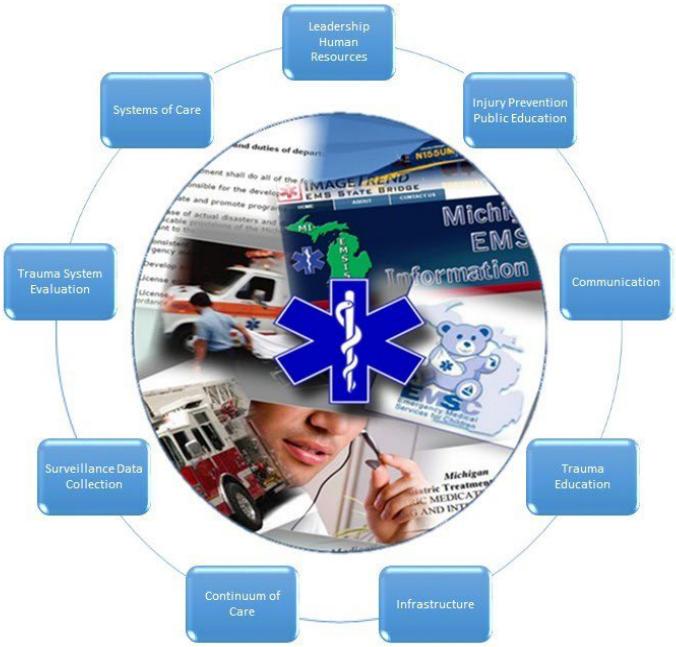
MICHIGAN TRAUMA SYSTEM



October 2023

Strategic Plan 2024 - 2029

A guide to operationalizing a system of care that ensures the injured or potentially injured receive the right care in the right place at the right time.

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EXECUTIVE SUMMARY

Injury, heart disease and stroke remain in the top five causes of death in Michigan. Age adjusted unintentional injuries increased by 9% from 2018 to 2020 in Michigan. In 2020, the average cost of injuries from falls (including medical and statistical life lost) in the state was 3.9 million and for motor vehicle accidents it was 10.2 million. Ensuring patients get the right resources at the right time, supporting partners and communities as they address injury prevention, risk factor management, and implementing evidence-based practices, are effective measures that make the best use of resources. Systems that are regionalized, accountable, and coordinated in their approach to care are effective in ensuring positive outcomes for the injured and to implement prevention strategies to mitigate deaths from injury. Systems benefit when stakeholders come together to develop, implement, and evaluate initiatives that address care for the injured and those with cardiovascular events like stroke and STEMI from prevention to return to productive life.

The concept of a systems approach for time-sensitive emergencies, trauma, stroke, and ST-elevation myocardial infarction (STEMI) began with trauma in the late 1980's, stroke in 2005 and STEMI in 2007. The trauma system in Michigan has been successfully functioning as a regionalized, accountable, and coordinated entity for the past ten years. All the elements described in statute and Administrative Rules including the organizational structure, data registry, verification/designation process, education, and injury prevention have been operationalized.

The recent pandemic spotlights the necessity of developing and maintaining a system of care for time sensitive emergencies. Resources are now more constrained than before the pandemic for a multitude of reasons, including work force issues, interrupted management of chronic disease, decreased attention to risk factor prevention and less access to care. Having a system in place can ensure that all resources are used appropriately, efficiently, and effectively.

The Michigan Trauma System Strategic Plan 2018-2023 published in April 2019 provided direction and guided the decisions and actions needed to move the maturing system forward. The plan was based on *Model Trauma System Planning and Evaluation* document published by the Health Resources and Services Administration (HRSA) in 2006 and remains a foundational document describing trauma system development and assessment. The Michigan Trauma System Strategic Plan 2024-2029 will continue to use the document to guide the discussion.

Three workgroups were created and met several times each to develop specific, measurable, achievable, realistic, and time-bound objectives in the following areas: system assessment and data; operational and clinical; and education/injury prevention/leadership. Each workgroup acknowledged that a focal point needs to be on system evaluation and function of the now mature system and its components. The draft plan will be presented to the Statewide Trauma Advisory Subcommittee (STAC) in the spring of 2023. Implementation of the plan will begin in 2024 after endorsement. STAC will be provided an update on progress annually. The 2024-2029 Strategic Plan will be published and posted at Michigan.gov/traumasystem.

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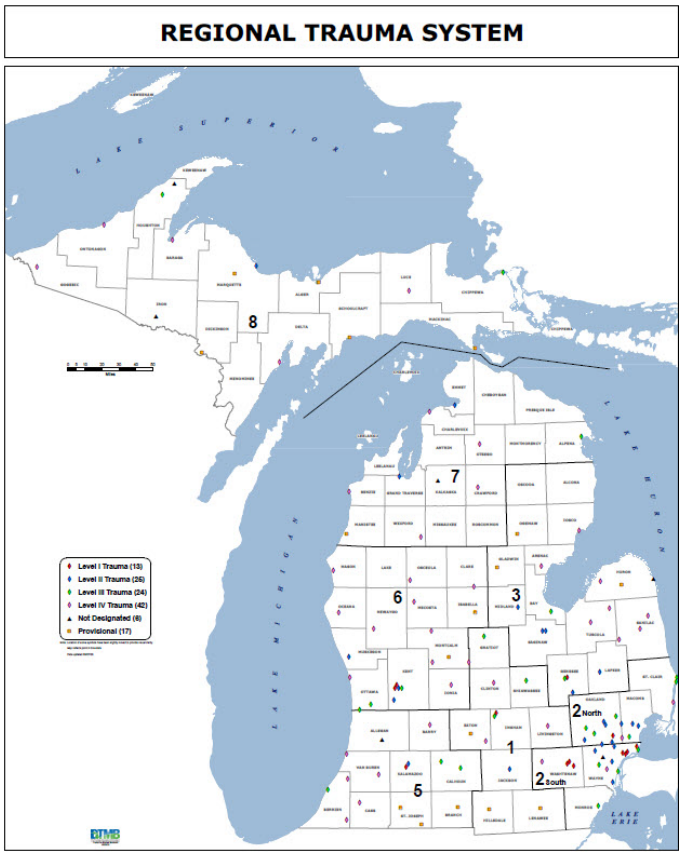
Michigan Trauma System

STRATEGIC PLAN 2024 - 2029

HISTORY AND BACKGROUND

Trauma is defined as bodily injury from applied force. The trauma system as described in Administrative Rule325.127 Rule 3 (l) means a comprehensive and integrated arrangement of emergency services personnel, facilities, equipment, services, communications, medical control authorities, and organizations necessary to provide trauma care to all patients within a particular geographic region. The system is designed to make efficient use of resources and provide seamless care for the injured across the continuum.

The trauma system in Michigan began in 2000 with the appointment by the Governor of the Trauma Commission. The findings of the Commission state "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." This led to legislation in 2004 (Public Act 580, 581, 582). Operationalization of the system began in 2012 when funding was appropriated by the Michigan legislative body. Over the past eleven years the system that was described in statute and rules has been fully realized.



In 2022, Michigan recognizing the impacts that a systems approach can have on ensuring the right patient gets to the right resources in the right time made steps towards integrating stroke and ST elevation (STEMI) into the existing trauma system by developing a Systems of Care plan and draft administrative rules to guide the process. The goal is to ensure the most effective and efficient use of resources made even more important in this post pandemic environment where systems are recovering and will continue to do so.

This system work is made possible and supported by a mobilized and dedicated group of trauma, stroke and STEMI content experts, injury prevention partners, the EMS system, Michigan Committee on Trauma, Michigan Trauma Coalition, The Bureau of Emergency Preparedness, EMS, and Systems of Care, and others.

Mature systems are committed to monitoring and evaluating system functioning and using data to drive performance improvement and decision making. Monitoring the burden of injury is a hallmark of an effective,

functioning, accountable system. The burden of injury described in this plan informed the goals and objectives of the document and the subsequent policies and initiatives to address them.

BURDEN OF INJURY

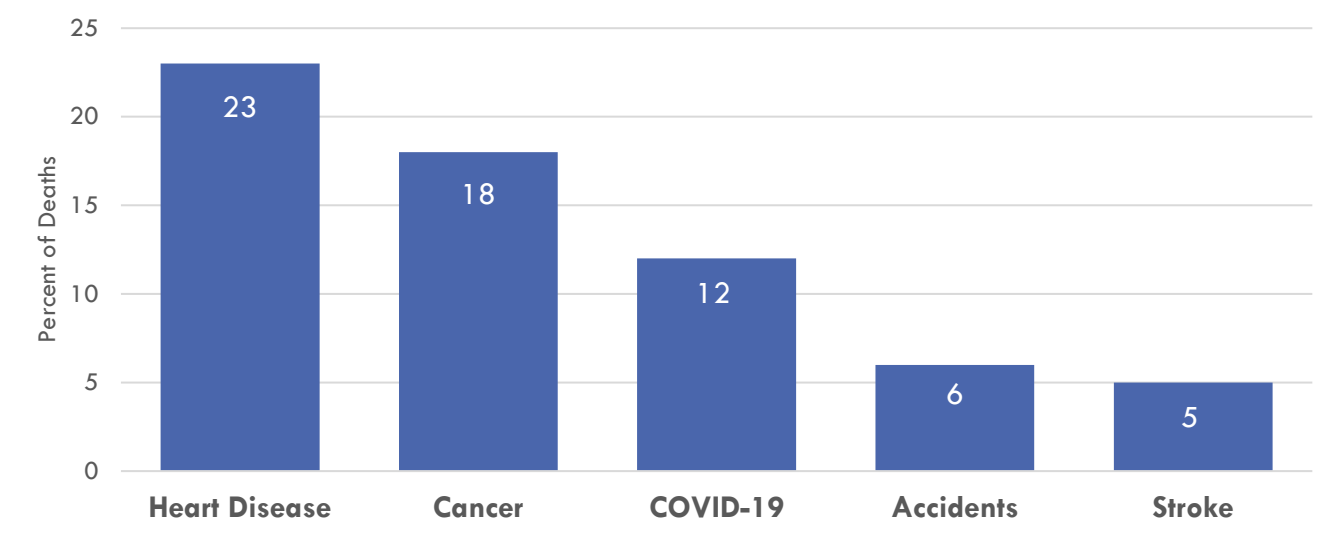
According to the World Health Organization, injuries take the lives of 4.4 million people worldwide yearly and cause approximately 8% of all deaths. Three of the top five causes of death are injury-related for people aged 5-29 years. In addition, millions more people suffer nonfatal injuries which cause emergency department visits and hospitalizations and may result in temporary or permanent disability.[1]

Mortality

In 2021, the top five leading causes of death in Michigan were: heart disease, cancer, COVID-19, accidents, and stroke (Figure 1). The work that the State of Michigan continues to do with trauma and systems of care to ensure a positive outcome for those injured or who have suffered a stroke or heart attack impact all of Michigan residents and visitors.

As unintentional injury deaths rose by 12.3% from 2020 to 2021 for United States, a comprehensive strategic plan is a must to effectively utilize resources to provide the best patient care in Michigan.[2]

Figure 1: Top Five Leading Causes of Death, by Percent of All Deaths, in Michigan, 2021

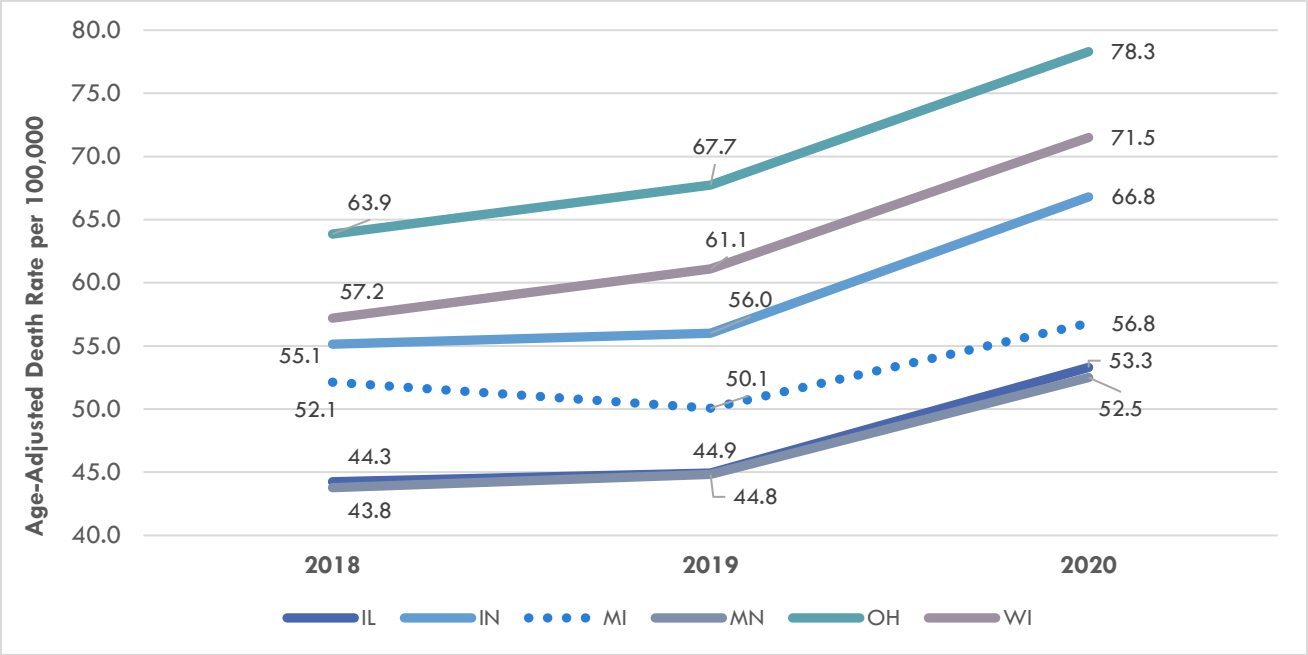


Data Source: 2021 Michigan Resident Death File, Division of Vital Records and Health Statistics, Michigan Department of Health, and Human Services.

