TQIP Abstractor Workshop

Tammy Morgan
Terri Swiencicki
Michelle Pumphrey

Trauma Quality Improvement Program (TQIP) Annual Scientific Meeting and Training 2012
You are important to TQIP, and we want to know about you!
Tell us about your experience!

a. 1 year or less

b. 2-3 years

c. 4-6 years

d. Over 6 years
Have you attended a trauma registry course? (ATS)

a. Yes

b. No
How many of you are CSTR Certified?

a. Yes, CSTR certified

b. No, not CSTR certified
Have you attended an AAAM AIS Injury Scoring Course?

a. Yes

b. No
How many of you are CAISS certified?

a. Yes

b. No
Do you participate in the TQIP monthly educational experiences?

a. Yes

b. No
How many of you take the TQIP online course each year?

a. Yes

b. No
What is your trauma registrar FTE to patient ratio?

a. 1 to 500-750
b. 1 to 750-1000
c. 1 to 1000-1250
d. 1 to 1250-1500
e. 1 to > 1500
How many of you have other responsibilities besides abstraction, coding/scoring, and registry entry?

a. Yes! I have too many responsibilities!!

b. No.....I’m good!
Inclusion Criteria FAQ’s

• Does this patient go in my registry?

• Are we supposed to include geriatric isolated hip fractures in the trauma registry?

• What about patients that come back to the hospital after being discharged?
Inclusion Criteria

To ensure consistent data collection across States into the National Trauma Data Standard, a trauma patient is defined as a patient sustaining a traumatic injury and meeting the following criteria:

At least one of the following injury diagnostic codes defined in the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM): 800-959.9

Excluding the following isolated injuries:

- 905-909.9 (late effects of injury)
- 910-924.9 (superficial injuries, including blisters, contusions, abrasions, and insect bites)
- 930-939.9 (foreign bodies)

AND MUST INCLUDE ONE OF THE FOLLOWING IN ADDITION TO (ICD-9-CM 800-959.9):

- Hospital admission as defined by your trauma registry inclusion criteria; OR
- Patient transfer via EMS transport (including air ambulance) from one hospital to another hospital; OR
- Death resulting from the traumatic injury (independent of hospital admission or hospital transfer status)
Inclusion Criteria

72 year old female involved in a MVC when having a seizure while driving. She is transported to your ED by EMS. After her workup she is cleared by the Trauma Service, but is admitted to the hospital for her seizure disorder.

a. Meets NTDS inclusion criteria

b. Does not meet NTDS inclusion criteria
Inclusion Criteria

a. Meets NTDS inclusion criteria

b. Does not meet NTDS inclusion criteria

This patient was cleared by the Trauma Service without mention of injuries. Her admission was due to her seizure disorder, therefore would not be included in the NTDB.
Inclusion Criteria

A patient is transferred to your facility by EMS from a referring hospital for a possible TBI. The patient is discharged from your ED with a mild concussion.

a. Meets NTDS inclusion criteria
b. Does not meet NTDS inclusion criteria
Inclusion Criteria

a. Meets NTDS inclusion criteria

b. Does not meet NTDS inclusion criteria

The NTDS inclusion criteria states:

AND MUST INCLUDE ONE OF THE FOLLOWING IN ADDITION TO (ICD-9-CM 800-959.9):

• Hospital admission as defined by your trauma registry inclusion criteria; OR

• Patient transfer via EMS transport (including air ambulance) from one hospital to another hospital; OR

• Death resulting from the traumatic injury (independent of hospital admission or hospital transfer status)
Inclusion Criteria

Patient presents to your ED with severe abdominal pain. The patient was previously admitted to your facility with a perforated bowel after being hit by a car. The patient is now admitted for an intra-abdominal abscess.

a. Meets NTDS inclusion criteria
b. Does not meet NTDS inclusion criteria
Inclusion Criteria

a. Meets NTDS inclusion criteria

b. *Does not meet NTDS inclusion criteria*

- This patient would have met NTDS inclusion for the first admission. However, there is no new mechanism or new injury for second admission. The patient was re-admitted for a complication or late affect of an injury, which does not meet inclusion criteria.
TQIP Abstractor Workshop

