



System Report

Data Period

(July 2017, August 2017, September 2017)

Mississippi Trauma Care System

*Designated Trauma Care Providers
Working Together to Prevent and Treat Trauma*

Prepared for:

Mississippi State Board of Health

November 15, 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

- Registry sub-committee State-wide Meeting
 - Registry inclusion guide for end-users
 - Performance Improvement indicators- data points in registry
 - Burn Inclusion criteria to regions for education
 - Data validation task-group
- Trauma User Group state-wide meeting (contact hours awarded)
 - Report writer training for end users
- Continue work with IT Analyst with RFP process for trauma registry vendor
- Burn Performance Improvement meeting
 - Burn performance improvement plan approved
 - Burn performance indicators approved
 - Review of dashboard information
 - Regions to send all burn admits to performance improvement committee
- Burn sub-committee state-wide meeting
 - Burn questionnaire sent to all facilities and EMS providers
 - Review of dashboard information
 - Review of burn logic model with group
- Trauma Functionality, Rules & Regulations State-wide Meeting
 - Initial trauma training discussed
 - Task-force to review Trauma Funding Model
 - Items sent to Clinical Effectiveness Committee for review/
recommendations: Geriatric Specific Guidelines, Repatriation, and definitions of consensus and delinquent.

Trauma Center Survey/ Education Visits:

Education visit to Level III facility

TCTF Financial Audits:

Financial audits for the following:

- 7 Regions
(Delta, North, Central, East Central, Southwest, Southeast, Coast)
- All Level I Centers
(University Mississippi Medical Center, LeBonheur Childrens Hospital, Regional One Health, University of South Alabama)
- All Level II Centers
(North Mississippi Medical Center, Forrest General Hospital, Memorial Hospital at Gulfport)
- All Level III Centers
(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, Baptist Memorial Hospital – North Mississippi, Baptist Memorial Hospital Golden Triangle, OCH Regional Hospital, South Central Regional Hospital, Southwest MS Regional Medical Center)

- EMS agency in each of the 7 regions
 - ASAP Ambulance Service
 - Baptist Memorial Hospital- North Mississippi
 - AMR Ambulance Service
 - Miss-Lou Ambulance Service
 - Pafford EMS
 - Acadian Ambulance Service
 - Metro Ambulance Service

All financial audits current with no material findings reported.

Trauma Center Designations:

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

- Baptist Memorial Hospital- Calhoun
- North Mississippi Medical Center- Iuka
- North Mississippi Medical Center- West Point
- North Mississippi Medical Center- Eupora
- Hancock Medical Center

Currently, the system is comprised of:

- Three (3) Level I Trauma Centers
 - University of Mississippi Medical Center, 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- Golden Triangle, Columbus
 - Baptist Memorial Hospital-North Mississippi, 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
 - OCH Regional Medical Center, Starkville
 - Rush Foundation Hospital, Meridian

- Singing River Hospital, Pascagoula
- South Central Regional Medical Center, Laurel
- Southwest Mississippi Regional Medical Center, McComb
- Sixty-three (63) Level IV Trauma Centers; and
- One Burn Center -J.M. Still at Merit Health Central

Mississippi Trauma Advisory Committee (MTAC):

- MTAC met on August 9, 2017 –
 - Bureau reviewed system finances
 - Approval to separate the Activation Criteria and Destination Guidelines
 - Update on development of system performance measures from Clinical Effectiveness Committee (CEC)
 - Trauma Rules and Regulation update posted to the website

Clinical Effectiveness Committee (CEC)/ Trauma Medical Directors:

- The clinical effectiveness committee discussions included:
 - Performance Improvement indicators to be tracked by the State PI Committee.
 - Geriatric Trauma guidelines. Does our state need to adopt specific guidelines for geriatric trauma. The PI committee has defined “geriatric” as age 65 and older.
 - The Arkansas Trauma study. Published in the JACS earlier this year, it demonstrated a financial ROI to the state of Arkansas. They compared preventable deaths from pre-trauma system to post-trauma system, and noted a reduction
 - Education. Training related to trauma; RTTDC (Rural Trauma Team Development Course); 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.
 - Statewide Dashboard. Development of statewide dashboard to review trends with discussion of indicators that would be important to include.
 - Advocacy. Proposal of a “Capitol Day” during the spring State Legislative session and offer to teach the ACS “Bleeding Control” course to the state legislators.
 - 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**.
 - 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:
 - Discussion of transfers within the state from Level III and IV facilities.
 - Discussion of appropriateness of transfers.
 - Discussion of mortality related to trauma patients; specifically unexpected survivors and unexpected deaths.
 - Research and publications related to the trauma system of care.

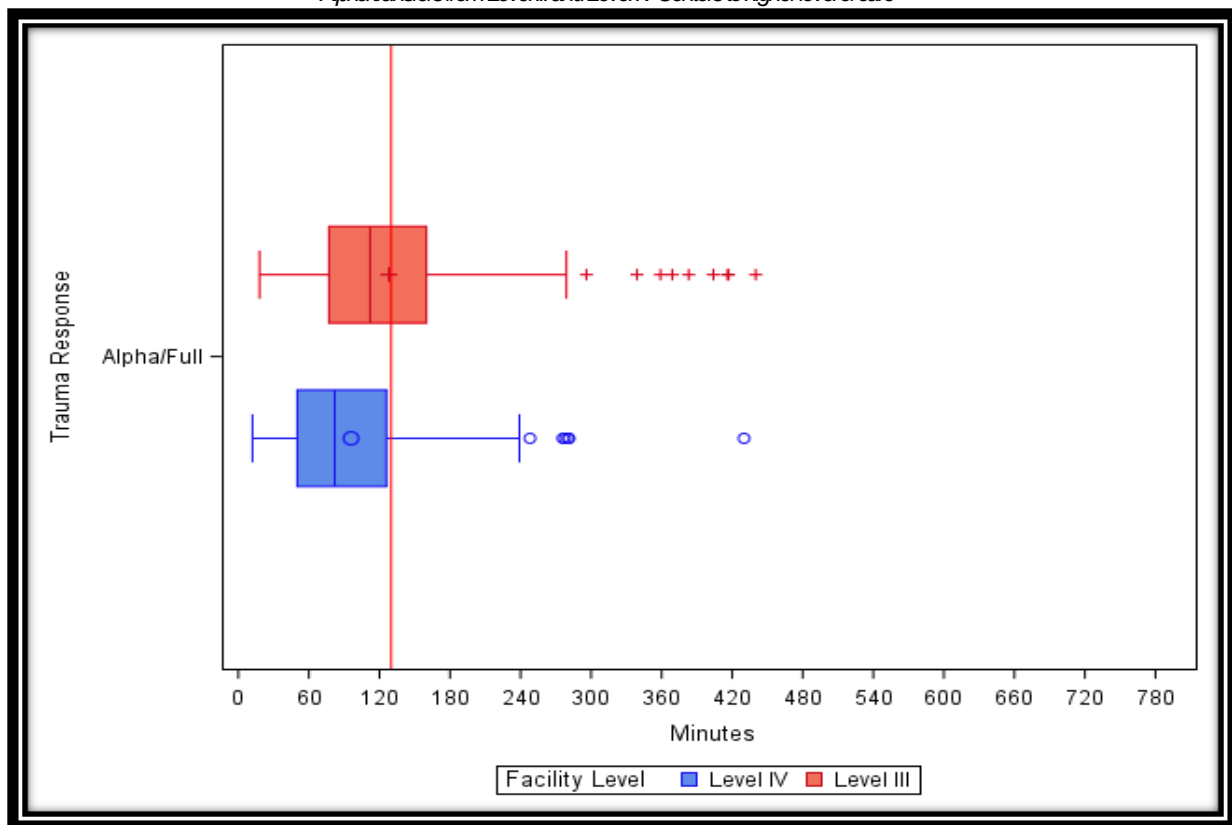
Below is a snapshot of the data the PI committee is analyzing for trends related to transfers:

Transfers (Turnaround Time in minutes) Box Plot by Trauma Response

(goal = 130 min)

N=1598

Alpha transfers from Level III and Level IV Centers to higher level of care



Source: Mississippi Trauma Registry CY2016

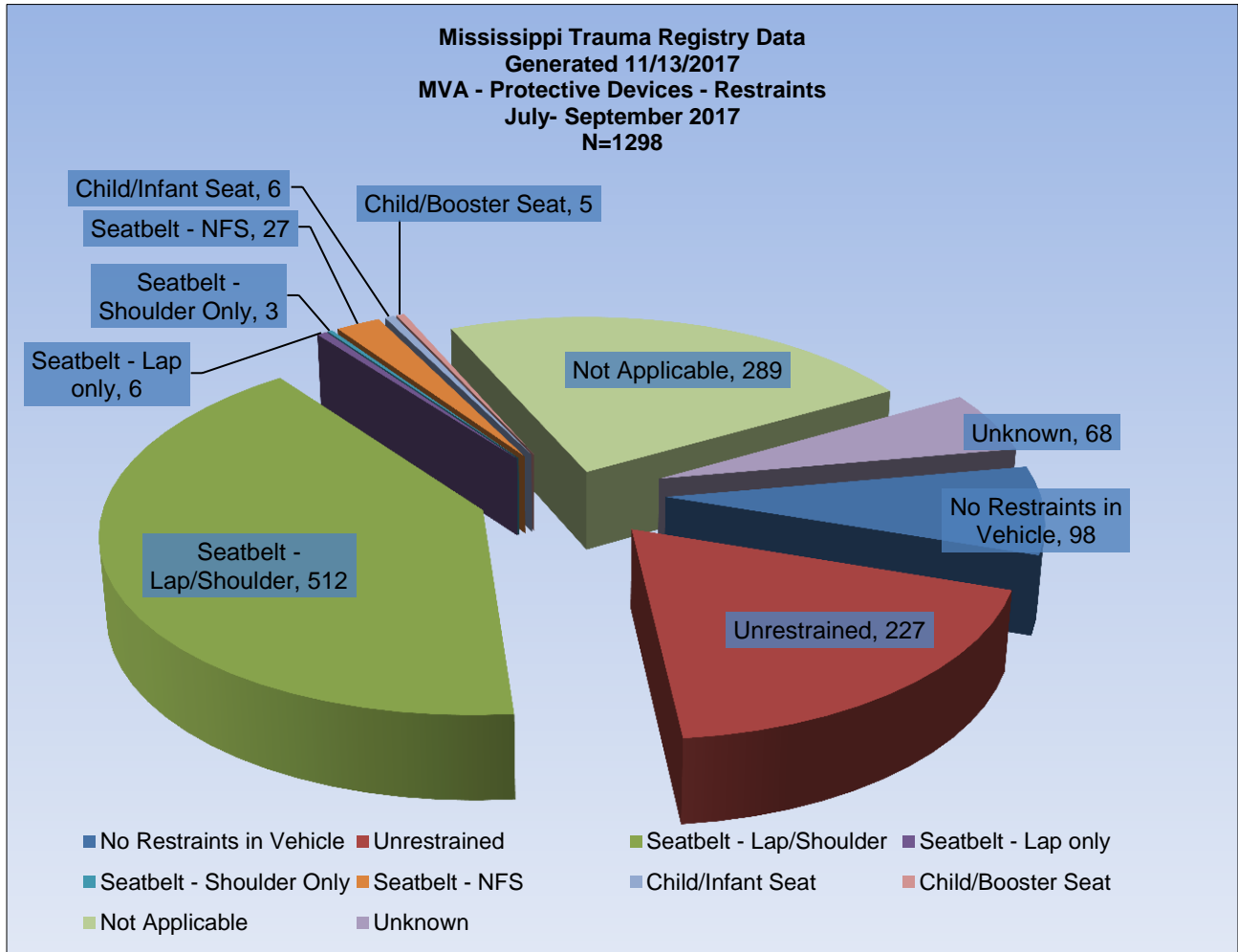
Data supports that the Trauma System as a whole is meeting this measure in transfers from both the Level IIIs and the Level IVs.

