



Regionalization of Emergency Care: Utilizing the Statewide Trauma System for the Framework

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The conversation began.....

- 2007 White Paper “Need for Regionalization and Planning of Emergency Transport and Care in Michigan”.
- Partner discussions: Trauma, STEMI, Stroke, Perinatal, Pediatrics
- Assessment and advocacy for trauma system funding as foundation for EMS system of care.
- Evaluating national guidelines and reports on systems of care.



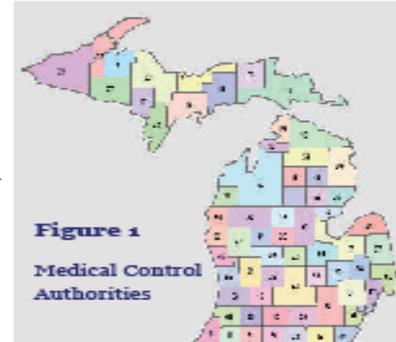
Regionalization of Emergency Care In Michigan

Getting the **Right Patient** to the **Right Place** at the **Right Time** for the **Right Treatment**

What's the problem?

Emergency Care in Michigan has suffered for the past 25 years from fragmentation, inefficiencies, and lack of accountability due in large part to the absence of a funded state coordinated Trauma System.

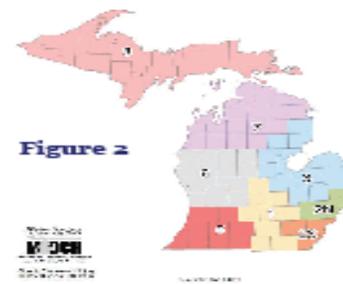
- The American College of Emergency Physicians gave Michigan a D+ for its emergency care environment
- The IOM report states "One county in Michigan has 18 different EMS systems with a range of different service models and protocols."
- There are 65 Medical Control Authorities, 800 Life Support Agencies and 110 Dispatch Centers providing emergency care in Michigan. See figure 1 for Medical Control Authorities.
- Valuable treatment time for heart attack (one occurs every 21 minutes), automobile accident/injuries (one occurs every 13 minutes), stroke (one occurs every 110 minutes) and other emergencies such as perinatal deaths is lost in this outdated system in Michigan.
- The average response time for emergencies in rural Michigan is 94.8 minutes, too late to treat a heart attack patient (ST elevation myocardial infarction) who needs treatment within 90 minutes of the onset of symptoms.



What's the answer?

- The only element keeping Michigan from implementing a statewide trauma system is funding.
- Legislation has existed since 2004 to establish a trauma system but has yet to be funded.
- A funded trauma system would regionalize care, coordinate services, address gaps and tighten communication. Therefore, allowing for patients to *get to the right place at the right time*.
- A funded trauma system would follow the regionalization design established in other key emergency areas. See figure 2 for proposed regions.
- Having a pregnant women and babies at the appropriate hospital is necessary to receive timely and appropriate care.
- Many criminal actions result in the activation of the Emergency Medical Services system and the need for trauma care.
- Efforts are underway to adjust the revenue stream of the Crime Victims Fund to provide support for the implementation of the trauma system.

Emergency Preparedness/Trauma Regions



These fees are expected to generate the necessary funding to operate the Trauma System as it was legislated.

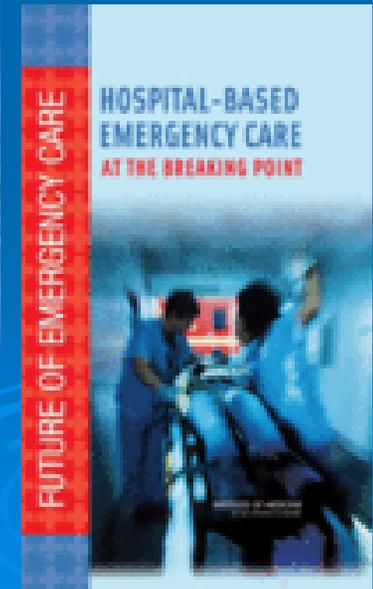
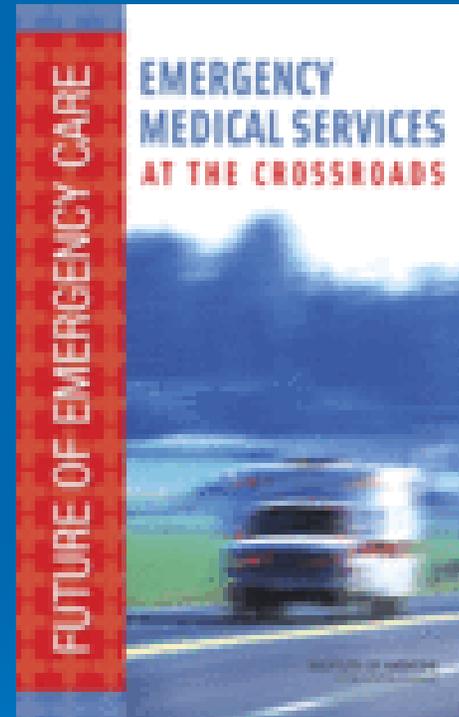
Developed a flyer that would educate decision makers on the issues and opportunities for improving emergency care through funding for a trauma system.

