

STATE OF MICHIGAN
MICHIGAN DEPARTMENT OF CONSUMER & INDUSTRY SERVICES
BUREAU OF HEALTH SERVICES

**REPORT OF THE
MICHIGAN STATEWIDE TRAUMA CARE COMMISSION**



November 2002



STATE OF MICHIGAN

DEPARTMENT OF CONSUMER & INDUSTRY SERVICES
LANSING

JOHN ENGLER
GOVERNOR

NOELLE A. CLARK
DIRECTOR

December 6, 2002

Dear Governor Engler, Members of the Michigan State Legislature and other interested parties:

The Michigan Statewide Trauma Care Commission is pleased to present you with its final report in accordance with Public Act 440 of 2000. The report represents testimony from nine public hearings held throughout the state of Michigan. The perspectives of hospitals, Emergency Medical Services (EMS) providers, fire departments, medical control authorities and consumers were included in the hearings. This report was based on testimony provided in the hearings, from presentations to the Commission, and input from the Commission.

It should be noted that since the tragic events of September 11, 2001, there have been several state and national initiatives positively impacting Michigan trauma care of which the Michigan Statewide Trauma Care Commission may not have been privy to at the time this report was developed. Two initiatives in particular, the State of Michigan Bioterrorism Preparedness Plan and the federal Health Resources and Services Administration (HRSA) Regional Medical Bioterrorism Network plan, may have addressed issues and recommendations in this report. These Michigan preparedness plans, of which trauma care is a component of a comprehensive coordination of state and federal health care services, are a priority for the Engler Administration. The Michigan Statewide Trauma Care Commission's recommendations should be considered within the context of the Michigan preparedness plans.

On behalf of the Commission, we thank you for the opportunity to serve Michigan by examining this critical issue.

Sincerely,

Kathleen M. Wilbur
Michigan Statewide Trauma Care Commission Chair

Contents

- I. Executive Summary
- II. Recommendations
- III. Background
 - a. Description of Trauma
 - b. Levels of Service
 - c. Trauma Centers in Michigan
 - d. Medical Control Authorities
- IV. Status of Michigan's Current Trauma System
- V. Border State Issues
- VI. Public Hearing Comments
- VII. Trauma Care Delivery in Other States
- VIII. Components of an Effective Trauma System
- IX. List of Appointees
- X. References
- XI. Appendices

I. EXECUTIVE SUMMARY

The Statewide Trauma Care Commission was created in the Department of Consumer & Industry Services under Public Act 440 of 2000, which was signed by Governor John Engler on January 9, 2001. The Commission consists of representatives from hospitals, health care purchasers or payers, ambulance service providers, health care providers, the Emergency Medical Services Coordination Committee, the Department of Community Health and the Department of Consumer & Industry Services. The Governor appointed commission members for a term of two years.

The Commission was charged with the following responsibilities:

- Assess the status of trauma care in Michigan;
- Hold public hearings throughout the State to gather public opinion about the status of trauma care in Michigan. The Commission was required to hold at least one public hearing in each of the State's eight health planning areas;
- Obtain information on trauma care systems in other states;
- File a report, including recommendations, by July 1, 2002, with the Governor, the Legislature, the Director of the Department of Consumer & Industry Services, and the Emergency Medical Services Coordination Committee.

Nine public hearings were held between October 22, 2001 and January 16, 2002, with at least one public hearing held in each of the State's eight health-planning areas. Public hearings were held in Detroit, Lansing, Grand Rapids, Flint, Bay City, Kalamazoo, Gaylord, Sault Ste. Marie and Marquette. Those who participated in the hearings included representatives of hospitals, media, physicians, Emergency Medical Services (EMS) providers, fire departments, medical control authorities, and consumers.

Based on testimony at the public hearings, presentations to the Commission, and input from Commission members, a number of issues were identified:

- Lack of a comprehensive statewide system that addresses the delivery of trauma care in Michigan;
- Delays in treatment due to geographic restrictions and inclement weather conditions that limit the ability to treat patients in an expeditious manner as well as lengthy travel times between accident sites and appropriate health care facilities;
- Patients with trauma injuries are taken to facilities that lack the appropriate level of service and are unable to deliver the services needed by the trauma patient;
- Lack of communication among prehospital care providers, emergency physicians, and trauma care providers;
- Lack of continuing education and training opportunities in trauma care for physicians, nurses and emergency medical services personnel;
- Lack of a statewide system to collect pre-hospital and hospital data needed to evaluate the delivery of trauma care and identify opportunities for improvement;
- Absence of formal destination protocols resulting in trauma patients being transferred to hospitals unable to meet the patients' needs;

- Overcrowding in emergency departments resulting in the diversion of patients from one hospital to another;
- Inadequate supply of appropriately qualified emergency medical services personnel;
- Shortage of health care professionals including nurses and radiological technicians;
- Lack of local financial support for emergency medical services;
- Lack of effective coordination among medical control authorities;
- Lack of financial resources for medical control authorities.

Concerns regarding the delivery of trauma care are essentially the same for rural and urban areas. The delivery of trauma care in rural areas is even more difficult because of long transport times, lack of facilities committed to trauma care delivery, and delays in delivering prehospital care because of difficulties reaching trauma patients, particularly in the Upper Peninsula.

Research on injuries at the national and state level shows that a trauma system is likely to reduce greatly the number of deaths and the seriousness of long-term disability from trauma injuries and would ultimately result in cost savings to society.

Injury continues to be a significant public health issue both nationally and in Michigan. Between 1994 and 1998, an average of 5,086 ♦Michigan residents died each year due to injuries and poisonings. Of these deaths, 2,967 (58%) were unintentional; 1,013 (20%) were suicides; 857 (17%) were homicides; and the remainders were of undetermined intent or resulting from adverse effects of healthcare. Unintentional motor vehicle traffic crashes accounted for the highest death rate among the specific mechanism/intent categories. In the same time period, 1994 to 1998, there were an average of 601 firearm homicides each year involving Michigan residents and transportation-related incidents were the leading cause of work-related deaths.

An analysis of the medical costs of injury in Michigan for 1997-1998♦, by the Michigan Department of Community Health revealed that the overall annual medical cost of injury was almost \$3.6 billion. When work loss and quality of life costs were considered, the overall cost of injuries was a \$54.9 billion problem.

Since 1991, many voluntary, non-profit organizations have organized and coordinated Michigan's trauma care providers to identify issues; collect data; conduct research; monitor resources and regional systems; develop consensus on statewide system needs, facility verification, prehospital and transfer protocols, data collection systems and training; secure member and grant support; and, organize the voluntary testing of trauma systems at the regional level.

♦ Injury Mortality in Michigan 1994-1998, October, 2001, Michigan Department of Community Health

♦ The Medical Costs of Injury in Michigan, an analysis based on Michigan injury data from 1997 and 1998, December 2001, Michigan Department of Community Health

In March 2002, the Department of Consumer & Industry Services completed a survey that focused on state and local efforts to coordinate trauma care delivery¹. Completing the survey helped identify deficiencies in the delivery of trauma care to Michigan's residents and emphasized the need for a well-planned trauma care delivery system. Significant observations include the lack of legislative authority to design a trauma care system including the establishment of trauma center standards, development of a trauma center verification process, designation of trauma centers, and establishment of a statewide trauma registry. The survey also noted the lack of funding to support a statewide trauma system. The significant role of the medical control authorities in providing oversight of the delivery of care to trauma patients in Michigan was also noted in the survey.

The evidence compiled from testimony at the public hearings; discussion with non-profit organizations such as the Michigan Trauma Coalition; information on other states trauma systems; as well as discussion among Commission members, reinforced the need for a statewide coordinated trauma care system. The Commission concluded that the current system unquestionably lacks the essential components of an effective trauma system: leadership, system management, finance, human resources, pre-hospital care, as well as education and training.

¹ Survey developed and conducted by the Bureau of Maternal Child Health, Health Resources and Services Administration.

II. RECOMMENDATIONS

The Commission determined that the issues related to trauma care delivery in Michigan could be categorized as follows:

- Issues involving oversight, administration, coordination, assessment, and evaluation of trauma care delivery.
- Issues related to the lack of an adequate infrastructure to support expansion of the trauma care system, i.e. lack of trauma facilities in certain areas of the state and lack of appropriate transportation vehicles for the state's geography and inclement weather.

Recognizing that addressing deficiencies in the infrastructure would require significantly more research, the Commission elected to not include specific recommendations regarding the changes that would need to be made in order to enhance the infrastructure.

Having considered public hearing testimony, information on trauma systems in other states, as well as input from Commission members, the Commission made the following recommendations:

- Establish the Division of Emergency Medical Services in the Department of Consumer & Industry Services as the lead agency for EMS and trauma activities, creating a formal partnership between the current EMS system and trauma providers in the State of Michigan.
- Implement a comprehensive statewide trauma care system that includes leadership of the Department of Consumer & Industry Services, a steady source of funding, and extensive planning for implementation and maintenance of such a system.

This recommendation requires legislation to expand the current Emergency Medical Services Coordination Committee to include representatives of trauma specialties. Membership could include trauma surgeons, trauma nurses, and trauma coordinators. The committee would have two components, one for prehospital issues and another to focus on trauma issues. The committee, in conjunction with the Department of Consumer & Industry Services, would have the statutory authority to plan and implement a statewide trauma care delivery system. The trauma component would be responsible for the development, approval, and enforcement of protocol.

- Utilize the "Model Trauma Care Plan,"² a U.S. Department of Health and Human Services publication, as the template to develop and implement a trauma care delivery system in Michigan, as described in Section IV.

² A Model Trauma Care System Plan is comprised of Administrative, Operational and Clinical Components.

Administrative Components

Leadership
System Development
Legislation

This model plan supports the development of a system tailored to meet the unique needs of an individual state. The plan also identifies the essential components of a system that is designed to meet the needs of all injured patients who require care in an acute care facility. Implementation of a trauma care system that includes these components must incorporate all levels of providers as well as the unique aspects of the setting in which the components are established.

- Establish and implement a designation system for hospitals in Michigan, based on or similar to, the American College of Surgeons' criteria for Level I, Level II, and Level III trauma centers.

Utilize the American College of Surgeons Committee on Trauma (ACS/COT) to verify Level I and Level II trauma centers and develop state guidelines similar to or based on the American College of Surgeons' guidelines to verify Level III trauma centers.

- Establish a statewide trauma registry for the collection and collation of demographic and clinical data that spans from pre-hospital care through rehabilitation, from all designated Michigan hospitals.
- Coordinate trauma activities related to injury prevention and education between the lead agency and the Department of Community Health.
- Consider increasing the vehicle registration fees or driver license fees as sources of money to fund the trauma care system.

