Michigan Trauma System Development

Update

Third Annual Region 7 Trauma Summit
December 4, 2015
Boyne Mountain Resort
Progress....

- Regional Trauma Networks (RTN)
- Designation and Verification
- Advisory Committees: STAC and Designation
- State Trauma Registry
- In-State Review Team trainings
Regional Trauma Networks

- Meeting regularly
- Regional Professional Standards Review Organizations
- Letters of Intent and documentation
Designation and Verification

- Michigan acute care facilities engaged in trauma program development

- System intended to be inclusive

- 35 American College of Surgeons verified facilities are Designated

- 69 In-state site reviewers (Level III or Level IV trauma facilities) trained
Michigan Criteria for Designation includes:

- Data submission into the State Trauma Registry

- Participation in Regional Injury Prevention and Performance Improvement (regional and facility)

- Level I and Level II facilities submit candidates for in-state review teams
Inaugural Designation Period
The inaugural designation period is a three year (maximum) period established by the Michigan Department of Health and Human Services, Trauma Section, during which a hospital that intends to commit its resources to developing a Level III or Level IV trauma program has the opportunity to collect and analyze trauma patient data, examine available resources, and build their trauma program under provisional status. This is not intended for hospitals that are or intend to become an American College of Surgeons verified trauma facility (Level I, Level II or Level III). The inaugural period will begin on December 1, 2014 and end December 31, 2017. All hospitals in the state are expected to complete the Michigan trauma facility designation process by December 31, 2017. This date may be revised after all acute care facilities seeking designation have had site visits, and applied for designation.

This inaugural designation period is germane to the hospitals that are not verified and are planning an In-state review. These facilities are in the process of building and documenting their trauma program. During this inaugural designation period trauma regions should refrain from significantly altering trauma patient flow patterns and should continue to allow the transport of trauma patients to hospitals based on the presumed level of their post-inaugural designation. Doing so will allow the individual hospital to collect the necessary data to support its decision to seek the level of state trauma facility designation for which it is most qualified.

Hospitals will notify the Regional Trauma Network (RTN) in writing regarding their intention to seek designation by the State of Michigan as a trauma facility as well as submitting the requisite Pre-Review Questionnaire (PRQ) found on the Michigan Trauma website at www.michigan.gov/traumasystem to the RTN. This notification shall include the level of trauma care that most closely matches that which the hospital is currently providing care based on the published criteria for a Level III or Level IV Michigan trauma facility. Hospitals are required to submit a report of their progress in trauma program development to the RTN and copy to the Regional Trauma Coordinator including a (revised if necessary) PRQ. The report must be submitted at least annually or within five business days of a significant change in available resources impacting trauma care. Unsatisfactory progress may result in a re-evaluation of status when discussing transport and destination decisions the regional level.
Region 7 Level III and IV Trauma Center Candidates

Sample Timeline

Note: This timeline does not plan for obstacles encountered.

INAUGURAL PERIOD
December 1, 2014 – December 31, 2017

Developing Trauma System

Milestones represent suggested dates in order for your application to be ready for submission within the inaugural period.

M1 Milestone #1: Recommended last date to begin entering data into ImageTrend®.

M2 Milestone #2: Review 12 months of data. Use to make final decision on trauma level. Advise RTN / RTC.

M3 Milestone #3: Submit “Request for Verification” document to State by this date and copy RTN and RTC.

M4 Milestone #4: Designation Application and “PRQ” submitted to State no later than 45 days prior to site visit.

Deb Detro-Fisher, Region 7 Trauma Coordinator
Detro-FisherD@Michigan.gov
STATE TRAUMA ADVISORY SUBCOMMITTEE
(517) 373-7163
PUBLIC NOTICE

The Statewide Trauma Advisory Subcommittee will meet in regular session for 2016 as listed below:

LOCATION
Michigan College of Emergency Physicians (MCEP)
Board of Directors Room
6647 West St. Joseph Highway
Lansing, MI 48917

<table>
<thead>
<tr>
<th>DAY</th>
<th>DATE</th>
<th>TIME</th>
<th>ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>2/3/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Tuesday</td>
<td>4/5/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Tuesday</td>
<td>6/7/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Tuesday</td>
<td>8/2/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Wednesday</td>
<td>10/5/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Monday</td>
<td>12/5/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
</tbody>
</table>
DESIGNATION SUBCOMMITTEE
(517) 373-7163
PUBLIC NOTICE