Implications for time dependant emergencies.....

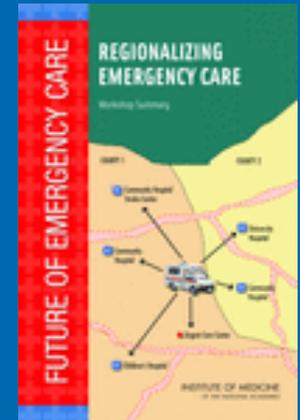
- In Michigan a heart attack occurs every 21 minutes, an automobile accident every 13 minutes, a stroke every 110 minutes.
- Michigan is one of three states in the country without a funded Trauma System (Vermont and Idaho are the others).
- Michigan has had Trauma Rules in place since 2007 that define and organize Emergency Care.
- The 2006 IOM report states “One county in Michigan has 18 different EMS systems with a range of different service models and protocols.”

Regionalization: The IOM's Vision

A
Regionalized,
Coordinated,
and
Accountable
Emergency
Care System



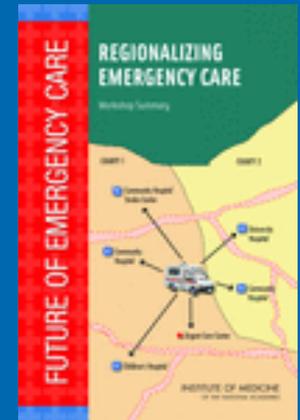
Institute of Medicine: Recommendations from Workshop



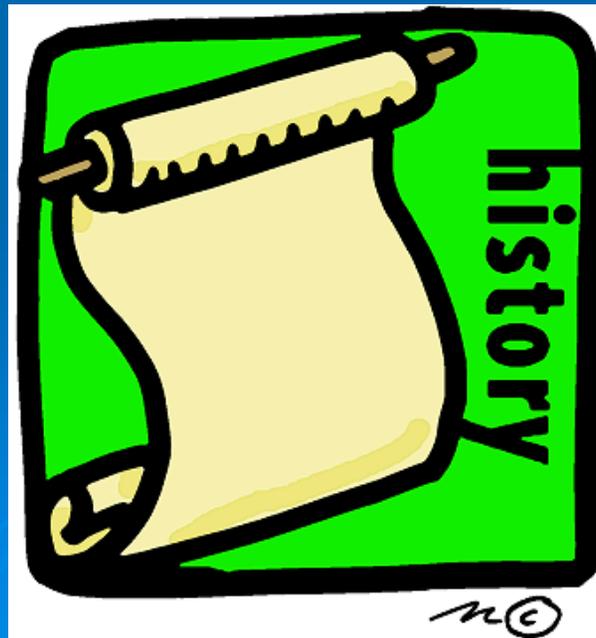
- “Emergency system needs to be regionalized, accountable, and coordinated”
- States must play a key role in establishing regional systems to ensure **consistency** and **sustainability**
- Successful states have maintained a lead agency concept
 - Someone who has **legal authority**

Institute of Medicine: Recommendations from Workshop

- Regionalization is not centralization
- Not about designating certain places as the place to go
- Match the patient to the appropriate resources
- Needs to be a web, not a funnel
- Most mature systems have strong medical leadership, willing to take criticism, help resolve issues, have legislative authorization, and it's enforced



History on the Development and Implementation of a Statewide Trauma Care System



1991 NHSTA Assessment Trauma Standard

- To provide a quality, effective system of trauma care, each State must have in place a fully functional EMS system; trauma care components must be clearly integrated with the overall EMS system. Enabling legislation should be in place for the development and implementation of the trauma care component of the EMS system. This should include trauma center designation (using ACS-COT, APSA-COT and other national standards as guidelines), triage and transfer guidelines for trauma patients, data collection and trauma registry definitions and mechanisms, mandatory autopsies and quality improvement for trauma patients. Information and trends from the trauma registry should be reflected in PIER and injury prevention programs. Rehabilitation is an essential component of any statewide trauma system and hence these services should also be considered as part of the designation process. The statewide trauma system (or trauma system plan) reflects the essential elements of the Model Trauma Care System Plan.

1991 NHTSA Assessment Findings

- Develop a trauma system
- Develop a Trauma Registry
- Require mandatory autopsies for all trauma deaths
- Pass legislation for the EMS-Trauma Care Systems Trust Fund
- Develop a statewide air-transport system

2000 Trauma Commission

- In 2000 Trauma Commission was created by public Act 440 & charged with completing a statewide assessment and compiling a report.