As funding sources, these fees are fairly stable and the amount of money collected does not fluctuate drastically from year to year. In fiscal year 2001, the total license plate transactions for passenger, commercial, trailer and motorcycles were 9,566,080, and the total revenue generated from these transactions was \$772,982,550.

Finances

Operational and Clinical Components

Injury prevention and control

Human Resources

Work force resources

Education

Prehospital Care

Emergency medical services management agency

Ambulance and nontransporting guidelines

Communications system

Emergency/disaster preparedness plan

Definitive Care facilities

Trauma care facilities

Interfacility transfer

Medical rehabilitation

Information Systems

Evaluation

Research

Assuring that resources will support a comprehensive statewide trauma system requires a commitment to provide adequate funding. The Trauma Commission recommends that when revenues allow for the establishment of new programs, funding sufficient to support the cost of establishing and maintaining a comprehensive trauma care system be made available.

DISCUSSION:

The Commission identified the following four major categories as being essential in developing, implementing and maintaining an effective statewide trauma care system: leadership, system development/management, trauma center designation/verification, and trauma system data collection/registry.

Leadership: The system requires administrative and clinical leadership, authority, planning and development, legislation and finances. As recommended by the Commission, the Division of Emergency Medical Services within the Department of Consumer & Industry would provide administrative direction of the statewide trauma system. Additional personnel would be required to support the administration of the trauma system. The advisory role of the current Emergency Medical Services Coordination Committee would be expanded to include trauma care as well as pre-hospital care.

System Development/Management

The effectiveness of a trauma care system depends on its integration within the emergency medical services (EMS) system and other relevant subcomponents. Planning for trauma system implementation requires consideration of the additional responsibilities the trauma care system will place on the existing EMS components such as local medical control authorities, pre-hospital agencies and personnel, communication networks, referral hospitals and receiving hospitals.

Essential to the development and coordination of an effective statewide trauma care system in Michigan is the enhancement of the role of the medical control authorities. Funding will be needed to assist medical control authorities with the implementation and maintenance of the trauma system, including development of destination protocols, establishment of interfacility transfer agreements, data collection for the statewide trauma registry, and regionalization of medical control functions where applicable.

Trauma Center Designation/Verification

Facilities should be integrated into a system or network of definitive care facilities in order to provide a continuum of care for all injured patients that allows for the best and most timely match of a facility's resources with a patient's needs. Identifying and verifying the level of trauma care available in health care facilities in Michigan is essential to creating an integrated system. The American College of Surgeons Committee on Trauma (ACS/COT) has had extensive experience in evaluating individual trauma centers through its verification program. This program was created out of the need for an instrument to objectively evaluate the various components of a trauma system. ACS/COT has developed standards for use in verifying a facility's capacity to provide

trauma care. Currently facilities can be verified as a Level I, II, III, or IV trauma facility based upon the resources the facility has available.

The Commission recommends that the state trauma care system include facilities verified at Levels I, II, and III. Level I and II trauma facilities would continue to be verified by the American College of Surgeons. The Level I and Level II facilities would be responsible for the cost of the ACS verification process. The Division of Emergency Medical Services would be responsible for implementing a process for verifying Level III trauma facilities. All facilities verified at Level I, II, and III would be designated as approved trauma centers in Michigan by the Division of Emergency Medical Services.

Trauma System Data Collection/Trauma Registry

The collection of data that can be used to evaluate the effectiveness and efficiency of the State's trauma system is critical to reducing the incidence of trauma and improving the delivery of trauma care in Michigan. The Commission acknowledges the importance of collecting information from the pre-hospital system as well as from the designated trauma centers and recommends that the Division of Emergency Medical Services provide for consolidation of data collection from the two systems.

The trauma system has three components that work together to provide patients with the required care including pre-hospital providers, emergency departments, and trauma providers. It is important that all providers in the trauma system are involved in the collection of trauma data. Designated trauma facilities would be required to participate in the collection of data regarding the delivery of care in the hospital setting. Pre-hospital providers would be required to participate in data collection efforts related to the care provided by EMS personnel. The Division of Emergency Medical Services would be responsible for collating, analyzing and distributing aggregate data regarding trauma delivery across the state.

III. BACKGROUND

Trauma kills more people between the ages of one and 44 than any other disease or illness. Nearly 100,000 people of all ages in the United States die from trauma each year, roughly half of them in automobile crashes, with children and young adults experiencing the greatest impact of trauma. According to the National Center for Health Statistics, trauma (unintentional injuries and homicides) causes 43% of all deaths from ages one to four, 48% of all deaths in ages five to fourteen, and 62% of all deaths in ages fifteen to twenty-five.

Trauma injuries most often occur as the result of falls, traffic collisions, and violent assaults such as beatings, shootings, and stabbings. Trauma injuries also result from accidents in the home and work place.

In the majority of trauma injury cases, patients who come to a hospital's emergency department are treated by emergency physicians and discharged without requiring surgery or care by a trauma service. However, patients with serious injuries require stabilization within the "Golden Hour," as it is called, after the injury occurred, to improve the chances of survival and to minimize disability. If the patient arrives at a facility that does not have the necessary equipment and medical personnel, transportation of the patient to an appropriate facility for care by the appropriate medical personnel is needed within that "Golden Hour."

A. Definition Of Trauma

The American Trauma Society defines trauma as an injury caused by a physical force. More often, trauma is the consequence of motor vehicle crashes, falls, drowning, gunshots, fires and burns, stabbings, or blunt assaults.

The American College of Surgeons Committee on Trauma[♦] explains trauma as a bodily injury that may encompass a large range of severity. The current view of trauma, according to the Committee, has focused primarily on those injuries severe enough to cause death or disability. This Committee has always believed that trauma is a surgical disease that demands surgical leadership in planning, development, and maintenance of a trauma care system.

Because Michigan does not have a formal statewide trauma system, there is no established definition of trauma in State law or regulations.

The Michigan Trauma Coalition^δ, a voluntary nonprofit organization, defines trauma as including internal injuries to organs, head and spinal injuries, and other serious injuries

[♦] The American College of Surgeons (ACS) was founded in 1913 on the basic principles of improving the care of the surgical patient and the education of surgeons. The ACS Committee on Trauma (ACS COT) is the oldest standing committee of the college. Established in 1922 by Charles L. Scudder, MD, FACS, this committee focuses on improving care of the injured patient, always believing that trauma is a surgical disease demanding surgical leadership.

^δ Since 1991, the Michigan Trauma Coalition (MTC) has provided a forum for public and private agencies interested in trauma system development to work together.

that can result in death, loss of a limb, or permanent disability if a person does not receive appropriate care within one hour.

The Michigan Trauma Coalition categorizes an injury as a trauma injury if a person has sustained multiple injuries that will lead to death or disability, such as brain damage or loss of a limb, if appropriate medical care is not provided within the first hour of the accident. Trauma, however, is largely predictable and preventable.

The Coalition estimates that this type of injury accounts for 5% to 10% of the injuries seen in hospital emergency departments, ranks nationally as one of the top three causes of premature death for all ages, and is the number one killer of children and young adults in the State.

Health care costs, as the result of trauma injuries, in addition to the loss of productivity, account for over a billion dollars in losses annually.

B. Trauma Care System

Historically, trauma centers were inner city county hospitals that had de facto trauma center status; however, in the 1970s, an evolution occurred with the development of trauma systems. Although the trauma center is a key component of acute care for the severely injured, a trauma system encompasses all phases of care, from pre-hospital care through acute care and rehabilitation. The term “inclusive trauma system” is used for this all-encompassing approach, as opposed to the term “exclusive system,” which focuses only on the major trauma patient in the major trauma center cared for by the trauma team. An inclusive system guarantees that all injured patients will receive optimal care, given available resources, even if they do not require the resources of a specialized trauma center. The involvement of all acute care facilities in trauma patient care education programs and basic data acquisition will aid in attaining this goal of optimal care for all injured patients.

The American College of Surgeons Committee on Trauma notes that an ideal trauma system would include all the elements to provide optimal trauma care, such as prevention, access, pre-hospital care, acute hospital care, rehabilitation, and research activities. While encouraging the development of trauma systems and trauma centers, the Committee acknowledges that there are a number of factors, including financial considerations, that affect a system’s ability to provide optimal care of injured persons.

The Committee, however, still advocates that formal categorization of trauma care facilities is essential for the development, implementation, and improvement of medical systems to provide this care. Additionally, verification of a hospital’s commitment and capability to provide trauma care is an early step in the development of a regional trauma system. The Committee has identified the following service levels of trauma centers that are based on a number of factors, including resources and location.

Level I: A Level I trauma center is a lead hospital that is designated as a regional resource leader within a service area and generally serves large cities or population-dense areas. An institution at this level must be able to manage large numbers of injured patients with a certain severity level of injury. In addition, a

Level I center is expected to conduct trauma research and be a leader in education, prevention, and outreach activities.

Level II: A Level II trauma center provides comprehensive trauma care in two environments: (1) a population-dense area where this facility supplements the clinical activity and expertise of a Level I center; and (2) a less population-dense area where the facility serves as the lead trauma facility for a geographic area when a Level I institution is not geographically close. A Level II center serving a less populated area also must have an outreach program that involves smaller institutions in its service area.

Level III: A Level III trauma center must have continuous general surgical coverage, must be capable of managing the initial care of the majority of injured, and must have transfer agreements with other trauma hospitals for patients that exceed its patient care resources. A Level III trauma center must be involved in prevention and have an active outreach program for its referring communities. In addition, the center must conduct education programs for nurses, physicians, and allied health care workers involved with trauma.

As of the date of this report, Michigan has ten Level I and four Level II trauma centers verified by the American College of Surgeons. These facilities are verified every three years. The level of service is subject to change depending on a hospital's ability to continue to participate at the designated level of service.

Level I: These facilities are regional resource trauma centers that are able to provide leadership and total care for every aspect of injury from prevention through rehabilitation. The following facilities are verified by the American College of Surgeons as Level I trauma centers:

- Borgess Medical Center, in Kalamazoo
- Bronson Methodist Hospital, in Kalamazoo
- Children's Hospital of Michigan, in Detroit
- Detroit Receiving Hospital, in Detroit
- Henry Ford Hospital, in Detroit
- Hurley Medical Center, in Flint.
- Sparrow Hospital, in Lansing
- Spectrum Health-Butterworth Campus, in Grand Rapids
- University of Michigan Hospitals, in Ann Arbor, Adult & Pediatric
- William Beaumont Hospital, in Royal Oak

Level II: These hospitals provide definitive trauma care regardless of the severity of injury, but do not have trauma research as a primary objective. The following facilities are verified by the American College of Surgeons as Level II trauma centers:

- St. Joseph Mercy Health System, in Ann Arbor
- McLaren Regional Center, in Flint
- St. Mary's Mercy Medical Center, in Grand Rapids
- Genesys Regional Medical Center, in Grand Blanc

Level III: These hospitals provide assessment, resuscitation, emergency surgery, and stabilization while arranging for transfer to a Level I or II facility that can provide further definitive care.