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

Mississippi Trauma Registry Data
 Injury Severity Score Summary for Level I to Level III Hospitals
 Generated 11/13/2017
 Arrival Dates: 07/01/2017- 09/30/2017
 July - September 2017
 N = 3213

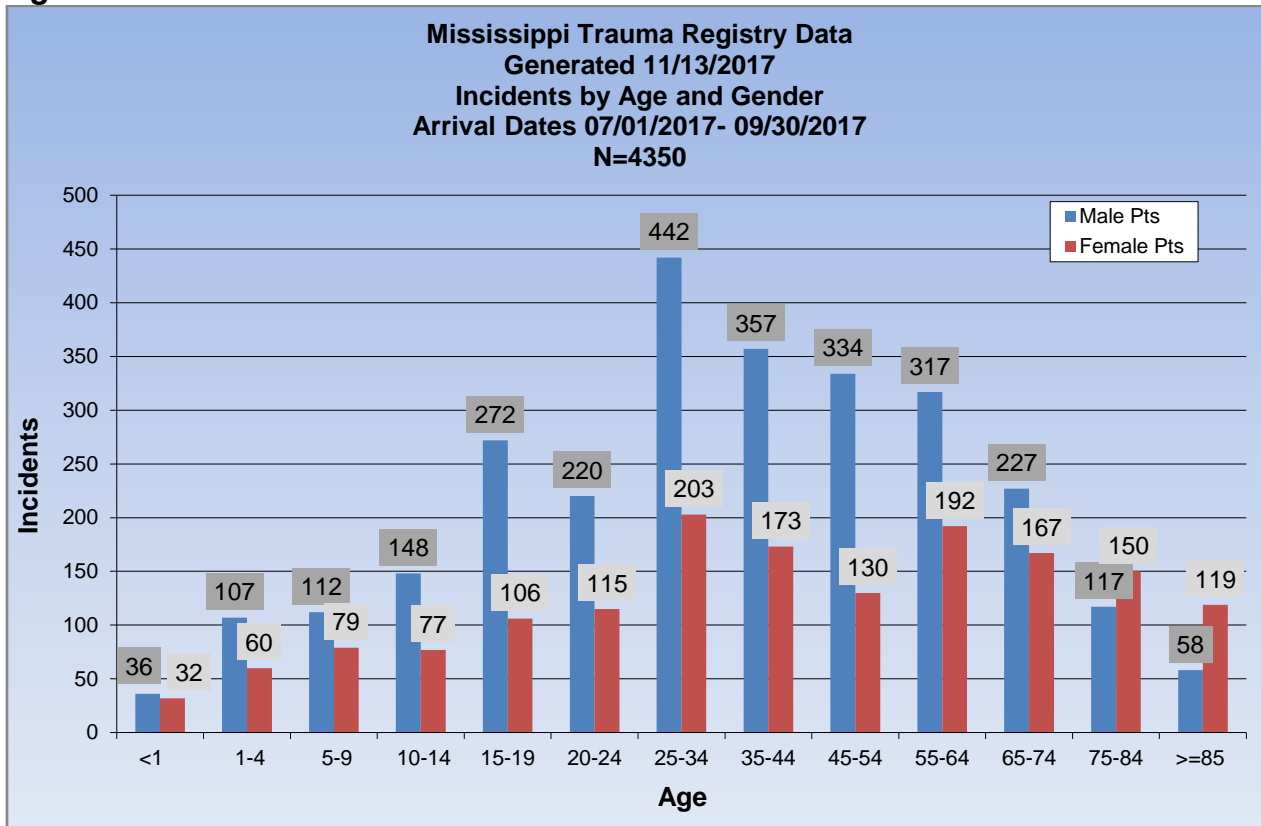
| Facility | ISS 1-9 | ISS 10-15 | ISS 16-24 | ISS>24 | Total Patients | ISS N/V |
|---------------------------------------|-------------|------------|------------|-----------|----------------|----------|
| Anderson Regional Medical Center | 110 | 24 | 6 | 2 | 142 | 0 |
| Baptist Memorial Hospital-Desoto | 145 | 8 | 1 | 0 | 154 | 0 |
| Baptist Memorial Hospital-GT | 149 | 14 | 5 | 1 | 169 | 0 |
| Baptist Memorial Hospital-NM | 123 | 11 | 3 | 0 | 137 | 0 |
| Biloxi Regional Medical Center | 31 | 1 | 1 | 1 | 34 | 0 |
| Central MS Medical Center | 6 | 1 | 0 | 0 | 7 | 0 |
| Delta Regional Medical Center | 61 | 7 | 2 | 0 | 70 | 0 |
| Forrest General Hospital | 445 | 50 | 23 | 7 | 525 | 0 |