Michigan Statewide Trauma Care Commission

- Commission was Appointed by Governor
- 17 Members - At Least 3 From Rural Counties (1 from the Upper Peninsula)
 - 8 Health Professionals; 2 Hospital Representatives; 2 Health Care Payers; 1 Ambulance Service; 2 Consumers; 1 Chair; 1 MDCH Representative



Task of Commission



- Assess Status of Trauma Care in MI
- Hold Public Hearings—8 Health Planning Areas (Emergency Preparedness Region)
- Obtain Information on Trauma Care Systems in other States
- File Report with Recommendations by 7/1/02

Recommendations of Commission



- Establish Division of EMS as Lead Agency for EMS & Trauma
- Implement a Comprehensive Statewide Trauma Care System
- Utilize “Model Trauma Care Plan” (HHS)
- Establish Designation System for Hospitals (ACS)
- Establish Statewide Trauma Registry

Recommendations (con't)

- Coordinate Injury Prevention & Education Activities between Lead Agency & MDCH
- Consider Various Fees as Funding Sources
- Report Submitted in 11/02



Michigan Model Trauma Care System Plan

- In 7/03, the Michigan Trauma Coalition (MTC) was Contracted by the State to Convene a Trauma Care Planning Committee to Develop:
 - Model Trauma Systems Plan
 - Implementation Plan for a Statewide Trauma System
- Trauma Plan was finalized in 2004 and made 18 Recommendations



18 Recommendations



- Establish Michigan's Lead Trauma Agency
- Establish a State Trauma Advisory Committee
- Establish Regional trauma networks
- Implement an "All-Inclusive" Trauma System
- Implement Tiered Triage Protocols
- Designation & Verification of Trauma Facilities
- Timeframe for Verification
- Designation of Trauma Facilities
- Periodic Re-Designation of Trauma Facilities
- Hospital Participation in Data Collection
- Confidentiality of Trauma Data
- Phase in of Data Collection Systems

Recommendations continued

- **MCA Performance Improvement Plans**
- **Evaluation of System Performance**
- **Evaluation of System Effectiveness**
- **Trauma Injury Prevention Planning**
- **Trauma Systems Staffing Requirements**
- **A Trauma Systems Education Plan**



Legislation

- Trauma System Legislation – 2004
 - P.A. 580
 - P.A. 581
 - P.A. 582



Michigan Trauma Systems Plan



- The findings of the Trauma Systems Plan were incorporated into Public Acts 580, 581, and 582, which require the Department to create a statewide trauma system which is consistent with the recommendation of the Trauma Systems Plan.
- Required the formation of Statewide Trauma Advisory Subcommittee (STAC)
- Requires the promulgation of administrative rules to create a statewide trauma system within one year of formulation of the STAC

PA 580 of 2004



- Required the creation of a Statewide Trauma Care Advisory Subcommittee
 - Assist MDCH in Develop & Implement Statewide Trauma System through the development of Administrative Rules
 - Function Under the Emergency Medical Services Coordination Committee

2005 - STAC

- Comprised of ten members
 - Two trauma surgeons
 - A hospital representative from a Level I or II ACS verified trauma center
 - A hospital representative from a non Level I or II trauma center
 - A non-rural Medical Control Authority Medical Director
 - A rural Medical Control Authority Medical Director
 - A Life Support Agency Manager
 - An Emergency Physician
 - A Trauma Nurse Coordinator
 - A Trauma Registrar



Statewide Trauma Advisory Subcommittee

- Created five work groups based on the recommendations in the State Trauma Plan
 - Triage & Transport
 - Designation & Verification
 - Data & Evaluation
 - Education & Injury Prevention
 - Funding



Responsible to Promulgate Administrative Rules

- 5 Work Groups
 - 13 sub workgroups
 - 150 professionals assisting



Where are we now?



- Administrative Rules finalized.
- Tools are developed.
- Funding needs to be obtained.
- Focusing on Regionalization of Emergency Care (Trauma, STEMI, Stroke, Perinatal/pediatrics).

Administrative Rules Requirements

- Implement an all-inclusive trauma system throughout Michigan
- Establish a statewide trauma quality improvement process using a statewide data base.
- Assign a dedicated state EMS/Trauma Medical Director and supporting resources
- Implement and Maintain a statewide plan for a trauma system
- Ensure integration of the Trauma and EMS System



Administrative Rules Requirements

- Develop a statewide process to establish regional trauma networks comprised of medical control authorities that integrates into existing Emergency Preparedness Regions.
- Develop a statewide process for the verification of trauma resources.
- Develop a statewide process for the designation of Trauma facilities.



Administrative Rules Requirements

- Develop an appeals process for facilities contesting designation.
- Approve regional trauma triage protocols
- Establish regional trauma networks
- Implement Tiered Triage Protocols
- Develop and maintain a statewide trauma data collection system that integrates with EMS data.



Administrative Rules Requirements

- Develop trauma destination protocols
- Develop and maintain inter-facility transfer protocols.



Benefits of a Trauma System



- Integration with the EMS System is critical to the success of a regionalized system
- Assures Appropriate Destination for Major Trauma Patients Requiring the Resources of a Level I or II Trauma Facility

Benefits of a Trauma System

- Better organized and coordinated health care
 - “Formalizing the system”
- Cost Savings
 - Data shows a 15% decrease in hospital care costs (initial treatment and continued rehabilitation)
 - Data shows decreased years of productive life lost



