System Report

Data Period
(April 2017, May 2017, June 2017)

Mississippi Trauma Care System

Designated Trauma Care Providers
Working Together to Prevent and Treat Trauma

Prepared for:

Mississippi State Board of Health

August 21, 2017
Introduction

The goal of the Mississippi Trauma Care System is to deliver the right patient to the right hospital the first time. Research shows that this approach decreases mortality. Trauma remains the leading cause of death for Mississippians age 1 to 44 and Mississippi ranks third in the nation for unintentional injury deaths.

Mississippi began development of a statewide trauma system in 1991. The Mississippi Legislature charged the Mississippi State Department of Health with the responsibility for oversight of trauma system development. Since that time the state has adopted a trauma care plan, established seven designated trauma regions, designated qualifying hospitals as trauma centers, maintains a trauma registry, and disbursed funding to trauma regions, trauma centers, and physicians and EMS providers.

The Mississippi Legislature passed House Bill 1405 during the 2007 Regular Session to revitalize and more fully fund the Mississippi Trauma Care System. Mississippi moved from a voluntary system with indigent reimbursement, to a mandatory system with block grant funding based on participation; the first trauma system of its type in the United States. As suggested by the Mississippi Trauma Care Task Force, this report on the Mississippi Trauma Care System will be submitted quarterly to the Mississippi State Board of Health.
Trauma - Quarterly Activities

- Trauma Registry sub-committee statewide meeting
- Trauma Registry User Group statewide meeting with contact hours given to those in attendance
- ITS Analyst assigned to RFP process for trauma registry vendor
- Burn Performance Improvement meeting
- Burn sub-committee statewide meeting
- Trauma Functionality, Rules & Regulations statewide meeting
- Statewide Trauma System of Care Surgeon Medical Director meeting

Trauma Center Survey/ Education Visits:

Education visit to – Anderson Regional Medical Center, Meridian

FY 2015 Trauma Care Trust Fund Financial Audits:

Financial audits for the following:

- 7 Regions
  \((\text{Delta, North, Central, East Central, Southwest, Southeast, Coast})\)
- All Level I Centers
  \((\text{University Medical Center, LeBonheur, Regional One Health, USA})\)
- All Level II Centers
  \((\text{NMMC, Forrest General Hospital, Memorial of Gulfport})\)
- All Level III Centers
  \((\text{Merit Health Central, Merit Health River Oaks, Merit Health Biloxi, Ocean Springs, Singing River Hospital, Baptist Memorial Hospital-DeSoto, Delta Regional Medical Center, Anderson Regional Hospital, Rush Hospital, BMH Oxford, BMH Golden Triangle, OCH Regional, South Central Regional, Southwest MS Regional Medical Center})\)

- One EMS agency in each of the 7 regions
- No material findings reported

Trauma Center Designations:

The following Level IV Trauma Centers were designated during this period:

- Baptist Memorial Hospital – Leake
- Simpson General Hospital
- George Regional Hospital
- Hancock Medical Center
- Sharkey Issaquena Community Hospital
- University of MS Medical Center- Grenada
- Pioneer Hospital – Aberdeen
- Jefferson Davis Community Hospital
- Field Memorial Hospital
Mississippi Trauma Care System Report 4th QTR FY 2017

- Franklin County Memorial Hospital

Currently, the system is comprised of:
- Three (3) Level I Trauma Centers
  - UMMC, Jackson
  - Regional One Medical Center, Memphis
  - University of South Alabama, Mobile
- One (1) stand-alone Tertiary Pediatric Trauma Center
  - Le Bonheur Children's Hospital, Memphis
- Three (3) Level II Trauma Centers
  - Forrest General Hospital, Hattiesburg
  - Memorial Hospital of Gulfport, Gulfport
  - North Mississippi Medical Center, Tupelo
- Sixteen (16) Level III Trauma Centers
  - Anderson Regional Medical Center, Meridian
  - Baptist Memorial Hospital – DeSoto, Southaven
  - Baptist Memorial Hospital-GT, Columbus
  - Baptist Memorial Hospital-NM, Oxford
  - Delta Regional Medical Center, Greenville
  - Garden Park Medical Center, Gulfport
  - Magnolia Regional Health Center, Corinth
  - Merit Health Biloxi, Biloxi
  - Merit Health Central, Jackson
  - Merit Health River Oaks, Flowood
  - Ocean Springs Hospital, Ocean Springs
  - Oktibbeha County Hospital Regional Medical Center, Starkville
  - Rush Foundation Hospital, Meridian
  - Singing River Hospital, Pascagoula
  - South Central Regional Medical Center, Laurel
  - Southwest MS Regional Medical Center, McComb
- Sixty-two (62) Level IV Trauma Centers; and
- One Burn Center - J.M. Still at Merit Health Central

Mississippi Trauma Advisory Committee (MTAC):
- MTAC met on May 10, 2017
  - Bureau reviewed system finances
  - Update on development of systemwide performance measures
  - Update on Clinical Effectiveness Committee activities
    - MTAC requested that the Committee review the Trauma Center Activation Criteria and Destination Guidelines and provide a recommendation at the August 2017 MTAC meeting
  - Discussed RFP for trauma registry and data points needed to monitor patient care and system growth
Clinical Effectiveness Committee (CEC)/ Trauma Medical Directors:

- The clinical effectiveness committee held the first meeting. Group established mission and goal of the committee. Items for discussion included the following:
  
  o Activation criteria and destination guidelines - these are the criteria used to activate the more critical trauma patients. In 2010/2011 our trauma system began using a combined criteria. In collaboration with the EMS Medical Directors we have proposed to separate these criteria. We believe that this will help to decrease the overtriage / overactivation of trauma patients.

  o National topics that include bleeding control. The American College of Surgeons, Committee on Trauma has a national campaign “Stop the Bleed”. The Trauma System of Care began training police officers on tourniquet use in 2016. To date we have trained over 4000 law enforcement officers across the state. This training has proved to be successful with fifteen (15) lives saved.

  o Training for surgeons related to trauma; ATLS (Advanced Trauma Life Support); ASSET (Advanced Surgical Skills for Exposure in Trauma Course) and ATOM (Advanced Trauma Operative Management Course) are a few of the course topics that are currently being discussed.

  o Other topics included exploring ideas of a statewide trauma symposium.

Trauma Performance Improvement (PI) Program:

- The performance improvement committee is meeting on regular basis. A few of the items of discussion are as follows:
  
  o Discussion of mortality related to trauma patients.
  o Research and publications related to the trauma system of care.
Below is a snapshot of the data the PI committee is analyzing for trends related to trauma deaths.

**Percentage of Deaths 2006-2016**

*Total encounters/ number of expired*

- 2006: 2.8%
- 2007: 2.7%
- 2008: 2.4%
- 2009: 2.2%
- 2010: 1.9%
- 2011: 2.0%
- 2012: 2.0%
- 2013: 2.2%
- 2014: 2.2%
- 2015: 2.4%
- 2016: Update to AC/DG

**2010 Statewide Activation Criteria/ Destination**

**Trauma Funding:**

Bar chart showing legislative authorization, collections/funds spent, and collections/funds spent to date for the years 2011 to 2018.
Trauma Data:

**Injury Severity Score (ISS) Summary for Level I-III Trauma Centers**

<table>
<thead>
<tr>
<th>Facility</th>
<th>ISS 1-</th>
<th>ISS 10-</th>
<th>ISS 16-</th>
<th>ISS&gt;24</th>
<th>ISS N/V</th>
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<tr>
<td>Anderson Regional Medical Center-North</td>
<td>105</td>
<td>25</td>
<td>8</td>
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<td>Baptist Memorial Hospital-Desoto</td>
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<td>Baptist Memorial Hospital-GoldenTriangle</td>
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<tr>
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<td>2</td>
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<td>Delta Regional Medical Center</td>
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<td>Regional Medical Center at Memphis</td>
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<td><strong>2513</strong></td>
<td><strong>400</strong></td>
<td><strong>154</strong></td>
<td><strong>85</strong></td>
<td><strong>8</strong></td>
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Mississippi Trauma Registry Data

Injury Severity Score Summary for Level I to Level III Hospitals
Generated 08/14/2017
Arrival Dates: 04/01/2017- 06/30/2017
April- June 2017
N = 3160
Legislative Bill signed on May 9, 2017 requiring all passengers in vehicle to wear seatbelts.
Age and Gender

Mississippi Trauma Registry Data
Generated 08/14/2017
Incidents by Age and Gender
Arrival Dates 04/01/2017-06/30/2017
N=4218
The top 10 mechanisms of injury

Mississippi Trauma Registry Data
Generated 08/14/2017
Arrival Dates 04/01/2017 - 06/30/2017
N= 4218

MVA Deaths

Mississippi Trauma Registry Data
Generated 8/14/2017
MVA Deaths - Protective Devices - Restraints
April - June 2017
N= 24
ATV Injuries (Protective Devices)  
**Pediatric**

Mississippi Trauma Registry Data  
Generated 08/14/2017  
ATV Injuries - Pediatrics (Age 15 and under) - Protective Devices/Equipment  
April- June 2017  
N= 86

<table>
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<th>Incident</th>
<th>None</th>
<th>Helmet</th>
<th>Unknown</th>
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<tbody>
<tr>
<td>Incidents</td>
<td>60</td>
<td>9</td>
<td>17</td>
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ATV Injuries (Protective Devices)  
**Adult**

Mississippi Trauma Registry Data  
Generated 08/14/2017  
ATV Injuries - Adults (Age GT 15) - Protective Devices/Equipment  
April - June 2017  
N= 182

<table>
<thead>
<tr>
<th>Incident</th>
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<th>Helmet</th>
<th>Unknown</th>
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</thead>
<tbody>
<tr>
<td>Incidents</td>
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<td>3</td>
<td>53</td>
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Financial Data:

Mississippi Trauma Registry Data
Generated 08/14/2017
Primary Payor Sources
April - June 2017
Total N=4218

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<tr>
<th></th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>Total</th>
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<tbody>
<tr>
<td>Auto Privilege &amp; Tag Fees</td>
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<td>783,725</td>
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<td>Interest Income</td>
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<td>3,884</td>
<td>9,031</td>
<td>14,153</td>
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<tr>
<td>License, Fees and Permits</td>
<td>82,755</td>
<td>107,704</td>
<td>116,164</td>
<td>306,624</td>
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3,025,806