| Garden Park Medical Center | 112 | 15 | 7 | 2 | 136 | 0 |
| LeBonheur Children's Medical Center | 134 | 22 | 18 | 5 | 180 | 1 |
| Magnolia Hospital | 96 | 19 | 12 | 4 | 131 | 0 |
| Memorial Hospital at Gulfport | 173 | 26 | 9 | 8 | 216 | 0 |
| North MS Medical Center-Tupelo | 269 | 61 | 25 | 14 | 369 | 0 |
| Ocean Springs Hospital | 76 | 12 | 2 | 0 | 90 | 0 |
| Oktibbeha County Hospital | 26 | 1 | 1 | 1 | 29 | 0 |
| Regional Medical Center at Memphis | 52 | 10 | 14 | 8 | 85 | 1 |
| River Oaks Hospital, Inc. | 15 | 1 | 0 | 0 | 16 | 0 |
| Rush Foundation Hospital | 62 | 17 | 3 | 4 | 86 | 0 |
| Singing River Hospital | 98 | 7 | 4 | 0 | 109 | 0 |
| South Central Regional Medical Center | 59 | 16 | 6 | 2 | 83 | 0 |
| Southwest MS Regional Medical Center | 99 | 16 | 9 | 6 | 130 | 0 |
| Univ of South Alabama Medical Center | 45 | 14 | 12 | 12 | 83 | 0 |
| University Medical Center | 175 | 22 | 12 | 21 | 232 | 2 |
| Total | 2561 | 375 | 175 | 98 | 3213 | 4 |