Age-adjusted death rates for unintentional injuries increased from 52.1 to 56.8 (per 100,000) from 2018 to 2020 for Michigan, a 9% change. This trend is similar to surrounding states (Figure 2). In addition, the number of deaths in Michigan from unintentional injuries in 2020 was 6,097 with 94,667 years of potential life lost (Table 1). The average cost of selected unintentional injuries in Michigan (including medical and statistical life lost) in 2020 was 3.9 million for falls, 10.2 million for motor vehicle-traffic (unspecified), and 8.9 million for struck by/against (Table 1).

[1] https://www.who.int/news-room/fact-sheets/detail/injuries-and-violence
[2] https://www.cdc.gov/nchs/data/databriefs/db456.pdf

Figure 2: Age-Adjusted Unintentional Injury Deaths for Michigan (MI), Wisconsin (WI), Ohio (OH), Indiana (IN), Minnesota (MN), and Illinois (IL) for 2018-2020



Data Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [2023-03-14]. Available from URL: www.cdc.gov/injury/wisqars

Table 1: Number of Unintentional Injury Deaths, Age-Adjusted Death Rates, Years of Potential Life Lost (YPLL), and Cost *(in Millions)* for Michigan and Surrounding States, 2020

State	Number of Deaths	Age-Adjusted (per 100,000)	YPLL	Falls	MV-Traffic (unspecified)	Struck By/Against
Illinois	7,170	53.3	119,964	4.4 M	10.4 M	10.4 M
Indiana	4,580	66.8	88,664	4.9 M	10.7 M	10.5 M
Michigan	6,097	56.8	94,667	3.9 M	10.2 M	8.9 M
Minnesota	3,319	52.5	43,200	3.7 M	10.3 M	8.1 M
Ohio	9,436	78.3	168,762	4.1 M	10.5 M	9.3 M
Wisconsin	4,682	71.5	57,969	3.5 M	9.9 M	7.8 M

Data Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [2023-03-14]. Available from URL: www.cdc.gov/injury/wisqars

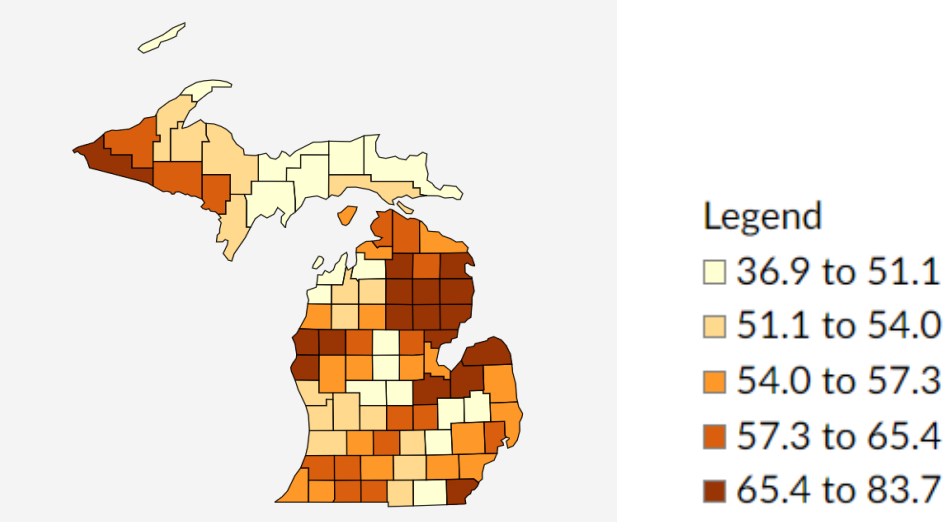
Michigan Data

Unintentional injuries were the fourth leading cause of death for all age groups combined in Michigan, and it was the number one leading cause of death for ages 1-49 years in 2021.[3] Males are more likely to suffer a fatal unintentional injury than females (77.8 vs 36.9, per 100,000; Appendix C, Figure 6). The 85+ years old age group had the highest death rate from unintentional injury (449.2), followed by 80-84 years old (153.7), 75-79 years old (97.9), 35-39 years old (73.8), and 30-34 years old (71.5) (Appendix C, Figure 7). Black males had the highest death rate from unintentional injuries out of all racial groups reported (119.2 per 100,000; Appendix C, Figure 8).

Geography and Resources

Michigan has a total area of 99,729 square miles which includes 58,110 square miles of land that is separated into two distinct peninsulas (upper peninsula and lower peninsula).[4] Michigan has 83 counties and is the 11th largest state and the 10th most populous. Resources and population vary across the state with most of the population residing in the lower peninsula. The age-adjusted rate for unintentional injury deaths vary by county as can be seen in Figure 3.

Figure 3: Smoothed Age-Adjusted Rate for Unintentional Injury Deaths per 100,000 by County for Michigan, 2020



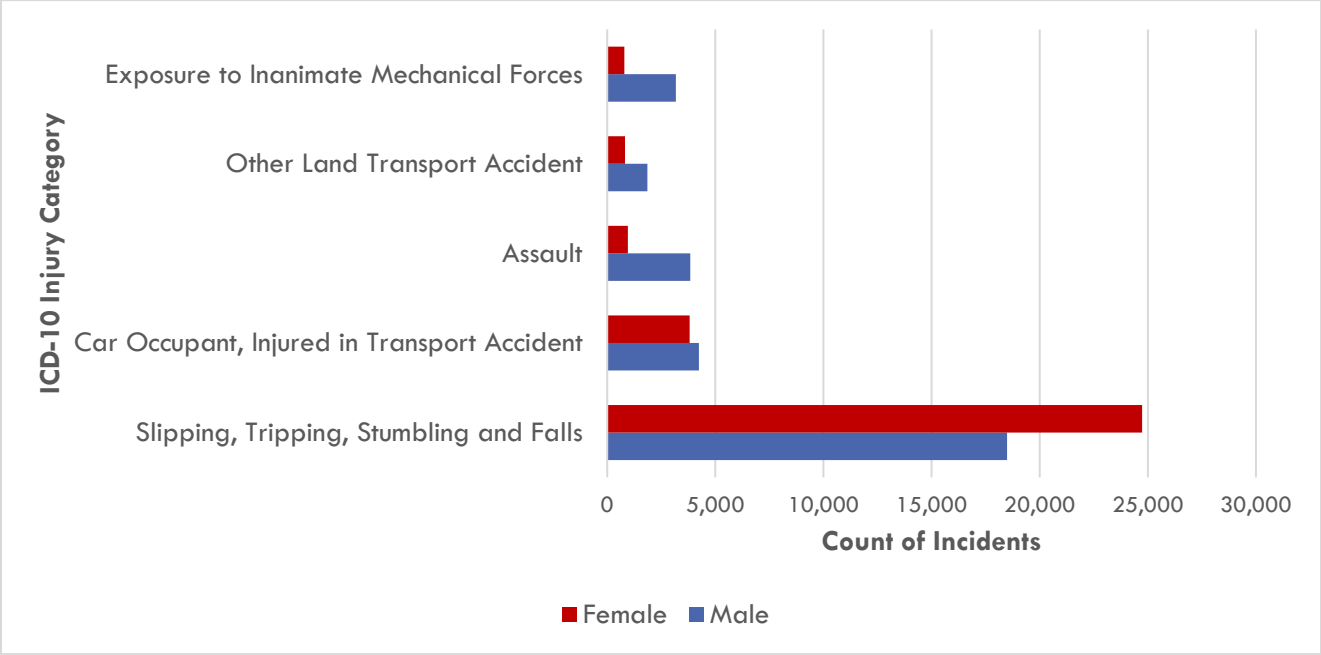
Data Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [2023-03-14]. Available from URL: www.cdc.gov/injury/wisqars

Michigan Trauma Registry

Trauma center participation in the Michigan trauma registry is an essential component of a regionalized, accountable, and coordinated trauma system. Michigan requires designated trauma facilities to participate in the registry which provides data for injury prevention, performance improvement, and allocation of resources. According to registry data, the top five incidents for all ages combined in 2021, were: slipping, tripping, stumbling, and falls; car occupant injured in transport accident; assault; exposure to inanimate mechanical forces; and other land transport accident (Figure 4).

[3] https://vitalstats.michigan.gov/osr/deaths/LeadingAgeSpecificCauseTotal2021.asp
[4] https://www.worldatlas.com/maps/united-states/michigan

Figure 4: Top Five Injury Categories, by Gender, in Michigan, 2021

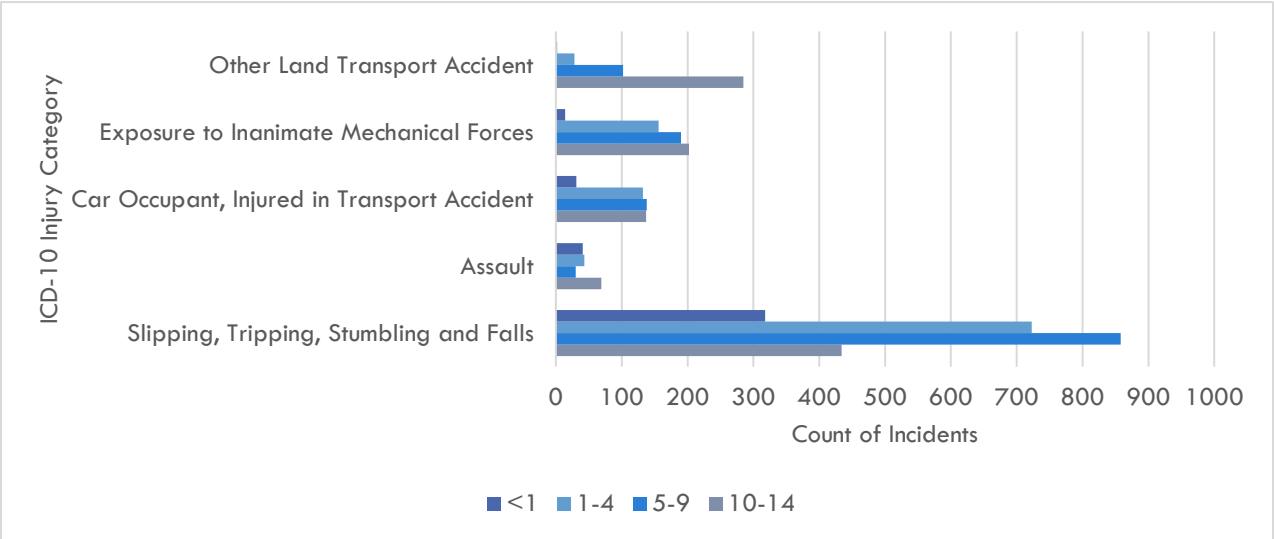


Data Source: 2021 Michigan Trauma Registry. Michigan Department of Health and Human Services.

Special Population-Pediatric Patients

Pediatric trauma patients (less than 15 years old) are high risk and low frequency incidents which designated trauma centers must be prepared for. With only seven designated pediatric trauma centers (all in the lower peninsula) for the state, it is important for trauma programs to focus on pediatric readiness. Region 2 South has consistently had the most pediatric encounters while Region 8 had the least (Appendix C, Figure 9). Slipping, tripping, stumbling, and falls was the leading cause of pediatric trauma patient encounters for all age groups (Figure 5).

Figure 5: Top Five Injury Categories, by Age Group, in Michigan, 2021



Data Source: 2021 Michigan Trauma Registry. Michigan Department of Health and Human Services.

The impacts of the leading causes of death in Michigan (heart disease, accidents, and stroke) in terms of productive life lost, cost and the drain on caregivers and communities requires a thoughtful, evidenced based response that considers the continuum of care from prevention to rehabilitation and beyond. The Michigan Department of Health and Human Services is operationalizing a system of care for time sensitive emergencies that ensures the most efficient use of resources, considers effective integration, the continuum of care and continual performance improvement. This strategic plan will support that work.

STRATEGIC PLAN

This plan builds on the previous *Michigan Trauma System Strategic Plan 2018-2023* and is a guide to operationalizing a system of care that ensures the injured or potentially injured receive the right care at the right place at the right time. It is a tool used to measure progress, craft strategies, and prioritize goals and objectives to manage resources effectively.

The lessons learned and the experience gained from system building informed the discussion. Considerations necessary for a mature system were a priority for the workgroups that developed the goals and objectives in the document particularly the importance of system assessment and evaluation.

