

# Montana Trauma System Plan 2024-2029



**DEPARTMENT OF  
PUBLIC HEALTH &  
HUMAN SERVICES**

## ABOUT THIS PLAN

The Montana Emergency Medical Services and Trauma Systems (EMSTS) section of the Montana Department of Public Health and Human Services (DPHHS) is charged with the authority to plan, develop and maintain a statewide system of care coordination for patients suddenly stricken by serious traumatic injury. Getting to the right place at the right time to receive the right care is a matter of life or death for these patients. All hospitals involved in treating injured patients, particularly those in rural areas, should be involved in an inclusive trauma system. Each facility should provide the level of care within its capability.

A statewide system of trauma care coordination is continuously being developed and refined based on the nationally recognized trauma system principles and guidance created by the American College of Surgeons Committee on Trauma (ACS-COT). ACS-COT stratified trauma centers based on resource availability and defined and redefined those activities (prevention, access to care, pre-hospital care, hospital care, and rehabilitation) necessary to maintain excellence in trauma patient care. Montana was the first state to receive an ACS-COT trauma system consultation in 1999.

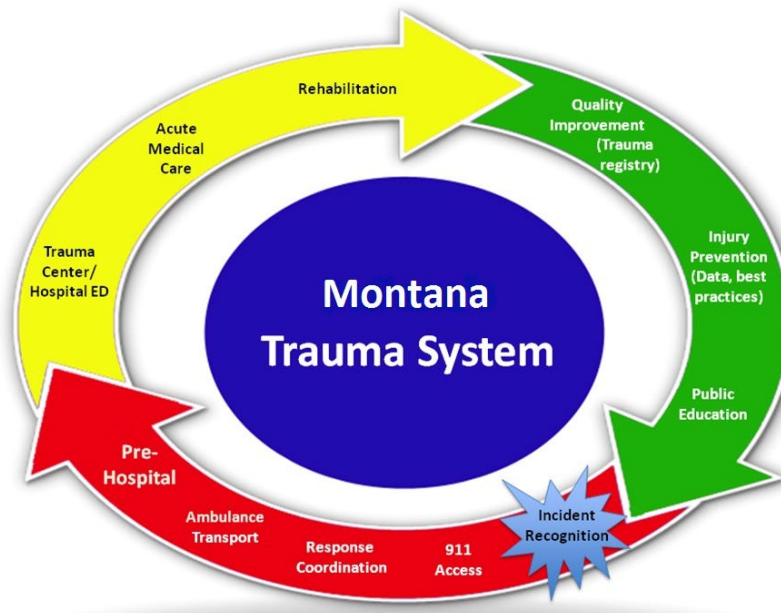
The care of injured patients  
requires a system approach to  
ensure optimal care.

*Resources for Optimal Care of the Injured Patient 2014*  
Committee on Trauma  
American College of Surgeons

Montana Trauma System's charge is to build and maintain an inclusive comprehensive system that addresses the daily demands of traumatic injury in Montana. Montana hospitals must be able to provide optimal care for the injured and to function within a regionalized system of care to facilitate rapid transfer to definitive care when appropriate. The obstacles that health care professionals and patients face in rural areas are vastly different than those in urban areas. Rural trauma care in Montana is complicated by geographic isolation, time between injury and discovery, extrication issues, distance to immediate healthcare and local health care resource availability. Due to the vast distances between health care facilities in Montana, all pre-hospital providers and even some rural clinics must be prepared to provide initial care to injured patients while simultaneously expediting their transfer to definitive care. It is this level of preparation and organization that has been proven nationally to reduce the number of preventable deaths and disabilities.