Terri Swiencicki, BS, RN, CEN, CSTR
Trauma Nurse Registrar
Baystate Medical Center
Springfield, Massachusetts
Hospital Complications

Definition:
Any medical complication that occurred during the patient’s stay at your hospital.
### Hospital Complications

<table>
<thead>
<tr>
<th>Field Values</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 RETIRED 2011 Abdominal compartment syndrome</td>
<td>18 Myocardial infarction</td>
</tr>
<tr>
<td>3 RETIRED 2011 Abdominal fascia left open</td>
<td>19 Organ/space surgical site infection</td>
</tr>
<tr>
<td>4 Acute kidney injury</td>
<td>20 Pneumonia</td>
</tr>
<tr>
<td>5 Acute lung injury/Acute respiratory distress syndrome (ARDS)</td>
<td>21 Pulmonary embolism</td>
</tr>
<tr>
<td>6 RETIRED 2011 Base deficit</td>
<td>22 Stroke / CVA</td>
</tr>
<tr>
<td>7 RETIRED 2011 Bleeding</td>
<td>23 Superficial surgical site infection</td>
</tr>
<tr>
<td>8 Cardiac arrest with resuscitative efforts by healthcare provider</td>
<td>24 RETIRED 2011 Systemic sepsis</td>
</tr>
<tr>
<td>9 RETIRED 2011 Coagulopathy</td>
<td>25 Unplanned intubation</td>
</tr>
<tr>
<td>10 RETIRED 2011 Coma</td>
<td>26 RETIRED 2011 Wound disruption</td>
</tr>
<tr>
<td>11 Decubitus ulcer</td>
<td>27 Urinary tract infection</td>
</tr>
<tr>
<td>12 Deep surgical site infection</td>
<td>28 Catheter-related blood stream infection</td>
</tr>
<tr>
<td>13 Drug or alcohol withdrawal syndrome</td>
<td>29 Osteomyelitis</td>
</tr>
<tr>
<td>14 Deep Vein Thrombosis (DVT) / thrombophlebitis</td>
<td>30 Unplanned return to the OR</td>
</tr>
<tr>
<td>15 Extremity compartment syndrome</td>
<td>31 Unplanned return to the ICU</td>
</tr>
<tr>
<td>16 Graft/prosthesis/flap failure</td>
<td>32 Severe sepsis</td>
</tr>
<tr>
<td>17 RETIRED 2011 Intracranial pressure</td>
<td>1 Other</td>
</tr>
</tbody>
</table>
Hospital Complications

When should you use “other?”
Hospital Complications

Use “Other” when the Patient has a Complication that is not included in the NTDS field value list of Complications.
Hospital Complications

When should you use “NA?”
Hospital Complications

Additional Information
The value "NA" should be used for patients with no complications.

Data Source Hierarchy
1. Discharge Sheet
2. History and Physical
3. Billing Sheet

Associated Edit Checks

<table>
<thead>
<tr>
<th>Rule ID</th>
<th>Level</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>8101</td>
<td>1</td>
<td>Invalid value</td>
</tr>
<tr>
<td>8102</td>
<td>2</td>
<td>Blank, required field</td>
</tr>
</tbody>
</table>
Can you name a tool that you already have available to you that is critical in capturing hospital complications for TQIP?
Hospital Complications

The Glossary of Terms!
Hospital Complications

Myocardial infarction

A new acute myocardial infarction occurring during hospitalization (within 30 days of injury).

ICD-9 Code Range: 414.8, 412
ICD-10 Code Range: I21.01 - I21.29 (STEMI myocardial infarction), I21.4 (Non-STEMI myocardial infarction), I22.0 - I22.9 (Subsequent (recurrent) myocardial infarction)
Excludes: I25.2 (Old myocardial infarction)
Co-Morbid Conditions

Steroid use

Patients that required the regular administration of oral or parenteral corticosteroid medications (e.g., prednisone, dexamethasone in the 30 days prior to injury for a chronic medical condition (e.g., COPD, asthma, rheumatologic disease, rheumatoid arthritis, inflammatory bowel disease). Do not include topical corticosteroids applied to the skin or corticosteroids administered by inhalation or rectally.