MVA Injuries

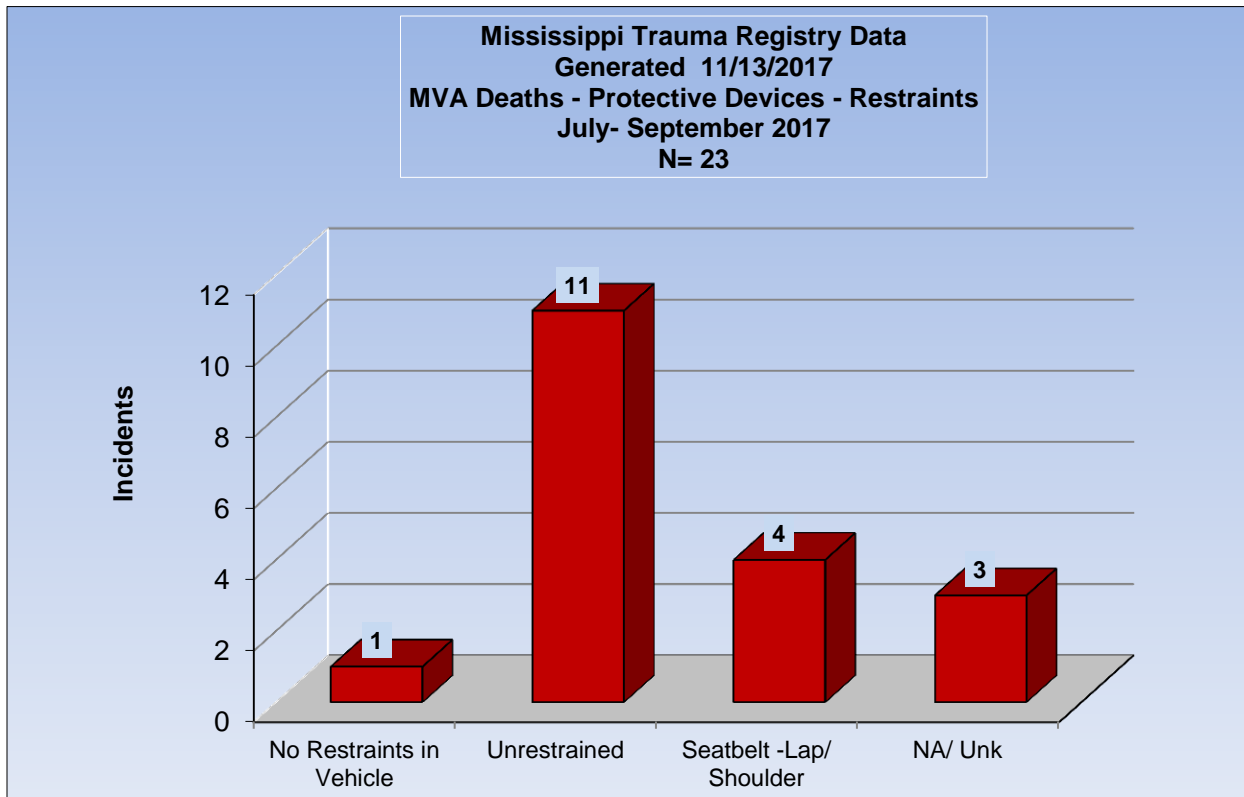


Legislative Bill signed on May 9, 2017 requiring all passengers in vehicle to wear seatbelts.