- Holland Community Hospital, in Holland (in-state review system)

Holland Community Hospital is in the Southwestern part of the state. Evaluators from outside the region were used to verify this facility. The criteria used in verifying this facility were similar to the American College of Surgeons' Level III Trauma Center guidelines.

A map illustrating Michigan's verified Level I and Level II Trauma Centers is included as Appendix A.

C. Medical Control Authority

The development and coordination of an effective statewide trauma care system in Michigan would require involvement of the 65 medical control authorities currently responsible for providing medical direction for the pre-hospital level of care. With implementation of a statewide trauma system, the role of the medical control authority would expand to include responsibility for coordinating activities of the three components of the trauma system; EMS personnel, emergency departments, and in-patient trauma care providers.

Background Information

Under the Public Health Code, the Department of Consumer & Industry Services is required to designate a medical control authority as the medical control for emergency medical services for a particular geographic region. In designating a medical control authority, the Department must develop recommendations for territorial boundaries that are designed to assure that reasonable emergency medical services capacity exist within the boundaries based on estimated demand for emergency medical services.

A medical control authority is designated to provide medical oversight, within an emergency medical services system, including the supervision and coordination of emergency medical services as prescribed, adopted, and enforced through department-approved protocols.

The Department must designate a medical control authority for each county or part of a county, except that it may designate a medical control authority to cover two or more counties if the Department and affected authorities determine that the available resources would be better utilized with a multiple authority. In designating a medical control authority, the Department must assure that there is a reasonable relationship between the existing emergency medical services capacity in the geographical area to be served by the authority and the estimated demand for emergency medical services in that area. A medical control authority must be administered by the participating hospitals.

The Code requires that each licensed hospital and freestanding surgical outpatient facility that operates a service for treating emergency patients 24 hours a day, seven days a week and meets standards established by medical control authority protocols be given the opportunity to participate in the ongoing planning and development activities of the local medical control authority. Hospitals and freestanding surgical outpatient facilities must adhere to protocols for providing services to a patient before a patient's care is transferred to hospital personnel to the extent that those protocols apply to a hospital or freestanding surgical outpatient facility.

Licensed life support agencies and emergency medical services personnel are accountable to the medical control authority in the provision of emergency medical services, as defined in protocols developed by the authority and approved by the Department.

Participating hospitals are required to appoint an advisory body for the medical control authority that includes, at a minimum, a representative of each type of life support agency

and each type of emergency medical services personnel functioning within the authority's boundaries. Not more than 10% of the advisory body's membership can be employees of the medical director, who is appointed by a medical control authority, or an entity substantially owned or controlled by the medical director.

The medical director must be a physician who is board certified in emergency medicine, or who practices emergency medicine and is certified in advanced cardiac life support and advanced trauma life support, and who meets other standards established in Department rules. The medical director is responsible for medical oversight for the emergency medical services system served by the medical control authority.

The local medical control authority must establish written protocols for the practice of life support agencies (an ambulance operation, nontransport prehospital life support operation, aircraft transport operation, or medical first response service) and licensed emergency medical services personnel within its region. The protocols must be developed and approved in accordance with Departmental procedures and include, among other specified items, the acts, tasks, or functions that may be performed by each type of emergency medical services personnel, and medical protocols to ensure the appropriate dispatching of a life support agency based on medical need and the capability of the emergency medical services system.

Medical Control Authorities in Michigan

Currently, Michigan is divided into eight health-planning areas, in which are located 65 medical control authorities. The following is a listing of the health planning areas and number of medical control authorities in each area:

- Area 1 (Southeast) – 7 authorities
- Area 2 (South Central) – 4 authorities
- Area 3 (Southwest) – 8 authorities
- Area 4 (West Michigan) – 11 authorities
- Area 5 (Flint Region) – 3 authorities

- Area 6 (East Central) – 12 authorities
- Area 7 (Northern Lower Michigan) – 8 authorities
- Area 8 (the Upper Peninsula) – 12 authorities

Appendix B illustrates the location of the 65 Medical Control Authorities in Michigan.

IV. STATUS OF MICHIGAN'S CURRENT TRAUMA SYSTEM

Testimony during one of the Trauma Commission's public hearings described access to trauma care in Michigan as follows:

“So far the day had been a typical day in the local, rural Emergency Room; a few people complaining of abdominal pain, people whom fell, and people who just don't feel good. At lunchtime, the ambulance pagers go off, announcing a Personal Injury accident. The nurses listen to the address. They realize that in this particular section of the county it will be at least an hour before the ambulance can get to the hospital on good roads. Only today it is snowing and the roads are icy. Now the pagers are stating that the person's injuries are extensive. The “Golden Hour” has elapsed before the person has ever received any hospital care.”

This is an all too real scenario in rural areas of Michigan. Michigan is one of five states that do not have an organized, statewide trauma system for the care of trauma patients. Currently, Michigan has a total of 14 American College of Surgeons (ACS) verified Level I and Level II trauma centers. All of these trauma centers are located in the southern portion of the state. Michigan does not have a single trauma center in the Upper Peninsula or in the northern Lower Peninsula. In addition there are no air ambulance services based in the Upper Peninsula. Appendix C identifies the current location of all air ambulance services licensed in Michigan.

The current trauma centers exist due to the efforts of the individual hospitals. The hospitals are totally responsible for the operation and maintenance of the trauma centers. The demands on and the needs of a Level I or Level II trauma center are great and the center requires enormous resources and a minimum population density that can support it.

Conceptually, effective trauma systems must have a lead hospital. These lead hospitals should be the highest level available within the system. In urban centers, Level I and/or Level II trauma centers will serve as the lead hospitals. In a rural area or where the population density is low, Level II or Level III facilities may assume the role.

In most trauma systems, a combination of different levels of designated trauma centers will co-exist with other acute care facilities. The trauma care system must establish trauma standards. Historically, these standards have been based on the guidelines established by the American College of Surgeons Committee on Trauma (ACS/COT). The ranking of facilities is based on resource depth rather than quality of medical care. The commitment to quality care is expected to be the same regardless of resources.

In a large number of states, responsibility for development and operation of an organized trauma care system rests within a state-level Division of Emergency Medical Services. The Emergency Medical Services Division of the Michigan Department of Public Health had the legislative authority under the provisions of the Michigan Public Health Code,

Part 209 of the Public Acts of 1978, as amended, to administer, fund, and regulate a statewide pre-hospital emergency medical services program in the state. The EMS legislation, however, did not provide adequate authority to plan, coordinate, fund, and monitor a statewide trauma care system.

Michigan's Emergency Medical Services Coordination Committee (EMSCC) was created in the early 1990s, under Public Act No. 179 of 1990, to advise the state in its regulation of Michigan's pre-hospital emergency medical services. The EMSCC has assisted the EMS division in its oversight of local medical control authorities, addressing local medical control issues, and in the development of state rules and regulations pertaining to pre-hospital EMS issues.

The Emergency Medical Services Division was transferred to the Michigan Department of Consumer & Industry Services in March 1998. In December 1999, the Department of Consumer & Industry Services was reorganized, resulting in changes in the EMS program. The EMS Division is now the EMS Section in the Bureau of Health Systems and is responsible for life support agency and vehicle licensure, medical control, communications, EMS data, and the EMS for Children grant. The Bureau of Health Services is responsible for the licensure and regulation of EMS personnel. In addition to these two separate entities of the Michigan Department of Consumer & Industry Services, state-level EMS Injury Prevention activities are also occurring in the Michigan Department of Community Health, and the Michigan Department of State Police's Office of Highway Safety Planning.

Although many individual components of an effective trauma system exist in Michigan, until now there had been no studies or assessments done by the State regarding the status of trauma care in Michigan.

V. BORDER STATE ISSUES

Limited information regarding the impact of border state issues on the delivery of trauma relationship was available to the Commission. Based on the lack of discussion during the public hearings, there do not appear to be significant issues with states contiguous to Michigan.

The State of Wisconsin borders the western portion of the Upper Peninsula and Canada borders the northeastern corner of the Upper Peninsula at Sault Ste. Marie. There are no Level I or Level II trauma centers in the near vicinity of either of those areas.

The Southwest corner of the State is bordered by the State of Indiana and the Southeast corner is bordered by the State of Ohio. There are no verified trauma centers close to the border in Indiana. In Ohio, close to Michigan's border, there is one verified trauma center in the Toledo area.

The Commission found that trauma resources in communities located adjacent to the border of this state and another state are limited and concluded that this issue would have little impact on its recommendations.

Cooperative agreements between Michigan and border states that allow Michigan patients to be transported to appropriate trauma institutions that are in communities that border Michigan should be encouraged. Agreements should also allow out of state patients to be transported to trauma facilities in Michigan communities that border other states. Destination protocols should describe how Michigan's EMS system, including the pre-hospital and trauma care components, interacts with states that are contiguous to Michigan.

VI. PUBLIC HEARINGS

Public Act 440 of 2000, which created the statewide Trauma Care Commission in the Department of Consumer & Industry Services, required the Commission to assess the status of and gather public opinion about the status of trauma care in Michigan. The members of the Commission were appointed by the Governor to serve a 2-year term. The members represent health professionals, hospitals, health care purchasers or payers, ambulance service providers, the Emergency Medical Services Coordination Committee and the Department of Community Health.

Between October 22, 2001 and January 16, 2002, the commission held nine public hearings in Detroit, Lansing, Grand Rapids, Flint, Kalamazoo, Bay City, Gaylord, Sault Ste. Marie and Marquette to gather public opinion regarding the delivery of trauma care in Michigan. As a result of the public hearings testimony, the Commission identified significant issues and recommendations related to trauma care. Individuals testifying at the hearings also raised issues related to pre-hospital care, a vital part of the emergency medical care system. From the testimony, it was evident that trauma care and pre-hospital care are an integral part of the total EMS system. Problems associated with trauma care delivery cannot be resolved without also addressing problems related to pre-hospital care.

The following statements are based on public testimony provided by individuals from both urban and rural areas across the State of Michigan.

