

Michigan Regional Trauma Resources

Region 1



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Introduction to Region 1

Region 1 is home to Lansing, Michigan's capital. The 2010 Census places the city's population at 114,297, making it the fifth largest city in Michigan. The area is home to: two medical schools, one veterinary school, two nursing schools, two law schools including Thomas M. Cooley and Michigan State University College of Law, Michigan State University which is a Big Ten Conference university, the Michigan State Capitol, the State Supreme Court and Court of Appeals, a Federal court, the Library of Michigan and Historical Center, and headquarters of four national insurance companies.



The region also has the Michigan International Speedway (MIS), which is a two-mile speedway located off U.S. Highway 12 on more than 1,400 acres in Brooklyn, Michigan. MIS is used primarily for NASCAR events and is currently the fastest track in the NASCAR circuit.

The 9 Counties that make up Region 1 are Clinton, Eaton, Gratiot, Hillsdale, Ingham, Jackson, Lenawee, Livingston and Shiawassee.

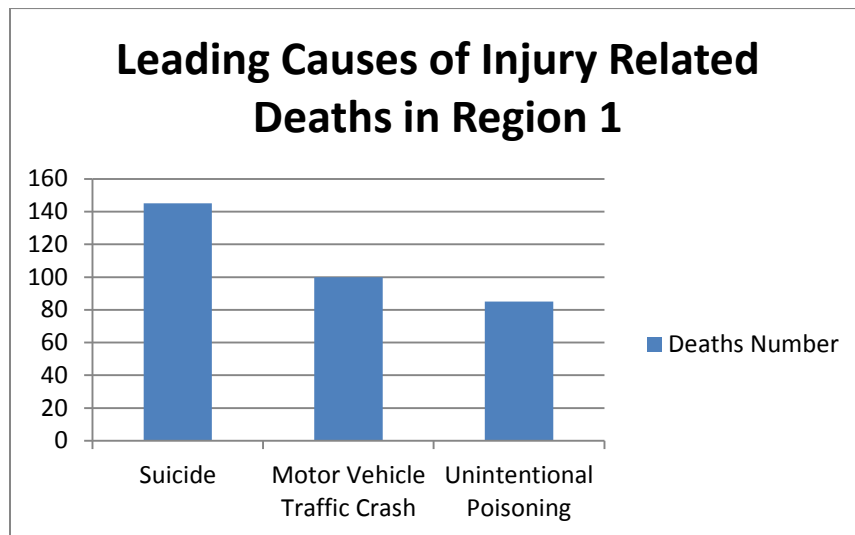
The region has 14 Hospitals, 104 Emergency Medical Services (EMS) agencies and 8 Health Departments. Many of the counties surrounding the capitol are rural farming communities.

As of the 2010 census the population of Region 1 was 1,064,548. The adult and pediatric population breakdown by county is as follows:

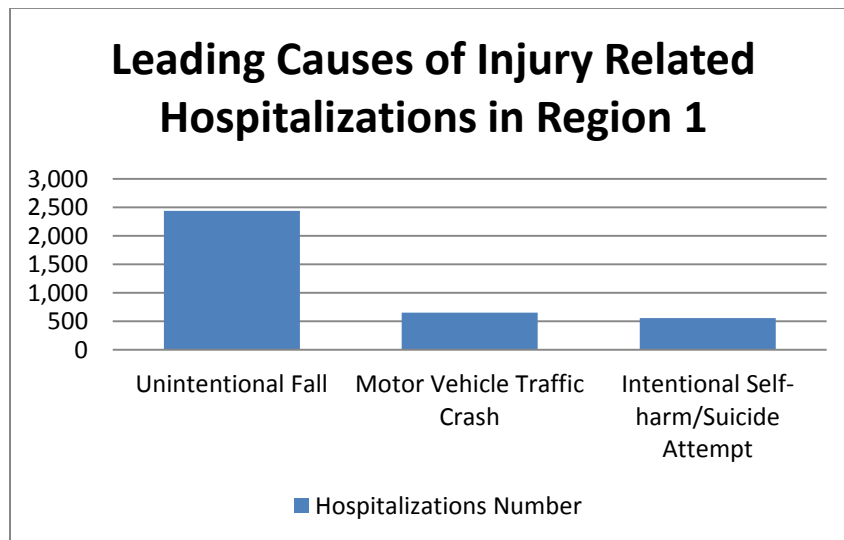
Region 1 County	Total Population	Pediatric Population
Clinton	75,469	18,263
Eaton	108,056	24,636
Gratiot	42,145	8,943
Hillsdale	48,154	10,837
Ingham	281,613	56,885
Jackson	159,748	36,422
Lenawee	99,440	22,572
Livingston	181,722	45,067
Shiawassee	69,841	16,412
Totals	1,064,548	240,037

Injury

In order to address a systematic, regionalized approach to injury, it is necessary to assess regional data. Accurate assessment of data provides the means for policy development organized to address the goals of injury prevention, incident response and post-injury rehabilitation. This following 2010 data show the top three leading causes for death and hospitalizations in Region 1.