The foundational material informing this work is the sentinel document *Model Trauma System Planning and Evaluation* published by the office of Health and Human Services (2006) as well as the *Michigan Trauma System Injury Prevention Plan* (2021) *The Michigan Trauma System Administrative Rules* (2017), *A Statewide System of Care for Time Sensitive Emergencies The Integration of Stroke and STEMI Care into the Regional Trauma System* White paper (2020). The workgroups tasked with the developed of this plan were chaired by members of the Statewide Trauma Advisory Subcommittee (STAC) and trauma content experts from across the state. Barriers, opportunities outlined by the workgroups informed the goals, objectives, strategies, and timelines. The categories used in the 2018-2023 plan were folded into three general categories:

Workgroup 1-System Assessment and Data

Workgroup 2-Operational and Clinical

Workgroup 3-Injury Prevention/Education/Leadership

Mission

Achieving optimal patient outcomes through an integrated, coordinated, statewide trauma system of quality care, education, and injury prevention.

Vision

An effective statewide system of coordinated and standardized evidenced-based trauma care that is patient centered and outcome focused.

- The integrated system spans the entire continuum of care from injury prevention to post-acute care.
- The system is accountable, highly effective, and widely recognized as a model for time sensitive trauma care.

SYSTEM ASSESSMENT AND DATA

Assessment, data collection and evaluation are inextricably linked. Systems function on data driven decision making. System assessment and evaluation requires complete, accurate, data and trended analysis. Important elements of system effectiveness were outlined in the Model Trauma System Planning and Evaluation (2006) *Key aspects of system-wide effectiveness include outcomes of population-based injury prevention initiatives; access to care as well as the availability of services; quality of services provided with the trauma care continuum for injury for injury epidemiology; resource assessments; prehospital and acute care management phases through rehabilitation; community reintegration; and financial impact or cost.* The goals and objectives outlined in the plan are designed to address these elements of system effectiveness. The barriers and opportunities acknowledge the challenges and identify potential resources to mobilize.

System Assessment

Barriers:

- Population based injury data has not been fully realized.
- Collaboration of EMS, Systems of Care, and Local Public Health has not been fully realized.
- No formal definition of what "system effectiveness" means from a national perspective allows for variation in measurement and assessment. Inconsistently incomplete information regarding system components limits the Regional Professional Standards Review Organizations ability to fully assess local system function and conduct a gap analysis.
- Last external assessment is six years old, conducted by National Highway Traffic Safety Administration (2017).
- Silos exist regarding areas of responsibility work plans and operational procedures.
- There is no consensus on data collection for system metrics or for rehabilitation.
- Regulatory agencies may lack awareness of the implications that compliance issues may have for trauma system.
- New developments and challenges around patient movement, Rural Emergency Hospitals will require careful evaluation of their impact and existing rules and regulation.

Opportunities:

- There are many entities collecting elements of injury and injury surveillance in Michigan. The trauma registry adds a more specificity to data on injury, patient outcomes, and productive life lost.
- Engagement in the Local Health Departments Community Needs Surveys.
- Regional partners are engaged and committed to system evaluation as evidenced by the robust membership and commitment to participate in the Regional Professional Standards Review Organization (RPSRO). Trauma partners understand and are committed to contributing to the discussion and planning around mass casualty events.
- Regional Professional Standards Review Organizations are gaining expertise in monitoring system function.
- There is a policy and procedure in place for Performance Improvement review of regional and inter-regional issues.

- The addition of the continuum of care perspective, considerations for data and functional outcomes will inform system impacts.
- Interdepartmental relationships have been built and lines of communication are clear.

Goals:

- Using existing surveillance data, monitor and trend injury to inform initiatives, publications, drive patient care, performance improvement and system evaluation.
- Monitor system function against evidenced based STAC approved benchmarks.
- Assess system components, develop plans to address identified gaps.
- Assess and address identified gaps in trauma emergency preparedness.

Objectives:

- **By December 31, 2025,** conduct a STAC approved comprehensive system inventory in each region that informs the Regional Trauma Networks on system functioning and continue dialogue with the regions to ensure the inventory meets state-wide analysis needs.
- **By December 31, 2026,** refine the process that informs the STAC and the Department of the identified gaps and strategies originating in the eight (8) geographical RPSROs.
- **By Dec. 31, 2026,** with input from STAC assess and evaluate the impact of the Open Meeting Act requirements.
- **Through December 31, 2029,** annually report data from the trauma registry including, but not limited to, age, gender, top mechanisms of injury, injury severity score (ISS) mortality, health equity, and special populations. Use the data to guide the strategic plan initiatives, injury prevention projects and regional trauma networks' workplans.
- **By December 31, 2029,** build on collaborations with injury prevention partners regarding injury surveillance and reporting as evidenced by fact sheets, web links, participation in meetings and projects.
- **Through December 31, 2029,** monitor and assess the state-wide trauma system as evidenced by biannual Regional Professional Standards Review Organization (RPSRO) Inventories and other assessment tools which collect system metrics identified in the Administrative Rules.
- **By Dec. 31, 2029,** monitor, and assess and participate in any after action discussion related to any trauma system response to MCI including any potential barriers i.e., silos.
- **By Dec 31, 2029,** inform the STAC of any after action items requiring their input including initiatives, education, training to support trauma system response to MCI.
- **By Dec 31, 2029,** develop and monitor system evaluation metrics that are routinely reported to STAC.
- **By Dec 31, 2029,** develop with input from rehabilitation partners, metrics that capture and report functional outcomes.
- **By Dec 31, 2029,** participate in an American College of Surgeons-Committee on Trauma, Trauma Systems Consultation Visit.

Data

Data is a crucial system component, according to *Model Trauma System Planning and Evaluation 2006*, *The trauma management information system should be designed to provide system-wide data that allow and facilitate evaluation of the structure, process, and outcomes of the entire system: all phases of care and their interactions.*

The barriers and opportunities noted below acknowledge the challenges and identify potential resources to mobilize and inform the goals and the objectives that make them achievable.

Barriers:

- Limited data set. Administrative Rules require National Trauma Data Set, minimally, and modification may require additional resources.
- Elements not defined in data dictionary will create inconsistencies. Data metrics for functional outcomes post-acute care and rehab are not available at the regional level.
- Turnover in hospital registrars, data workforce impacts data collection and RPRSO Inventory updates.
- Training needs are ongoing.
- Data across care continuum is not linked.
- The state trauma registry is populated with incident data; however, completeness and validity have not been fully established.

Opportunities:

- Ongoing, active participation in state trauma registry. Engaged trauma registrars and mentoring opportunities.
- Training and education is ongoing.
- Consider best practices from other states using the same software.
- Explore the collection of additional data elements with input from advisory bodies.
- Collaboration with the Michigan Trauma Quality Improvement Program as applicable.
- National data could be used to describe cost of injury. Some inferred data can be considered to describe the cost of injury.
- Academic research may provide an opportunity to describe cost of injury and trauma care.
- Cost data can describe the benefits of implementing a trauma system that improves outcomes and productive life saved.

Goal:

- Ongoing collection of actionable data to drive system development, performance improvement, system evaluation.

Objectives:

- **By December 31, 2024**, develop and disseminate a trauma system brief for hospital administrators that describes the statewide trauma system including a statement on data collection, the functions necessary to maintain a trauma registry, and the value add of data driven decision making.
- **By December 31, 2026**, consider resources and support needed for state data collection including an interface with EMS, trauma, stroke, and ST Elevation Myocardial Infarction (STEMI).
- **By December 31, 2029**, address gaps in data management that reflect stakeholder input as evidenced by education and training, registry office hours, webinars and workshops that are accessible, held biannually and evaluated.
- **By December 31, 2029**, develop a Michigan Data Dictionary based on the National Trauma Data Standards that provides information to address inconsistencies, refine the definitions and considers additional data sources.

- **By December 31, 2029,** build on the ongoing efforts to address data completeness and timeliness as evidenced by an established query and report formalized in policy and procedure that includes designation status.
- **Through December 31, 2029,** the Department and trauma registry software vendor shall routinely manage options that best address identified needs in collaboration with registry participants' input.

OPERATIONS AND CLINICAL

The system is composed of many interacting components that must act in concert seamlessly to ensure the right patient, gets to the right resource at the right time. In the Model Trauma System Planning and Evaluation (2006) document it states, *Trauma system components include ensuring constituents that services necessary to achieve agreed upon goals are provided by encouraging the actions of others (public and private); requiring action through regulations; and providing services directly*. As in the previous sections the workgroup determined what barriers and opportunities could be identified that assist in defining the goals and the objectives needed to ensure the operations and clinical response of the trauma system.

Operations

Barriers:

- Lack of familiarity with state preparedness plan as it relates to mass casualty incidents and patient surge planning. The plan was developed prior to the existence of the trauma system therefore gaps in communication exist.
- In the aftermath of the COVID-19 pandemic there have been numerous leadership changes which has created a loss of institutional knowledge.
- There are regional variations in the level of participation trauma staff (regional and other) may have with preparedness plans, policies, and meetings.
- Incident Management (surges of all varieties) have implications for Trauma. Each geographic area has different pathways and roles.
- There are variations both regionally and locally in the relationships between hospital Trauma Medical Directors (TMD) and Medical Control Authority (MCA) and in MCA's operations and staffing levels as well as in the support provided by facilities for outside, nonclinical work.
- The System of Care for stroke and STEMI Administrative Rules which drive the operationalization of the integration of stroke and STEMI into the trauma system have not yet been adopted by the Secretary of State.
- Planning is taking place in the post pandemic environment making forecasting difficult and planning more complicated. Each developing System has its own timeline for operationalization.

Opportunities:

- Provide ongoing, clear communication regarding regional preparedness planning at regional trauma meetings.
- The Bureau of Emergency Preparedness, EMS and Systems of Care houses the Preparedness, EMS and Systems of Care Divisions providing opportunities for collaborations, partnerships, and insights.
- Regional Trauma Coordinators have been invited to attend state preparedness meetings. Some are better integrated than others such as pediatric readiness. Regional Leadership is the primary meeting that most preparedness activities are discussed.

- Systems of Care for Stroke and STEMI Administrative Rules have drafted and are moving through the adoption process.
- The resources to support the integration of stroke and STEMI have been allocated by the legislature.
- The trauma system has been effectively and efficiently functioning for eleven years providing many opportunities for best practices and lessons learned.

Goal:

- Develop a policy for incident management and trauma system partnership.
- Develop a sample policy delineating the responsibilities of the TMD in each trauma facility and the Medical Control Authority (MCA) Medical Director regarding the roles, responsibilities, and methods of working together.
- Integrate stroke and STEMI into the existing trauma system.

Objectives:

- **By December 31, 2024,** trauma leadership and regional trauma partners will be integrated in preparedness planning at the Medical Control Authority, regional, and state level as evidenced by meeting attendance, participation in exercises and communications.
- **By December 31, 2024,** disseminate communications i.e., Monday Update from Preparedness to the Regional Trauma Networks
- **By December 31, 2029,** demonstrate the feasibility of linking data in MI-EMSIS and the state trauma registry using a subset of trauma transfers.
- **By Dec 31, 2029,** a process is developed and routinely implemented for trauma stakeholders (TMD, MCA Med Directors, and staff) to discuss and plan data driven interventions for issues related to triage, communication, treatment and transport and trauma related protocols that includes the RPRSO when appropriate.
- **By December 31, 2025,** ensure a communication pathway is established between the statewide trauma advisory committee (STAC), statewide stroke care advisory subcommittee (SSAC), and statewide STEMI care advisory subcommittee (SSTAC) on system related issues that impact these time sensitive emergencies.
- **By December 31, 2029,** demonstrate collaborative, integrated, functioning System of Care in Michigan as evidenced by regional committee meetings, categorizing of resources and protocols that reflect those resources, data collection, and data driven decision making.

Clinical

Barriers:

- Smaller facilities have staff who serve multiple roles which limits opportunities for non-clinical activities.
- Lack of formal, consistent, messaging about the trauma program and system to hospital leadership.
- Trauma education is an ongoing need. Advanced Life Support Services are not as prevalent in rural areas which can lead to level IV trauma facilities receiving high acuity patients with limited interventions prior to arrival.
- Workforce issues are prevalent statewide and will need long term solutions.
- There are inconsistency in MCAs monitoring adherence to destination protocols.

- Metrics that accurately describe patient movement in and through the regions including emergency department dwell times, level of transport, and transport times need to be defined, collection processes formalized, and data reported on.
- A myriad of complex variables impacts prehospital transport i.e., resources, call volumes, and transport distance that will require complex solutions and resources.
- There is no uniform method to collect multiple transfer information.

Opportunities:

- Opportunities exist for EMS and trauma leadership to discuss and develop clearly defined cooperative, ongoing relationships.
- Trauma system stakeholders are interested and engaged in the system and how to improve its functioning.
- Discussions are ongoing about supporting uniform methods of identifying trauma incidents in Michigan Emergency Medical Services Information System (MI-EMSIS) to support system and care evaluation. The partnership with biospatial to develop the Field Triage analysis based on trauma inclusion criteria created foundational work that can be capitalized upon.
- Regional tracking and monitoring of multiple transfers is occurring which will provide an opportunity for lessons learned and best practices.
- System leadership and stakeholders from both EMS and trauma are committed to developing a process to track and trend patient movement and the inherent challenges therein.

Goals:

- Ensure there is a performance improvement process that reviews the components of the system and implements process improvement when necessary.
- Develop systems and a process for monitoring interfacility transfers.