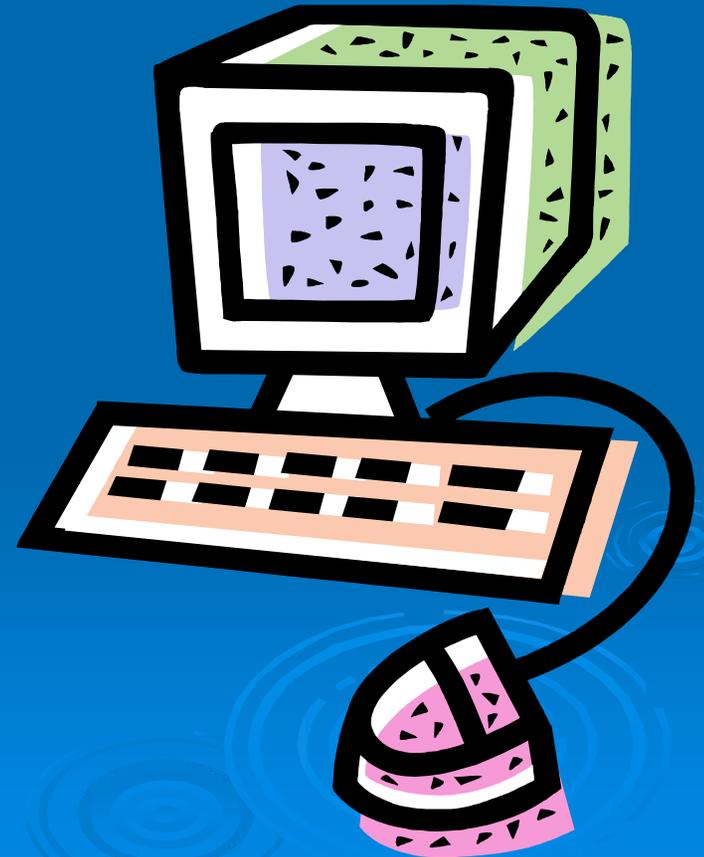
Benefits of a Trauma System



- Better Outcomes through Improved Care & Injury Prevention Activities
 - Data shows **decreased death rates by 15-20%**
 - Studies done using national data and studies of states before and after implementation of a trauma system show **consistent decreases for death and serious injury ranging from 9-20%**
 - Reductions in the number and severity of disabilities caused by trauma

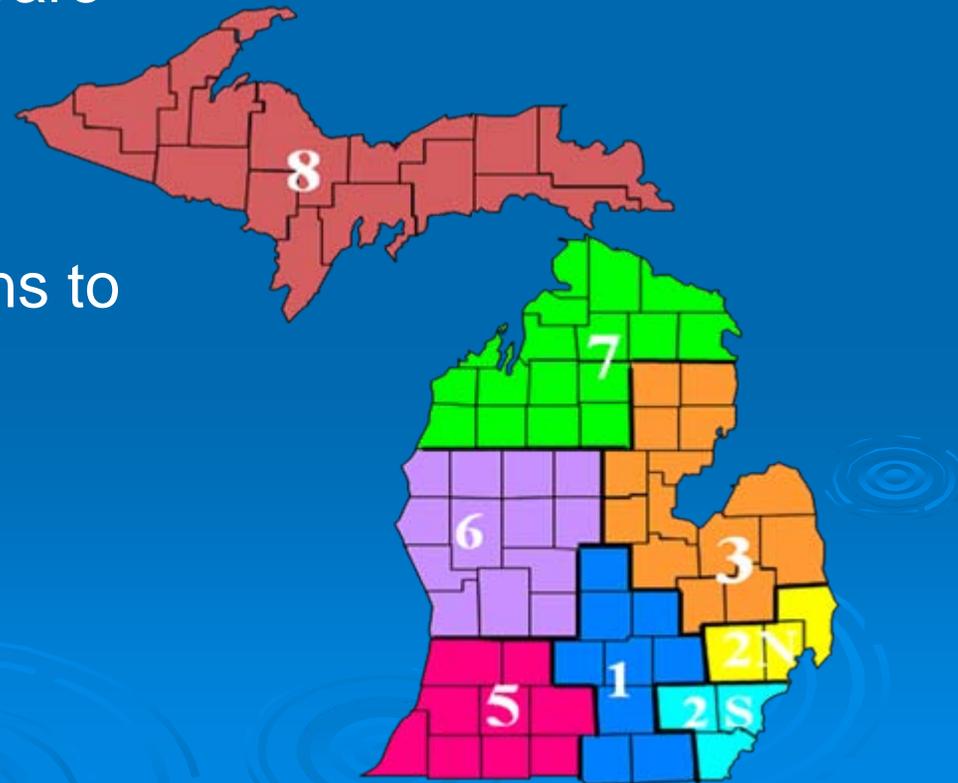
Benefits of a Trauma System

- Better Collection of data
 - State Trauma Registrar/Repository
 - Integrate with EMS Information System (EMSIS)



Benefits of the Trauma System Infrastructure

- Allows for Consistency in Care
- Less Confusion
- Augments our current emergency preparedness plans to respond to the injured patient



Overall goal.....All Inclusive Statewide Trauma System

- Predetermined and Organized response to managing and improving care of severely injured individuals
 - Right Patient, Right Place, Right Time
- Reaches beyond the boundaries of hospital ED's and physicians
- Encompasses **ALL** phases of care, from pre-hospital care through acute care and rehabilitation

Things we needed to keep in mind

- Base implementation on current emergency preparedness regions
 - Provides infrastructure already in place
 - Not expected to be finite
 - Certainly will have crossover with the ultimate goal of synergy
- Alleviate any confusion and Provide consistency for pre-hospital and hospitals across the state
- Formalize processes already in place



Getting the Regions started.....