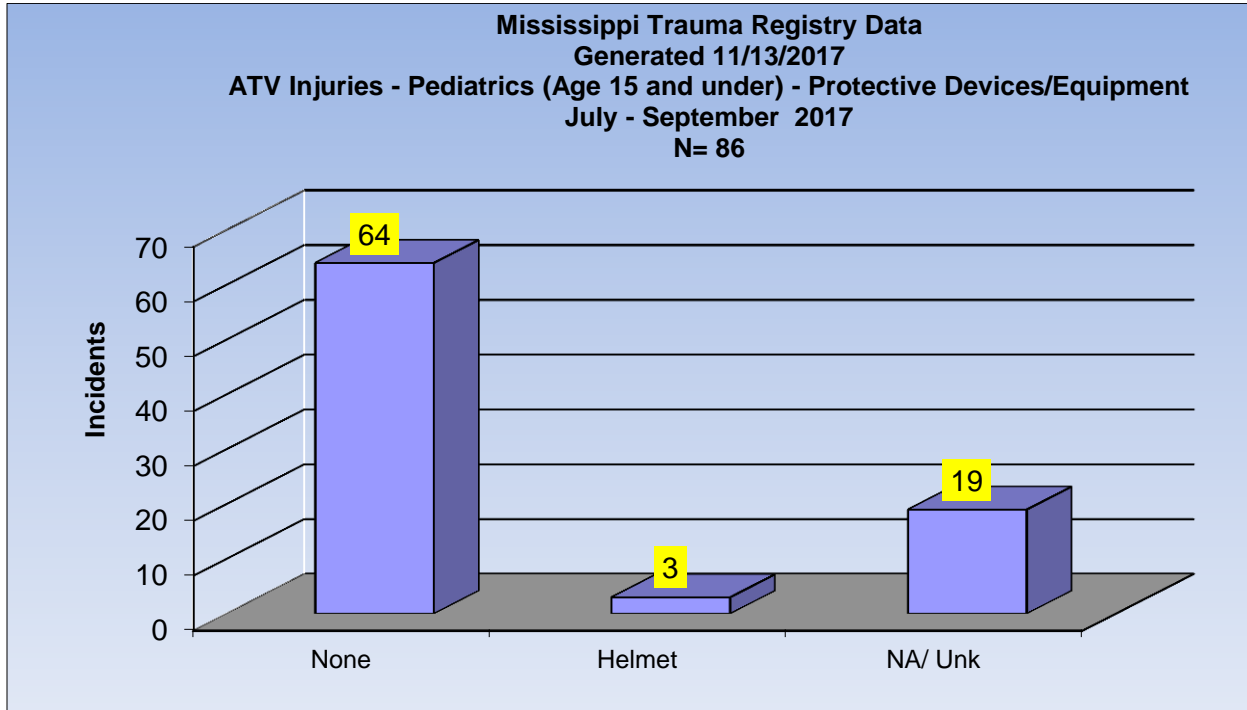
Age and Gender



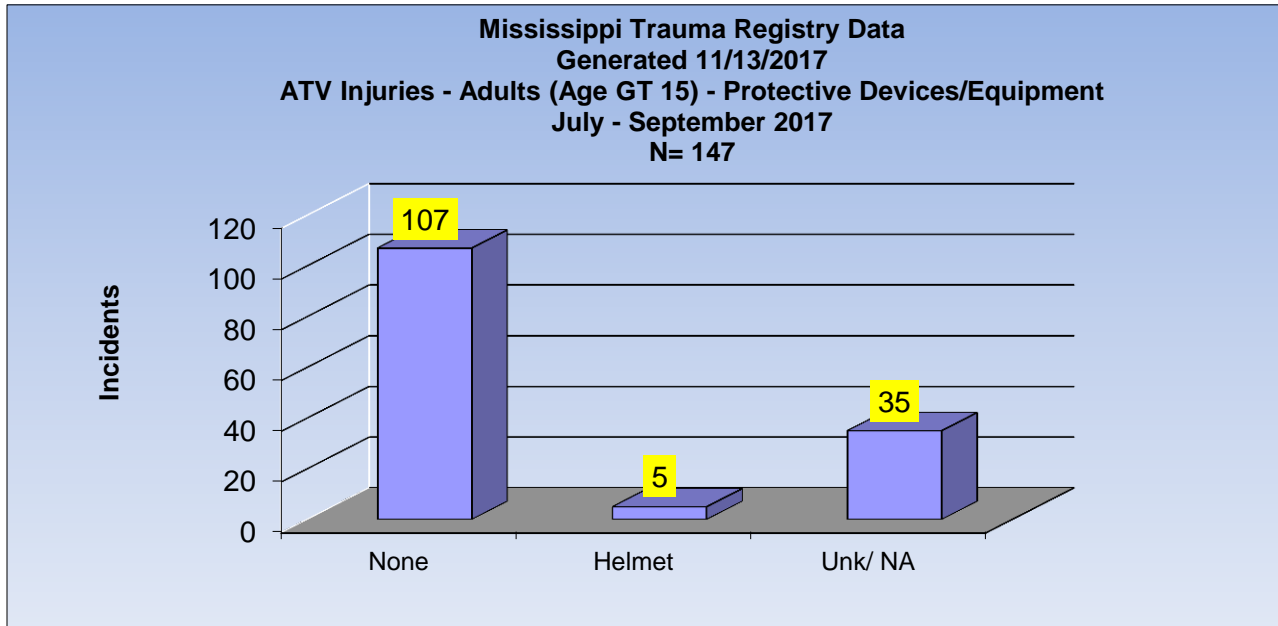
MVA Deaths



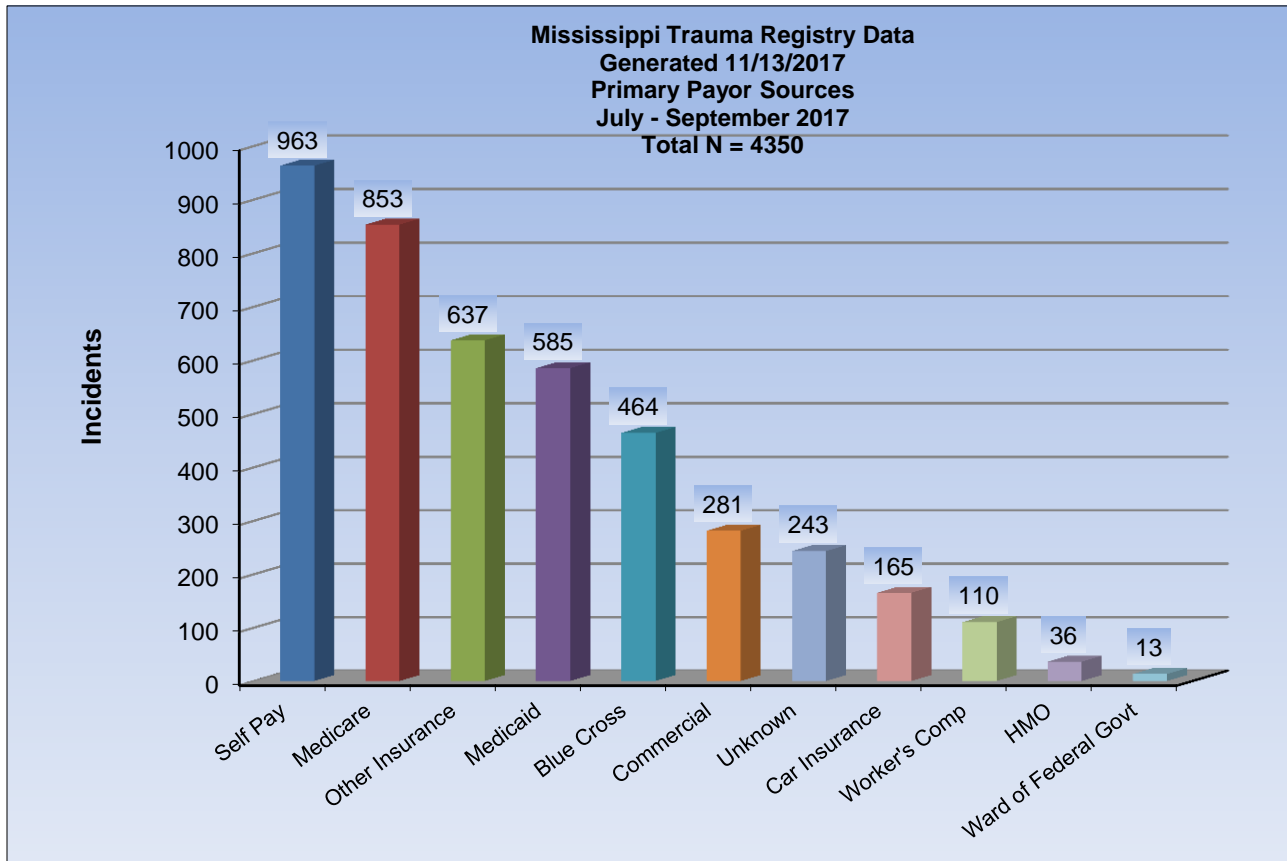
**ATV Injuries (Protective Devices)
Pediatric**



**ATV Injuries (Protective Devices)
Adult**



Financial Data:



Trauma Care Trust Fund:

| | July | August | September | Total |
|---------------------------|---------|---------|-----------|------------------|
| Auto Privilege & Tag Fees | 619,108 | 517,713 | 970,655 | 2,107,475 |
| Interest Income | - | 10,720 | 4,996 | 15,716 |
| License, Fees and Permits | 106,563 | 91,094 | 87,841 | 285,499 |
| | | | | 2,408,690 |