- Lack of adequate transportation, supported by examples of instances where there were no ambulances or crews available for transfers, delayed response times, and lengthy transport times;
- Medical control authorities are charged with supervision of EMS systems across the State. However, this is an unfunded legislative mandate with responsibility for the system delegated to hospitals and no financial support is provided by the public sector;
- Lack of communication between pre-hospital care providers and the emergency departments;
- Lack of providers for ambulance services;
- Lack of local financial support;
- Problems with inter-facility transfers due to weather conditions, long distances between hospitals, not enough volume in rural areas to support advanced cardiac life support services, prolonged transfer times, and lack of helicopter service;
- Ambulance services staffed mostly by volunteers. Volunteers have regular paying jobs and some may not be able to leave their regular place of employment to take an ambulance call;

- Shortage of services/health care personnel including nurses and radiological technicians, with the shortage of nurses particularly significant in the Southeast region of the State;
- Limited resources for advanced intervention, admission and care of trauma patients;
- Limited educational opportunities in trauma care delivery for nurses and emergency medical services personnel;
- Insufficient data to evaluate the delivery of trauma care and identify opportunities for improvement;
- Lack of effective coordination of trauma services in Southeast Michigan;
- The “On Diversion” problem, which occurs when patients are diverted to another emergency department because of overcrowding.

Testimony provided during the hearings also pointed out the unique problems associated with trauma care delivery in rural areas of Michigan. The population in rural areas is spread over large areas, making local access to needed services difficult to provide. Furthermore, Michigan’s winter weather can contribute to geographic isolation by causing roadways to be impassable and travel to be dangerous.

The bedrock of the rural EMS system has been the commitment of volunteers who compose two-thirds of the labor pool in that setting. A large portion of the EMS volunteer pool is nearing retirement age and a low number of new volunteers are entering the system. Because so many EMS personnel are volunteers, finding time to conduct training is difficult, and service coverage can be erratic at times.

Individuals offering testimony during the public hearings also provided suggestions as to how the system could be improved. The following recommendations, offered during the public hearings, have been categorized based on the applicable system component that would be affected:

Leadership and System Development:

- Establish a statewide trauma system.
- Designate a lead agency at the State level with authority to provide medical oversight and coordination of trauma issues. Ideally, that agency would have responsibility for both EMS and trauma activities.
- Appoint a State medical director to provide medical leadership to Michigan’s medical control authorities in areas of protocol development and trauma system development and management.
- Develop a statewide trauma system to foster the strengths of existing trauma care education programs, including continuing education programs for physicians and nurses and graduate medical education residency programs in

emergency medicine and general surgery. Educational grants and research assistance to these programs should be an element of a statewide trauma system.

- Organize a statewide trauma system to ensure that people receive optimum care when they are in need of trauma care.
- Develop criteria to provide a response to patient diversion that occurs when hospital emergency departments are overcrowded.
- Establish a trauma center in the Upper Peninsula.
- Recognize that too much routine care is rendered in emergency departments because of a lack of urgent care facilities.
- Incorporate mental health care services into the statewide trauma system.
- Provide a funding support mechanism for Michigan's network of medical control authorities, which provide the current backbone of the EMS and trauma system.
- Enhance existing EMS systems and develop a statewide trauma system so Michigan will have an improved infrastructure that can be used to assure improved disaster preparedness.
- Give serious attention to domestic preparedness. Hospitals throughout the State are not yet prepared and are not well equipped to deal with the unique demands of acts of terrorism, including high patient volumes and specific decontamination issues that might arise. Proper education and equipment for EMS workers, law enforcement officers, and hospital-based personnel will be a critical component in achieving the expertise that is necessary to respond should the need arise.
- Provide compensation to trauma patients who suffer injury as a result of their treatment. Patients should be compensated in a manner that is similar to workmen's compensation.

Legislation

- Enact legislation that authorizes a trauma system, which has the responsibility and authority to enact and enforce trauma system policy. If Michigan expects to develop a quality trauma system, medical control authorities will require significant political and financial support to take on the oversight of this substantial increase in responsibility.
- Revise Coordination of Benefits laws, such that auto insurance becomes the primary source of coverage and health insurance becomes secondary.
- Provide adequate liability protection for EMS personnel and those administering and providing care within the trauma system.

Finance

- Identify creative sources to fund a statewide trauma system.
- Create a Medicaid pool for reimbursement similar to the system currently used by the Department of Community Health. Allocate additional Medicaid funds to Level I Trauma Centers to offset the extra cost associated with providing trauma care for the uninsured and Medicaid beneficiaries.

- Address the financial situation of many communities, particularly rural communities, where there is no direct funding for emergency systems. In some hospitals, the emergency department director ends up being the EMS medical director for the community. Because there is no staff support, the EMS system is dysfunctional.
- Medical control authorities are charged with supervision of EMS systems across the State, however, it is an unfunded legislative mandate with responsibility for the system delegated to hospitals and no financial support is rendered by the public sector.
- Reimbursement by insurance companies for trauma care, based on CPT codes and broad-based contracts with hospitals and physician groups, does not take into account the standby status required for trauma centers or the limitations on the use of such resources. While hospitals are required by law to provide care to everyone, some insurers exempt coverage for injuries obtained during illegal, irresponsible or suicidal behavior.
- Health care reform and reimbursements generally are geared to the urban health care setting. The time and distance spent transporting a patient is usually not taken into account when transporting a patient. The type of complaint determines reimbursement. The person who leaves his/her regular job to take the ambulance call has to punch out of work. If there is a flat reimbursement rate, the ambulance person loses wages for the day.

Public Information & Prevention

- Create an effective trauma system with an injury prevention component to impact injury at the most cost-effective level before the catastrophic event occurs. The most cost effective intervention is in the form of prevention.
- Develop quality continuing education curriculum that can be adjusted to the context in which providers operate.

Human Resources

- Reduce the shortage of health professionals to improve the functioning of the emergency care system.
- Improve recruitment and retention of EMS personnel including medical first responders, EMTs, and paramedics. There are critical shortages of qualified personnel in the rural portions of the State.

Prehospital Care

- Improve communication between pre-hospital care providers, air medical services and emergency departments.
- Establish a one-call system in which an emergency department physician would make one call to expedite the transport process.
- Improve access to care for patients by adoption of a universally enhanced 911 system throughout the State.
- Provide tele-radiology to help emergency department staff evaluate the patient without the patient physically being at a hospital.

- Increase requirements related to training, standardized protocols, and secure appropriately qualified people backed by adequate funding.
- Provide for patients in rural areas a helicopter to transport them over long distance to facilities that have definitive care.
- Develop an efficient way to transport patients, preferably with multiple satellite units situated over the State, so patients can be moved carefully and quickly to the appropriate hospitals.
- Develop regional triage and transfer protocols that are appropriate for each unique region of the State.

Definitive Care

- Evaluate and identify the trauma care capabilities of hospitals in Michigan. All hospitals should be included in the process and national standards should be used for verification of capabilities.
- Develop innovative mechanisms to provide resources to upgrade service levels.
- Review how the specific trauma designation of a facility will directly impact the Certificate of Need (CON) standards for Surgical Services, and how recommendations made by this Commission may also impact the CON standards for air ambulance services. The Michigan Department of Community Health oversees the administration of the CON program that regulates the capital expenditures and the services offered by hospitals and other health facilities.
- Establish agreements among smaller hospitals and larger hospitals to develop a system where information is easily accessible through the computer.
- Incorporate rehabilitation services into the trauma care system.

Evaluation

- Establish a statewide database/registry to promote ongoing research into evidence-based trauma care, which will provide for optimal clinical care and cost efficient utilization of resources. It is difficult to evaluate whether a pre-hospital and hospital coordination is optimal unless data are obtained from all trauma related patient encounters.

VII. TRAUMA DELIVERY IN OTHER STATES

Even though there are 45 states in the country that have trauma care delivery systems, they do not follow a single model. The degree of trauma care delivery differs widely from state to state. A majority of the states have integrated the trauma care within the Emergency Medical Services System. Some states have legislation that covers only certain aspects of trauma care and does not cover the entire spectrum of an ideal trauma care delivery system. Funding seems to be a major hurdle for a large number of states. Lack of continued funding inhibits the maintenance and expansion of the existing systems. Without a serious financial commitment, it is not possible to provide trauma services.

The Commission selected five states to evaluate that already have or are in the process of implementing a statewide trauma care delivery system. The states identified by the Commission included Oregon, North Carolina, Pennsylvania, Ohio and Wisconsin.

Oregon and Pennsylvania have had an organized trauma care delivery system since the 1980s. North Carolina had a voluntary trauma care delivery system that was developed in the 1970s but the Statewide Trauma System Act was not enacted until 1993. Ohio and Wisconsin are two states that have developed a Statewide Trauma Care System in the past two years. Ohio has had a trauma care system since November 2000 and Wisconsin recently completed a report in January 2001. Wisconsin is expected to implement its trauma care delivery system by July 2002.

Analysis of the five states focused on five major components of a model trauma care system:

- Legislation
- Structure
- Funding Mechanism
- Verification of Service Level
- Data Collection

Although the analysis did not address all components of a model trauma care system, the Commission felt that the five components selected would provide the most meaningful information for this report.

A. LEGISLATION

1) OREGON

In 1985, the Oregon Legislature passed Senate Bill 147, which provided the authority for the creation of a statewide trauma system. In September 1985, the Governor signed this bill, making Oregon one of the few states in the nation to approach trauma care in a systematic manner.

2) NORTH CAROLINA

After implementation of the North Carolina Emergency Medical Services Act of 1973, the newly formed North Carolina Office of Emergency Medical Services asked hospitals to categorize themselves with regard to their ability to care for patients suffering trauma, burns and spinal injuries.

The chair of the State EMS Advisory Council convened a trauma system task force, and charged it with developing a statewide trauma system. In November 1992, the trauma system task force submitted its final report calling for a standardized nomenclature for the trauma system and the major trauma patient; new legislation to enable development of a statewide trauma system and the trauma system to remain voluntary and inclusive. As a result of these recommendations, the North Carolina Legislature passed the Trauma System Act of 1993.

3) PENNSYLVANIA

The Commonwealth of Pennsylvania first recognized the Pennsylvania Trauma Systems Foundation in December 1984 when Governor Thornburgh signed Act 209 into law. A comprehensive Emergency Medical Service Act (Act 45) was signed into law in July 1985, which again recognized the Foundation and established its mandate.

4) OHIO

Amended H.B. 138 created a trauma system in Ohio. The bill was signed in July 2000 and took effect November 3, 2000.

5) WISCONSIN

WI 1997 Act 154 created a Statewide Trauma Advisory Council (STAC) to prepare a final report on specific recommendations for developing and implementing the trauma care system. The Council, in conjunction with the Department of Health and Family Services, was charged with submitting the report by January 1, 2001. The Department of Health and Family Services is responsible for implementing the system by July 2002.