The Designation Subcommittee will meet in regular session for 2016 as listed below:

**LOCATION**
Michigan College of Emergency Physicians (MCEP)
Board of Directors Room
6647 West St. Joseph Highway
Lansing, MI 48917

<table>
<thead>
<tr>
<th>DAY</th>
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<th>TIME</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>1/12/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Tuesday</td>
<td>3/9/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Tuesday</td>
<td>5/10/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Tuesday</td>
<td>7/12/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td>Thursday*</td>
<td>9/15/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
<tr>
<td></td>
<td>*Date change due to room availability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>11/1/16</td>
<td>9:00 A.M.</td>
<td>MCEP, Board of Directors Room</td>
</tr>
</tbody>
</table>
## State of Michigan Trauma Registry

All data as of 11/24/15

<table>
<thead>
<tr>
<th>Hospital Region</th>
<th>Total Incidents</th>
<th>Trauma Incidents</th>
<th>% of Statewide Trauma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1</td>
<td>6,263</td>
<td>6,031</td>
<td>6%</td>
</tr>
<tr>
<td>Region 2N</td>
<td>18,991</td>
<td>18,971</td>
<td>18%</td>
</tr>
<tr>
<td>Region 2S</td>
<td>40,991</td>
<td>40,028</td>
<td>38%</td>
</tr>
<tr>
<td>Region 3</td>
<td>18,132</td>
<td>15,499</td>
<td>15%</td>
</tr>
<tr>
<td>Region 5</td>
<td>5,967</td>
<td>5,892</td>
<td>6%</td>
</tr>
<tr>
<td>Region 6</td>
<td>10,759</td>
<td>10,671</td>
<td>10%</td>
</tr>
<tr>
<td>Region 7</td>
<td>4,983</td>
<td>4,617</td>
<td>4%</td>
</tr>
<tr>
<td>Region 8</td>
<td>4,561</td>
<td>4,458</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Statewide</strong></td>
<td><strong>110,647</strong></td>
<td><strong>106,167</strong></td>
<td></td>
</tr>
</tbody>
</table>
The trauma registry has increased data by 2.5% since 10/7/15 STAC.
The next quarterly trauma registry submission deadline is Dec 15th.
ImageTrend is implementing changes the NTDB has made for 2016 admissions before the end of 2015.
Data Reports

- Complete data for **35 designated trauma facilities**: Jan 2014 - Jun 2015
- **75 acute care hospitals (56% of MI)** have entered data into the trauma registry in 2015 (up from 70 as of 10/7/15 STAC)
Projects....

- Trauma Education Assessments
- Risk adjusted benchmarking
- Publications
- PHTLS courses
- Trauma Band Evaluation
Education....

- Michigan Trauma Conference 2016 Building for the Future
  October 4, 2016
  Grand Traverse Resort

- Trauma Registrar Course
  March 15, 2016
  Lansing Community College-West
Putting it all together......

- Inaugural Period: December 2017
- Facility status and progress reports to RTN
- In-state site reviews 90 days from request for verification
- Destination protocols
- Data...Data....Data
- Sample Transfer documents
Trauma Band Proof of Concept

- Modelled after Arkansas
- Address deterministic linkages
- Potential to follow a patient through the entire system
- Proof of concept participants in rural regions (Region 7 and Region 3)
Trauma Band - Region 7 Participants

North Flight
Otsego County EMS
Munson Medical
Otsego Memorial Hospital
Munson Healthcare Cadillac
MICHIGAN TRAUMA BAND PROJECT

The Michigan Department of Health and Human Services, Trauma Section is piloting the Trauma Band Project which is designed to facilitate the identification of an injured patient in the field through their transfer and discharge from definitive care.

The Trauma Band Project involves the placing of a neon orange identification band with a unique alpha-numeric identifier on every injured patient encountered by the participating Emergency Medical Services agency and on the injured patient who presents to the participating Emergency Department. The identifier will be tracked in both the state EMS patient care record (Mi-EMSIS) and the state trauma registry. Using the unique identifier will assist in creating more certainty in ensuring the data collected in each registry matches the appropriate patient and will allow the system to more accurately measure outcomes, system functioning and more clearly define patient flow.

The pilot project began May 1, 2015 and will run through the fiscal year concluding September 30, 2015. At the conclusion of the pilot, participants will share their experiences, identify the challenges and issues to be addressed, and make suggestions for improvements for the next phase of the project.