ICD-9 Code Range: V58.65
ICD-10 Code Range: Z79.51-Z79.52 (Long term current drug therapy-steroids)
Extremity Compartment Syndrome

Sequelae or reportable complication?
Extremity Compartment Syndrome

Definition:

A condition not present at admission in which there is documentation of tense muscular compartments of an extremity through clinical assessment or direct measurement of intra-compartmental pressure requiring fasciotomy. Compartment syndromes usually involve the leg but can also occur in the forearm, arm, thigh, and shoulder.
Extremity Compartment Syndrome

Record as a complication if it is:

- originally missed
- leads to late recognition
- requires a need for late intervention
- has threatened limb viability
Sequelae or Complication?

22 year old female sustains comminuted left tibial plateau fracture from motorcycle collision.

- Hospital Day #2 ORIF tibia
- Post-operative Day #3
  - increased swelling of left calf
  - pain out of proportion to injury
  - unable to move toes
Sequelae or Complication?

Hospital Day #5 returns to OR
- Four compartment fasciotomy
Complications for NTDB Submission

• Extremity Compartment Syndrome?

• Unplanned return to the OR?
Extremity Compartment Syndrome

- Not present on admission?
- Originally missed?
- Late recognition?
  - 3 Days post-operative
- Needed late intervention?
  - Fasciotomy
- Threatened limb viability?
  - increased swelling of left calf
  - pain out of proportion to injury
  - unable to move toes
Unplanned return to OR

Definition:

✓ Unplanned return to OR after initial operation management for a similar or related previous procedure.
TQIP Abstractor Workshop

Michelle Pumphrey, MLT, RN, CSTR
Trauma Registry Coordinator
University of Virginia Health System
Charlottesville, Virginia
Pre-hospital EMS

EMS Unit Arrival Date at Scene or Transferring Facility

Definition

The date the unit *transporting to your hospital* arrived on the scene/transferring facility (the time the vehicle stopped moving).

For inter facility transfer patients, this is the date on which the unit transporting the patient to your facility from the transferring facility arrived at the transferring facility (arrival is defined at date/time when the vehicle stopped moving).

For patients transported from the scene of injury to your hospital, this is the date on which the unit transporting the patient to your facility from the scene arrived at the scene (arrival is defined at date/time when the vehicle stopped moving).
Pre-hospital EMS

Initial Field Systolic Blood Pressure

Definition
First recorded systolic blood pressure measured at the scene of injury.

Field Values
Relevant value for data element.

Additional Information
If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as Not Known/Not Recorded.

Data Source Hierarchy
EMS Run Sheet
June 12, 2012, at 1900, a 17 year old male is involved in a motorcycle collision. EMS arrives at the scene at 1917. Patient responds to pain, SBP 84, RR 14, P 120. Patient is transported at 1929 to the nearest ED. Upon arrival, vitals are SPB 90, RR 16, P 110. The patient has a left femoral shaft fx, and CT shows a SDH. A decision was made to transfer the patient for a higher level of care. EMS arrived at the transferring facility at 2030. Vital signs upon transport were SBP 92, RR 14, P 100. Patient arrives at your facility at 2110.

What should you report to NTDB for variable “EMS Unit Arrival Time At Scene OR Transferring Facility?”

a. 2110
b. 1917
c. 2030
d. 1929
Pre-hospital EMS

June 12, 2012, at 1900, a 17 year old male is involved in a motorcycle collision. EMS arrives at the scene at 1917. Patient responds to pain, SBP 84, RR 14, P 120. Patient is transported at 1929 to the nearest ED. Upon arrival, vitals are SPB 90, RR 16, P 110. The patient has a left femoral shaft fx, and CT shows a SDH. A decision was made to transfer the patient for a higher level of care. EMS arrived at the transferring facility at 2030. Vital signs upon transport were SBP 92, RR 14, P 100. Patient arrives at your facility at 2110.