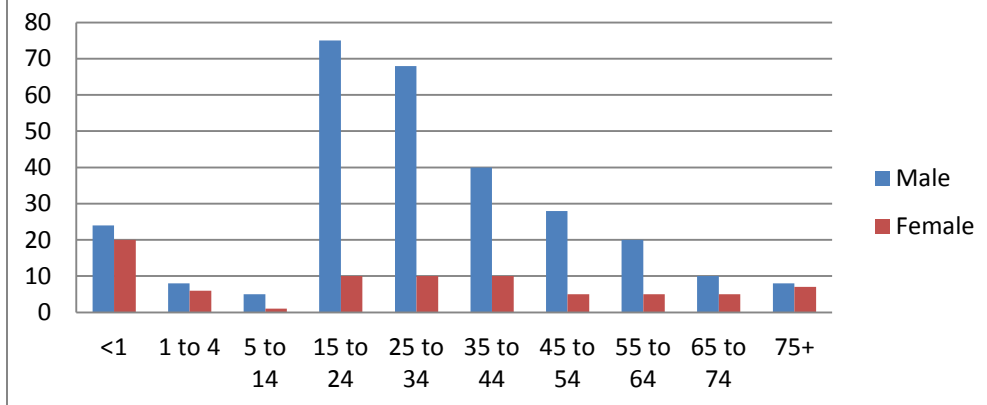


Source: Thomas W. Largo, MPH, Division of Environmental Health, Bureau of Disease Control, Prevention, and Epidemiology, Michigan Department of Community Health, 2010 data.



Source: Thomas W. Largo, MPH, Division of Environmental Health, Bureau of Disease Control, Prevention, and Epidemiology, Michigan Department of Community Health, 2010 data.

Homicide Rates by Age and Gender in Michigan from 2007-2009



Source: Michigan Department of Community Health – Injury & Violence Prevention Section, 2007-2009

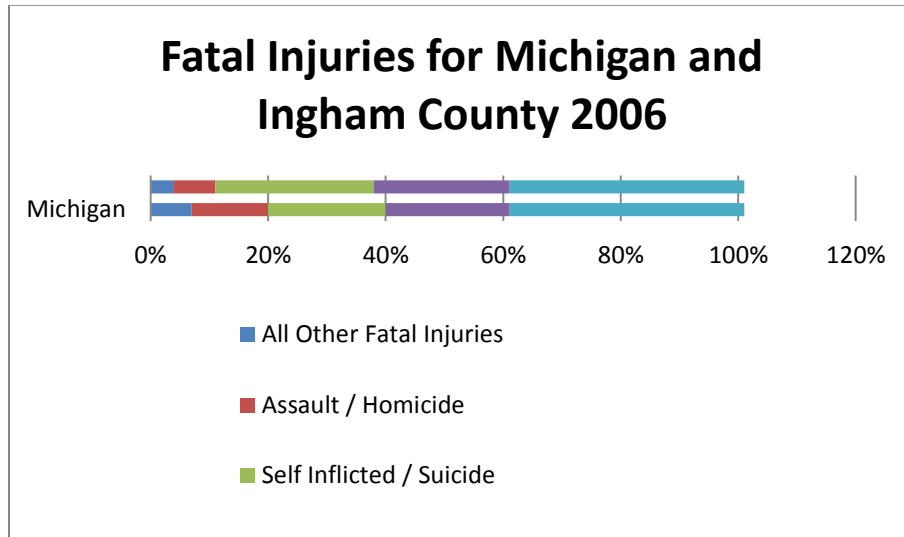
Leading Causes of Injury and Death, by Age Group Michigan Residents Aged 0-19, 2007-2010

Age Group (Years)	Cause	Average Annual Deaths	Average Annual Population	Average Annual Rate
<1	1. Unintentional Suffocation	62.0	117,443	52.8
	2. Homicide	10.0	117,443	8.5
	3. Suffocation - Undetermined Intent	3.5	117,443	3.0
1-4	1. Homicide	12.3	492,184	2.5
	2. Unintentional Drowning	8.8	492,184	1.8
	3. Unintentional Exposure to Fire/Flames/Smoke	7.5	492,184	1.5
5-9	1. Motor Vehicle Traffic Crash*	10.0	647,691	1.5
	2. Homicide	4.8	647,691	0.7
	3. Unintentional Exposure to Fire/Flames/Smoke	4.3	647,691	0.7
10-14	1. Motor Vehicle Traffic Crash	17.8	691,722	2.6
	2. Suicide	8.5	691,722	1.2
	3. Homicide	7.0	691,722	1.0
15-19	1. Motor Vehicle Traffic Crash	106.0	753,455	14.1
	2. Homicide	86.5	753,455	11.5
	3. Suicide	59.8	753,455	7.9

*Those killed in motor vehicle traffic crashes include: motor vehicle occupants, motorcyclists, bicyclists, pedestrians, and others. Rates are the number of deaths per 100,000 population.

Data Source: Vital Records and Health Data Development Section, MDCH

County Injury Data



Graph Resource: The Health Status of Ingham County; an Abridged Community Health Profile August 2008

Fatal Injuries Trends by Four Major Categories, 2005-2010 Ingham County Health Department, Michigan

FATAL INJURIES	2005	2006	2007	2008	2009	2010
	Number of Fatal Injuries					
All Fatal Injuries	137	113	134	102	124	125
Unintentional Injuries	95	71	78	67	81	81
Transport Fatal Injuries	37	26	24	20	23	26
Other Unintentional Injuries	58	45	54	47	58	55
Self-Inflicted / Suicide	22	30	27	25	30	30
Assault /Homicide	11	8	16	7	9	7
ALL OTHER FATAL INJURIES	9	4	13	3	4	7

Source: Michigan Resident Death Files, Data Development Section, Michigan Department of Community Health.

Regional Trauma System Infrastructure

Emergency Medical Services and EMS Medical Control Authorities

Of the 104 EMS agencies there are 20 Basic Services, 2 Limited Advanced Services, 32 Advanced Services and 50 Medical First Responder Services. EMS oversight and supervision is the responsibility of the 7 Medical Control Authorities in Region 1.

A Medical Control Authority is an organization designated by the Michigan Department of Community Health’s EMS and Trauma Services division, for the purpose of supervising and coordinating an emergency medical services system. An MCA is defined as a hospital or group of hospitals that operates a service that treats patients 24 hours a day, 7 days a week. Each MCA is administered by the participating hospitals of the designated MCA region.

Medical Control Authorities are responsible for establishing written protocols for the practice of life support agencies and EMS personnel. The Medical Director of each MCA is responsible to ensure the provision of medical control.

In Region 1 the MCA’s are:

Tri County Medical Control Authority	Clinton Memorial Hospital Eaton Rapids Medical Center Hayes Green Beach Memorial Sparrow Hospital McLaren Greater Lansing
Jackson County Medical Control Authority	Allegiance Health
Washtenaw/Livingston Medical Control Authority	Brighton Hospital St. Joseph Mercy Livingston
Lenawee County Medical Control Authority	Emma L. Bixby Medical Center Herrick Memorial Hospital
Gratiot County Medical Control Authority	Mid-Michigan Medical Center – Gratiot
Hillsdale County Medical Control Authority	Hillsdale Community Health Center
Shiawassee Medical Control Authority	Memorial Healthcare

Regional Trauma Coordinator

The Regional Trauma Coordinator (RTC) is responsible for facilitating, coordinating and implementing a regional system of care for trauma. The position will work collaboratively with the Regional Trauma Network (RTN) organization and stakeholders in the regions, as well as other partners. RTC responsibilities include: coordinate network meetings, monitor and analyze data, prepare reports identify and address education needs, act as liaison between the network and State, facilitate activities related to the network work plan, provide data and information for legislative requests, policy discussion and other requests as appropriate.

Regional Trauma Network

Each Medical Control Authority (MCA) in Michigan must participate in a Regional Trauma Network (RTN), and shall adopt and implement Regional Trauma Network protocols as developed by the Regional Trauma Network and approved by the Lead Agency. The MCA representative on the RTN is able to make decisions and commitments on behalf of their MCA to collectively further the work and mission of the Regional Trauma Network. The Regional Trauma Network is the governing body, ultimately responsible for decisions, policy, procedure and any subcommittee work related to trauma in the region including the work of the Regional Advisory Council.

The Region 1 Trauma Network is comprised of representation from the 7 Medical Control Authorities.

Representative	Medical Control
Robert Orr D.O.	TCEMCA
John Maino M.D	Jackson MCA / Allegiance
Don Edwards D.O.	Shiawassee MCA / Region 1 HCC
Dr. Ron Dicecco M.D.	Lenawee MCA / Bixby Memorial
Mitch Goldman D.O.	Gratiot MCA / Gratiot Community Hospital
Robert Domeier	Washtenaw / Livingston MCA
Brenda Brendel	Hillsdale MCA

Regional Trauma Advisory Committee

The purpose of the Regional Trauma Advisory Committee is to; provide leadership and direction in matters related to trauma systems development in the region, monitor the performance of the agencies and healthcare facilities within the region, including, but not limited to, the review of trauma deaths and preventable complications. The Regional Trauma Advisory Committee is comprised of physician, nursing and EMS representation from the 14 Hospitals and 7 Medical Control Authorities.

Representative	Agency
Brad Garrett MD	Eaton Rapids Medical Center ED Physician
Brenda Brendel	Hillsdale Community Health Center
Kris Allen	Eaton Rapids Medical Center
Diane Simon	Sparrow/Clinton Memorial Hospital
Don Edwards DO	Shiawassee MCA / Region 1 HCC
Ronald DiCecco MD	Lenawee County MCA / Bixby Medical Center
Mitch Goldman MD	Gratiot MCA
Jenny Werth	Sparrow Trauma
John Davanzo	St. Joe Livingston Hospital
Carol Clark MD	McLaren Greater Lansing
John Kepros MD	Sparrow Trauma Physician/Director
John Maino MD	Jackson County MCA/Allegiance Health
John Truba	Hayes Green Beach Hospital
Brian Bowditch MD	Hayes Green Beach Hospital
Lori Tideswell	Gratiot Co MCA/Hospital
Tom Bennett	McLaren Greater Lansing
Madonna Walters RN	Allegiance Health
Brandon Minnick DO	Sparrow Clinton Memorial Hospital Surgeon
Penny Stevens	Sparrow Trauma
Larry Narkiewicz, MD	Allegiance Health
Robert Domeier MD	Livingston Co MCA
Robert Orr	Tri County Emergency MCA
Ronald Bishop	Memorial/Shiawassee MCA
Ryan Rank	Lenawee Co MCA
Vicki Watkins	Owosso Memorial
Mohamed Ayad MD	Sparrow Clinton Memorial Hospital ED Physician
Richard Doud DO	Hillsdale County MCA
Terrell Neal	McLaren Greater Lansing
Lynette Betterly	McLaren Greater Lansing
Susan Huehl RN	Allegiance Health
Michelle Harper	TCEMCA

Regional Professional Standards Review Organization (PSRO)

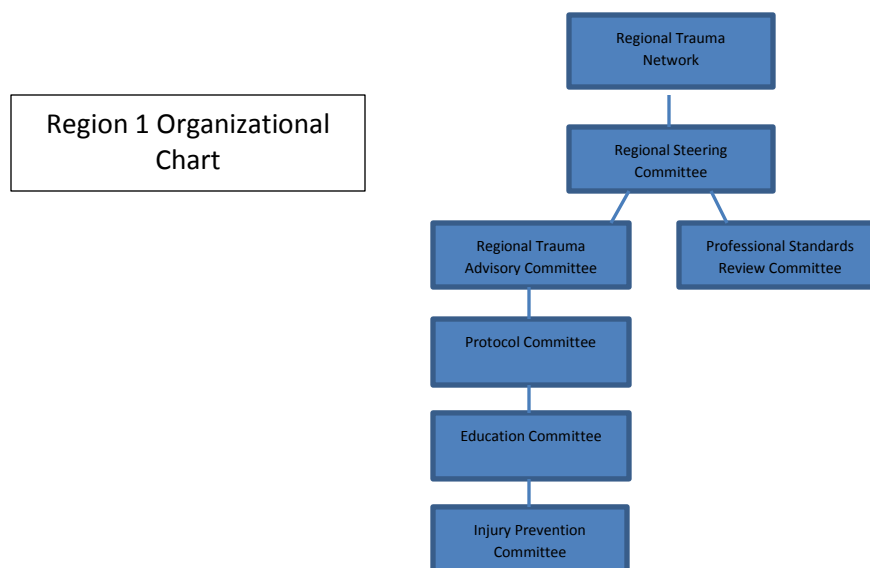
The RTN is also required to appoint a Regional Professional Standards Review Organization (RPSRO) to improve trauma care, reduce death and disability, and to address local and regional injury problems. The RPSRO is responsible for the regional trauma system improvement process addressing specific standards incorporated in the administrative rule 325.135(5).

Each region is required to develop and implement a region wide trauma performance improvement program. The region is responsible for the assessment of its trauma care system through an ongoing evaluation of the components of the regional plan, triage criteria and its effectiveness, activation of trauma teams, notification of specialists and trauma care diversion. The results of the evaluation are to be reported annually to MDCH, to include all region-wide policies, procedures, and protocols.

Governance

Each Regional Trauma Network has been tasked with developing bylaws consistent with State statute, and submitting a Regional Trauma Network application to the State of Michigan. The Regional Trauma Network and structure is considered provisional until the application is approved by the department. The RTN will develop a work plan to address 10 areas: injury prevention, access to the system, communications, medical oversight, pre-hospital triage criteria, trauma diversion policies, trauma bypass protocols, regional trauma treatment guidelines, regional quality improvement plans and trauma education.

The goal of each region's trauma network and advisory committee is to implement an "all-inclusive" trauma system in their region. This system would allow for the care of all injured patients in a regional and statewide integrated system of health care in both the pre-hospital and healthcare facility environments, which would include personnel that are well trained and equipped to care for injured patients of any severity. Each healthcare facility can 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. It also ensures that all trauma patients are served by a system of coordinated care, based on the degree of injury and care required.



Hospitals

The region has one Level I American College of Surgeons (ACS) verified Trauma Center, which is Edward W. Sparrow Hospital. Allegiance Health in Jackson is in the process of obtaining Level II ACS verification. Seven of the 14 hospitals have pediatric services. Sparrow Hospital has Pediatric Intensive Care capability. There are no American Burn Association burn center beds in Region 1.

Hospital	County	ACS	MCA
Allegiance Health	Jackson		Jackson County MCA
Sparrow Clinton	Clinton		Tri-County MCA
Eaton Rapids Medical Center	Eaton		Tri-County MCA
Edward W. Sparrow Hospital	Ingham	Level 1	Tri-County MCA
Emma L. Bixby Medical Center	Lenawee		Lenawee MCA
Mid-Michigan Medical Center	Gratiot		Gratiot County MCA
Hayes Green Beach Memorial Hospital	Eaton		Tri-County MCA
Herrick Memorial Hospital	Lenawee		Lenawee MCA
Hillsdale Community Health Center	Hillsdale		Hillsdale MCA
McLaren Greater Lansing	Ingham		Tri-County MCA
Memorial Healthcare	Shiawassee		Shiawassee MCA
St. Joseph Mercy Livingston	Livingston		Washtenaw/Livingston MCA
Sparrow St. Lawrence Campus	Ingham		Tri-County MCA

MDCH 2013 Trauma Needs Assessment

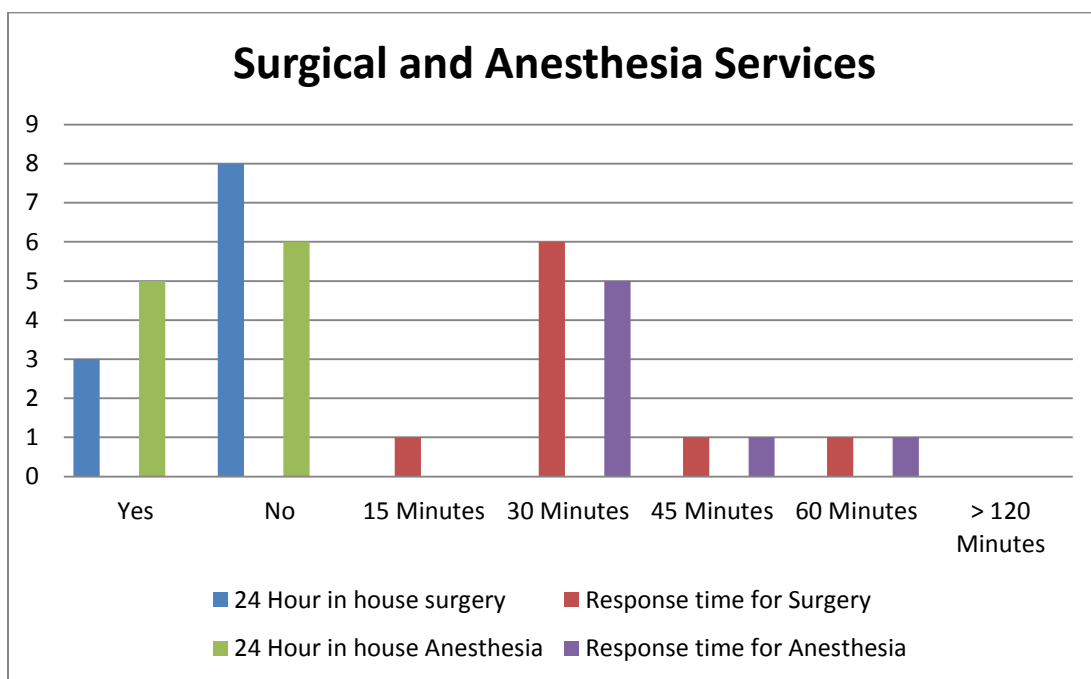
All hospitals in the State of Michigan, who receive patients in their emergency room, were asked to respond to a survey assessing their trauma services. Eleven of the 13 Region 1 hospitals responded to the survey.

Surgical and Anesthesia Services

Ninety percent of Region 1 hospitals have 24 hour emergency physician coverage. Only 55% of the hospitals have written transfer guidelines in place, the same 55% have written transfer agreements in place for sending and receiving trauma patients.

Of those facilities in Region 1 that responded to the survey; 30 % have 24 hour in-house surgical services, 80% reported surgical services are available within 30 minutes of patient arrival in the emergency department, 20% of the facilities have a surgeon available in 60 minutes.

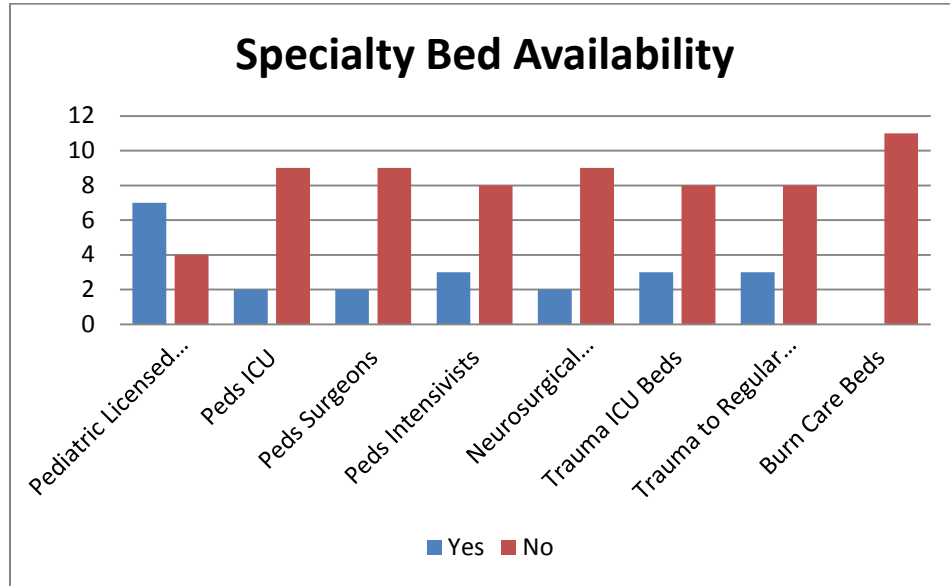
Of the hospitals that responded; 45% have 24 hour in-house anesthesia coverage, 80 % can provide anesthesia services within 30 minutes, 20% can provide anesthesia services within 60 minutes.



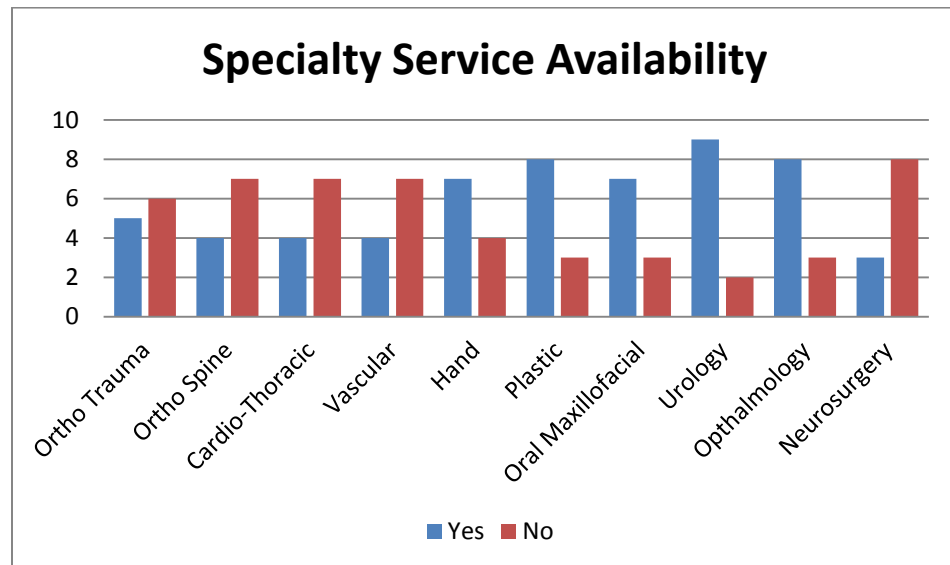
Source: Michigan Department of Community Health Trauma Asset Survey,

Specialty Services

Region 1 hospitals provide specialty services related to trauma and 60% admit pediatric patients. The only specialty service not available in Region 1 is for complex burn patients. Region 1 hospitals offer a variety of specialty surgical services most are concentrated in the central part of the region.



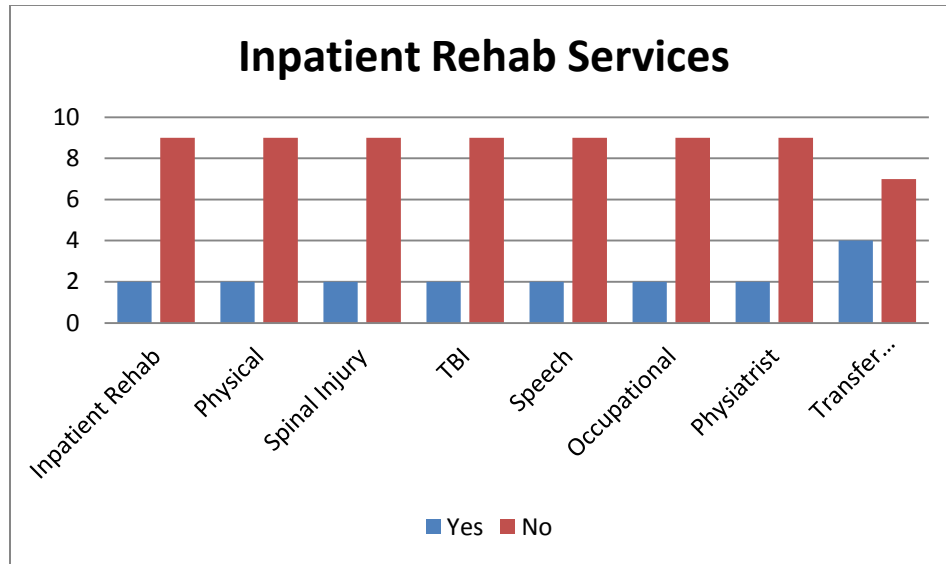
Source: Michigan Department of Community Health Trauma Asset Survey, 2013



Source: Michigan Department of Community Health Trauma Asset Survey, 2013

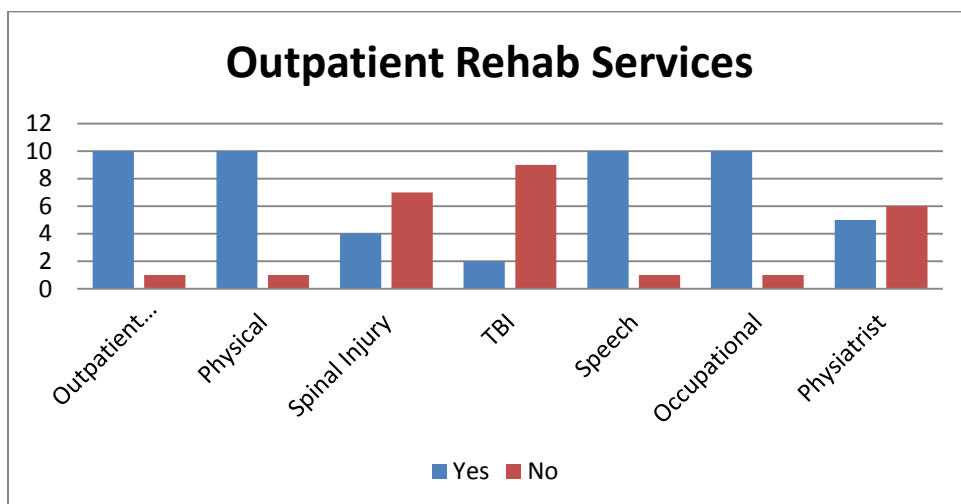
Rehabilitation Services

Twenty percent of the survey respondents reported that they provide inpatient rehabilitation services including: physical therapies, speech therapy, occupational therapy, have a physiatrist on staff, spinal injury rehabilitation, and/ or specialize in traumatic brain injury rehabilitation. Only 20% of the facilities surveyed have formal transfer agreements with other in-patient rehabilitation facilities.



Source: Michigan Department of Community Health Trauma Asset Survey, 2013

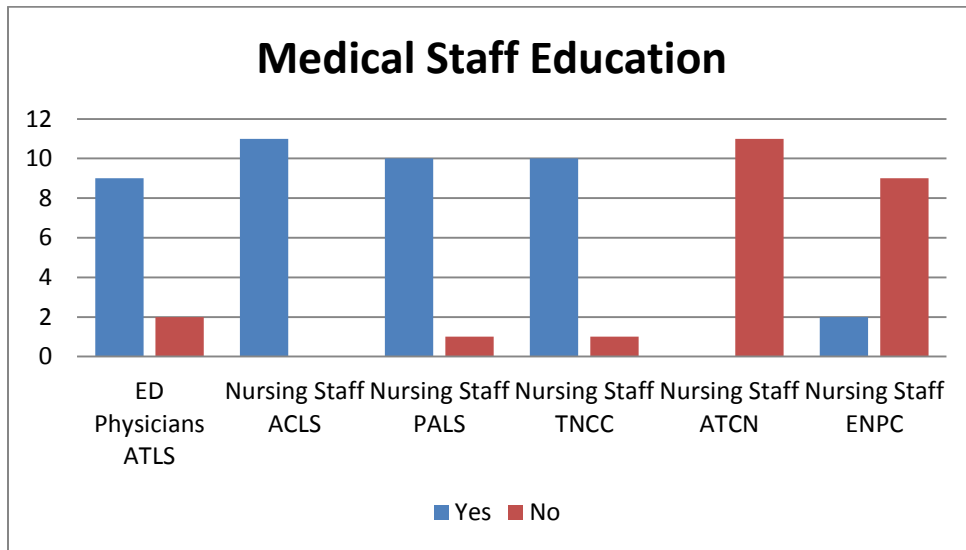
The survey respondents reported the following outpatient services: 90 % provide out-patient rehabilitation services and physical therapy, 40 % provide spinal injury rehabilitation services, 20 % provide traumatic brain injury rehabilitation, 90% provide speech therapy, 90 % provide occupational therapy, and 55% have a physiatrist on staff.