Objectives:

- **By December 31, 2025,** develop and disseminate communication tools to support relationship building with trauma stakeholders and constituents.
- **By December 31, 2026,** the regions will track all trauma transfers to assess the root cause of delays, overall function, and resource utilization. The following should be considered: time of decision to transfer, time of acceptance at receiving facility, time bed assigned at receiving facility, time EMS called, and time of EMS arrival for transport. Issues and challenges related to patient transfers including transfer guidelines and procedures, lack of or limited monitoring of ED dwell times, failure to report trends to the RPSRO will be monitored and strategies to address will be put into place.
- **By December 31, 2028,** the Department will put into place plans, policies, tools, and tracking methods for patient transfers to ensure trauma patients are moved appropriately and expeditiously.
- **By December 31, 2029**, the Department will develop tools and processes to measure the components of the system; including medical oversight of trauma triage, communication, treatment, and transport, probabilistic links Mi-EMSIS and trauma registry data, a formal method to monitor, track and trend patient transfers in the system, develop a standardized practice to identify and review deviations in protocols, guidelines, and care.

INJURY PREVENTION/EDUCATION/LEADERSHIP

Trauma systems effectiveness, positive patient outcomes, and system sustainability are influenced by education and training of its workforce, the community, work around injury prevention, and leadership support for the system. Model Trauma system Planning and Evaluation 2006 states that "Assessment is described as a regular systematic collection, assembly, analysis, and dissemination of information on the health of the community. Trauma Systems must develop prevention strategies that help control injury as part of an integrated, coordinated, and inclusive trauma system. Trauma System leaders maintain and constantly evaluate and improve a comprehensive trauma system in cooperation with medical, professional, governmental, and citizen organization."

Injury Prevention

Barriers:

- Multiple competing priorities, resource demands and workforce challenges impact injury prevention initiatives.
- Challenges regarding actionable data include: the broad range of data sources, that while a significant resource, require resources to collect, analyze and made useable. Data is collected from sources that are independent of each other, staff turnover continues to impact data collection.

Opportunities:

- The State Injury Prevention Plan is available for stakeholders to use (published November 2021)
- Engaged, committed partners and stakeholders in state trauma programs.
- Partnerships with Michigan Department of Health and Human Services (MDHHS), Chronic Disease Injury Prevention and Epidemiology who have years of experience with injury prevention initiatives and surveillance for injury.
- The Division of EMS and Systems of Care has epidemiologic expertise to monitor and analyze injury data and develop reports.
- Commitment from local and national stakeholders such as American College of Surgeons, Safe Kids Coalition, CDC, Office of Highway Safety Planning etc. for resource allocation for injury prevention.

Goal:

- Develop, implement, and evaluate the written plan for injury prevention based on actionable data that reflects national guidelines and includes community partners and stakeholders.

Objectives:

- **By January 1, 2024,** Bi-annual surveillance reports from the Michigan Trauma Registry for the Regional Inventories will include, at a minimum, the top 3 causes of injury in each of the 8 Regions.
- **By December 31, 2024,** each Regional Trauma Advisory Council (RTAC) Injury Prevention (IP) committee will report on which injury prevention programs have been implemented in their region.
  - The regional IP committee will analyze the number and type of programs that directly address the top 3 injuries programs in their region as reported in the Inventory.
- **By December 31, 2024,** each regional IP committee will identify and address gaps in their regional programs. IP plans will be updated. Progress on this objective will be reported on the Regional Trauma Coordinator's (RTC's) annual report.
- **By January 1, 2025,** MDHHS Systems of Care Section staff will educate the STAC, Regional

Trauma Networks (RTNs), Injury Prevention Committees, and their hospital representatives about this plan; how the components of the plan are interconnected, how the plan is integrated into existing work, and how the work will be reported.

- **By December 31, 2025,** each regional IP committee will report on injury prevention outcome data for at least one implemented program. This will be recorded in the Region's Annual Report.
- **By December 31, 2025,** assess and report on the level of integration of national evidence-based injury prevention programs in the public health and the trauma system i.e., include Safe Kids programs, Tai Chi, and Matter of Balance for fall prevention, Think First for safe teen driving, and DNR hunter and gun safety courses.
- **By December 31, 2025,** support ongoing, effective collaborations and integration of existing community health programs and injury prevention.
- **By December 31, 2025,** The RTNs will work with a minimum of one other local agency on injury prevention education and/or interventions to mitigate a minimum of one of the top 3 injuries in their region. This can be accomplished at the regional or hospital level.
- **Before January 1, 2027,** the Systems of Care Section will update the epidemiologic data in this plan every 2 - 5 years. Where possible, future data should be broadened from analysis by frequency, sex, age, type and cause of injury, and geography to include race, ethnicity, and gender identity. This will be reported to the Regional Injury Prevention Committees and the STAC.
- **By January 1, 2027,** future epidemiological data will also provide more detailed data on the etiology of the most common causes of injuries i.e., the causes of traumatic brain injury, the most common injuries associated with falls, ground level and other types.
- **By January 1, 2027,** allocate available resources to support injury prevention work, based on identified injury prevention needs that include an evaluation component.
- **By December 31, 2029** develop new partnerships with public health agencies and other agencies involved in violence and injury prevention including but not limited to; partners already involved in this work, health care facilities, local public health departments, Area Agencies on Aging, the American Red Cross, Michigan Department of Health and Human Services (MDHHS) Chronic Disease Injury Prevention and Epidemiology, University of Michigan Injury Prevention Center: a CDC Injury Control Research Center, Office of Highway Safety and Planning, Department of Natural Resources, and the Michigan Trauma Coalition.

Education

Goal:

- Support education of trauma system partners and stakeholders as resources allow.

Objectives:

- **By October 31, 2025,** the MDHHS Systems of Care Section will provide resources to support material on the trauma website i.e. links to pre-hospital, nursing, physician, and registrar training regarding evidence-based programs recommended by recognized professional bodies such as the American College of Surgeons (ACS), Emergency Nurses Association (ENA), Society of Trauma Nurses (STN), National Association of EMT's (NAEMT), National Association of Emergency Physicians (NAEMSP), and American College of Emergency Physicians (ACEP).
- **By October 31, 2025,** though the regional PI process, RPSRO feedback, member organization and stakeholder feedback, and Michigan Information System (MIS) data, the education needs of trauma, stroke

and STEMI providers will be identified. The level of trauma, stroke, and STEMI centers and urban versus rural centers should be considered. There is evidence that these needs are addressed in the Region's annual report and are re-assessed annually.

- **By December 31, 2025,** the region will assess the availability of training opportunities. The purpose is to identify educational gaps. A regional profile will be reported, and opportunities identified in the Region's Annual Report.
- **By January 2026,** the MDHHS Systems of Care Section will develop an internet-based public education system with hyperlinks and resources which can be accessed from the michigan.gov/trauma website.
    - Build a resource page with hyperlinks to websites that support the identified priorities for injury prevention and education in the state of Michigan.
    - Links to prevention tips for the top 3 identified injuries from the state trauma registry should be included.
- **By December 31, 2026,** each region will promote evidence-informed injury prevention activities and/or projects as evidenced by the implementation of:
    - A regional annual community event to correlate with trauma awareness month. [May]
    - Identify topics and talking points, though collaboration with existing resources and agencies, to increase public awareness that trauma is a preventable disease.
    - Level 1 and 2 trauma centers will provide leadership for Regional IP activities working in collaboration with the level III and IV.
- **By December 31, 2027,** the MDHHS Systems of Care Section will assess the overall state of education and training, by reviewing the regional reports, and develop an education plan to assist in addressing any gaps.

Leadership

Barriers:

- Lack of existing data to establish cost-benefit of, and societal investment in, the trauma system.
- Public sector leadership may lack education on current state of the trauma system.
- Message needs may differ from the local to regional to state leadership.

Opportunities:

- An opportunity to develop a clear, concise, consistent communication about the Michigan Trauma System.

Goal:

- There is structure, leadership, and resources to support a regionalized, coordinated, and accountable system of care for the injured or potentially injured in Michigan.

Objectives:

- **By December 31, 2026,** standardized state Michigan Trauma Quality Improvement Program (MTQIP), biospacial, and/or Annual Inventory reports will be shared with the Regions to evaluate and address gaps and opportunities.
- **By December 31, 2026,** there is documented evidence in the Region's Annual Report of a plan to address a minimum of one identified gap or opportunity in the following year.
- **By September 30, 2027,** develop a messaging/media campaign from the trauma system that resonates with the intended spectrum of constituents as evidenced by print, social media, and other communication modalities.
- **By September 30, 2028,** measure the campaign as evidenced by exposure, engagement, influence, and report results to STAC.

- **Through Dec 31, 2029,** The MDHHS Systems of Care Section will promote awareness of potentially impactful legislation by:
  - Emailing any informational legislative notices that impact trauma, systems of care or injury prevention to constituents.
  - RTNs will educate their constituents at the regional meetings as evidenced by documentation.

APPENDIX A
STATE TRAUMA ADVISORY COMMITTEE MEMBERSHIP & DESIGNATION SUBCOMMITTEE MEMBERSHIP

APPENDIX A
STATE TRAUMA ADVISORY COMMITTEE MEMBERSHIP & DESIGNATION SUBCOMMITTEE MEMBERSHIP

Michigan Department of Health & Human Services
Bureau of EMS, Trauma & Preparedness

STATEWIDE TRAUMA ADVISORY SUBCOMMITTEE MEMBERS

January 2022

Name	Position	Term
Kelly Burns Spectrum Health Butterworth 221 Michigan NE Grand Rapids, MI 49503 Phone: 616-520-1792 Kelly.burns@spectrumhealth.org	Trauma Registrar	1-2025
Howard Klausner, MD Henry Ford Health System 2799 W Grand Blvd., CFP 266 Detroit, MI 48202 Phone: 248-469-3159 hklausn1@hfhs.org	MCA Medical Director, Non-rural County	1-2025
Pavan Brahmamdam, MD Corewell Health East, Beaumont Childrens 3535 W. 13 Mile Road, Suite 307 Royal Oak, MI 48073 Phone: (248) 551-2400 pavan.brahmamdam@corewellhealth.org	Trauma Surgeon/Trauma Medical Director	1-2025
Sarah Hughes, BSN, RN Oaklawn Hospital 200 North Madison Street Marshal, MI 49068 Phone: 269-789-7144 shughes@oaklawnhospital.com	Hospital Administrator NOT designated as a Level I or Level II trauma center by the American College of Surgeons Committee on Trauma	1-2025
Sarah Helveston, RN Munson Medical Center 1105 Sixth St Traverse City, MI 49684 Phone: 231-935-2805 shelveston@mch.net	Trauma Nurse Coordinator	1-2025
Ryan J. Reece, MD Hurley Medical Center 1 Hurley Plaza Flint, MI 48503 Phone: 810-262-9854 rreece2@hurleymc.com	Emergency Physician	1-2025

Name	Position	Term
Christopher Milligan St. Joseph County MCA Phone: 269-720-9212 christopher.milligan@envisionhealth.com	MCA Medical Director, Rural County	1-2025
Kevin Wilkinson Medstar 380 N. Gratiot Avenue Clinton Township, MI 48036 Phone: (517) 375-0562 kwilkinson@medstarambulance.org	Life Support Agency Manager who is a member of the Emergency Medical Services Coordination Committee (EMSCC)	1-2025
Amy Koestner, MSN, BSN, RN Spectrum Health 100 Michigan St. NE Grand Rapids, MI 49503 Phone: 616-392-2772 amy.koestner@spectrumhalth.org	Hospital Administrator designated as a Level I or Level II trauma center by the American College of Surgeons Committee on Trauma	1-2025
Wayne Vanderkolk, MD Saint Mary's Trauma Center 200 Jefferson Grand Rapids, MI 49503 Phone: 616-456-5311 waynshell@aol.com	Trauma Surgeon/Trauma Medical Director	1-2025

Department Contact Information:

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Bureau of Emergency Preparedness, EMS, and Systems of Care
PO Box 30207
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517-355-8150

Trauma Section Manager-Eileen Worden
Phone: 517-643-2296
wordene@michigan.gov

Verification/Designation Coordinator-Tammy First
TraumaDesignationCoordinator@michigan.gov

State Trauma Registry Administrator – Jill Jean
StateTraumaRegistrar@michigan.gov

DESIGNATION SUBCOMMITTEE MEMBERS

Name	Position	Term
Courtney Berry, MBA-HA, BSN, RN Surgical Affiliates Management Group 50 N Perry Street Pontiac, MI 48342 Phone: 248-338-5309 cberry@samgi.com	Trauma Program Manager Level II Hospital Region 2N	12-31-2025
Joseph Buck, MD Ascension St. John Hospital 22101 Moross Road Detroit, MI 48236 Phone: 313-343-7542 joseph.buck@ascension.org	Board Certified Surgeon Region 2S	12-31-2025
Todd Chassee, MD Spectrum Health 678 Front Avenue NW, Suite 220 Grand Rapids, MI 49504 Phone: 616-802-8401 todd.chassee@spectrumhealth.org	Board Certified Emergency Department Physician Region 6	12-31-2025
Dawn Cloutier, RN, BSN McLaren Oakland Hospital 50 N Perry Street Pontiac, MI 48342 Phone: 248-338-5309 dawn.cloutier@mclaren.org	Trauma Program Manager Level II Hospital Region 2N	12-31-2025
Deborah Falkenberg, MSN, RN Covenant Healthcare 1447 N Harrison Saginaw, MI 48603 Phone: 989-583-6218 dfalkenberg@chs-mi.com	Trauma Program Manager Level II Hospital Region 3	12-31-2025
Mark Kerschner, MD Bronson Methodist Hospital 601 John Street Kalamazoo, MI 49007 Phone: 269-598-8284 kerschnm@bronsonhg.org	Board Certified Emergency Department Physician Region 5	12-31-2025
Christine McEachin, MBA, BSN, RN Henry Ford Macomb Hospital 15855 Nineteen Mile Clinton Township, MI 48038 Phone: 586-263-2323 cmceach1@hfhs.org	Trauma Program Manager Level II Hospital Region 2N	12-31-2025