If you receive a patient wearing an identification band with the words “Michigan Trauma System” (shown above) and you are not currently participating in the Trauma Band Project, we request that you leave the band in place until such time as the patient is discharged home. Doing so will allow the capture of movement of the patient in the event they are transferred by or readmitted to one of the EMS agencies/hospitals participating in the project.

Contact Information:

Deb Detro-Fisher, Region 7 Trauma Coordinator
(517) 243-8872
Project Results….

- Evaluation is ongoing

- Key Informant interviews being conducted

- Next steps predicated on results of evaluation
Data from Trauma Band Project
Trauma Band Pilot Project: Data Highlights

- 441 Trauma Banded Patients are present in SOM Trauma Registry
- 43% of all Trauma Patients were banded and logged during Project
- EMS tracked 929 Trauma Banded Patients (placed and/or logged)
## Trauma Band Pilot Project: Proof of Concept

Trauma Patients tracked through Trauma System

<table>
<thead>
<tr>
<th>Trauma Band Number</th>
<th>Initial EMS Agency</th>
<th>1st Destination Facility Name</th>
<th>Transferring EMS Agency</th>
<th>2nd Destination Facility Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>A010546</td>
<td>NORTH FLIGHT, INC</td>
<td>MUNSON HEALTHCARE CADILLAC HOSPITAL</td>
<td>NORTH FLIGHT, INC</td>
<td>MUNSON MEDICAL CENTER</td>
</tr>
<tr>
<td>A010652</td>
<td>NORTH FLIGHT, INC</td>
<td>MUNSON HEALTHCARE CADILLAC HOSPITAL</td>
<td>NORTH FLIGHT, INC</td>
<td>MUNSON MEDICAL CENTER</td>
</tr>
<tr>
<td>A007557</td>
<td>OTSEGO COUNTY AMB CORPS</td>
<td>OTSEGO MEMORIAL HOSPITAL</td>
<td>OTSEGO COUNTY AMB CORPS</td>
<td>MUNSON MEDICAL CENTER</td>
</tr>
</tbody>
</table>
Michigan Trauma System Data Analytics

Update

Third Annual Region 7 Trauma Summit
December 4, 2015
Boyne Mountain Resort
State Trauma Registry Reporting

- **6 out of 11** Region 7 Acute Care Hospitals have reported data in 2015 (4 complete for Jan – Sep)

- 3 out of 11 Region 7 Acute Care Hospitals have reported majority of data for 2014 (1 complete for Jan – Dec)

- **1,936** Trauma Incidents have been entered in 2015, through September in Region 7

- 78% of Trauma Incidents, in 2015, entered by 2 largest Acute Care Hospitals in Region 7
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Transfer Status
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

- InterFacility Transfer - NO
- InterFacility Transfer - YES

<table>
<thead>
<tr>
<th>Quarter</th>
<th>No Transfer</th>
<th>Yes Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2015</td>
<td>449</td>
<td>109</td>
</tr>
<tr>
<td>Q2 2015</td>
<td>465</td>
<td>123</td>
</tr>
<tr>
<td>Q3 2015</td>
<td>630</td>
<td>160</td>
</tr>
</tbody>
</table>

Note: reporting increased over period of observation
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Transfer Status - **Deceased/Expired**
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

- **InterFacility Transfer - NO**
- **InterFacility Transfer - YES**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>InterFacility Transfer - NO</th>
<th>InterFacility Transfer - YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2015</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Q2 2015</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Q3 2015</td>
<td>19</td>
<td>4</td>
</tr>
</tbody>
</table>

**Note:** reporting increased over period of observation
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Transfer Status - ISS > 15
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

InterFacility Transfer - NO  InterFacility Transfer - YES

Q1 2015: 21 incidents
- 27 InterFacility Transfer - NO
- 4 InterFacility Transfer - YES

Q2 2015: 10 incidents
- 30 InterFacility Transfer - NO
- 0 InterFacility Transfer - YES

Q3 2015: 58 incidents
- 58 InterFacility Transfer - NO
- 22 InterFacility Transfer - YES

Note: reporting increased over period of observation
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Transfer Status - ISS > 15 Deceased/Expired
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

- InterFacility Transfer - NO
- InterFacility Transfer - YES

Count of Trauma Incidents

Q1 2015: 2
Q2 2015: 2
Q3 2015: 10

Note: reporting increased over period of observation
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Primary Cause of Injury & Gender
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