What should you report to NTDB for Variable “EMS Unit Arrival Time At Scene OR Transferring Facility?”

a. 2110
b. 1917
c. 2030
d. 1929
June 12, 2012, at 1900, a 17 year old male is involved in a motorcycle collision. EMS arrives at the scene at 1917. Patient responds to pain, SBP 84, RR 14, P 120. Patient is transported at 1929 to the nearest ED. Upon arrival, vitals are SPB 90, RR 16, P 110. The patient has a left femoral shaft fx, and CT shows a SDH. A decision was made to transfer the patient for a higher level of care. *EMS arrived at the transferring facility at 2030.* Vital signs upon transport were SBP 92, RR 14, P 100. Patient arrives at your facility at 2110.

The “EMS Unit Arrival Time At Scene OR Transferring Facility” definition calls for the time the unit transporting to your hospital arrived on the scene, and for inter facility transfer patients, this is the time at which the unit transporting the patient to your facility from the transferring facility arrived at the transferring facility.
June 12, 2012, at 1900, a 17 year old male is involved in a motorcycle collision. EMS arrives at the scene at 1917. Patient responds to pain, SBP 84, RR 14, P 120. Patient is transported at 1929 to the nearest ED. Upon arrival, vitals are SPB 90, RR 16, P 110. The patient has a left femoral shaft fx, and CT shows a SDH. A decision was made to transfer the patient for a higher level of care. EMS arrived at the transferring facility at 2030. Vital signs upon transport were SBP 92, RR 14, P 100. Patient arrives at your facility at 2110.

What should you report to NTDB for variable “Initial Field Systolic Blood Pressure?”

a. 92
b. 90
c. 84
d. None of the above
June 12, 2012, at 1900, a 17 year old male is involved in a motorcycle collision. EMS arrives at the scene at 1917. Patient responds to pain, SBP 84, RR 14, P 120. Patient is transported at 1929 to the nearest ED. Upon arrival, vitals are SPB 90, RR 16, P 110. The patient has a left femoral shaft fx, and CT shows a SDH. A decision was made to transfer the patient for a higher level of care. EMS arrived at the transferring facility at 2030. Vital signs upon transport were SBP 92, RR 14, P 100. Patient arrives at your facility at 2110.

What should you report to NTDB for variable “Initial Field Systolic Blood Pressure?”

a. 92  
b. 90  
c. 84  
d. None of the above
Pre-hospital EMS

June 12, 2012, at 1900, a 17 year old male is involved in a motorcycle collision. *EMS arrives at the scene at 1917.* *Patient responds to pain, SBP 84, RR 14, P 120.* Patient is transported at 1929 to the nearest ED. Upon arrival, vitals are SPB 90, RR 16, P 110. The patient has a left femoral shaft fx, and CT shows a SDH. A decision was made to transfer the patient for a higher level of care. EMS arrived at the transferring facility at 2030. Vital signs upon transport were SBP 92, RR 14, P 100. Patient arrives at your facility at 2110.

The variable “Initial Field Systolic Blood Pressure” definition calls for the first recorded systolic blood pressure measured at the scene of injury.
Initial ED/Hospital Vitals

Initial ED/Hospital Systolic Blood Pressure

Definition
First recorded systolic blood pressure in the ED/hospital, within 30 minutes or less of ED/hospital arrival

Field Values
Relevant value for data element.

Additional Information
Please note that first recorded/hospital vitals do not need to be from the same assessment
Initial ED/Hospital Vitals

First recorded in the ED/hospital, within 30 minutes or less of ED/hospital arrival

- Systolic Blood Pressure
- Pulse Rate
- Temperature
- Respiratory Rate
- Respiratory Assistance
- Oxygen Saturation
- Supplemental Oxygen
- GCS - Eye
- GCS - Verbal
- GCS - Motor
- GCS - Total
- GCS - Assessment Qualifiers
Initial ED/Hospital Vitals

So, what should you do if any component of vital signs are not documented within 30 minutes of arrival to the hospital?
Initial ED/Hospital Vitals

Use the null value “Not Known/Not Recorded”
3/14/12, 1900: 52 y/o male driver of a motorcycle arrives to the ED by EMS after losing control on the highway and crashing into the guard rail. 1902: BP 92, P 50, E 1, V 1, M 1. Patient has contusions and abrasions to head, chest, abdomen, and extremities. 1910: patient is intubated.....