Benjamin Mosher, MD Sparrow Hospital 1215 E Michigan, 2 South Trauma Office Lansing, MI 48912 Phone: 517-364-2616 mosherbe@msu.edu	Board Certified Surgeon Region 1	12-31-2025
Sally Ossewaarde, MSN, RN Ascension Borgess Hospital 1521 Gull Road Kalamazoo, MI 49048 Phone: 269-226-5668 sally.ossewaarde@ascension.org	Trauma Program Manager Level I Hospital Region 5	12-32-2025
Sujal Patel, MD Covenant Healthcare 1447 N Harrison Saginaw, MI 48604 Phone: 989-790-4855 espnmd@att.net	Board Certified Surgeon Region 3	12-31-2025
Paula Rechner, MD MyMichigan Medical Center Sault 500 Osborn Blvd. Sault St. Marie, MI 49783 Phone: 906-253-9770 paula.rechner@mymichigan.org	Board Certified Surgeon Region 8	12-31-2025
Penny Stevens, DNP, RN Sparrow Hospital 1215 E Michigan, 2 South Trauma Office Lansing, MI 48912 Phone: 517-364-3783 penny.stevens@sparrow.org	Trauma Program Manager Level I Hospital Region 1	12-31-2025
Wayne VanderKolk, MD Trinity Health Saint Mary's 200 Jefferson Avenue SE Grand Rapids, MI 49503 Phone: 616-456-5311 waynshell@aol.com	Chair Board Certified Surgeon Region 6	12-31-2025
Christopher Wagner, RN, BSN, CFRN, EMT-P Michigan Medicine 1500 East Medical Center Drive Ann Arbor, MI 48109 Phone: 734-936-9658 cwag@umich.edu	Trauma Program Manager Level I Hospital Region 2S	12-31-2025
Jon Walsh, MD, MPH Bronson Methodist Hospital 601 John Street, Box 67 Kalamazoo, MI 49007 Phone: 269-341-6022 walshj@bronsonhg.org	Board Certified Surgeon Region 5	12-31-2025

Department Contact Information:

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Bureau of Emergency Preparedness, EMS and Systems of Care
Division of EMS and Systems of Care
PO Box 30207
Lansing, MI 48909
517-373-7163

Trauma Section Manager-Eileen Worden
wordene@michigan.gov

State Trauma Designation Coordinator-Tammy First
TraumaDesignationCoordinator@michigan.gov

APPENDIX B
MICHIGAN DESIGNATED TRAUMA FACILITIES

Michigan Designated Trauma Hospitals
As of May 2, 2023

Hospital Name	Location	Adult	Pediatric	Expiration Date
Ascension Borgess Hospital	Kalamazoo	Level II		5/11/2023
Ascension Borgess Lee Hospital	Dowagiac	Level IV		11/21/2023
Ascension Genesys Hospital	Grand Blanc	Level II		6/30/2025
Ascension Macomb-Oakland Hospital	Warren	Level III		4/26/2023
Ascension Macomb-Oakland Hospital; Madison Heights	Madison Heights	Level IV		3/28/2026
Ascension Providence Hospital – Novi	Novi	Level II		3/20/2025
Ascension Providence Hospital – Southfield	Southfield	Level II		8/12/2025
Ascension Providence Rochester Hospital	Rochester	Level III		6/6/2023
Ascension River District Hospital	East China	Level IV		7/13/2023
Ascension St. John Hospital	Detroit	Level I	Level II	10/23/2024
Ascension St. Joseph Hospital	Tawas City	Level IV		3/16/2026
Ascension St. Mary's of Michigan	Saginaw	Level II		8/26/2024
Ascension Standish Hospital	Standish	Level IV		6/5/2023
Aspirus Ironwood Hospital	Ironwood	Level IV		10/2/2023
Aspirus Ontonagon Hospital	Ontonagon	Level IV		10/5/2023
Baraga County Memorial Hospital	L'Anse	Level IV		9/11/2024
Bronson Battle Creek	Battle Creek	Level III		1/18/2024
Bronson Lakeview Hospital	Paw Paw	Level IV		12/6/2023
Bronson Methodist Hospital	Kalamazoo	Level I		10/10/2024
Bronson South Haven Hospital	South Haven	Level IV		11/30/2023
C.S. Mott Children's Hospital	Ann Arbor		Level I	2/2/2025
Chelsea Hospital	Chelsea	Level IV		8/30/2025
Children's Hospital of Michigan	Detroit		Level I	10/16/2023
Corewell Health Beaumont Grosse Pointe Hospital	Grosse Pointe	Level III		3/4/2026
Corewell Health Big Rapids	Big Rapids	Level IV		10/16/2023
Corewell Health Blodgett Hospital	Grand Rapids	Level III		1/25/2024
Corewell Health Butterworth Hospital	Grand Rapids	Level I		3/6/2025
Corewell Health East Beaumont Troy Hospital	Troy	Level II		6/4/2025
Corewell Health East Dearborn Hospital	Dearborn	Level II		1/25/2026
Corewell Health Farmington Hills Hospital	Farmington Hills	Level II		1/26/2023
Corewell Health Gerber Hospital	Fremont	Level IV		11/14/2025
Corewell Health Greenville Hospital	Greenville	Level IV		9/13/2023
Corewell Health Helen DeVos Children's Hospital	Grand Rapids		Level I	3/6/2025
Corewell Health Kelsey Hospital	Lakeview	Level IV		3/5/2025
Corewell Health Ludington Hospital	Ludington	Level IV		4/12/2023
Corewell Health Pennock Hospital	Hastings	Level IV		3/11/2024
Corewell Health Reed City Hospital	Reed City	Level IV		10/4/2024
Corewell Health South Niles Hospital	Niles	Level IV		3/13/2026
Corewell Health South St. Joseph Hospital	St. Joseph	Level III		8/15/2024
Corewell Health South Watervliet Hospital	Watervliet	Level IV		6/1/2023
Corewell Health Taylor Hospital	Taylor	Level IV		9/17/2023
Corewell Health Trenton Hospital	Trenton	Level II		12/13/2023
Corewell Health Wayne Hospital	Wayne	Level III		4/17/2025
Corewell Health William Beaumont University Hospital	Royal Oak	Level I	Level II	2/18/2024
Corewell Health Zeeland Hospital	Zeeland	Level III		2/1/2024

Michigan Designated Trauma Hospitals
As of May 2, 2023

Hospital Name	Location	Adult	Pediatric	Expiration Date
Covenant HealthCare	Saginaw	Level II	Level II	12/16/2025
Deckerville Community Hospital	Deckerville	Level IV		2/16/2024
Detroit Receiving Hospital	Detroit	Level I		3/26/2024
DMC Huron Valley-Sinai Hospital	Commerce	Level III		8/10/2025
DMC Sinai-Grace Hospital	Detroit	Level II		11/5/2024
Eaton Rapids Medical Center	Eaton Rapids	Level IV		10/6/2026
Helen Newberry Joy Hospital	Newberry	Level IV		5/18/2023
Henry Ford Allegiance Health	Jackson	Level II		1/18/2024
Henry Ford Hospital	Detroit	Level I		4/30/2023
Henry Ford Macomb Hospital	Clinton Township	Level II		2/27/2023
Henry Ford West Bloomfield	West Bloomfield	Level III		1/19/2025
Henry Ford Wyandotte Hospital	Wyandotte	Level III		12/2/2024
Hills and Dales General Hospital	Cass City	Level IV		11/16/2024
Holland Hospital	Holland	Level III		8/24/2023
Hurley Medical Center	Flint	Level I	Level II	6/1/2025
Lake Huron Medical Center	Port Huron	Level III		6/6/2024
Marlette Regional Hospital	Marlette	Level IV		10/24/2024
McKenzie Health System	Sandusky	Level IV		3/16/2025
McLaren Bay Region	Bay City	Level III		7/17/2024
McLaren Caro Region	Caro	Level IV		5/5/2024
McLaren Flint	Flint	Level III		6/24/2024
McLaren Greater Lansing	Lansing	Level III		7/20/2023
McLaren Lapeer Region	Lapeer	Level II		11/17/2023
McLaren Macomb Hospital	Mt. Clemens	Level II		4/12/2023
McLaren Northern Michigan	Petoskey	Level II		1/22/2024
McLaren Oakland	Pontiac	Level II		9/25/2025
McLaren Port Huron	Port Huron	Level III		12/8/2023
Memorial Healthcare	Owosso	Level III		7/30/2024
Michigan Medicine	Ann Arbor	Level I		9/16/2024
Munson Healthcare Cadillac Hospital	Cadillac	Level IV		8/29/2024
Munson Healthcare Charlevoix Hospital	Charlevoix	Level IV		6/11/2024
Munson Healthcare Grayling Hospital	Grayling	Level IV		6/19/2023
Munson Healthcare Otsego Memorial Hospital	Gaylord	Level IV		8/23/2025
Munson Medical Center	Traverse City	Level II		5/12/2024
MyMichigan Medical Center – Alma	Alma	Level III		11/30/2025
MyMichigan Medical Center – Alpena	Alpena	Level III		10/17/2024
MyMichigan Medical Center – Clare	Clare	Level IV		5/22/2024
MyMichigan Medical Center - Midland	Midland	Level II		2/6/2024
MyMichigan Medical Center – Sault	Sault St. Marie	Level III		8/28/2024
Oaklawn Hospital	Marshall	Level III		7/20/2025
OSF Healthcare St. Francis Hospital and Medical Group	Escanaba	Level IV		9/13/2024
Paul Oliver Memorial Hospital	Frankfort	Level IV		11/17/2023
ProMedica Monroe Regional Hospital	Monroe	Level III		8/12/2025
Scheurer Hospital	Pigeon	Level IV		2/26/2024
Sparrow Carson Hospital	Carson	Level IV		6/4/2023

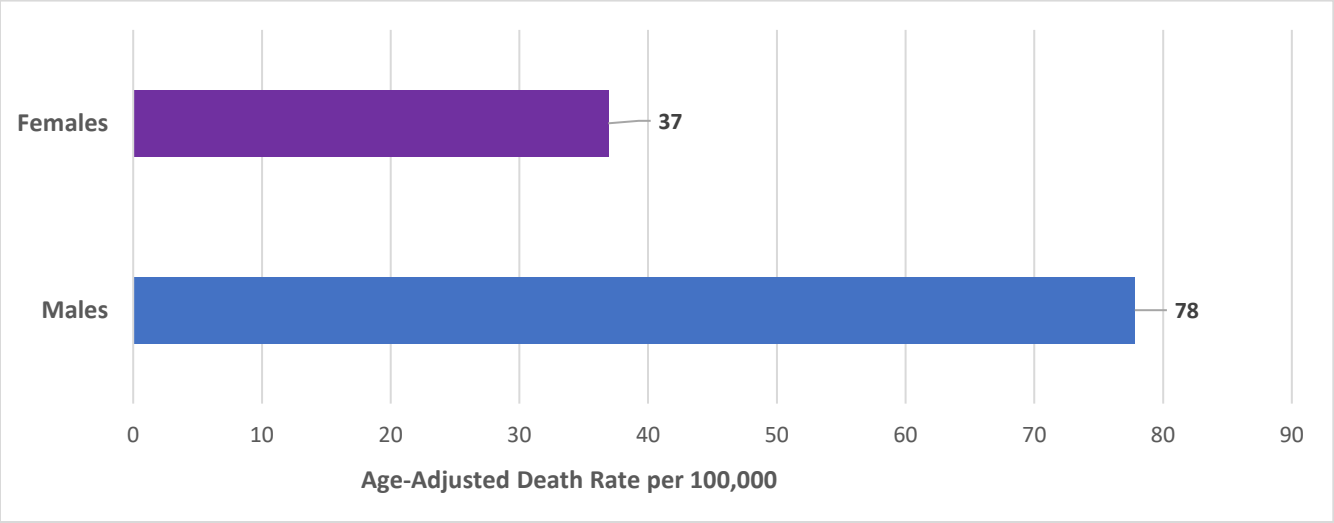
Michigan Designated Trauma Hospitals
As of May 2, 2023