- Accidental Falls (N = 1171)
- Motor Vehicle Traffic Accidents (N = 278)
- Motor Vehicle Nontraffic Accidents (N = 157)
- Other Road Vehicle Accidents (N = 80)
- Homicide And Injury Purposely Inflicted By Other Persons (N = 40)
- Suicide And Self-Inflicted Injury (N = 19)
- Water Transport Accidents (N = 14)
- Accidents Due To Natural And Environmental Factors (N = 10)
- Accidents Caused By Fire And Flames (N = 10)
- Activity (N = 9)
- Not Reported (N = 8)
- Injury Undetermined Whether Accidentally Or Purposely Inflicted (N = 4)
- Vehicle Accidents Not Elsewhere Classifiable (N = 3)
- Late Effects Of Accidental Injury (N = 2)
- Legal Intervention (N = 1)
- External Cause Status (N = 1)
- Accidents Caused By Submersion, Suffocation, And Foreign Bodies (N = 1)
- Other Accidents (N = 128)

Note: reporting increased over period of observation
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Primary Cause of Injury & Gender - Deceased/Expired
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

- Accidental Falls (N = 24)
- Motor Vehicle Traffic Accidents (N = 13)
- Other Road Vehicle Accidents (N = 2)
- Suicide And Self-Inflicted Injury (N = 1)
- Other Accidents (N = 1)
- Motor Vehicle Nontraffic Accidents (N = 1)
- Homicide And Injury Purposely Inflicted By Other Persons (N = 1)

Note: reporting increased over period of observation
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Age Range & Gender
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

Not Reported (N = 0)
85+ (N = 341)
75-84 (N = 317)
65-74 (N = 295)
55-64 (N = 268)
45-54 (N = 191)
35-44 (N = 136)
25-34 (N = 119)
20-24 (N = 83)
15-19 (N = 86)
10-14 (N = 42)
5-9 (N = 29)
1-4 (N = 24)
<1 (N = 5)

Note: reporting increased over period of observation
Region 7 Trauma: Jan 2015 – Sep 2015

Trauma Incidents by Age Range & Gender - Deceased/Expired
All Region 7 Facilities Reporting in State Trauma Registry - Jan 2015 through Sep 2015

Note: reporting increased over period of observation
MI Designated Trauma Facilities: Jan 2014 – Jun 2015

Trauma Incidents by Intentionality Of Injury
State of Michigan Designated Trauma Facilities - January 2014 through June 2015

4914
Assault linked to 9.4% of total Trauma Incidents

Unintentional
Assault
Self-inflicted
Not Reported
Undetermined
Other

46235

NOTE: 552 Trauma Incidents also had a report of Physical Abuse
MI Designated Trauma Facilities: Jan 2014 – Jun 2015

Trauma Incidents by Intentionality Of Injury - Deceased/Expired
State of Michigan Designated Trauma Facilities - January 2014 through June 2015

Assault linked to 16.8% of total Trauma Deaths

256

1163

NOTED: 19 Trauma Deaths also had a report of Physical Abuse
RPSRO Reports

- Data Requirements (Admin Rules)
- Data Available (NTDB)
- What Reports Can Be Done
- What Reports Should Be Done (BPR)
RPSRO Reports

- Descriptive Statistics (e.g. system performance metrics – see samples)

- Explanatory Analytics (e.g. causal inferential statistical analyses)

- Predictive Analytics (e.g. Risk-Adjusted Benchmarking)
### Regional Professional Standards Review Organization - Data support from State of Michigan Trauma Registry

*per: Statewide Trauma System Administrative Rules, Michigan Department of Community Health, R 325.135 Performance Improvement, October 2, 2009*