B. STRUCTURE

1) OREGON

The Oregon State EMS Office is located within the Center for Environment and Health Systems. This agency establishes statewide objectives and standards for the trauma system; develops triage protocols; designates trauma centers within the state trauma areas consistent with local resources, geography, and current referral patterns; provides staff support to the State Trauma Advisory Board; provides technical assistance to the nine Area Trauma Advisory Boards (ATABs) in the development and implementation of regional trauma care system plans; provides technical support and consultation to ATABs on regional quality assurance matters; approves regional trauma care system plans; develops hospital categorization criteria and criteria and procedures for the designation of trauma system hospitals; designates trauma system hospitals in accordance with ATAB plans which meet state objectives and standards; collects and analyzes information related to the prevention of trauma and monitoring of the trauma system; and publishes a biennial report.

2) NORTH CAROLINA

The office of Emergency Medical Services, Division of Facility Services, North Carolina Department of Health and Human Services is responsible for monitoring system development, ensuring compliance with rules, and overseeing system effectiveness.

The state trauma system consists of regional plans, policies, guidelines and performance improvement initiatives by the Regional Advisory Committees and monitored by Office of Emergency Medical Services.

3) PENNSYLVANIA

The Trauma Systems Foundation is a private, nonprofit corporation. It has the authority of the law and a 19-member board of directors governs the activities of the Foundation. The Secretary of the Department of Health or designee is on the board. There are several standing committees within the organized structure of the Foundation. Membership is comprised of board members and trauma center personnel. These committees, along with the corresponding ad hoc committees and task forces, serve a variety of functions ranging from revising and implementing the Standards for Trauma Center Accreditation and the accreditation process to researching and analyzing Pennsylvania Trauma Outcome Study data.

4) OHIO

The Department of Public Safety, Division of Emergency Services, serves as the lead agency. Trauma services are housed within the Division of Emergency Medical Services. H.B. 138 altered the composition and operation of the State Board of EMS and established a trauma committee in the Board. The EMS Board is responsible for developing EMS guidelines for trauma care and quality improvement/peer review, adopting rules for risk adjustment and confidentiality of trauma registry data, adopting rules for statewide trauma triage protocols and making recommendations on the operation of Air-Medical services.

5) WISCONSIN

The Department of Health and Family Services, Bureau of Emergency Medical Services and Injury Prevention (BEMSIP) serves as the role of lead agency. The BEMSIP receives input and recommendations from several related advisory bodies and a State EMS Medical Director. The Bureau serves a number of roles in coordinating the Statewide Trauma Care System.

The Statewide Trauma Advisory Council, appointed by the Department of Health and Family Services in 1999, is comprised of 13 members who represent physicians, nurses, urban and rural hospitals, EMS providers and the EMS Advisory Board. The Council is the primary source in developing and implementing the Statewide Trauma Care System. The Advisory Council has requested that its sunset date of July 1, 2002 be extended for the following reasons:

1. Implementation of the system will be phased in well beyond the initial implementation date of July 1, 2002;
2. There will be an ongoing need for a system performance improvement oversight body;
3. The Council would like to assist in both those functions since the early success of the system will depend on close monitoring and evaluation.

C. FUNDING MECHANISMS

1) OREGON

The Division's trauma system support functions are funded in part through the General Fund, in part through Special Funds (trauma hospital survey assessments and trauma registry assessments), and in part through grant funds.

2) NORTH CAROLINA

There is no state funding specifically for trauma. The general operations fund pays for the salaries of the State Trauma Coordinator and a portion of the part-time medical director. North Carolina recently received a federal grant of 3.3

million dollars to prepare for bio-terrorism. This funding will probably benefit the trauma systems' Regional Advisory Committees.

3) PENNSYLVANIA

Primary funding for the Pennsylvania Trauma Systems Foundation (PTSF) is obtained through fees from the accreditation process. The government has given the Foundation \$100,000 to do trauma research and data collection.

4) OHIO

The majority of funding comes from imposing additional costs for failure to use an occupant-restraining device in a vehicle and a small portion of the money comes from license reinstatement fines, forfeited bail and related fines.

5) WISCONSIN

The Statewide Trauma Advisory Council recommended that \$1 be added to vehicle registration fees to cover the proposed resources needed for the trauma system and all current administrative costs for the Bureau of Emergency Medical Services and Injury Prevention. It was recommended that remaining revenue generated by this \$1 fee be used toward grants that fund projects by the Regional Trauma Advisory Councils or other providers. Alternative funding sources included the addition of \$1.00 on every driver's license renewal and general purpose revenue funds.

D. VERIFICATION OF SERVICE LEVELS

1) OREGON

Oregon has adopted, with few modifications, the American College of Surgeons' "Optimal Standards of Care of the Trauma Patient" as the minimal acceptable standards for hospitals at Levels I, II and III. In recognition of the special needs of the very small, remote hospitals, and in order to provide for their participation in the trauma system, Oregon has also created standards for a Level IV trauma facility.

2) NORTH CAROLINA

In North Carolina, the Office of Emergency Medical Services (OEMS) is responsible for initial trauma center designation (three levels of trauma centers based on recommendations from the American College of Surgeons). Initial designation as a trauma center is valid for a period of three years. One of two options may be utilized to achieve trauma center renewal:

- Undergo a site visit conducted by OEMS to obtain a four-year renewal designation; or

- Undergo a verification visit arranged by the ACS, in conjunction with OEMS, to obtain a three-year renewal designation.

3) PENNSYLVANIA

The Trauma Systems Foundation is responsible for the development of a private voluntary trauma center accreditation program in Pennsylvania. The Foundation has adopted at a minimum the current guidelines for trauma centers as defined by the American College of Surgeons. The Foundation evaluates any Pennsylvania hospital which makes application to the Foundation to determine if the applicant hospital meets the Standards for Trauma Center Accreditation and conducts site survey visits by site survey teams composed of independent, qualified persons selected by the Foundation to determine if applicant hospitals meet the Standards for Trauma Center Accreditation. The Foundation issues certificates of accreditation to those hospitals, which meet the Standards for Trauma Center Accreditation. The Foundation also has an appeals mechanism to reconsider adverse accreditation decisions.

4) OHIO

The Division of Emergency Medical Services requires adult trauma centers to be verified by the American College of Surgeons as Level I, II or III Trauma Centers. The Director of Health is required to adopt rules for the designation of pediatric trauma centers that are not verified by the American College of Surgeons.

5) WISCONSIN

Hospitals interested in being verified as a Level I or Level II Trauma Center will utilize the methods and criteria established by the American College of Surgeons Committee on Trauma (ACS/COT). These facilities must contact ACS/COT for verification and are responsible for any costs associated with this process. Once verification by ACS is complete, documentation must be forwarded to the State of Wisconsin EMS Section.

Hospitals interested in becoming Level III or Level IV trauma care facilities are sent a lead agency-approved self-designation checklist. The checklist must be completed by the hospital facility and returned to the State of Wisconsin EMS Systems and Licensing Section.

Wisconsin statute requires that every four years each facility must recertify to the EMS Systems Section the classification level of trauma care services being provided by the hospital. The Statewide Trauma Advisory Council recommends that recertification of facilities occur every three years, which is the American College of Surgeons' requirement.

E. DATA COLLECTION

1) OREGON

The Oregon Trauma Registry (OTR) collects data about the causes of injury, the emergency response, and the outcome of all trauma system patients. Trauma system hospitals are required to report to the OTR all data, for every trauma patient within 90 days of death or discharge of that patient. Input to the Registry is provided in most cases by computerized data entry at each trauma system hospital.

Other data bases which augment the collection and analysis of information related to prevention of trauma and monitoring of the trauma system include the Hospital Discharge Index, Vital Statistics, Fatal Accident Reporting System, and the State Medical Examiner's Office.

To ensure uniform collection of data at all levels, statewide pre-hospital care report and trauma resuscitation records have been implemented.

2) NORTH CAROLINA

The Trauma Registry is a database maintained by the Office of Emergency Medical Services to provide information for analysis and evaluation of the quality of patient care, including epidemiological and demographic characteristics of trauma patients. The Trauma Registry uses computer software developed by the National Trauma Registry of the American College of Surgeons.

With respect to collection of trauma data, rules adopted by the Medical Care Commission limits the authority of the Department of Health and Human Services to hospitals and prehospital Emergency Medical Services providers.

3) PENNSYLVANIA

The Trauma Systems Foundation is responsible for the Trauma Registry in Pennsylvania. This registry is known as the Pennsylvania Trauma Outcome Study (PTOS). The aspects of outcome measurement regarding the accreditation process have resulted in numerous research studies with the Department of Health and other health care experts. The data collected is for trauma facilities only.

4) OHIO

The EMS Board is required to use the State Trauma Registry to collect and analyze data necessary to evaluate the delivery of adult and pediatric trauma care within the state. The data collected by the State Trauma Registry must be of such a nature as to allow the Board to identify and evaluate the following:

1. Incidence, type, severity, and outcome of trauma injuries;
2. Criteria used to establish triage protocols;
3. Geographic patterns of injury, including but not limited to areas or regions of the state where improvements are needed in the delivery of trauma care;
4. Other factors to consider in recommending, designing, or implementing an integrated statewide trauma care delivery system, including but not limited to public education on trauma and injury prevention, access to trauma care, prehospital availability, and cost of trauma care;
5. Data and information submitted to and maintained by the State trauma registry must be in a format that:
 - Protects the identity of specific patients to whom medical care has been rendered;
 - Identifies specific health care facilities by a code or similar designation other than name;
 - Avoids or minimizes duplication of entry.

5) WISCONSIN

Currently there are nine formal computerized trauma registries in Wisconsin. The capability for pooling data from multiple sites and generating regional reports exists within one of the database platforms, but is not currently being used. No linkages exist between prehospital data and hospital discharge data, although a current grant proposal has been submitted to explore linkage of Department of Transportation crash information and Wisconsin Emergency Medical Services Information Systems Data.

The recommendations for Trauma Registry Development and Implementation include:

1. Mandatory and systematic injury data collection from Level I and Level II Trauma Centers;
2. Collection and submission of data on “major trauma patients” from Level III and Level IV Trauma Centers;
3. Data collection and submission to Wisconsin State Trauma Registry will occur in two phases, phase I for Level I and Level II hospitals with a target date for completion by July 1, 2004; and phase II for Level III and Level IV hospitals with a target date for completion by July 1, 2007;
4. Data set may be revised and elements added as needed for ongoing system evaluation and performance improvement as the Trauma Care System develops and matures;
5. The Department of Health and Family Services (DHFS) will administer the Wisconsin State Trauma Registry to include oversight of the database, ownership and access, management activities, coordination of data submission and generation of reports. Issues of confidentiality access to data and HIPAA requirements will need to be addressed;

6. DHFS will develop a State Trauma Registrar position to coordinate data submission, prepare reports, maintain the database, support ongoing training for Level III and Level IV hospitals, and work with the State Trauma Coordinator to identify system and regional performance improvement opportunities based on registry data;
7. DHFS will continue to explore data linkage options among all existing statewide databases containing injury information.