Hospital Name	Location	Adult	Pediatric	Expiration Date
Sparrow Clinton Hospital	St. Johns	Level IV		6/7/2023
Sparrow Hospital	Lansing	Level I		4/26/2024
Sparrow Ionia Hospital	Ionia	Level IV		8/28/2024
Trinity Health Ann Arbor Hospital	Ypsilanti	Level I		6/19/2023
Trinity Health Grand Haven Hospital	Grand Haven	Level IV		1/30/2024
Trinity Health Livingston Hospital	Howell	Level IV		9/29/2025
Trinity Health Livonia Hospital	Livonia	Level II		11/19/2025
Trinity Health Muskegon Hospital	Muskegon	Level II		3/6/2025
Trinity Health Oakland Hospital	Pontiac	Level II		12/6/2025
Trinity Health Saint Mary's	Grand Rapids	Level II		10/29/2023
Trinity Health Shelby Hospital	Shelby	Level IV		2/9/2026
University of Michigan Health - West	Wyoming	Level II		3/31/2024
UP Health System – Marquette	Marquette	Level II		2/10/2023
UP Health System – Portage	Hancock	Level III		6/6/2023

APPENDIX C
BURDEN SUPPLEMENTAL DATA

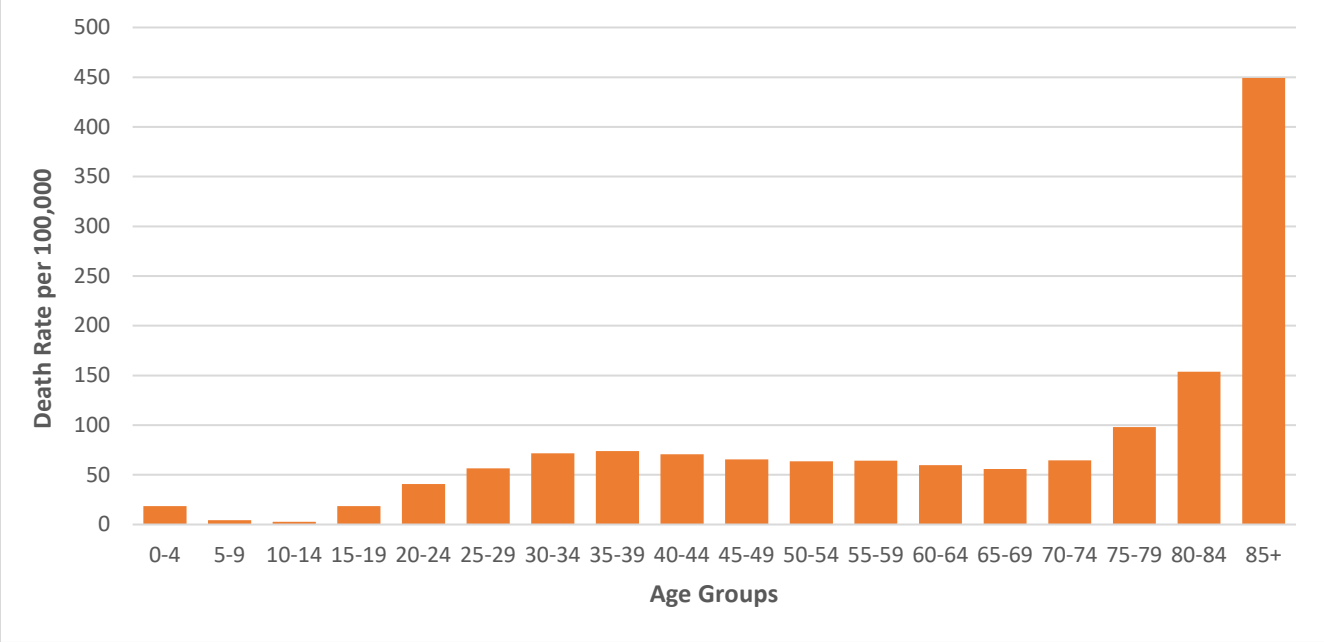
Burden Section Appendix

Figure 6: Age-Adjusted Death Rates per 100,000 for Unintentional Injuries by Gender, Michigan 2020



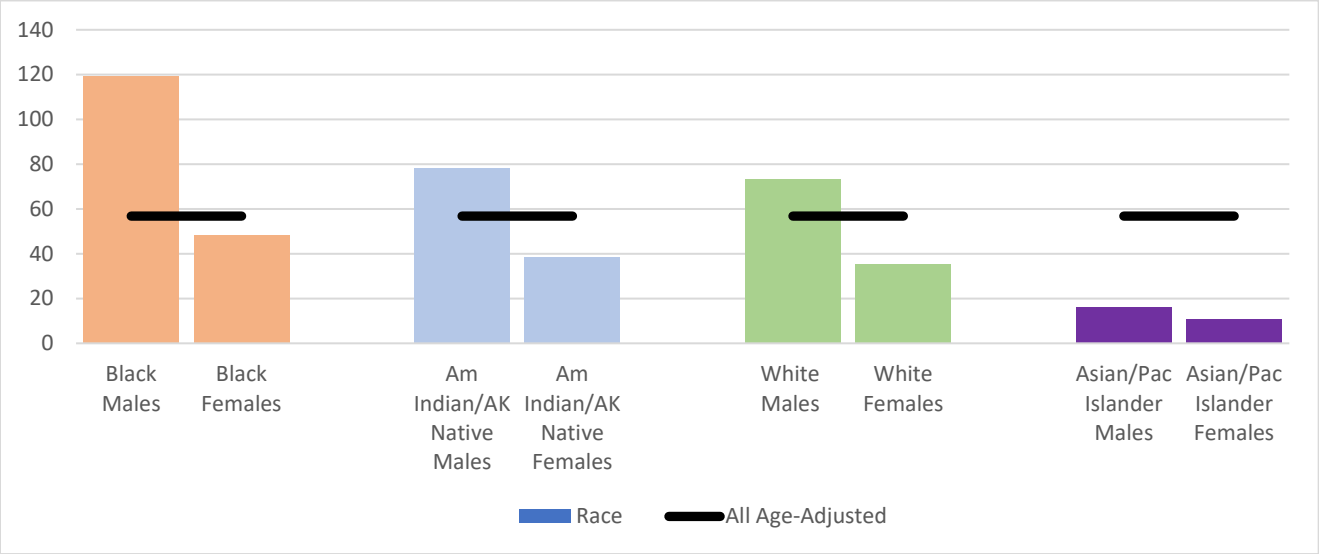
Data Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [2023-03-14]. Available from URL: www.cdc.gov/injury/wisqars

Figure 7: Death Rates per 100,000 for Unintentional Injuries by Age Group, Michigan 2020



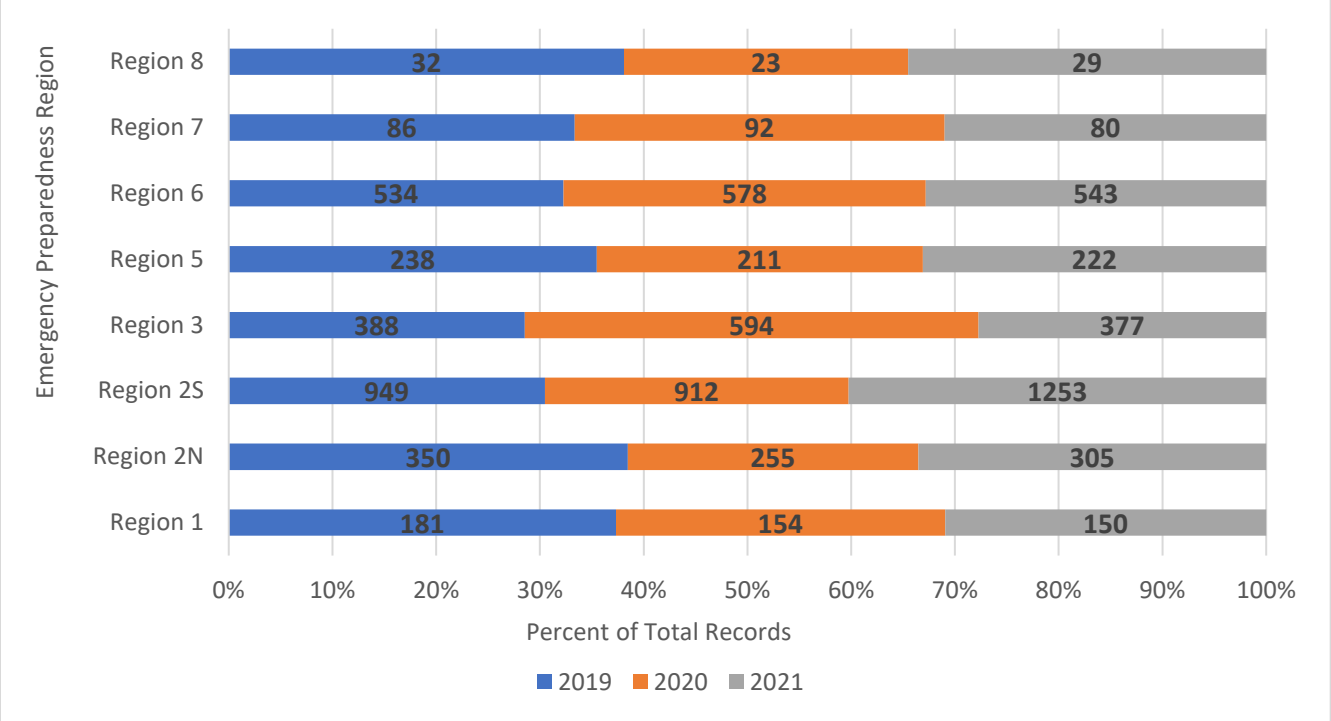
Data Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [2023-03-14]. Available from URL: www.cdc.gov/injury/wisqars

Figure 8: Age-Adjusted Death Rates per 100,000 for Unintentional Injuries by Race, Michigan 2020



Abbreviations: Am Indian/AK Native=American Indian/Alaska Native, Asian/Pac Islander=Asian American/Pacific Islander
Data Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [2023-03-14]. Available from URL: www.cdc.gov/injury/wisqars

Figure 9: Pediatric (age less than 15 years old) Patient Encounters in Michigan by Emergency Preparedness Region, 2019-2021



Data Source: 2021 Michigan Trauma Registry. Michigan Department of Health and Human Services.

APPENDIX D
LEGISLATION, BOILER PLATE

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES

BUREAU OF EMS, TRAUMA AND PREPAREDNESS

EMS AND TRAUMA SERVICES SECTION

STATEWIDE TRAUMA SYSTEM

Filed with the Secretary of State on May 31, 2017

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the department of health and human services by sections 20910, 20917a, and 2233 of 1978 PA 368, MCL 333.20910**,** 333.20917a, and 333.2233; and Executive Reorganization Order No 2015-1, MCL 400.227.)

R 325.125; R 325.126; R 325.127; R 325.128; R 325.129; R 325.130; R 325.131; R 325.132; R 325.133; R 325.134; R 325.135; R 325.136; R 325.137; and R 325.138 are amended in the Michigan Administrative Code as follows:

PART 1. GENERAL PROVISIONS

R 325.125 Definitions; A to D.

Rule 1. As used in these parts:

(a) "ACS-COT" means the American College of Surgeons-Committee on Trauma.

(b) "Adult trauma patient" means an injured or potentially injured individual that is, or reasonably appears to be, 15 years of age or older.

(c) "ATLS course" means an advanced trauma life support course with an emphasis on the first hour of initial assessment and primary management of an injured patient, starting at the point in time of injury continuing through initial assessment, life-saving intervention, reevaluation, stabilization, and transfer when appropriate.

(d) "Administrative hearing" means a hearing conducted pursuant to the administrative procedures act, 1969 PA 306**,** MCL 24.201 to 24.328.

(e) "Code" means MCL 333.1101 to MCL 333.25211 and known as the Michigan public health code.

(f) "Department" means the Michigan department of health and human services, or its duly appointed successor.

(g) "Disciplinary action" means an action taken by the department against a health care facility or regional trauma network for failure to comply with the code, rules, or protocols approved by the department.

R 325.126 Definitions; E to O.

Rule 2. As used in this part:

(a) "Health care facility" means a health care facility licensed under MCL 333.20801 and 333.21501 that operates a service for treating emergency patients, 24 hours a day, 7 days a week.

(b) "Hold itself out" means the agency, health care facility, or trauma facility advertises, announces, or charges specifically for providing trauma care as defined in the code.

(c) "Inter-facility trauma transfer" means identifying the group of trauma patients that require additional trauma resources with the goal of providing optimal care to these patients by the timely transfer of that patient to an appropriate level of care to optimize outcome.

(d) "Medical control" means the supervision and coordination of emergency medical services through a medical control authority, as prescribed, adopted, and enforced through department-approved protocols, within an emergency medical services system.

(e) "Medical Control Authority or “MCA” means an organization designated by the department to provide medical control as defined in the code.

(f) "Medical control authority board" means a board appointed by the participating organizations to carry out the responsibilities and functions of the medical control authority.

(g) "Medical control authority region" means the geographic area comprised of a county, group of counties, or parts of an individual county, as designated by the department.

(h) "Non-designated health care facility**”** means a health care facility that has chosen not to be a part of Michigan's trauma care system, or a health care facility that the department has not designated as a trauma facility.

R 325.127 Definitions; P to T

Rule 3. As used in this part:

(a) "Pediatric trauma facility" means a facility that has obtained a level of verification as a pediatric trauma facility, as provided by the ACS-COT, as well as those requirements to be designated as a trauma facility in Michigan, as set forth in R 325.127 to R 325.138.