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
<th>Michigan Trauma Registry supports?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Regional Performance Improvement.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop a documented trauma performance</td>
<td>1. Data collection and analysis</td>
<td>YES</td>
<td>Additional data / information sources will be needed</td>
</tr>
<tr>
<td>process that includes the following:</td>
<td>2. Specific quality indicators for both adult and pediatric for trauma system</td>
<td>PARTIAL</td>
<td>Additional data / information sources will be needed</td>
</tr>
<tr>
<td>improvement standards, for both adult and</td>
<td>evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pediatric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Data collection and analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Specific quality indicators for both</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adult and pediatric for trauma system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. A process for indicator review and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>audit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. A process for case referral</td>
<td></td>
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<tr>
<td>5. A process for developing an action</td>
<td></td>
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<tr>
<td>plan and process improvement</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. A process for providing feedback to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the MCAs, EMSCC and STAC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>II. Regional System Evaluation.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate system performance to include all of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the following:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Trauma facility compliance with state</td>
<td></td>
<td>PARTIAL</td>
<td>Requires at least a year of prehospital practice under a standardized regional protocol /</td>
</tr>
<tr>
<td>designation criteria.</td>
<td></td>
<td></td>
<td>Data contained in MI-EMSIS - Recommend RPSRO ask MCAs to review</td>
</tr>
<tr>
<td>2. Accurate patient triage and transport</td>
<td></td>
<td>PARTIAL</td>
<td></td>
</tr>
<tr>
<td>to the appropriate trauma facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Patient outcomes stratified by ISS /</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRISS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Patient transfers: (1. Length of stay</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; 2. Deaths)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Mortality: all deaths</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Morbidity: defined by the region</td>
<td>PARTIAL</td>
<td></td>
<td>Challenging for a region to define, with absence of national standard definition of morbidity</td>
</tr>
<tr>
<td>7. Components of the regional trauma plan</td>
<td>NO</td>
<td></td>
<td>This is an assessment of the plan, rather than a specific data element(s) (an RTAC/RTN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>activity)</td>
</tr>
<tr>
<td>8. Triage criteria and effectiveness</td>
<td>PARTIAL</td>
<td></td>
<td>Requires standard triage criteria/protocol and mechanism to evaluate in the field</td>
</tr>
<tr>
<td>9. Trauma team activation</td>
<td>NO</td>
<td></td>
<td>Not an NTDB data element</td>
</tr>
<tr>
<td>10. Notification of specialists</td>
<td>NO</td>
<td></td>
<td>Not an NTDB data element</td>
</tr>
<tr>
<td>11. Trauma center diversions</td>
<td>NO</td>
<td></td>
<td>Data contained in MI-EMSIS - Recommend RPSRO ask MCAs to review</td>
</tr>
</tbody>
</table>
### III. Hospital Performance Improvement

Review hospital performance improvement activities to include the following audits and data:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Michigan Trauma Registry supports?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trauma related deaths. List the: Hospital; Elapsed time; Emergency department admission time; Mechanism of injury; Cause code; Transport mode; GCS; RTS; AIS; ICD-9; CPTs and ISS for each patient.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>2. All trauma patients with more than one (1) interfacility transfer prior to definitive care. List the hospitals sending and receiving the transfer for each patient meeting this criterion.</td>
<td>PARTIAL</td>
<td>Requires common patient identifier for deterministic matching</td>
</tr>
<tr>
<td>3. All trauma patients transported by ambulance with an emergency department RTS less than, or equal to 5.5 and scene-to-hospital transport times (transport time) greater than 20 minutes. For each patient meeting this criterion, list and sort by: Hospital; Transport mode; EMS agency; Scene-to-hospital transport time; County where injury occurred; Cause code; ISS; Outcome.</td>
<td>YES</td>
<td>Recommend RPSRO ask MCAs to review</td>
</tr>
<tr>
<td>4. All trauma patients with EMS scene arrival-to-EMS scene (scene time) departure times greater than 20 minutes, list the: EMS agency; Transport mode; Scene time; Scene procedures; Trauma type; Injury zip code (county); ISS; Outcome.</td>
<td>YES</td>
<td>Recommend RPSRO ask MCAs to review</td>
</tr>
<tr>
<td>5. All transferred trauma patients with an ISS greater than 15, and an emergency department admit-to-definitive care hospital admit time (trauma transfer time) greater than 6 hours for a rural place of injury, and 4 hours for an urban place of injury, list the: Hospital; Definitive care hospital; Rural or urban place of injury; Transfer time; Cause code; ISS; Outcome.</td>
<td>YES</td>
<td>Recommend utilization of aggregate data reports, that succinctly inform on these issues, vs. individual case reviews</td>
</tr>
<tr>
<td>6. All trauma patients with an ISS greater than 15 and an emergency department admit-to-emergency department discharge time (ED time) greater than 2 hours, list the: Hospital; Patient transferred, yes or no; Cause code; ED time.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>7. All trauma patients that died with a probability of survival (TRISS) greater than 50% for patients using physiologic measures collected at the first presenting hospital, list the: Hospital; Age; Cause code; Transport mode; ISS; Length of stay; TRISS; Outcome.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>8. All trauma patients with an ISS greater than 15 who are discharged from non-trauma centers, list the: Hospital; Age; Cause code; Transport mode; ISS; Discharge disposition; Time to discharge; Outcome.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>9. All trauma patients transported by ambulance without an EMS run report in the medical record, list the: Percentage of missing run reports by transport mode and EMS agency.</td>
<td>YES</td>
<td>Note: issue could be with EMS agency and/or hospital data abstraction process</td>
</tr>
<tr>
<td>10. All trauma patients 14 years of age or younger who had either an emergency department GCS equal to or less than 8, intubation, or ISS greater than 15, and was not transferred to a regional pediatric trauma center, list the: Hospital; Age; ED GCS; ISS; Cause code; Length of stay; Transport mode.</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>
Regional Professional Standards Review Organization - Data support from State of Michigan Trauma Registry
per: Statewide Trauma System Administrative Rules, Michigan Department of Community Health, R 325.135 Performance Improvement, October 2, 2009