Source: Michigan Department of Community Health Trauma Asset Survey, 2013

Education Requirements of Regional Acute Care Facilities

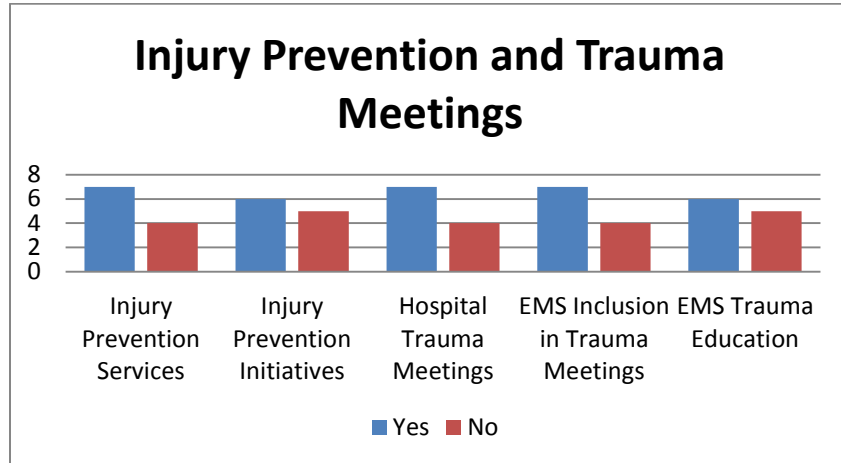
Eighty percent of survey respondents reported that they require that emergency department physicians attend an Advanced Trauma Life Support Course® at least once. Of the 11 facilities that responded to the survey, 100% require Advanced Cardiac Life Support (ACLS)® training, 90 % require Pediatric Advanced Life Support (PALS),® 90% require Trauma Nurse Core Curriculum (TNCC)® training, and 20% require Emergency Nursing Pediatric Course (ENPC)®. No respondents require attendance at an Advanced Trauma Care for Nurses (ATCN)® program.



Source: Michigan Department of Community Health Trauma Asset Survey, 2013

Collaboration on Trauma Related Issues

Sixty percent of hospitals in Region 1 reported that they have regular meetings on trauma related issues and that the meeting including EMS personnel. In Region 1, 55% of the hospitals include EMS in trauma related educational opportunities.



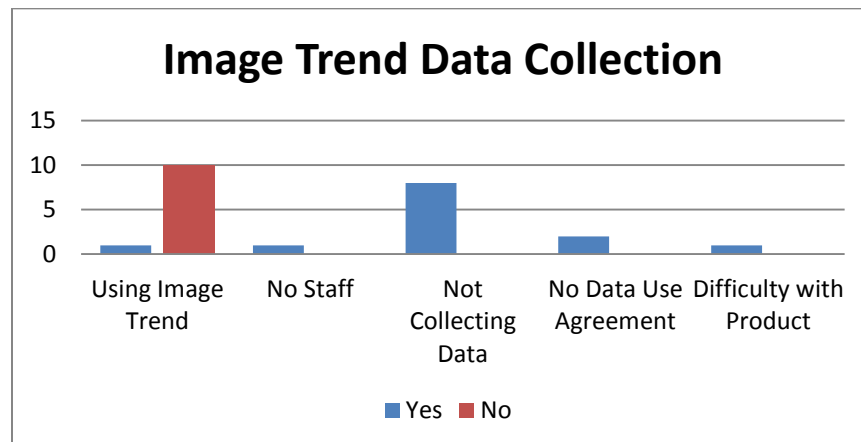
Source: Michigan Department of Community Health Trauma Asset Survey, 2013

* QUESTIONS ASKED FOR FIGURE 18:

- > Do you provide any injury prevention services/programs in your community?
- > Do you participate in injury prevention initiatives in your community?
- > Does your hospital have meetings to address trauma related issues?
- > Do you include EMS providers in your trauma meetings?
- > Do you include EMS providers in your trauma education opportunities?

Data Collection

One Region 1 hospital is submitting trauma data quarterly to the State data base (ImageTrend®). Reasons given for not submitting data are illustrated in the table below:



Source: Michigan Department of Community Health Trauma Asset Survey, 2013

*QUESTIONS ASKED FOR FIGURE 19:

- > Are you submitting data quarterly to the state data base (Image Trend)?
- > If you are not submitting data, what are the reasons you are not?

Summary

To reiterate, the goal of each trauma network and advisory committee is to implement an “all-inclusive” trauma system in their region. This system will allow for the care of all injured patients in an integrated system of health care in both the pre-hospital and healthcare facility environments, and will include personnel that are well trained and equipped to care for any injury severity. Each healthcare facility can 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. This will ensure that all trauma patients are served by a system of coordinated care, based on the degree of injury and level of care required.

This regional resource overview is intended to be a “living document” providing the partners and stakeholders in trauma care a common understanding of the assets and resources available in Region 1. It is expected that this report will continue to evolve as the regional trauma system develops and matures.