(b) "Pediatric trauma patient" means an injured or potentially injured individual that is, or reasonably appears to be, under 15 years of age.

(c) "Physician" means a doctor of medicine (MD) or a doctor of osteopathy (DO) who possesses a valid current license to practice medicine in the state of Michigan.

(d) "Protocol" means a patient care standard, standing orders, policy, or procedure for providing emergency medical services that is established by a medical control authority and approved by the department under MCL 333.20919.

(e) "Professional standards review organization" means a committee established by a life support agency or a medical control authority for the purpose of improving the quality of medical care, as provided in MCL 331.531.

(f) "Quality improvement program" means actions taken by a life support agency, medical control authority, trauma facility, or jointly between a life support agency, medical control authority, or trauma facility with a goal of continuous improvement of medical care in accordance with the code. Actions shall take place under a professional standards review organization, as provided in MCL 331.531 to 331.533.

(g) "Regional Professional Standards Review Organization or RPSRO" means a committee established by the regional trauma network for the purpose of improving the quality of trauma care within a recognized trauma region as provided in MCL 331.531 to 331.533.

(h) "Regional trauma advisory council or “RTAC" means a committee established by a regional trauma network and comprised of MCA personnel, emergency medical services (EMS) personnel, life support agency representatives, health care facility representatives, physicians, nurses, and consumers. The functions of the RTAC are to provide leadership and direction in matters related to trauma systems development in their region, and monitor the performance of the trauma agencies and health care facilities within the region, including, but not limited to, the review of trauma deaths and preventable complications.

(i) "Regional trauma network" means an organized group comprised of the local MCAs within a region, which integrates into existing regional emergency preparedness, and is responsible for appointing a regional trauma advisory council and creating a regional trauma plan.

(j) "Regional trauma plan" means a written plan prepared by a RTAC, and submitted by the regional trauma network and approved by the department, that is based on minimum criteria established by the department.

(k) "Statewide Trauma Care Advisory Subcommittee or “STAC," as used in these rules**,** means the statewide trauma care advisory subcommittee as defined in MCL 333.20917a, 333.20908, and 333.20910, that acts as the department's subject matter experts with regard to the clinical and operational components of trauma care.

(l) "Statewide trauma care system" means a comprehensive and integrated arrangement of emergency services personnel, facilities, equipment, services, communications, medical control authorities, and organizations necessary to provide trauma care to all patients within a particular geographic region.

(m) "Statewide trauma registry" means a system for collecting data which the department manages and analyzes the data and disseminates results.

(n) "Trauma" means bodily injury caused by the application of external forces.

(o) "Trauma bypass" means to forego delivery of a patient to the nearest health care facility for another health care facility whose resources are more appropriate to the patient's injury pursuant to direction given to a pre-hospital emergency medical service by online medical direction or predetermined triage criteria as established by department-approved protocols. However, trauma care still must be provided to patients as necessary pursuant to 42 USC §1395dd or other applicable laws.

(p) "Trauma diversion” means the re-routing of a trauma patient from a trauma care facility that has 1 or more of its essential resources currently functioning at maximum capacity, or is otherwise unavailable, to an alternate trauma care facility in order to serve the best interests of the trauma patient.

(q) “Trauma facility" means a health care facility designated by the department as having met the criteria set forth in the code as being either a level I regional trauma research facility, level II regional trauma facility, level III community trauma facility, or level IV trauma support facility.

(r) "Trauma response" means a patient who has been injured or potentially injured as a result of the application of external forces and requires the utilization of the trauma care system.

(s) "Trauma team" means a team of multidisciplinary health care providers established and defined by a health care facility or emergency care facility that provides trauma care.

(t) "Triage" means classifying patients according to the severity of their medical conditions.

R 325.128 Terms.

Rule 4. Terms defined in the code have the same meanings when used in these rules.

R 325.129 Powers and duties of department.

Rule 5. (1) The department, with the advice of the emergency medical services coordination committee and statewide trauma care advisory subcommittee, shall do all of the following:

(a) Implement an "all-inclusive" trauma system throughout the state. This type of system allows for the care of all injured or potentially injured patients in an integrated system of health care in the pre-hospital and health care facility environments by personnel that are well trained and equipped to care for injured patients of any severity. The system allows for a health care facility to participate in the system to the extent or level that it is willing to commit the resources necessary for the appropriate management of the trauma patients and prohibits the department from limiting the number of health care facilities that seek to qualify for any given level of trauma designation under this system. It also ensures that all trauma patients are served by a system of coordinated care, based on the degree of injury and care required.

(b) Perform all of the following:

(i) Establish a statewide trauma quality improvement process using a statewide database.

(ii) Monitor the statewide trauma system.

(iii) Ensure the coordination and performance of the regional trauma networks.

(iv) Set minimum standards for system performance and trauma patient care.

(c) Develop a statewide process to establish regional trauma networks comprised of local medical control authorities in a manner that integrates into existing regional emergency preparedness, EMS, or medical control systems.

(d) Implement and maintain a statewide trauma systems plan**.**

(e) Develop a statewide process for the verification of trauma resources based on criteria as defined in the “American College of Surgeons-Resources for Optimal Care of the Injured Patient; 2014,” including any subsequent amendments and editions of this publication. This document is available online at the ACS website or from ACS, P.O. Box 92425, Chicago, IL 60675.

(f) Develop a statewide process for the designation of trauma facilities.

(g) Develop an appeals process for facilities contesting their designation.

(h) Establish state trauma recommendations and approve regional trauma triage protocols which are established and adopted by the local medical control authority.

(i) Maintain the established regional trauma networks to provide system oversight of the trauma care provided in each region of the state. Regional trauma networks shall be

comprised of collaborating local medical control authorities (MCAs) in a region. The collaborating MCAs in a region shall apply to the department for approval and recognition as a regional trauma network. The department, with the statewide trauma care advisory subcommittee and emergency medical services coordination committee, shall review the regional trauma network application for approval every 3 years. The establishment of the regional trauma networks shall not limit the transfer or transport of trauma patients between regional trauma networks.

(j) Require field triage protocols which are established and adopted by local medical control and regional trauma networks, and shall be developed based on triage criteria prescribed by the department upon the recommendation of the STAC and emergency medical services coordination committee, and following the procedures established by the department under MCL 333.20919(3).

(k) Verify the trauma care resources of designated trauma facilities or health care facilities seeking designation in this state for a 3-year period.

(l) Establish a mechanism for periodic redesignation of all health care trauma care facilities.

(m) Develop a comprehensive statewide data collection system.

(n) Formulate recommendations for the development of performance improvement plans by the regional trauma networks, consistent with those in R 325.135.

(o) Develop a process for trauma system performance improvement, which will include responsibility for monitoring compliance with standards, maintaining confidentiality, and providing periodic review of trauma facility standards. The standards as specified in R 325.129(2)(l)(e) and R 325.135 are incorporated by reference in these rules.

(p) Develop a process for the evaluation of trauma system effectiveness based on standards that are incorporated by reference in these rules, as specified in subdivision (b) of this subrule and R 325.135.

(q) Coordinate and integrate appropriate injury prevention initiatives and programs.

(r) Support the state trauma system and provide resources to carry out its responsibilities and functions.

(s) Support the training and education needs and resources of trauma care personnel throughout the state.

(2) The department may deny, suspend, or revoke designation of a trauma facility upon a finding including, but not limited to, any of the following:

(a) Failure to comply with the administrative rules and/or health care facility rules and regulations.

(b) Willful preparation or filing of false reports or records.

(c) Fraud or deceit in obtaining or maintaining designation status.

(d) Failure to meet designation criteria established in these rules.

(e) Unauthorized disclosure of medical or other confidential information.

(f) Alteration or inappropriate destruction of medical records.

(g) The facility no longer has the resources required to comply with the current level of designation conferred.

(h) The facility no longer cares for trauma patients.

(i) A department-approved trauma care verification body has determined that the facility no longer meets its trauma facility verification criteria.

(j) Identified deficiencies are not remediated in the allowable timeframe.

(3) The department shall provide notice of intent to deny, suspend, or revoke trauma facility designation and shall provide for an appeals process in accordance with the code and the sections 71 to 87 of the administrative procedures act of 1969, MCL 24.271 to 24.287.

(4) In developing a statewide trauma system, the department shall consider all of the following factors:

(a) Efficient implementation and operation.

(b) Decrease in morbidity and mortality.

(c) Cost effective implementation.

(d) Incorporation of national standards.

(e) Availability of funds for implementation.

R 325.130. Trauma facility verification; designation and redesignation.

Rule 6. (1) A health care facility, which intends to provide trauma care, shall obtain designation as a trauma facility. A health care facility shall not self-designate itself as a trauma facility.

(2) A health care facility shall not use the word "trauma" to describe its facility, or in its advertising, unless it obtains and maintains a designation as a "trauma facility" from the department.

(3) The department shall redesignate the trauma capabilities of each health care facility on the basis of verification and designation requirements in effect at the time of redesignation.

(4) To obtain a designation as a "trauma facility," the institution shall apply to the department. An applicant health care facility has a right to an administrative hearing if denied a specific trauma facility level designation.

(5) The department shall designate the existing trauma resources of all participating health care facilities in the state, based upon the following categories:

(a) A level I regional trauma research center shall comply with the standards that are incorporated by reference and verification criteria developed by ACS-COT for Level I trauma facilities pursuant to R 325.129(l)(e), and all of the following:

(i) Comply with data submission requirements in R 325.133 and R 325.134.

(ii) Participate in coordinating and implementing regional injury prevention plans.

(iii) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities.

(iv) Participate in the regional performance improvement process.

(b) A level II regional trauma center shall comply with the standards that are incorporated by reference and verification criteria established by the ACSCOT or level II trauma facilities, pursuant to R 325.129(l)(e), and all of the following:

(i) Comply with data submission requirements in R 325.133 and R 325.134.

(ii) Participate in coordinating and implementing regional injury prevention plans.

(iii) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities.

(iv) Participate in the regional performance improvement process.

(c) For a level III, community trauma facility, verification criteria shall be established by the department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee. The

standards are incorporated by reference in these rules, based upon verification criteria established by ACS-COT for level III facilities, pursuant to R 325.129(l)(e), and all of the following:

(i) Comply with data submission requirements in R 325.133 and R 325.134.

(ii) Participate in coordinating and implementing regional injury prevention plans.

(iii) Participate in the regional performance improvement process.

(d) For a Level IV trauma support facility, verification shall be completed using an "in-state" process, and criteria shall be established by the department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee. The verification standards incorporated by reference in these rules, are based upon criteria recommended by ACS-COT for level IV facilities, pursuant to R 325.129(l)(e) and Michigan level IV verification criteria and all of the following:

(i) Comply with data submission requirements in R 325.133 and R 325.134.

(ii) Participate in coordinating and implementing regional injury prevention plans.

(iii) Participate in the regional performance improvement process.

(e) The Michigan level III and IV verification criteria document is available from the department or online at the Michigan trauma system website.

(6) The resources of health care facilities applying for level I regional trauma research facility or level II regional trauma facility designation status shall be verified by the ACS-COT and shall do all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Participate in coordinating and implementing regional injury prevention plans.

(c) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities.

(d) Participate in the regional performance improvement process.

(7) Health care facilities seeking designation as a level III, community trauma facility shall be verified using either an in-state process established by the department, with the advice of the state trauma advisory subcommittee, or by the ACS-COT and shall do all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Participate in coordinating and implementing regional injury prevention plans.

(c) Participate in the regional performance improvement process.

(8) Health care facilities seeking designation as a level IV, trauma support facility shall be verified using an in-state process established by the department, with the advice of the state trauma advisory subcommittee, and shall do all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Participate in coordinating and implementing regional injury prevention plans.

(c) Participate in the regional performance improvement process.

(9) Health care facilities wishing to be redesignated as a level I regional trauma research facility must independently obtain ACS-COT verification at that level, and shall comply with the standards that are incorporated by reference pursuant to R 325.129(l)(e), and all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Participate in coordinating and implementing regional injury prevention plans.

(c) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities.

(d) Participate in the regional performance improvement process.

(10) Health care facilities wishing to be redesignated as a Level II regional trauma facility must independently obtain ACS-COT verification at that level, and shall comply with the standards that are incorporated by reference pursuant to R 325.129(l)(e), and all of the following:

(a) Comply with data submission requirements as set forth in R 325.133 and R 325.134.

(b) Participate in coordinating and implementing regional injury prevention plans.

(c) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities.

(d) Participate in the regional performance improvement process.

(11) Health care facilities wishing to be re-designated as a level III community trauma facility must obtain verification at that level using either in-state resources, or the ACS-COT, and shall comply with the standards that are incorporated by reference pursuant to R 325.129(l)(e), and all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Participate in coordinating and implementing regional injury prevention plans.

(c) Participate in the regional performance improvement process.

(12) Health care facilities wishing to be redesignated as a level IV trauma support facility must obtain verification at that level using an in-state process. Level IV verification criteria shall be established by the department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee. The verification standards incorporated by reference in these rules are based upon criteria recommended by ACS-COT for level IV facilities, pursuant to R 325.129(l)(e), R 325.130, and Michigan level IV verification criteria, including all of the following:

(a) Comply with data submission requirements in R 325.133 and R 324.134.

(b) Participate in coordinating and implementing regional injury prevention plans.

(c) Participate in the regional performance improvement process.