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
<th>Michigan Trauma Registry supports?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV. Data Collection, Analysis and Reporting.</td>
<td>1. The RPSRO is authorized to request data for performance improvement purposes. The Regional Trauma Network may request aggregate data to monitor system components from the Michigan Trauma Registry and the Michigan EMS Patient Registry.</td>
<td>PARTIAL</td>
<td>Additional data / information sources will be needed</td>
</tr>
<tr>
<td></td>
<td>2. Medical Control Authorities may be required to provide data from their PSRO process if it is germane to trauma system performance.</td>
<td>PARTIAL</td>
<td>Additional data / information sources will be needed</td>
</tr>
<tr>
<td></td>
<td>3. An RPSRO must generate an annual report that contains the results of their evaluation, and includes a performance improvement plan. Aggregate, de-identified data may be included in the report. The report must be made available to the Michigan Department of Community Health, regional EMS providers, regional trauma facilities and the local medical community.</td>
<td>PARTIAL</td>
<td>Additional data / information sources will be needed</td>
</tr>
</tbody>
</table>
RPSRO Sample Data

All Trauma Incidents - % of Cases Deceased/Expired
State of Michigan Designated Trauma Facilities - January 2014 through June 2015

Percentage of Cases - Deceased/Expired

- Region Z
- Statewide

Q1 2014 Q2 2014 Q3 2014 Q4 2014 Q1 2015 Q2 2015
RPSRO Sample Data

Patient Transfer Trauma Incidents - % of Transfers Deceased/Expired
State of Michigan Designated Trauma Facilities - January 2014 through June 2015

Percentage of Patient Transfers - Deceased/Expired

- Region Z
- Statewide
RPSRO Sample Data

All Trauma Incidents - Average ED Length of Stay
State of Michigan Designated Trauma Facilities - January 2014 through June 2015

- **Region Z**
- **Statewide**
Patient Transfer Trauma Incidents - Average ED Length of Stay
State of Michigan Designated Trauma Facilities - January 2014 through June 2015
RPSRO Sample Data

Patient Transfer Trauma Incidents - % ED Disposition Home Without Services
State of Michigan Designated Trauma Facilities - January 2014 through June 2015

- Region Z
- Statewide
Data Validation

- **High-quality data begin with high-quality data entry**, and it is the trauma registrar who is responsible for performing this task.

- The amount of time and effort that will be necessary to maintain the registry should not be underestimated.

- A designated and well-trained trauma registrar is critical to the success of a registry.

From *Resources For Optimal Care Of The Injured Patient* by ACS Committee on Trauma
Data Validation

- The information provided by a trauma registry is only as valid as the data entered.
- Strategies for monitoring data validity are essential.
- A scheme for internal validation helps to detect errors in data entry or coding.
- Many trauma registry software packages include mechanisms to ensure consistency.

From *Resources For Optimal Care Of The Injured Patient* by ACS Committee on Trauma.
Data Validation

- A plan for ensuring that the data entered are accurate and reflect the observations made on the patient should be established.

- One approach is to re-abstract 5 to 10 percent of patient records.

- The medical director, trauma program manager, and trauma registrar then can perform a systematic review of the differences to establish levels of inter-rater reliability.

- Ongoing review and evaluation are important to ensure the quality, reliability, and validity of local registry data.

From *Resources For Optimal Care Of The Injured Patient* by ACS Committee on Trauma.
ANY QUESTIONS??