*A trauma system is a partnership between public and private entities to address injury as a community health problem. A fully-developed statewide trauma care system has many components – requiring a multidisciplinary team approach that allows all involved healthcare providers to function in pre-planned concert.*

*A trauma system is organized to protect the people from unnecessary deaths and morbidity due to trauma. Mature trauma systems encompass a full continuum of service components – from injury research and prevention, pre- hospital care, and hospital care – to rehabilitative services and performance improvement activities.*



This *Montana Trauma System Plan* was created as a master guide for understanding Montana Trauma System's organizational infrastructure and operational components. This guide is organized into ten major sections:

1. Trauma System Development
2. Authority and Leadership
3. Pre-hospital Trauma Care
4. Definitive Care Facilities
5. Statewide Trauma Registry
6. Performance Improvement
7. Injury Prevention
8. Disaster Preparedness & Response
9. Financial
10. Education

This plan describes in detail Montana Trauma System's current organization and operations. The plan also provides summary descriptions of Montana Trauma System's work-in-progress and planned next steps in the continued development of an inclusive statewide trauma system for Montana.

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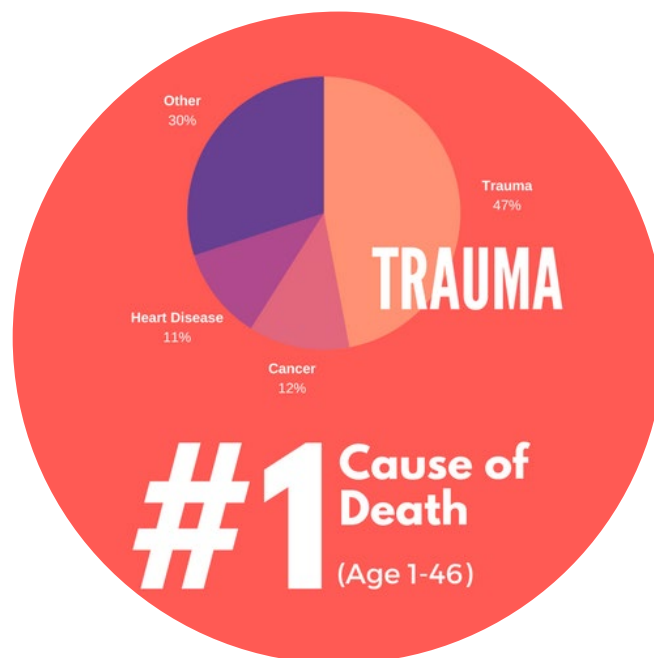
## SECTION ONE: TRAUMA SYSTEM DEVELOPMENT

Montana Trauma System is using the trauma system material developed by HRSA and ACS to help guide the building of an inclusive statewide trauma system in Montana. The inclusive trauma system model recognizes the full continuum of injury severity and utilizes all acute care facilities to get the injured patient to the right place, at the right time, to receive the right care.

### The Need for Organized Trauma Care Systems

The argument for developing and maintaining organized trauma care systems is perhaps best made through a presentation of trauma statistics.

- Traumatic injuries comprise 40% of visits to emergency departments.<sup>1</sup>
- Traumatic injury is the leading cause of death for children in the US. In fact, trauma is the #1 cause of death for the 1 to 46 years old age group – accounting for 47% of all deaths in this age range. Trauma is the third leading cause of death for the whole US population.<sup>2</sup>
- There are 200,000 trauma deaths annually. 20% of these deaths could be prevented with optimal trauma care in a system.<sup>3</sup>

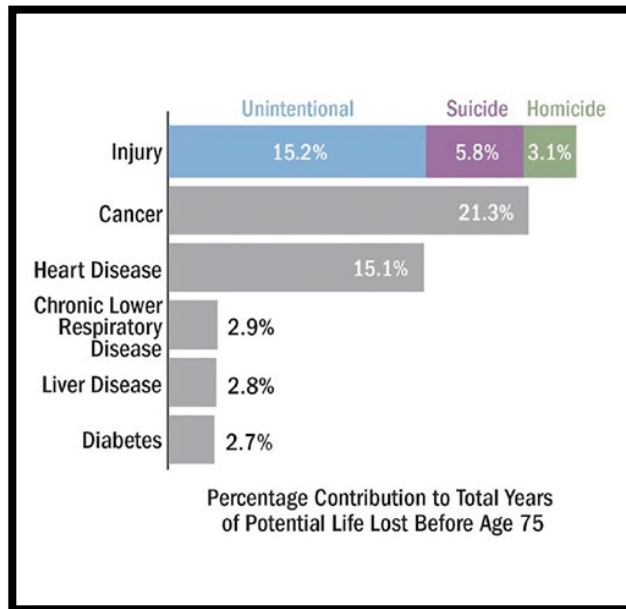


<sup>1</sup> Trauma: A Neglected Global Epidemic BWH Harvard- <https://steppingstrong.bwh.harvard.edu/trauma-a-neglected-global-epidemic/>