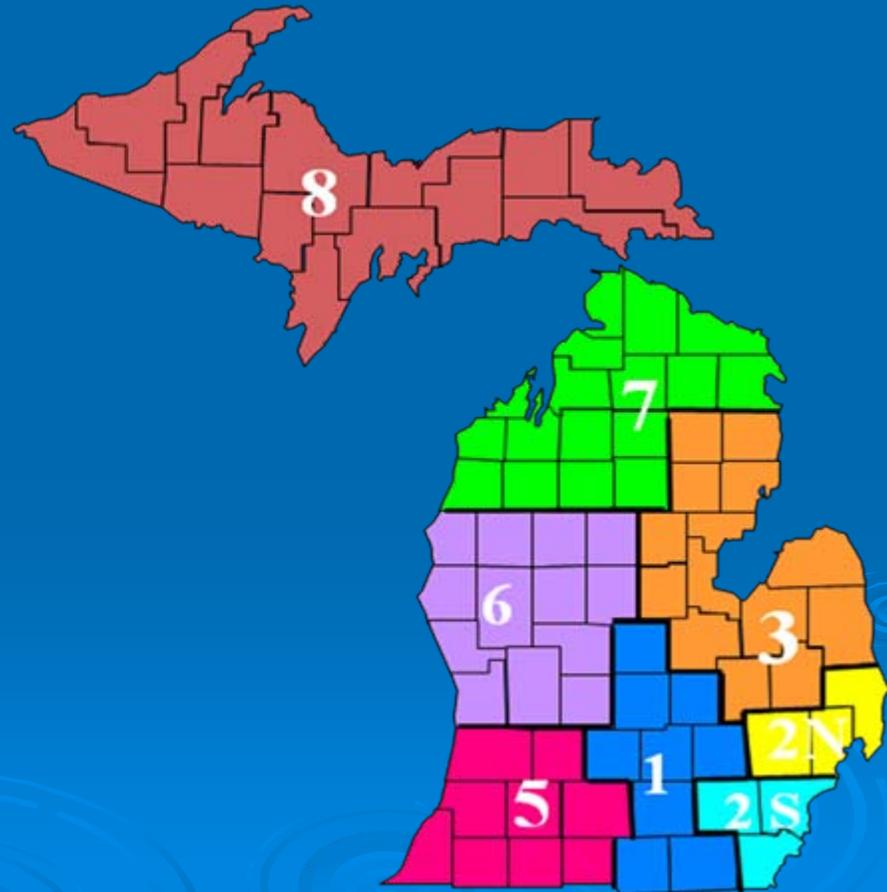
State Trauma Coordinator Role

- Initially worked to get legislation passed
 - (2004)Public Act 580, 581 and 582
 - (2007)Administrative Rules passed
- Provide oversight for the coordination, monitoring and development of activities
 - related to the Statewide
 - Trauma System
- Liaison and Resource to development of Regional Trauma Networks and Plan



Establishment of Regional Trauma Networks (RTN)

- Prescribed by rules.
- All-inclusive system
- Consist of Local MCAs
- Superimposed upon the Eight existing Emergency Preparedness Networks



Establishment of Regional Trauma Networks (RTN)

- A board of the participating MCAs shall administer each RTN
- The Department, with the advice and recommendations of STAC and EMSCC, shall support the establishment and operational activities of the Regional Trauma Network through the commitment of staff resources.

Establishment of Regional Trauma Networks (RTN)

- All MCAs within a region must participate in the Regional Trauma Network.
- Collaborating MCAs Will Apply to MDCH for Approval as Regional Trauma Network

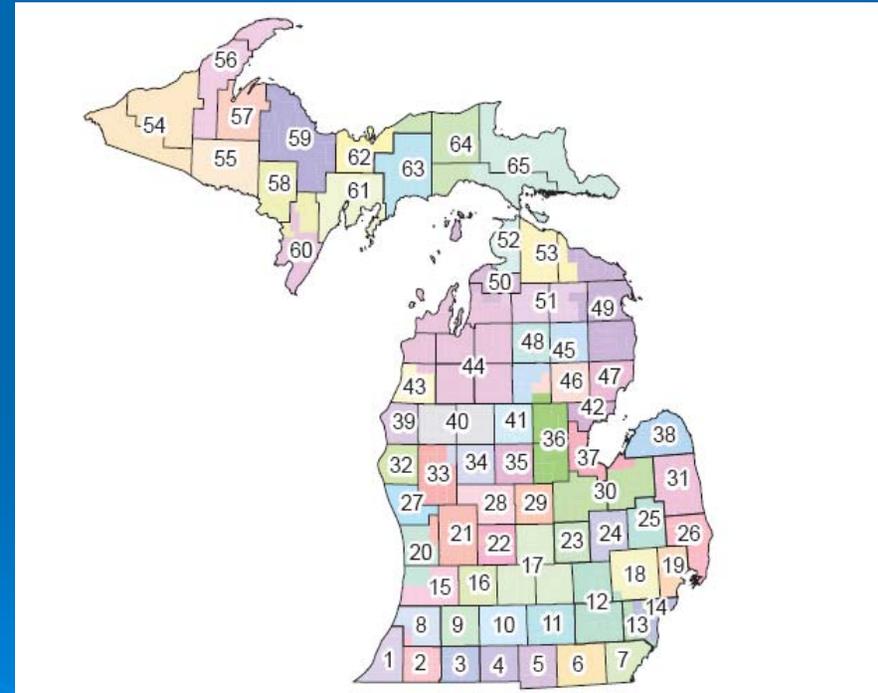


Why the MCA for Trauma System Administration?