VIII. COMPONENTS OF AN EFFECTIVE TRAUMA SYSTEM

The American College of Surgeons (ACS) has long been a leader in the development of systems of trauma care. The ACS Committee on Trauma, established in 1922, is the oldest standing committee of the ACS, and has focused its attention on improving the care of the injured patient. Since 1976, the ACS has published guidelines describing optimal resources for the care of the injured patient. Subsequent revisions, the last dated 2000, have demonstrated the continued commitment of the ACS to refine guidelines for optimal care of the injured patient.

The American College of Emergency Physicians (ACEP) first introduced guidelines for trauma care systems in 1987. These guidelines were established to assist regions to plan, implement, and evaluate trauma care systems.

The following model is adapted from the American College of Emergency Physicians, "Guidelines for Trauma Care Systems"



Prehospital Care is comprised of Communications, Medical Direction, Triage and Transport and **Definitive Care** is comprised of Trauma Facilities, Interfacility Transfer and Rehabilitation

The American Pediatric Surgical Association (APSA) believes that comprehensive care of an injured child can best occur within an organized trauma system. To support this assertion, the APSA published a statement of basic principles in 1992 outlining necessary components of a pediatric trauma system. In 1990, the American Burn Association published *Hospital and Prehospital Resources for Optimal Care of Patients with Burn Injury: Guidelines for development and operation of Burn Centers*.

The rehabilitation of the injured patient is an integral component of a comprehensive trauma care system. In recognition of this, the Commission for Accreditation of Rehabilitation Facilities, serving as the standard-setting and accrediting body for rehabilitation centers, has developed specific program standards for rehabilitation of injured patients, including spinal cord and brain injury programs.

Many other national health care provider organizations have supported the development of systems of trauma care. Nursing organizations include the Emergency Nurses Association, the American Association of Critical Care Nurses, the Association of Operating Room Nurses, and the National Flight Nurses Association.

In an effort to revitalize trauma system development efforts and abate the erosion of existing systems, Congress passed the Trauma Care Systems Planning and Development Act of 1990. This Act amended the Public Health Service Act by adding Title XII – Trauma Programs. This legislation underscores the recognition of injury as a public health problem and specifically requires the development of a Model Trauma Care System Plan, which states may use as a reference guide in the development of a comprehensive trauma care system plan as part of the statewide Emergency Medical Services plan.

The Model Trauma Care System Plan reflects the concept of an inclusive trauma care system in which every health care provider or facility with resources to care for the injured patient is incorporated. Effective trauma systems require clear integration of all components in each phase of care and draw upon the capacity of health care providers to reduce mortality and disability regardless of the severity of the injury involved.

An inclusive trauma care system will not only incorporate provisions for designated trauma centers to care for the most severely injured patients, but also recognizes the importance of other acute care facilities within a trauma system in caring for the majority of less severely injured. The goal of an inclusive trauma system is to 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. Once an injury occurs, optimal care necessitates that adequate numbers of specially trained trauma care personnel are available to provide care from access of the system to the delivery of rehabilitative services.

A trauma care system must be distinctly integrated into the overall EMS system, and a trauma care system plan must incorporate the use of existing EMS resources, including those for special populations. Integration prevents duplication of services and resources, maximizes efficiency and hence should reduce overall costs. Inherently, there is a great need for cooperation between states/regions that supersedes geographic boundaries in order to meet the needs of any injured patient regardless of where the injury occurred. The trauma care system plan must be flexible enough to incorporate the unique needs of each region and its population. The needs of specialty patient populations such as pediatric patients or burn patients must be considered in order to facilitate the use of concentrated resources and expertise in centers devoted to meet the unique assessment and treatment needs of these special groups. The success of any trauma plan and resultant system depends on the ability to ensure that each injured patient will receive timely access to resources and optimal care which will enable the patient to expeditiously return to the community as a productive member of society.

Administrative Components:

Leadership: The lead agency is usually placed within a government entity, such as the state EMS agency or other existing health agency within the State and must possess the authority, responsibility and resources required by this broad role. The state lead agency, working with medical and professional organizations, is ultimately responsible for coordinating system design, as well as establishing the minimum standards for system performance and patient care. The state lead agency is also responsible for integrating the trauma system and the EMS system, and ensuring cooperation between contiguous state and regional level agencies to fully meet public health needs in spite of geographic boundaries.

Medical and surgical participation is critical to trauma system planning and key physician groups should participate in trauma system planning to ensure that the final system reflects the availability of specialty physicians and the hospitals best prepared for the care of injured patients. These groups must assess the impact of trauma system implementation on the existing levels of professional resources within the community, and plan for future resource development. Communities with limited physician specialists (such as neurosurgeons or orthopedic surgeons) must develop creative solutions to ensure the continual availability of these resources to those patients needing the services.

The role of the lead agency is to coordinate input from all affected parties in establishing a framework for trauma system development to ensure that the system is responsive to the needs of all injured persons and to establish realistic timeframes for system planning and implementation.

System Development: The establishment of a system for collecting complete and accurate trauma patient data is essential for future planning. Resource assessment involves collection of statewide data to identify the current capabilities, levels of distribution and utilization of resources such as communication systems, ground and air ambulances, acute care and specialty care facilities, as well as both prehospital and

hospital personnel. Overall development of a trauma care system involves setting realistic timeframes for implementation of each component, as well as establishing an orderly system for review of the planning process itself. The sequence of plan development must reflect the unique needs of the region and more emphasis may be placed on specific components of the plan as directed by the initial needs assessment.

The effectiveness of the trauma care system depends on its integration within the EMS system, and any relevant subcomponents. Planning for trauma system implementation requires consideration of the additional responsibilities the trauma care system will place on the existing EMS components such as prehospital personnel, communication networks and referral hospitals.

Steps in the implementation process include system design, development of policies for EMS system integration, adoption of current guidelines and standards for trauma care, solicitation of proposals from facilities seeking designation, and establishment of data collection processes necessary for effective system evaluations.

Legislation: Trauma system development often begins with comprehensive legislation, which addresses at a minimum the responsibility and authority necessary for implementation of the trauma system. System planning may take place without formal authority; however, effective implementation and regulation may be impossible to achieve in this instance. Legislation should establish the public lead agency as the organization with the responsibility to plan, develop, implement and maintain an effective trauma care system. Through legislation, the lead agency may also be granted the authority to regionalize care and to designate trauma centers. In states where the designation authority and planning responsibility reside in the same agency, the development process is often simplified.

To accomplish the goals of administering the system, the lead agency will need substantial support. It is important to recognize that each component of system development will require the identification of manpower and resources specifically assigned to trauma system functions. Sufficient administrative funding is a critical component of the planning process and must be considered in legislative mandates.

Finance: As components of the trauma system are identified and implemented, the cost may rise but the savings gained from decreasing death and disability should rise as an outcome. The lead agency that successfully demonstrates a positive cost-benefit analysis (in terms of lives saved and increased years of productivity) can secure participant support, consumer satisfaction and, ultimately, sustain funding.

Trauma system implementation costs include supporting the process of regional planning, designation of hospitals, managing data collection and system analysis, regulatory activities and prevention programs. Trauma system costs are often integral parts of the fiscal structure of the larger EMS system for the state, making it difficult to document those costs that truly reflect trauma system implementation.

The provision of comprehensive trauma care requires a significant financial commitment by all trauma care providers. Prehospital costs include not only the direct expenses, but also the participant's time involved in ongoing training and continuing education necessary for trauma system implementation. The additional equipment and numbers of prehospital providers devoted for trauma care should be quantified, as well as any additional communication system enhancements necessary to fully implement the trauma plan. Regionalization often increases the use of advanced life support units and air medical services, and the increased costs may be considered part of implementation activities.

The establishment of hospital services to meet the needs of patients with multiple injuries requires a significant investment in personnel and facility resources. Trauma care facilities commit substantial resources to ensure priority access for injured patients, regardless of their ability to pay.

Trauma care often represents a significant portion of the total unreimbursed care for all providers. Three major factors responsible for uncompensated costs are the high costs of trauma care, the high percentage of trauma patients who are uninsured and declining levels of reimbursement. It is estimated that the cost of admission for a trauma patient is three or more times greater than that for the average acutely ill patient. The majority of trauma patients are young, at high risk for injury, and have little or no health care insurance. Trauma centers located in urban areas receive a disproportionate number of trauma patients with lower socio-economic backgrounds, decreased insurance rates, and increased unemployment rates.

Public Information/Education and Prevention: Injury is a preventable public health problem and a well-planned community public information/education and prevention program is an integral part of an effective trauma system. Injury prevention programs should be based on a solid foundation of data related to injuries and their prevention. An assessment of current community injury prevention projects is an essential part of the planning process to ensure the coordination of community resources.

The trauma system prevention plan should communicate key trauma prevention strategies, describe mechanisms to link existing programs and use outcome information from existing programs, highlight high risk groups that are not currently addressed by existing prevention programs, and organize an implementation schedule for additional prevention programs. Membership of the community prevention constituency includes representatives from fire and police agencies, emergency medical services, trauma care facilities, highway safety and motor vehicle agencies, auto and health insurance agencies, state and local health department injury control programs, state alcohol and drug abuse agencies, youth groups, school officials, local church and civic groups, children's service agencies, professional health care organizations and acute health care facilities.

The trauma care system plan should also include a mechanism to educate health care professionals about methods for injury control and provider based interventions. Injury prevention should be incorporated into the practice of medicine, nursing,

emergency medical services and other health care professionals similar to that presently used for other groups of patients.

Three general strategies most commonly used in injury prevention are:

- Persuasion programs designed to alter behavior or guide decision making for increased self protection;
- Legislation or enforcement of policies which require individuals to follow protective guidelines;
- Providing automatic protection by altering products or the environment.

Human Resources: The trauma system cannot provide optimal care for seriously injured patients unless all trauma care personnel are adequately educated and available in sufficient numbers throughout the State and in all areas of the system. Innovative and concerted efforts are needed in the recruitment, retention and education of qualified personnel throughout the trauma care system, especially for rural providers. Programs such as mobile trauma training units, continuing education via satellite or interactive computer programs can reach providers in more remote areas. Another approach is to rotate rural providers through an urban system, in either the prehospital or hospital environment, and vice versa.