<sup>2</sup> National Center for Injury Prevention and Control (NCIPC)

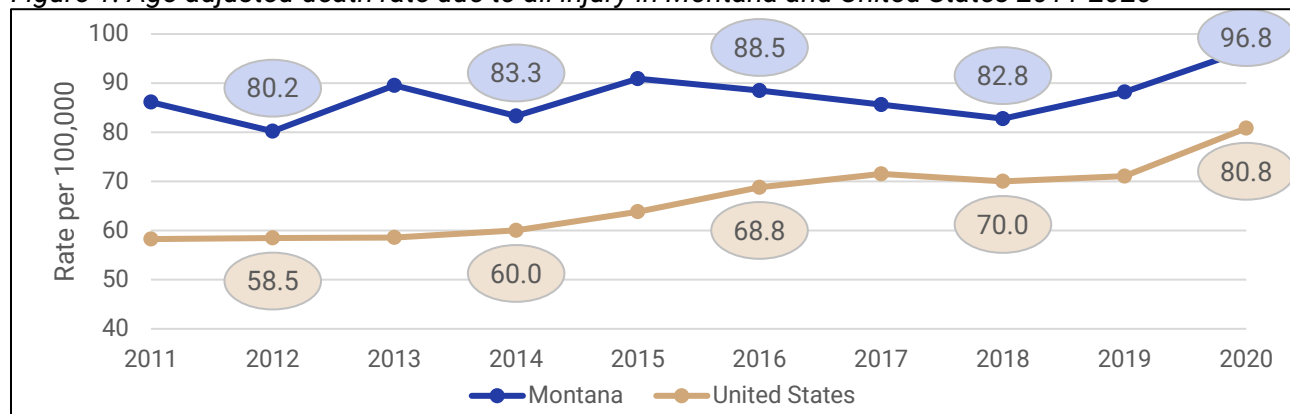
<sup>3</sup> National Academies Report, June 2016 [Internet] <https://www.nationalacademies.org/news/2016/06/up-to-20-percent-of-us-trauma-deaths-could-be-prevented-with-better-care>

Trauma accounts for more years of potential life lost before age 75 than any other cause, including cancer or heart disease. <sup>4</sup>



Montana has one of the highest trauma death rates in the nation. There was a total of 1,117 injury deaths in Montana during 2020, resulting in an age-adjusted death rate of 96.5 (Figure 1) deaths per 100,000 residents. The fatality rate was over 2 times higher for males than females (135.7 vs 57.3 deaths per 100,000), and 3 times higher among AI/AN people than white people (233.2 vs 85.1 per 100,000). Residents of the most rural counties had a higher rate of all injury-related death than those who lived in either micropolitan or small metro counties. <sup>5</sup>

Figure 1. Age-adjusted death rate due to all injury in Montana and United States 2011-2020



<sup>4</sup> CDC-**Years of Potential Life Lost (YPLL) before Age 75 for 10 Leading Causes of Death 2015 - 2020, United States, Both Sexes, All Races** (Internet) <https://wisqars.cdc.gov/data/>

<sup>5</sup> Montana Injury Prevention Annual Report A Summary of 2020 Injury Indicator Data

Ages 75 and older had significantly higher death rates due to injury than younger age groups.