Medical Control Authorities

- By Statute, the Michigan Department of Community Health, Crime Victims and EMS Section are responsible for administering and overseeing the EMS system
- MDCH Designates a Medical Control Authority for the purpose of supervising and coordinating an EMS system, as prescribed, adopted and enforced through department-approved protocols for each particular geographic region
 - 65 MCA's in Michigan



Expanding the Role of the MCA

■ Current Role

- Responsible for providing medical direction for the pre-hospital level of care

■ Expanded Role

- Responsible for not only pre-hospital care, but for coordinating activities of the components of an “Inclusive Trauma System”
 - EMS personnel
 - Emergency Department
 - In-patient trauma care providers



Trauma/Emergency Response Organizational Structure



■ Each Region includes:

● Regional Trauma Advisory Council (RTAC)

- Comprised of MCA personnel, EMS personnel, life support agency representative, health care facility representatives, physicians, nurses and consumers
- Provides leadership and direction in matters related to trauma systems development within their region which includes development of a regional trauma plan based on Michigan's Trauma System Plan
- Monitor performance of trauma agencies and healthcare facilities, including, but not limited to the review of trauma deaths and preventable complications
- Develop RTN plan consistent with state trauma plan
- Advisory to RTN



Michigan Trauma System Plan

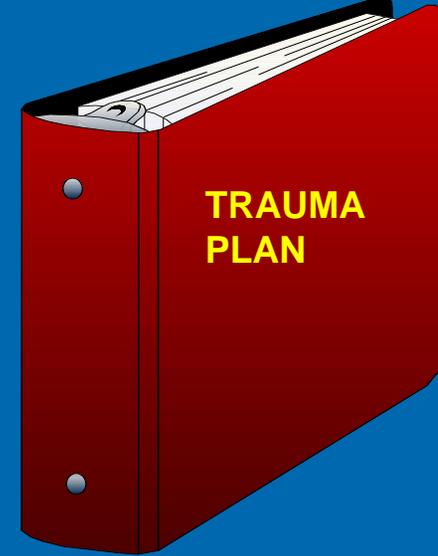


- Includes key components outlined by ACS-COT for an effective state trauma system
- Reflects the concept of an “Inclusive Trauma System” in which every health care provider or facility with resources to care for the injured patient is incorporated

OVERALL GOAL.....

Match each trauma care facility’s (or provider’s) resources to the needs of injured patients so that every patient receives optimal care from the initial recognition of the injury through return to the community

Regional Trauma Plan



■ Key Trauma System Components:

- Leadership
- Public information & prevention
- Human resources
- Communications
- Medical direction
- Trauma diversion policies
- Triage
- Transport
- Trauma care facilities
- Inter-hospital transfers
- Rehabilitation
- Evaluation of patient care and the system

Trauma/Emergency Response Organizational Structure



■ Each Region includes:

● Regional Professional Standards Review Organization (RPRSO)

■ Evaluate system issues for the purpose of improving the quality of trauma care

- Access to trauma system
- Injury prevention
- Triage/Transport
- Interfacility Transfers
- Guideline Compliance
- Review of ALL deaths and major morbidity