Pre-hospital Care: Pre-hospital care is a vital component of trauma systems. The pre-hospital components of a trauma care system should provide easy access, prompt response by qualified professionals responsible for assessment, stabilization, triage and transport to the nearest appropriate trauma care

- Communication: Communication systems provide essential coordination among the components of the EMS and Trauma Care System. An effective communications plan provides statewide coverage and coordination of EMS communications, as well as appropriate linkages across state lines. The communication component of the pre-hospital system plan should address system access, EMS dispatch, dispatcher assistance to on-scene persons, general EMS communications linkages and quality management program activities.
- Medical Direction: All aspects of the organization and provision of emergency medical services require the active involvement of physicians. Medical direction provides the operational framework for field personnel and seeks to assure appropriateness of all medical aspects of the prehospital program with the same professional accountability as medical care in the more traditional settings.

The medical director must be involved in the design, implementation, continual revision, and operation of the trauma system from earliest prehospital contact through delivery to definitive care. The EMS Medical Director is responsible for developing clinical standards and subsequent policies and procedures that assure that these standards of care are observed.

- **Triage:** Triage is the process of sorting injured patients by actual, or perceived degree, or risk, of injury and assigning them to the most appropriate regional care resources. Identification of the major trauma patient is fundamental to trauma system design because it describes the patient who will benefit the most from regionalized care, and indirectly determines the level and intensity of resources needed to provide definitive care. The key is to provide optimal care with maximum efficiency and minimal cost in terms of lives, disability, and dollars.

Triage criteria should provide a basis for the establishment of protocols for patient identification, delivery decisions, and appropriate response at acute care facilities for all trauma patients in an inclusive care system. It is imperative for all trauma systems, through medical direction and quality management activities, to individualize triage protocols to provide high quality and cost effective care.

- **Transport:** Trauma patients should be delivered in a timely fashion to appropriate designated facilities utilizing the most expedient and appropriate means of transport. Elapsed time between injury and receipt of definitive care is dependent upon: 1. Public recognition of the event; 2. Access to the EMS system (i.e. 9-1-1); 3. Response time performance of the EMS system; 4. Level of training and performance on-scene; and 5. Distance to appropriate definitive care. The failure to any individual element or coordination between elements can result in significant delays to the detriment of the patient.

The plan should include mechanisms to evaluate transport processes including utilization of ambulance services, actual response times, response accuracy, scene times, delivery times in relation to standards, communication with medical direction and compliance with operational protocols.

Definitive Care: Regionalization of trauma care involves the participation of hospitals with the resources necessary to provide optimal care for injured patients and the identification of the specific capabilities of each facility. Each facility has a role in providing a tiered response to meet the needs of injured patients, and regional configuration should reflect the individual needs of the community it serves.

- **Trauma Facilities:** The trauma care system plan should integrate all facilities into an inclusive system or network of definitive care facilities in order to provide a spectrum of care for all injured patients.

The trauma care system plan should establish trauma facility standards, or adopt those currently available. Trauma center guidelines should identify those resources required to function effectively as a trauma center in the following areas: hospital organization; specific facilities and equipment; quality assurance; outreach; public education; research; training programs; and qualifications for trauma center personnel.

Regional trauma specialty facilities can improve patient care by concentrating expertise, maintaining skill competence, and limiting unnecessary duplication of specialized capital and personnel resources.

- **Interfacility Transfer:** A critical component of a trauma system is the establishment of transfer agreements that ensure the unobstructed transfer of trauma patients between hospitals when there is a need to do so. Transfer agreements will minimize the inherent problems of triage and provide consistent as well as efficient movement between facilities. Decisions to transfer patients should be based on objectively agreed upon criteria.
- **Medical Rehabilitation:** Rehabilitation should be heavily integrated into all phases of trauma care, and should begin at the earliest stage possible after admission to the acute care hospital. Rehabilitation services can be provided in a designated unit within a trauma care facility or in a freestanding rehabilitation center.

Research studies should be established to determine the effect of the rehabilitation process on improving or maintaining long-term functional outcome of the severely injured. Rehabilitation patient data will provide an excellent view of the system's ability to re-integrate the injured back into society.

Evaluation: The three components of an evaluation are data collection, trauma system evaluation and trauma center evaluation.

The patient population to be included in the trauma care data collection system is a subset of all injured patients; injured patients that require care in an acute care facility and all fatalities should be recorded in the data collection system. In addition to evaluating the effectiveness of a trauma system in meeting a community's needs, aggregate data can assist in assessing the appropriateness of trauma standards, developing appropriate trauma prevention strategies, and in assessing the extent of resources needed to adequately support and sustain a state trauma care system.

A trauma care system plan must include the ability of the system to monitor its own performance over time and to assess its impact on trauma morbidity and mortality. This requires continual assessment of system operations to demonstrate that the system is meeting stated goals and documentation of system performance. To accomplish the goal of system review the trauma system quality management program should interface with and include the trauma center quality management program.

The goal of the quality management program is to monitor the process and outcome of trauma patient care and to document appropriate and timely provision of care according to established standards of care. There should be a mechanism for determining when variation from standards of care exists, the corrective action plan, and when changes in the standard of care need to be made. The trauma center quality

management program can be utilized to evaluate the cost effectiveness of treatment programs.

Research: Ongoing systems research is necessary to guarantee the perpetual study, redirection and improvement of trauma system design, and ultimately, trauma patient outcome. Research should be organized so that certain aspects of injury can be addressed by the system database including injury surveillance and epidemiology, prevention, prehospital treatment, definitive care and rehabilitation information, financial studies and system organization.

Research funding for trauma system and component validation should be at a level to insure optimal use of the trauma system database. Access should be assured to system providers for individual, regional or statewide projects that enhance trauma patient care.

IX. TRAUMA CARE COMMISSION MEMBERS*

<u>MEMBER</u>	<u>ORGANIZATION</u>
James Ball	Assistant Director- Health Care Plans, General Motors Corporation
Brooks Bock, M.D.	Professor and Chair, Department of Emergency Medicine, Wayne State University, State of Michigan
Leslie Bowman	President, Detroit Receiving Hospital and University Health Center
Joseph Cercone	Personnel Director, Besser Company
Craig Coccia, M.D.	Neurosurgeon, Northern Neurosurgery
Jon Dixon	Retired Vice President, Bronson Healthcare Group
James Haveman	Director, Michigan Department of Community Health
Marvin J. Hicks	EMS Officer, Monroe Fire Department
Gary Kelly	City of Detroit Fire Department, EMS Division
Scott Langenburg, M.D.	General Surgeon, Children's Hospital of Michigan
Mark Meijer	President, Life EMS Ambulance.
Judy Mikhail, R.N.	Trauma Nurse coordinator, Hurley Medical Center
Farouck Obeid, M.D.	Director of Trauma and Critical Care Surgery Services, Hurley Medical Center
Andres Perez, M.D.	Associate Medical Director, Blue Cross Blue Shield of Michigan
Brian Plaisier, M.D.	Director, Trauma Program, Bronson Methodist Hospital
Donald Scholten, M.D.	General Surgeon, Academic Associates of West Michigan
Kathleen Wilbur, Commission Chair	Director, Michigan Department of Consumer & Industry Services

* Appointed by the Governor

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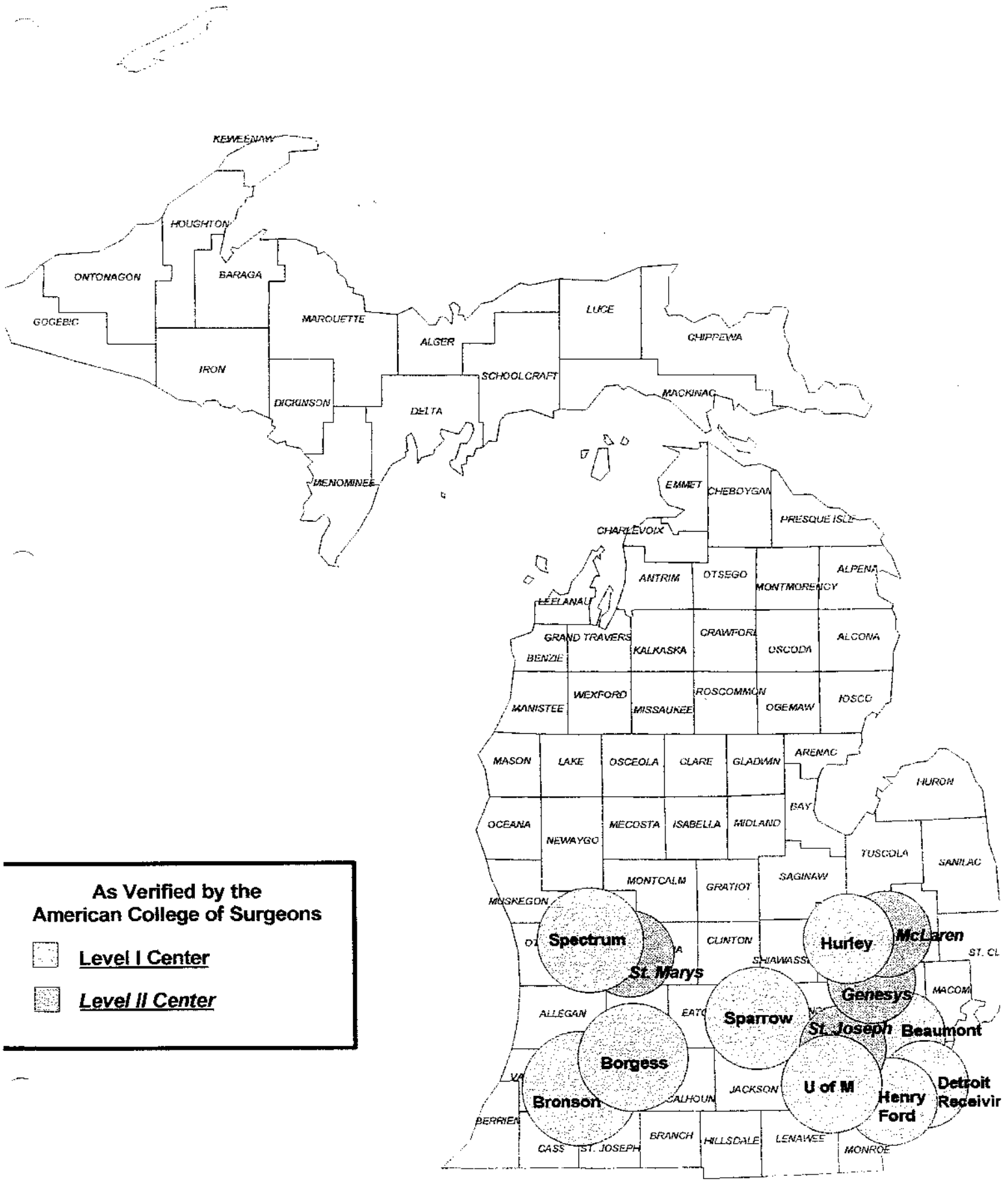
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XI. APPENDICES