In 2020, 9% of all deaths in Montana were due to an injury and unintentional injuries were the fourth-leading cause of death for all Montanans after heart disease, malignant neoplasms, and COVID-19 <sup>6</sup>

*Top 5 leading causes of death by age group, Montana, 2020*

	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Congenital Anomalies	Homicide	Unintentional Injury	Unintentional Injury	Unintentional Injury	Unintentional Injury	Unintentional Injury	Malignant Neoplasms	Malignant Neoplasms	Heart Disease	Heart Disease
2	Short Gestation	Unintentional Injury	Congenital Anomalies	Suicide	Suicide	Suicide	Suicide	Heart Disease	Heart Disease	Malignant Neoplasms	Malignant Neoplasms
3	Placenta Cord Membranes	Congenital Anomalies	Homicide	Homicide	Homicide	Homicide	Liver Disease	Unintentional Injury	COVID-19	COVID-19	COVID-19
4	Unintentional Injury	Malignant Neoplasms	Malignant Neoplasms	Heart Disease	Malignant Neoplasms	Liver Disease	Malignant Neoplasms	COVID-19	Unintentional Injury	CLRD	Unintentional Injury
5	SIDS			Septicemia	Heart Disease	Heart Disease	Heart Disease	Liver Disease	CLRD	Cerebro-vascular	CLRD

Source: WISQARS, CLRD = Chronic Low Respiratory Disease

Unintentional transportation-related injuries were the leading cause of injury-related death, followed by unintentional falls, and then firearm suicide. Unintentional falls were the leading cause of injury-related hospitalizations and ED visits, followed by unintentional transportation-related injuries.

### All Injury Key Points<sup>7</sup>

- Two-thirds of injuries are unintentional.
- The top causes of fatal and nonfatal injury are unintentional motor vehicle crashes and unintentional falls.
- American Indian/Alaska Native people have higher rates of all-cause injury fatalities and nonfatal injuries than other races.
- Males are over twice as likely to die from an injury than females. They also have higher rates of nonfatal hospitalization and ED visits.
- The most rural counties have the highest injury fatality rate compared to micropolitan or small metro counties.
- Residents of more disadvantaged counties experience higher injury death rates.
- There are spikes in nonfatal injury hospitalizations and ED visits at ages 15-19, as well as over 75 years.

<sup>6</sup> Montana Injury Prevention Annual Report A Summary of 2020 Injury Indicator Data

<sup>7</sup> Montana Injury Prevention Annual Report A Summary of 2020 Injury Indicator Data



## History of Trauma System Development in the US

The beginnings of modern trauma systems in the US can be traced to federal legislation, specifically the Highway Safety Act of 1966 and the Emergency Medical Services Systems Act of 1973. These acts represent initial efforts to apply the emergency medical and trauma care lessons learned by physicians serving in the US military during the Vietnam and Korean Wars. Those initial federal acts led to education and training programs for emergency medical technicians (EMTs) and initial model development of regional trauma and emergency medical services.

The early efforts were a huge step forward, but the model of trauma care developed was limited, emphasizing hospital-based acute care. A second major step forward in trauma care policy was the development of the *Model Trauma Care Systems Plan* in 1992 by HRSA in collaboration with provider stakeholder groups. The new model that was created called for an *inclusive* trauma care system. This new *inclusive* trauma system model included not only trauma centers, but all healthcare facilities according to availability of trauma resources.

In 2002, HRSA conducted the *National Assessment of State Trauma System Development, Emergency Medical Services Resources, and Disaster Readiness for Mass Casualty Events*. This study demonstrated much progress but also revealed few states could boast of trauma systems that included all the components of HRSA's *inclusive* trauma system model. Not surprisingly, this assessment also demonstrated that states with the most comprehensively developed trauma systems were better prepared to medically handle disasters of all types.

In 2006, HRSA updated its trauma system model with the publication of *Model Trauma Systems Planning and Evaluation*. This update to the model utilizes a public health framework that views traumatic injury as a *disease* that can be prevented or managed in a way that reduces severity and improves ultimate patient outcome.

Today, the nationally recognized resource for development of trauma centers and statewide trauma systems is *Resources for Optimal Care of the Injured Patient* by the American College of Surgeons Committee on Trauma (ACS-COT). ACS-COT recognized the importance of trauma systems and in 1999 started consulting on trauma system development based on that current version of the guidebook. Currently, in its 2022 standards, the revision provides detailed descriptions of the organization, staffing, facilities, and equipment needed to provide state-of-the-art treatment for the injured patient at every phase of trauma system participation. ACS-COT stratifies trauma centers based on resource availability and defines those activities (prevention, access to care, pre-hospital care, hospital care, and rehabilitation) necessary to maintain excellence in trauma patient care. This document is used in a consultation/verification

process whereby a hospital can be evaluated to determine if these ACS criteria are being met.