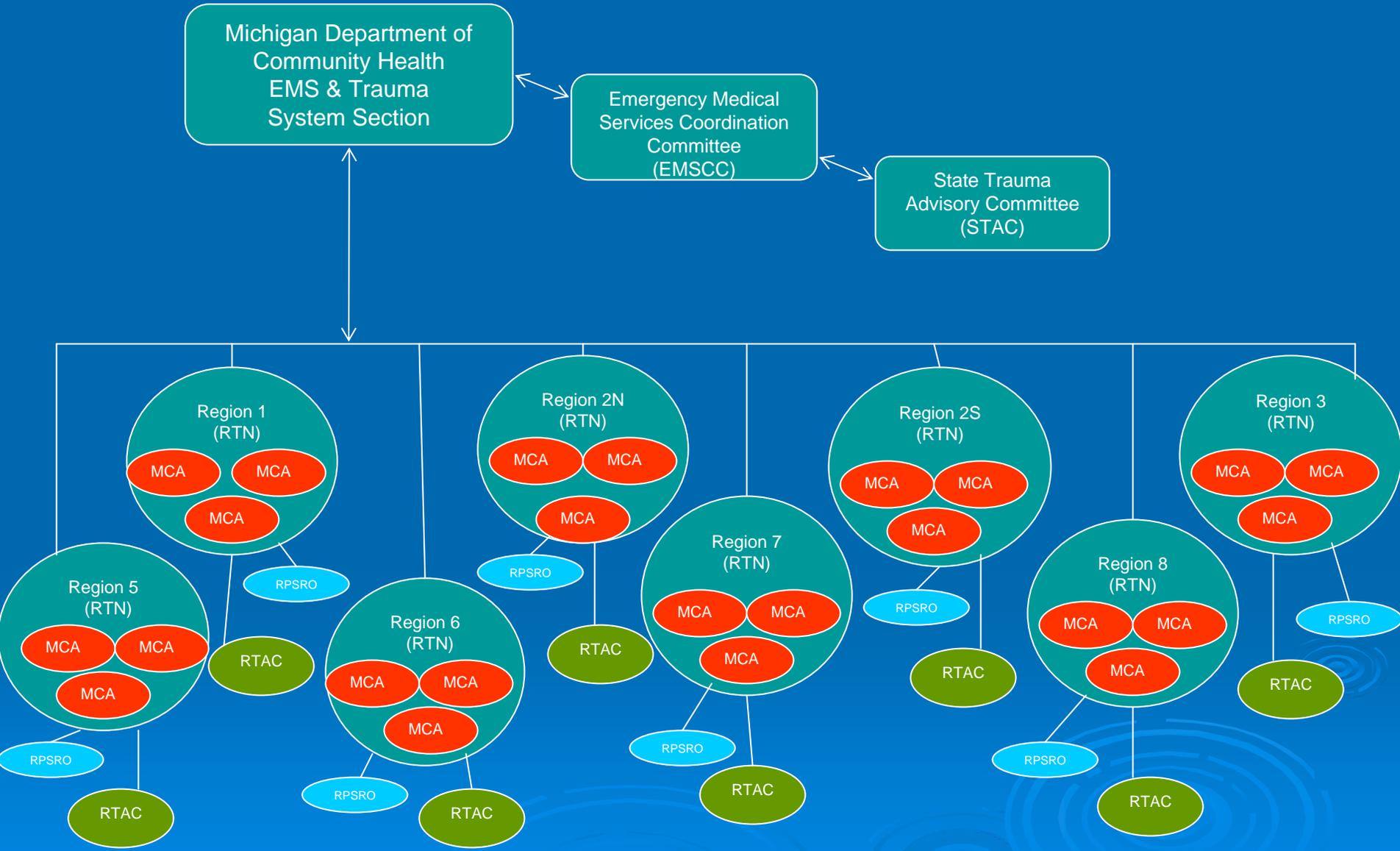


Trauma System Data Collection



- All Definitive Healthcare Facilities and EMS will participate in the state-wide data registry and performance improvement
 - Data registry drives performance improvement and optimal care outcomes
 - Implement systematic measures to monitor stability and processes in the trauma system
 - Assess trauma system competencies and performance
 - Review and develop actions on the system trauma issues