(13) The department may, with the advice and recommendations of the state trauma advisory committee and emergency medical services coordination committee, modify the criteria or establish additional levels of trauma care resources as appropriate to maintain an effective state trauma system**,** and protect the public welfare, except that the department shall not establish any criteria for the purpose of limiting the number of health care facilities that qualify for a particular trauma level under these rules.

R 325.131 Triage and transport.

Rule 7. (1) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee, shall develop recommendations, based on standards that are incorporated by reference in these rules, pursuant to R 325.129(l)(e), R 325.136, R 325.137, and R 325.138 for protocols which are established and adopted by local medical control, for the triage, transport, and inter-facility transfer of adult and pediatric trauma patients to appropriate trauma care facilities.

(2) The standards that are incorporated by reference in these rules, pursuant to R 325.129(l)(e), R 325.136, R 325.137, and R 325.138 for the triage, transport, and the inter-facility transfer of trauma patients**,** provide recommended minimum standards of care for protocols which are established and adopted by local medical control that must be utilized during transport of trauma patients. On an annual basis, or as needed, the department shall review and update these recommended minimum standards with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee.

(3) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee, shall create regional trauma networks that shall have the responsibility for developing triage and transport procedures within that geographical area. Both of the following apply:

(a) Each regional trauma network shall be created within the emergency preparedness region currently established within the state.

(b) Each trauma region may create its own triage and transport criteria and protocols, destination criteria and protocols, and inter-facility transfer criteria and protocols, which are established and adopted by local medical control, so long as they meet or exceed the standards that are incorporated by reference in these rules, pursuant to R 325.129(l)(e), R 325.129(1)(k), R 325.136, R 325.137, and R 325.138, and that they are reviewed by the quality assurance task force and approved by the department. This may include coordination of triage and transport criteria and protocols, which are established and adopted by local medical control, across geographic regions if in the best interest of providing optimal trauma care to patients.

R 325.132 Trauma regions.

Rule 8. (1) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee, shall support the establishment and operational activities of the trauma regions through the commitment of resources.

(2) Each region shall establish a regional trauma network as prescribed and defined by R 325.125 to R 325.135.

(3) All MCAs within a region must participate in the regional trauma network, and life support agencies that care for trauma patients shall be offered membership on the regional trauma advisory council. Regional trauma advisory councils shall be operated in a manner that maximizes inclusion of their constituents. All of the following must apply:

(a) At least quarterly, a regional trauma network shall submit evidence of ongoing activity, such as meeting notices and minutes, to the department. Annually, the regional trauma advisory council shall file a report with the department which describes progress toward system development, demonstrates on-going activity, and includes evidence that members of the regional trauma advisory council are currently involved in trauma care.

(b) The regional trauma network shall develop a system regional trauma plan. The plan is subject to review of the STAC and emergency medical services coordination committee and approval by the department.

(c) The department shall review the plan to assure that it contains at a minimum, all of the following:

(i) All counties within the regional trauma advisory council have been included unless a specific county, or portion thereof, has been aligned within an adjacent network, and all health care entities and MCAs, life support agencies have been given an opportunity to participate in the planning process.

(ii) All of the following components have been addressed:

(A) Injury prevention.

(B) Communications.

(C) Regional performance improvement.

(D) Trauma education.

(E) Infrastructure.

(F) Continuum of care.

(4) Each regional trauma network shall appoint a RPSRO as defined in R 325.127(g).

(5) Each regional trauma advisory council shall develop performance improvement plans that are based on standards that are incorporated by reference in these rules, pursuant to R 325.129(l)(e), R 325.129(1)(k), and R 325.135, and shall be reviewed annually by the state trauma advisory subcommittee and emergency medical services coordination committee for recommendations to the department.

(6) Recommendations, which are developed and proposed for implementation by a regional trauma advisory council, shall meet or exceed those that have been established by the department with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee, as based on standards that are incorporated by reference in these rules, pursuant to R 325.129(l)(e) and R 325.129(1)(k).

(7) The department shall recognize the regional trauma network once it approves a completed regional trauma plan. The regional trauma network approval process shall consist of the following phases:

(a) The first phase is the application phase, which begins with the submission to the department of a completed regional plan for the regional trauma network.

(b) The second phase is the review phase, which begins with the receipt of the regional plan, and ends with a department recommendation to approve the regional trauma network.

(c) The third phase is the final phase, with the department making a final decision regarding the regional trauma network plan. This phase also includes an appeal procedure for the denial of an approval of application in accordance with the department's administrative hearings requirements.

(8) If the application phase results in a recommendation to the department for approval by the statewide trauma advisory subcommittee and the emergency medical services coordination committee, and the department approves, then the department shall notify the regional trauma network applicant of the recommended action within 90 days from receipt by the department.

(9) Upon approval, a regional trauma advisory council shall implement the plan to include the following:

(a) Education of all entities about the plan components.

(b) On-going review of resources, process, and outcome data.

(10) The regional trauma network approval is in effect for 3 years.

R 325.133. Data collection.

Rule 9. (1) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordination committee, shall develop and maintain a statewide trauma data registry. The department shall do all of the following:

(a) Adopt the national trauma data standard elements and definitions as a minimum set of elements for data collection, with the addition of elements as recommended by the STAC. The following standards are incorporated by reference in these rules, as identified in the National Trauma Data Standard: Data Dictionary, 2016 Admissions, including subsequent amendments and editions. A link to the document is available online at the Michigan trauma systems website. A copy may be obtained at no cost by writing to the Bureau of EMS, Trauma and Preparedness.

(b) Implement a plan for data including the following:

(i) Notify partners of data dictionary changes and new iterations annually.

(ii) Define the data validation process for designated trauma facility data submissions to the statewide trauma registry.

(iii) Participate in state data collaboration activities.

(iv) Establish and maintain processes for the following:

(A) Data related to trauma incidents shall be submitted to the statewide trauma registry according to the data submission timelines.

(B) Monitor national standards, regional issues, facility, and RPSROs to determine the need for additional data metrics needed for system function.

(C) For those trauma incidents that met the inclusion criteria identified for data submission, the following data elements shall be submitted to the department:

(1) All national trauma data standard data elements.

(2) All data elements recommended by the STAC.

(v) Develop annual reports using regional and state data defined by the STAC which assesses the state trauma system and regional trauma networks.

(vi) Evaluate and import additional data from existing databases as needed.

(vii) Support and evaluate probabilistic and deterministic data linkages.

(2) The department shall support the data collection and analysis process.

(3) Both of the following apply to health care facility participation in data submission:

(a) All designated facilities shall participate in data submission.

(b) Participation as appropriate in the RPSRO, as provided in 1967 PA 270, MCL 331.531 to 331.533.

R 325.134 Statewide trauma registry.

Rule 10. (1) The purpose of the trauma registry is to collect and analyze trauma system data to evaluate the delivery of adult and pediatric trauma care, develop injury prevention strategies for all ages, and provide resources for research and education.

(2) The department shall coordinate data collected by the trauma care facilities and emergency medical service providers. The department shall develop and publish a data submission manual that specifies all of the following:

(a) Data elements and definitions. The standards that are incorporated by reference pursuant to R 325.133(1)(a), and all of the following:

(i) Definitions of what constitutes a reportable trauma case.

(ii) Method of submitting data to the department.
(iii) Timetables for data submission.
(iv) Data submission format.
(v) Protections for individual record confidentiality.
(b) Notification of trauma care facilities of the required registry data sets and update the facilities and providers, as necessary, when the registry data set changes.
(c) Specification of both the process and timelines for health care facility submission of data to the department.
(3) All health care facilities shall submit to the department trauma data determined by the department to be required for the department's operation of the state trauma registry. The department shall prescribe and provide both of the following:
(a) Standard reporting mechanisms to be used by all health care facilities.
(b) The form and content of records to be kept and the information to be reported to the department.
(4) The department and regional trauma advisory councils shall use the trauma registry data to identify and evaluate regional trauma care and to prepare reports and analyses as requested by regional trauma advisory councils, the state trauma advisory subcommittee, or the emergency medical services coordination committee.

R 325.135 Regional performance improvement.
Rule 11. (1) Each trauma care region shall be required to develop and implement a regional trauma performance improvement program. This program shall include the standards that are incorporated by reference pursuant to R 325.129(1)(e), R 325.129(1)(k), and R 325.130(6)(d), and shall include the development of an annual process for reporting to the department a review of all region-wide policies, procedures, and protocols.
(2) Each regional trauma network is responsible for monitoring, assessing, and evaluating its regional trauma system to improve trauma care, reduce death and disability, surveillance of injury, and implementation of injury prevention activities.
(3) Each regional trauma network shall appoint a RPSRO.
(4) Deviations from protocols, which are established and adopted by local medical control and approved by the department for trauma patients, shall be addressed through a documented trauma performance improvement process established by a professional standards review organization.
(5) Each regional trauma advisory council shall observe the confidentiality provisions of the health insurance portability and accountability act under 45 CFR Part 164, data confidentiality provisions under the code, or as established by the regional professional standards review organization.
(6) The performance improvement process shall include the following standards that are incorporated by reference in these rules, pursuant to R 325.129(l)(e), R 325.129(1)(k), and R 325.130(6)(d) and include all of the following system components to be evaluated for both pediatrics and adults:
(a) Components of the regional trauma plan.
(b) Triage criteria and effectiveness.
(c) Trauma center diversion.

(d) Data driven provision of care defined by available data metrics supported by the region, the statewide trauma advisory subcommittee, and the department.

(7) Each trauma care region shall be responsible for the ongoing evaluation of its trauma care system. Accordingly, each region shall be responsible for the ongoing receipt of information from the regional trauma system constituents on the implementation of various components of that region's trauma system, and shall include the standards that are incorporated by reference pursuant to R 325.129(1)(e), R 325. 129(A)(12), and R 325.130(6)(d), and include all of the following system components to be evaluated:

(a) Components of the regional trauma plan.

(b) Triage criteria and effectiveness.

(c) Trauma center diversion.

(d) Data analytics as defined by the department with the advice of the statewide trauma advisory subcommittee.

(8) Based upon information received by the region in the evaluation process, the region shall annually prepare a report containing results of the evaluation and a performance improvement plan. The report shall be made available to all regional trauma system constituents. The region shall ensure that all trauma facilities participate in this annual evaluation process, and encourage all other hospitals that treat trauma patients to participate in the annual evaluation process. The region shall not release specific information related to an individual patient or practitioner. Aggregate system performance information and evaluation will be available for review.

R 325.136 Destination protocols.

Rule 12. Local MCAs shall develop and submit trauma destination protocols to the EMS and trauma section for review by the quality assurance task force, pursuant to MCL 333.20916. Upon review and approval by the department**,** the MCA must formally adopt and implement the protocol. The following factors will be used in evaluating those destination protocols:

(a) Trauma patients shall not be transported to a facility not participating in the state trauma system unless there is no other reasonable alternative available.

(b) Trauma patients shall be transported to the closest appropriate trauma facility as identified in regional and local medical control protocols.

(c) If a level I or level II trauma facility is not within a reasonable distance from the scene, the trauma patient shall be transported to the closest appropriate trauma facility.

(d) Each region shall make appropriate determinations for destination based on what is best for the patient.

(e) In areas of the state close to state borders, the most appropriate facility may be out of the state. If possible, transport trauma patients within state borders. Local protocols shall address this issue.

R 325.137 Trauma patient inter-facility transfer protocols.

Rule 13. (1) All designated trauma centers shall maintain inter-facility transfer protocols for trauma patients that are consistent with regional and local medical control protocol and that are compliant with the emergency medical treatment and labor act, 42 USC 1395dd.

(2) All level III and level IV designated hospitals will develop and implement formal policies based on published guidelines for the transfer of trauma patients who need care at level I or level II trauma facilities.

(3) Trauma patients will be transported to a hospital that is designated as a trauma facility.

R 325.138 Criteria for transfer protocols; criteria.

Rule 14. Designated trauma centers shall contact the department for current trauma patient transfer guidelines.

Boiler Plate Language

MDHHS was directed by the Legislature in the budget appropriation to develop Systems of Care for stroke and ST-Elevation Myocardial Infarction (STEMI) that are integrated into the existing trauma system. Work is underway to operationalize these systems including the drafting of Administrative Rules to guide the process.

Sec. 1186. (1) From the funds appropriated in part 1 for emergency medical services program, the department shall allocate $3,000,000.00 to establish a statewide stroke and STEMI system of care for time-sensitive emergencies. This system must be integrated into the statewide trauma care system within the emergency medical services system and must include at least all of the following:
(a) The designation of facilities as stroke and STEMI facilities based on a verification that national certification or accreditation standards, as approved by the stroke advisory subcommittee and the STEMI advisory subcommittee as established under section 20910(1)(m) of the public health code, 1978 PA 368, MCL 333.20910, have been met.
(b) A requirement that a hospital is not required to be designated as providing certain levels of care for stroke or STEMI.
(c) The development and utilization of stroke and STEMI registries that utilize nationally recognized data platforms with confidentiality standards, as approved by the stroke advisory subcommittee and the STEMI advisory subcommittee as established under section 20910(1)(m) of the public health code, 1978 PA 368, MCL 333.20910.
(2) For the purposes of this section, "STEMI" means an ST-elevation myocardial infarction.