Based on the above documentation, what value(s) should be reported to NTDB for this patient’s Initial ED/Hospital GCS Assessment Qualifiers?

a. Patient chemically sedated or paralyzed
b. Obstruction to the patient’s eye
c. Patient intubated
d. Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to the eye
Initial ED/Hospital GCS Assessment Qualifier

a. Patient chemically sedated or paralyzed
b. Obstruction to the patient’s eye
c. Patient intubated
d. Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to the eye

The correct answer is d. Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to the eye, since the intubation was performed at 1910 after the GCS documentation at 1902.
Initial ED/Hospital GCS Assessment Qualifiers

Definition:
Documentation of factors potentially affecting the first assessment of GCS within 30 minutes or less of ED/hospital arrival

Field Values

<table>
<thead>
<tr>
<th>1 Patient Chemically Sedated or Paralysed</th>
<th>3 Patient Intubated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Obstruction to the Patient’s Eye</td>
<td>4 Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to the eye</td>
</tr>
</tbody>
</table>
Initial ED/Hospital GCS Assessment

Qualifiers

Additional Information:

• Identifies treatments given to the patient that may affect the first assessment of GCS. This field does not apply to self-medications the patient may administer (i.e., ETOH, prescriptions, etc.).

• If an intubated patient has recently received an agent that results in neuromuscular blockade such that a motor or eye response is not possible, then the patient should be considered to have an exam that is not reflective of their neurologic status and the chemical sedation modifier should be selected.
Additional Information Continued:

- Neuromuscular blockade is typically induced following the administration of agent like succinylcholine, mivacurium, rocuronium, (cis) atracurium, vecuronium, or pancuronium. While these are the most common agents, please review what might be typically used in your center so it can be identified in the medical record.

- Each of these agents has a slightly different duration of action, so their effect on the GCS depends on when they were given. For example, succinylcholine's effects last for only 5-10 minutes.

- Please note that first recorded/hospital vitals do not need to be from the same assessment.
Let’s look at the data...

Data Quality Report:
Here is a snapshot of a Data Quality Report and on the surface this looks great. This hospital has 5 or 0.33% rate of Not Known or Blank compared to 17.61% for all other hospitals.

<table>
<thead>
<tr>
<th>Selected NTDS Variable</th>
<th>Description of Flags</th>
<th>Your Hospital N= 1,531</th>
<th>All Other Hospitals N=680,505</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial ED/Hospital GCS - Assessment Qualifiers</td>
<td>Not Known or Blank</td>
<td>5</td>
<td>0.33</td>
</tr>
</tbody>
</table>
NTDB Submission Frequency Report

When the hospital then looks at the Frequency Report we see these 5 Not Known / Not Recorded, however they noticed that 0 patients were chemically sedated, which does not ring true. So they go back to their trauma software.

<table>
<thead>
<tr>
<th>NTDS Element Name:</th>
<th>GcsQualifier -- Documentation of factors potentially affecting the first assessment of GCS upon arrival in the</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Non-Null Incidences:</td>
<td>155</td>
</tr>
<tr>
<td>Percentage Non-Null Incidences:</td>
<td>9.86</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element Value</th>
<th>Definition</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIU = 1</td>
<td>Not Applicable</td>
<td>1412</td>
<td>89.82</td>
</tr>
<tr>
<td>BIU = 2</td>
<td>Not Known/Not Recorded</td>
<td>5</td>
<td>0.32</td>
</tr>
<tr>
<td>1</td>
<td>Patient Chemically Sedated</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Obstruction to the Patient's Eye</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Patient Intubated</td>
<td>155</td>
<td>9.86</td>
</tr>
</tbody>
</table>
The trauma software shows that there were 155 patients with intubation AND chemical / sedation. This has identified an issue with vendor mapping

<table>
<thead>
<tr>
<th>GCS Factors</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legitimate</td>
<td>1430</td>
<td>89.60</td>
</tr>
<tr>
<td>Intubated</td>
<td>11</td>
<td>0.69</td>
</tr>
<tr>
<td>Intubated and chemically paralyzed</td>
<td>155</td>
<td>9.71</td>
</tr>
<tr>
<td>Total</td>
<td>1596</td>
<td>100.00</td>
</tr>
</tbody>
</table>
How does this affect your status?
Are you confident...

...that this is you?
Thanks to YOU...

...for a job well done!