State and Regional Trauma Network Diagram

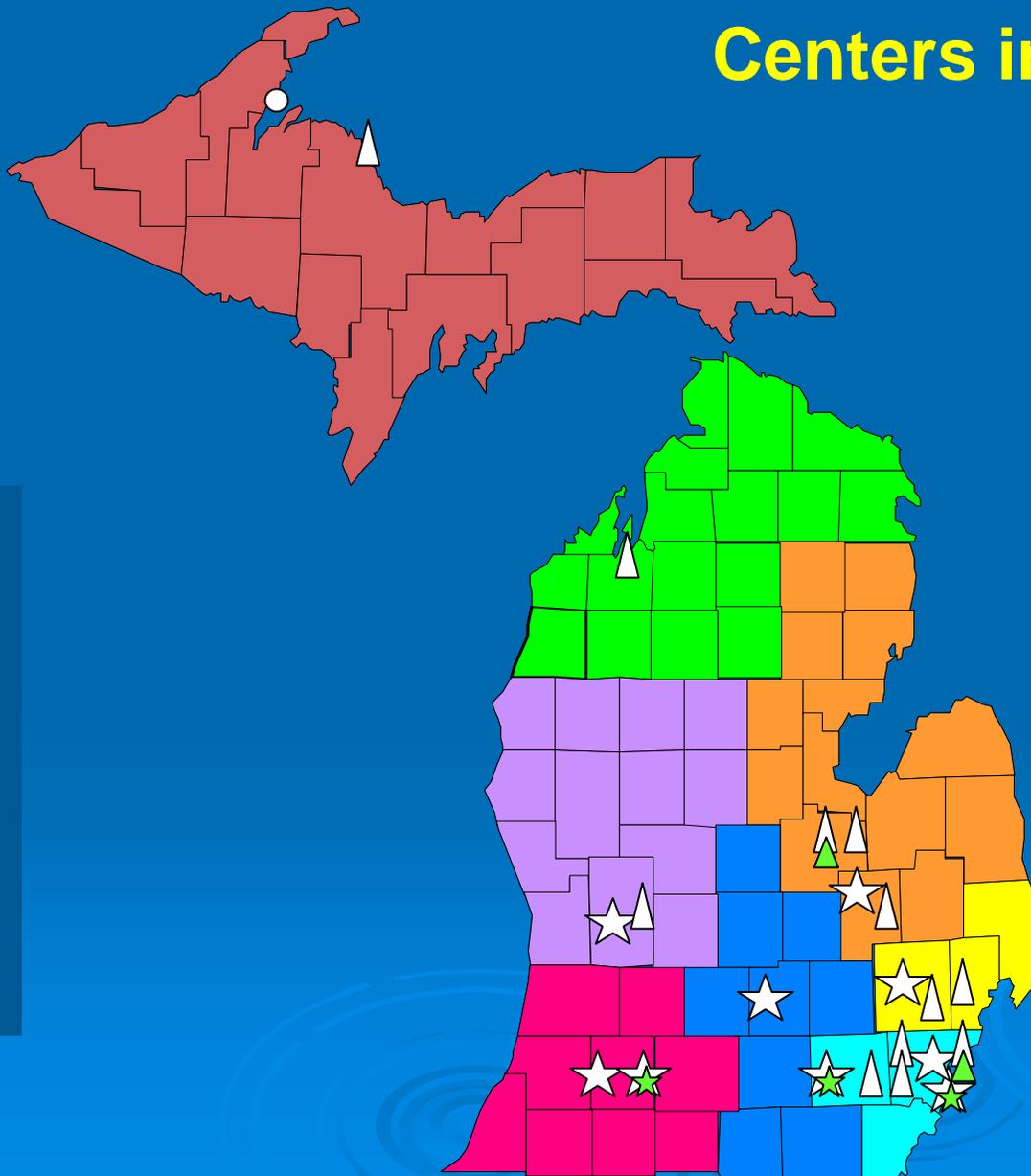


Trauma Centers in Michigan

- ACS Verified
- Currently exist due to the substantial, voluntary efforts of the individual hospitals
- 25 ACS verified Level I, II and III

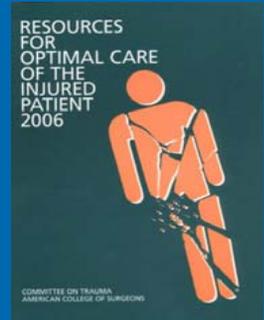


ACS Verified Trauma Centers in Michigan



- Level I = ★
- Level I = (Peds) ★
- Level II = ▲
- Level II = (Peds) ▲
- Level III = ●

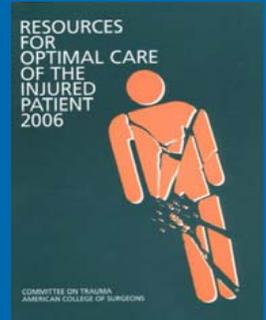
Michigan Trauma Center Designation Plan



- In order for the trauma care facilities in Michigan to be integrated into a network that functions on a continuum so that all injured patients are matched to a facility that meets their needs in a timely manner, the department will designate **ALL** Michigan's definitive care facilities



Michigan Trauma Center Designation Plan



- Level I
 - Regional Trauma Research Facility
- Level II
 - Regional Trauma Center
- Level III
 - Community Trauma Facility
- Level IV
 - Trauma Support Facility

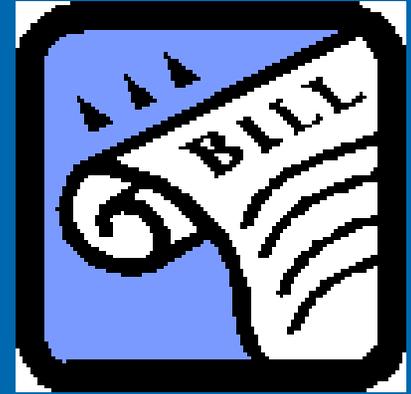


Current Development of the Michigan's Statewide Trauma System

- Specific parts of Admin rules being implemented
- Meeting with Regions
- Trauma Registry/Repository Implementation
- Field Triage Pilot Project

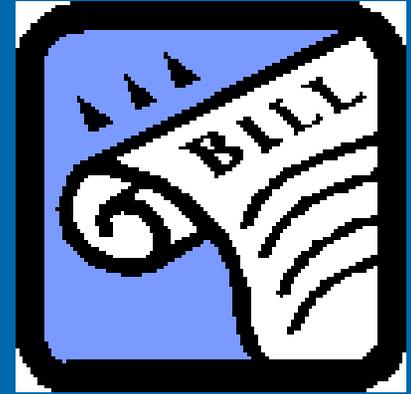


Funding Efforts



- Crime Victims Bill
 - Amend Crime Victims Language
 - Rebalancing Crime Victims Fund
 - Not specifically for Trauma System
 - Designates how funding scheme works for Statewide Trauma System
 - Based on criminal fees
 - Bills introduced
 - Dec 3, 2009- SIB 1002, 1003 & 1004
 - Dec 8, 2009- HIB 5661, 5666 & 5667

Funding Efforts



- Crime Victims Bill
 - Feb 10, 2010
 - House Bills 5661, 5666 & 5667 pass House floor
 - March 17, 2010
 - Senate Appropriations received HIB 5661, 5666 & 5667

Questions/Concerns??