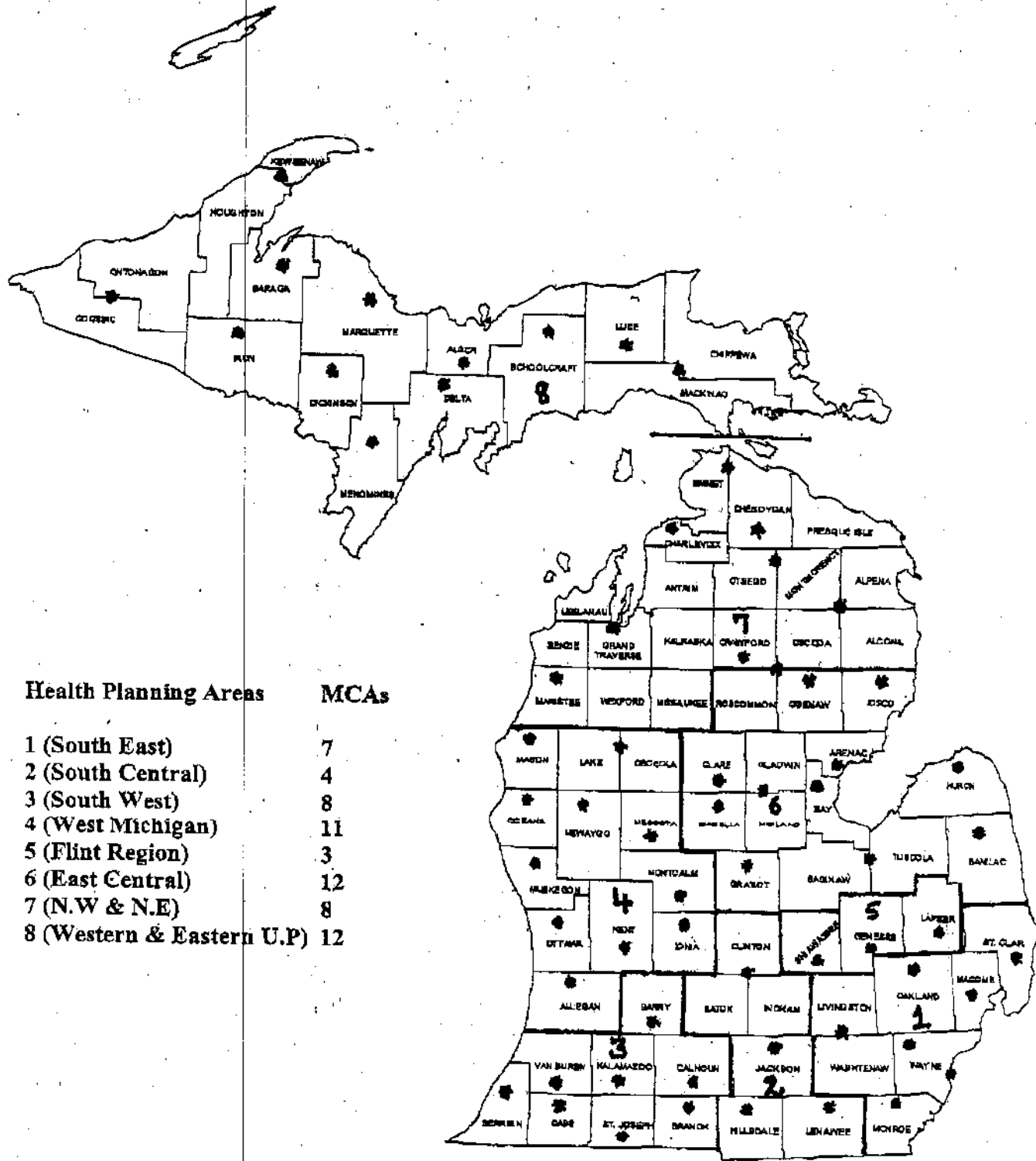
Appendix A	Map of Verified Trauma Centers in Michigan
Appendix B	Map of Medical Control Authorities in Michigan
Appendix C	Map of Air Ambulance Services in Michigan
Appendix D	Public Act No. 440

LOCATION OF ACS-VERIFIED TRAUMA CENTERS IN MICHIGAN



MICHIGAN

Medical Control Authorities (MCAs): 65



Health Planning Areas	MCAs
1 (South East)	7
2 (South Central)	4
3 (South West)	8
4 (West Michigan)	11
5 (Flint Region)	3
6 (East Central)	12
7 (N.W & N.E)	8
8 (Western & Eastern U.P)	12

Air-Ambulance Services Licensed in Michigan



● Toledo (Ohio)

Locations

- Traverse City – North Flight
- Ann Arbor – Survival Flight (U of M)
- Kalamazoo – West Michigan Air Care
- Detroit – Kalitta Charters
- Grand Rapids – Aero-Med at Spectrum
- Saginaw – EMS Saginaw
- Toledo – Toledo Hospital (Ohio)
- Toledo – St. Vincent Medical Center (Ohio)
- Ypsilanti – Midwest Medflight

Act No. 440
Public Acts of 2000
Approved by the Governor
January 9, 2001
Filed with the Secretary of State
January 9, 2001
EFFECTIVE DATE: January 9, 2001

**STATE OF MICHIGAN
90TH LEGISLATURE
REGULAR SESSION OF 2000**

Introduced by Rep. DeWeese

ENROLLED HOUSE BILL No. 4596

AN ACT to amend 1978 PA 368, entitled "An act to protect and promote the public health; to codify, revise, consolidate, classify, and add to the laws relating to public health; to provide for the prevention and control of diseases and disabilities; to provide for the classification, administration, regulation, financing, and maintenance of personal, environmental, and other health services and activities; to create or continue, and prescribe the powers and duties of, departments, boards, commissions, councils, committees, task forces, and other agencies; to prescribe the powers and duties of governmental entities and officials; to regulate occupations, facilities, and agencies affecting the public health; to regulate health maintenance organizations and certain third party administrators and insurers; to provide for the imposition of a regulatory fee; to promote the efficient and economical delivery of health care services, to provide for the appropriate utilization of health care facilities and services, and to provide for the closure of hospitals or consolidation of hospitals or services; to provide for the collection and use of data and information; to provide for the transfer of property; to provide certain immunity from liability; to regulate and prohibit the sale and offering for sale of drug paraphernalia under certain circumstances; to provide for the implementation of federal law; to provide for penalties and remedies; to provide for sanctions for violations of this act and local ordinances; to repeal certain acts and parts of acts; to repeal certain parts of this act; and to repeal certain parts of this act on specific dates," (MCL 333.1101 to 333.25211) by adding section 20917; and to repeal acts and parts of acts.

The People of the State of Michigan enact:

Sec. 20917. (1) The statewide trauma care commission is created in the department of consumer and industry services. As used in this section, "commission" means the statewide trauma care commission created under this subsection.

(2) The governor shall appoint the members of the commission by July 1, 2001 for terms of 2 years. A member of the commission who is unable to complete a full 2-year term shall be replaced by the governor, from the same category, for the balance of the unexpired term. The commission shall consist of the following 17 members, at least 3 of whom shall be residents of rural counties, 1 of whom shall be a resident of a rural county located in the Upper Peninsula:

(a) Eight health professionals who are experts in trauma and emergency services, from any health profession. One of the health professionals appointed under this subdivision shall be a registered professional nurse with training in emergency and trauma services.

(b) Two representatives of hospitals.

(c) Two representatives of health care purchasers or payers, including, but not limited to, insurers, self-insured employers, and Taft-Hartley health and welfare funds.

(d) One representative from ambulance service providers.

(e) Two consumers of health care services.

(f) The chair of the emergency medical services coordinating committee.

(g) One representative from the department of community health.

(3) The governor shall designate a chairperson for the commission. The chairperson shall convene the first meeting of the commission not later than 30 days after the date the governor finishes appointing the members of the commission.

(4) The commission shall do all of the following:

(a) Assess the status of trauma care in this state.

(b) Hold public hearings throughout the state to gather public opinion about the status of trauma care in Michigan. The commission shall hold at least 1 public hearing in each of the state's 8 health planning areas.

(c) Obtain information on trauma care systems in other states.

(d) By July 1, 2002, file a report with the governor, the legislature, the director of the department of consumer and industry services, and the emergency medical services coordinating committee that makes recommendations regarding all of the following:

(i) Statewide trauma care delivery and the operational and administrative structure of statewide trauma care delivery.

(ii) Fiscally responsible model policies for a statewide trauma care system that recommend appropriate classification of trauma care facilities and services, coordinated communication between first responders and trauma care providers, and rapid transport to an appropriate trauma care facility. The recommendations shall evaluate the costs, benefits, and impacts, if any, on public and private third party payers.

(iii) The unique needs and constraints of rural Michigan in a statewide trauma care delivery system.

(iv) The unique needs and constraints of communities located adjacent to the border of this state and another state in a statewide trauma care delivery system. The commission shall make specific recommendations on how to get emergency medical services to such communities as quickly as possible and on criteria for determining when it is appropriate for Michigan emergency medical services personnel to respond and when it is appropriate for emergency medical services personnel from the bordering state to respond.

(5) After the report required under subsection (4)(d) is filed, the report is available to the public at no charge, upon request.

(6) Meetings of the commission are subject to the open meetings act, 1976 PA 267, MCL 15.261 to 15.275.

(7) A writing prepared, owned, used, in the possession of, or retained by the commission in the performance of an official function is subject to the freedom of information act, 1976 PA 442, MCL 15.231 to 15.246.

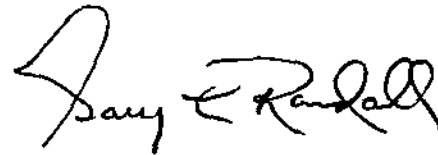
(8) The per diem compensation for the members of the commission and a schedule of reimbursement of expenses shall be as established by the legislature.

(9) The department of consumer and industry services shall provide office space and administrative support including, but not limited to, clerical and professional staff, for the commission.

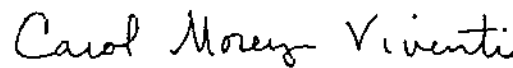
(10) As used in this section, "rural county" means that term as defined in section 22207.

Enacting section 1. Section 20917 of the public health code, 1978 PA 368, MCL 333.20917, is repealed on July 1, 2004.

This act is ordered to take immediate effect.



Clerk of the House of Representatives.



Secretary of the Senate.

Approved _____

Governor.