The first state to receive an ACS-COT trauma system consultation was Montana in 1999. The recommendations made during that review have been used to continually develop and adjust Montana's trauma system.

### **System Evaluation—Preventable Mortality**

The evaluation goal is for the trauma system to be driven by data and based on quality/performance improvement.

**“The ultimate evaluation outcome of trauma system implementation is a reduction in morbidity and mortality.”**

*Model Trauma System Planning & Evaluation: HRSA, Feb. 2006.*

Montana has performed three retrospective analysis studies reviewing all traumatic deaths in the state occurring during specified time frames. The objective of these studies was to compare the preventable death rate, along with the number and type of opportunities for improvement (OFI) in a rural state, and to evaluate the effectiveness of a voluntary trauma system.

The first study reviewed deaths from October 1, 1990, to September 30, 1991; prior to the trauma system development and implementation. Montana is the only state that has conducted a statewide mortality study prior to the enactment of a trauma system. The study revealed an overall preventable trauma death rate of 13%.

A subsequent study was conducted in 1998 after the initiation of the state's trauma system implementation. The overall preventable death rate from this follow-up study showed the preventable death rate had decreased to 8%. This second study demonstrated efforts to initiate a voluntary state trauma system had a positive effect on the preventable death rate and inappropriate care.

A third preventable death study reviewed the trauma deaths from 2008 and showed the preventable death rate again had decreased to 5%. This third study compared pre-system to 10-year post-trauma system implementation. Issues with airway and chest injury management continue to be the leading type of OFI. The most common phase for occurrence of any OFI was in the Emergency Department (ED). A slight increase in OFI in the post ED phase of care was noted in comparison to 1998. It was noted that moving forward, issues pertaining to falls in the elderly with more timely decisions on

provision of definitive care versus comfort care only, pre-hospital and hospital documentation, futile resuscitation and resource utilization will need to be addressed.

<b>Preventable Deaths for All Cases</b>	<b>1990 (Pre-system)</b>	<b>1998 (Post-system)</b>	<b>2008 (10 years into trauma system development)</b>
Frankly	5 (2%)	2 (1%)	5 (1%)
Potentially	36 (11%)	23 (7%)	18 (4%)
Non-preventable	283 (87%)	322 (93%)	407 (95%)
Total Cases	324	347	430
Total Preventable Deaths	41/13%	25/ 8%	23/ 5%

### **Montana Trauma System's Strategic Priorities**

A list of strategic priorities has been determined to guide organizational planning and decision-making across the major components of Montana Trauma System activity. The State Trauma Care Committee reviews the strategic priorities and updates the priorities as necessary to accurately reflect the goals and tasks of the organization. Montana Trauma System's current 5-year (2024-2029) trauma system strategic priorities include the following items.

- 1. Strengthen the sustainability of Montana Trauma System's mission, including the effective administration of state office operations and the continued development of an ideal statewide network of designated trauma centers.**
  - Develop legislative education and awareness strategies that demonstrate Montana Trauma System's current value. Pursue, as opportunities arise, specific administrative and/or legislative changes that secure recurring, alternative funding for operations and provide incentives for the development of an ideal statewide trauma and other time-sensitive illness networks.
  - Continue media campaign emphasizing Montana Trauma System's mission and tagline "Trauma Systems Save Lives".

- Continue to engage key stakeholders to create greater awareness of Montana Trauma System's vision and potential to save the lives of Montana's citizens, and to build support for practical alternative sources of recurring funding for the trauma system.

**2. Build support for the development and maintenance of an ideal statewide network of designated trauma centers in Montana which includes the goal of at least 80% of all facilities becoming designated trauma centers.**

- Continue to engage trauma center priority prospects to facilitate new commitments to pursue trauma center designation.
- Engage with tribal/Indian Health Service facilities to encourage increased participation in the trauma system.
- Continue to facilitate information exchange relative to best practices and shared challenges across the state.
- Continue to provide trauma training and education opportunities to providers, nurses and EMTs and facilitate the implementation of national and statewide initiatives.

