Measure Reporting via Registry:**
ICD-10 codes, AIS scores, and patient demographics are used to identify patients who are included in the measure’s denominator. The listed numerator options are used to report the numerator of the measure.

**DENOMINATOR:**
All patients meeting the following criteria:

- a) Trauma patient inclusion criteria (see appendix 1)
- b) ICD-10 Primary External Cause Code indicating Penetrating Trauma Type
- c) AIS ≥ 3 in the abdomen and/or chest
- d) Evaluated in the emergency department (defined as ED disposition <> “not applicable”)
- e) Survival ≥ 1 hour

**Denominator exclusion criteria:**

- a) Serious head injury (AIS ≥ 3 head)
- b) Cervical spine organ injury severity (OIS) ≥ 4

**NUMERATOR:**

* Numerator Note: A lower calculated performance rate for this measure indicates better clinical care or control.

All patients meeting the following criteria:

- a) Trauma patient inclusion criteria (see appendix 1)
- b) ICD-10 Primary External Cause Code indicating Penetrating Trauma Type
- c) AIS ≥ 3 in the abdomen and/or chest
- d) Evaluated in the emergency department (defined as ED disposition <> “not applicable”)
- e) Survival ≥ 1 hour
- f) Patients that die in the hospital

**Numerator Quality-Data Coding Options for Reporting Satisfactorily**

* Performance Met: 
  Documentation of death during the patient's index admission to the hospital following severe chest and/or abdominal penetrating injury.

OR
Performance Not Met: The patient does not die during index hospital admission.

Risk Adjustment: Risk adjusted in-hospital mortality will be calculated by adjusting for the variables listed in the following table. Thus, these patient characteristics must be reported.

<table>
<thead>
<tr>
<th>Age</th>
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<tbody>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>Race (modeled individually)</td>
</tr>
<tr>
<td>Comorbid Conditions (modeled individually)</td>
</tr>
<tr>
<td>Transfer Status</td>
</tr>
<tr>
<td>Pre-Hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Initial ED/Hospital Glasgow Coma Scale Motor score</td>
</tr>
<tr>
<td>Initial ED/Hospital systolic blood pressure</td>
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<tr>
<td>Initial ED/Hospital Pulse</td>
</tr>
<tr>
<td>Mechanism of Injury</td>
</tr>
<tr>
<td>Max AIS* Severity by Body Region (modeled individually)</td>
</tr>
<tr>
<td>Survival Risk Ratio (derived from codes)</td>
</tr>
<tr>
<td>Presence of Traumatic Intracranial Hemorrhage</td>
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<tr>
<td>Presence of Spinal Cord Injury</td>
</tr>
<tr>
<td>Presence of &gt;3 Rib Fractures</td>
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<tr>
<td>Severity of Splenic Injury</td>
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</tbody>
</table>

*Abbreviated Injury Scale codes as derived through the Association for the Advancement of Automotive Medicine

Rationale: The risk-adjusted mortality rate for patients with severe injury to the abdomen should measure a trauma center’s ability to provide high quality medical and surgical care to trauma patients. Mortality rate in trauma was determined to be a clinically valid quality measure by an international group of experts in the field.

References: