National EMS Quality Alliance
EMS Compass 2.0
Trauma-03 Measure Package
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Trauma-03: Effectiveness of Pain Management for Injured Patients

Trauma-03, an outcome measure, measures the effectiveness of pain management for injured patients who are transported by EMS. The published evidence supporting this measure is similar to that of Trauma-01, as EMS often treats patients with pain and there are many clinical indicators for pain management. The intent of this measure is to determine if pain is being reduced for EMS patients during the EMS encounter. However, for this measure, the TEP feels it is important to note that there are alternative pain management methods to the administration of drugs, and drug administration should be used judiciously. The true intent of this measure is to determine if EMS providers are helping their injured patients feel better, not if they are administering opioids to their patients.

Similar to Trauma-01, the initial inclusion criteria for Trauma-03 was changed to EMS transports rather than EMS responses, to ensure the accurate initial population is being captured to protect the true intent of the measure – which is to measure how well EMS is helping injured patients who are in pain feel better. As for the threshold for the initial pain scale score, it remains at greater than zero. Much discussion took place among TEP members when it came to deciding upon this initial pain score value. However, in the end, the experts decided that the initial value should be any score greater than zero, because, again, the intent of the measure is to measure how well EMS is helping injured patients who are in pain feel better, not to measure the effectiveness of opioid administration or other medication-related outcomes.

While the intent of the numerator for Trauma-03 has not been changed, the language has been revised for clarity. The numerator for this measure includes EMS transports for patients with two or more documented pain scores and a final pain score value less than the first documented pain score. In order to determine if the clinical outcome for this measure has been met, a calculation must be completed.
### Trauma-03: Effectiveness of Pain Management for Injured Patients

**Measure Score Interpretation:** For this measure, a higher score indicates better quality.

<table>
<thead>
<tr>
<th>Measure Description</th>
<th></th>
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<tbody>
<tr>
<td>Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.</td>
<td></td>
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<table>
<thead>
<tr>
<th><strong>Measure Components</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Numerator Statement</strong></td>
<td>EMS transports originating from a 911 request for patients with two or more documented pain scores and a final pain score value less than the first documented pain score.</td>
</tr>
<tr>
<td><strong>Denominator Statement</strong></td>
<td>All EMS transports originating from a 911 request for patients with injury and a Glasgow Coma Score (GCS) of 15 or an Alert Verbal Painful Unresponsive (AVPU) of A who had an initial pain score of greater than zero.</td>
</tr>
<tr>
<td><strong>Denominator Exclusions</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Denominator Exceptions</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

**Supporting Guidance & Other Evidence:**

The following evidence statements are quoted verbatim from the referenced treatment protocol:

Evidence-Based Guideline for Prehospital Analgesia in Trauma:¹
Pain is a common symptom in prehospital care. In a study conducted in 2007, it was found that among the patients who indicated they were in pain, 64% reported they were in intense to severe pain.\(^{ii}\)

Pain control benefits patients in ways that go beyond making them comfortable. Proper identification and treatment of pain can prevent long-term consequences in very young children. As well, uncontrolled pain can also cause side effects such as elevations in heart rate and blood pressure that may be misinterpreted as other clinical conditions or may have consequences on existing disease processes.\(^{iii}\)

### Measure Importance

#### Rationale

Pain is a common symptom in prehospital care. In a study conducted in 2007, it was found that among the patients who indicated they were in pain, 64% reported they were in intense to severe pain.\(^{ii}\)

Pain control benefits patients in ways that go beyond making them comfortable. Proper identification and treatment of pain can prevent long-term consequences in very young children. As well, uncontrolled pain can also cause side effects such as elevations in heart rate and blood pressure that may be misinterpreted as other clinical conditions or may have consequences on existing disease processes.\(^{iii}\)

### Measure Designation

#### Measure purpose

- ☒ Quality Improvement
- □ Accountability
- □ MOC

#### Type of measure

- □ Process
<table>
<thead>
<tr>
<th>Level of measurement</th>
<th>☑ Individual EMS Professional</th>
<th>☑ EMS Agency</th>
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<tbody>
<tr>
<td>Care setting</td>
<td>☑ Pre-Hospital Care</td>
<td></td>
</tr>
<tr>
<td>Data source</td>
<td>☑ Electronic Patient Care Record (eCPR) data</td>
<td>☑ Administrative Data/Claims (inpatient, outpatient or multiple-source claims)</td>
</tr>
</tbody>
</table>
Clinical Quality Measure Flow for Trauma-03
Effectiveness of Pain Management for Injured Patients

Start

All EMS Transports

Originating from a 911 request

Patient with injury

Initial pain score greater than zero

GCS of 15 or AVPU of A

At least one pain scale documented

Two or more pain scales documented

Final pain value less than first documented pain value

Measure Performance Met

Measure Performance Not Met

Do not include in Eligible Population/Denominator

 Include in Eligible Population/Denominator

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NEMSIS Pseudocode: Trauma-03: Effectiveness of Pain Management for Injured Patients

<table>
<thead>
<tr>
<th>Measure Components</th>
<th>Numerator Pseudocode</th>
<th>Denominator Pseudocode</th>
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<tbody>
<tr>
<td></td>
<td>last (eVitals.27 Pain Scale Score) is less than first (eVitals.27 Pain Scale Score)</td>
<td>( eSituation.02 Possible Injury is 9922005 (&quot;Yes&quot;) and eVitals.27 Pain Scale Score is greater than 0 ) and ( eResponse.05 Type of Service Requested is 2205001 (&quot;911 Response (Scene)&quot;) and eDisposition.12 Incident/Patient Disposition is 4212033 (&quot;Patient Treated, Transported by this EMS Unit&quot;) )</td>
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