**3. Establish statewide trauma registry data consistent with national standards for facilitating statewide and regional injury prevention efforts and trauma system performance improvement.**

- Expand the trauma registry data reporting capabilities to allow for performance measure benchmarking and data linking with EMS and crash records to provide for more comprehensive understanding of injuries.
- Support continued development of the comprehensive EMS Registry to include data reporting.
- Continue to provide support and training to trauma center registrars coordinators to ensure consistent data collection at the facilities.

## SECTION TWO: AUTHORITY AND LEADERSHIP

This section defines the basic elements of the Montana Trauma System’s authority and leadership, including enabling legislation, vision and mission, governing committee, and staff.

### Enabling Legislation

In Montana, a state task force comprised of representatives from pre-hospital, nursing and physician professions, hospital administration, Indian Health Services and state legislators met between 1990 and 1994 to formulate the state’s first trauma system plan. In 1990, the department implemented a statewide trauma registry database to guide hospital, regional and statewide performance improvement activities.

The initial *Montana Trauma System Plan* was published in 1994 and authorizing legislation was passed in 1995 (2-15-2216). Both called for the formation of a State Trauma Care Committee (STCC) and three specified trauma regions, based upon patient referral patterns. The Emergency Medical Services and Trauma Systems (EMSTS) Section provides leadership, with input from these regional and state trauma care advisory committees. This legislation allowed adoption of administrative rules regarding trauma center designation, classification, data collection, triage criteria and quality assurance/improvement activities. It allowed for trauma data confidentiality and legal protection of performance improvement surrounding trauma care.

Trauma administrative rules were adopted in 2006 that defined the process for Montana Trauma Facility Designation including criteria for program components by level of trauma center – Trauma Receiving Facility, Community Trauma Hospital, Area Trauma Hospital and Regional Trauma Centers. Designation site reviews began in 2007. A new level of center, Comprehensive Trauma Center, was added in 2024 as the system continues to grow and expand.

A copy of the current Montana Trauma System state statutes is provided in **Appendix A** and a copy of the current Trauma Facility Designation Criteria is in **Appendix E**.

### Vision and Mission

Montana Trauma System’s vision and mission statements reflect the intent of enabling legislation and the STCC’s commitment to build a comprehensive, inclusive statewide care coordination system that meets nationally recognized standards and requirements.

#### Our Vision

*The vision for the Montana Trauma System is to be a statewide system of high quality, cost effective, emergency medical services and trauma care for all adult*

*and pediatric residents and Indian Nations within the state borders and visitors to the state.*

#### **Our Mission**

*The mission of the Montana Trauma System is to implement a sustainable, comprehensive emergency medical and trauma system for Montanans that measurably prevents and reduces morbidity and mortality.*

### **State Trauma Care Committee**

Montana Trauma System is governed by a 15-member State Trauma Care Committee (STCC) that represents a diverse set of stakeholders. Montana Trauma System's enabling legislation (2-15-2216) specifies a member from each stakeholder organization to nominate qualified candidates for each STCC seat. Nominees are submitted to the governor for consideration and appointment to serve a four-year term. The following stakeholder organizations nominate qualified committee candidates:



- Montana Committee on Trauma of the American College of Surgeons Committee on Trauma, who shall serve as presiding officer of the committee
- Two members from each Regional Trauma Advisory Committee
- A member of the Montana trauma coordinators
- A representative of the Montana Hospital Association
- A member of the Montana Medical Association
- A member of the American College of Emergency Physicians, Montana chapter
- A member of the Emergency Nurses Association
- A member of the Montana Emergency Medical Services Association
- A nurse or physician representing the Indian Health Service
- An individual who is or who is employed by a Montana private ambulance operator

A current list of Montana Trauma System board members is provided on the Montana Trauma System website: [MontanaEMS.mt.gov](http://MontanaEMS.mt.gov)

The purpose of the STCC is to reduce the incidence of trauma injuries in Montana and to promote and advance excellence in the care of the injured patient. The STCC serves

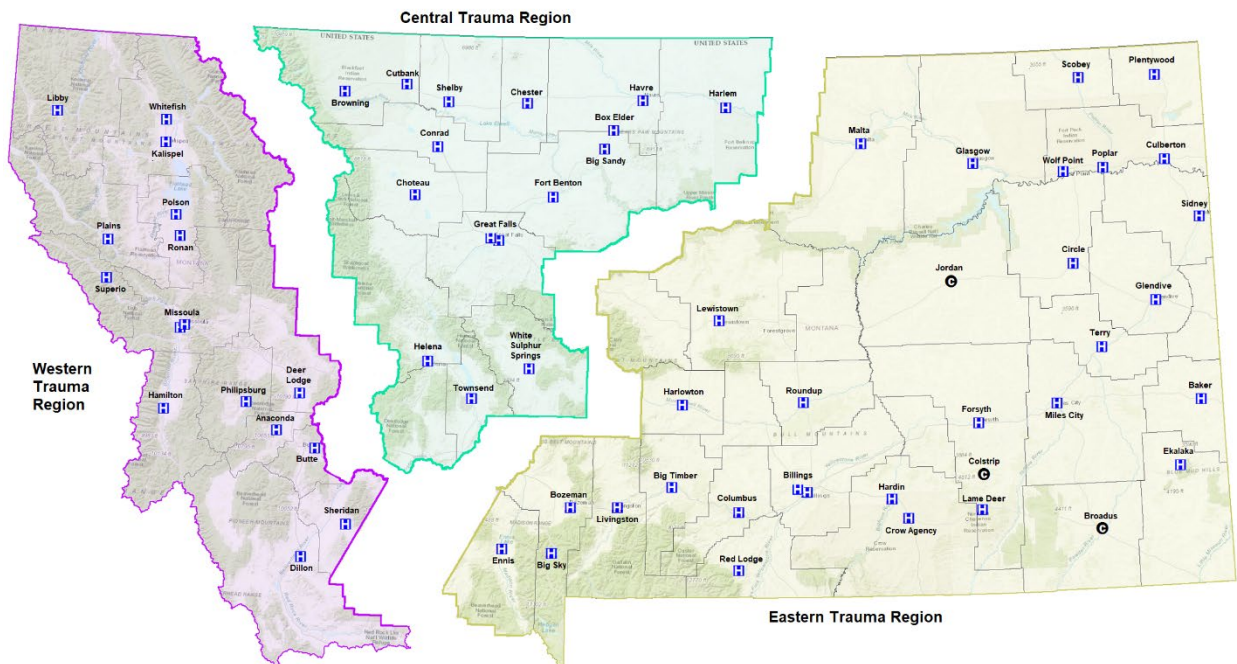
as advisor to the EMSTS Section and the DPHHS on medical and administrative goals of the trauma system.

The duties of the STCC are provided for in statute 50-6-404 and include:

1. Provide recommendations and guidance to the department concerning:
  - a. Trauma care, including suggestions for changes to the statewide trauma care system;
  - b. Implementation of a hospital data collection system; and
  - c. Design and implementation of a statewide and regional quality improvement system for trauma care that considers the standards recommended by the American College of Surgeons an accrediting entity approved by the U.S. Centers for Medicare and Medicaid Services;
2. Assist the department in conducting statewide quality improvement and peer review functions by regularly analyzing the effect of the statewide trauma care system on patient care, morbidity, and mortality;
3. Provide recommendations to and oversight and coordination of the activities of the regional trauma care advisory committees; and
4. Provide recommendations concerning the statewide trauma care system and the integration of trauma care with the emergency medical services delivery system.

## Regional Trauma Advisory Committees

Administratively, the statewide trauma system is divided into three regions (Western RTAC, Central RTAC and Eastern RTAC) each with a regional committee. These geographic regions are based on patient referral patterns. A representative of each





facility's trauma committee serves on the Regional Trauma Advisory Committee (RTAC) for the region in which the facility is located. RTAC's were mandated and duties charged by 1995 statutes 50-6-411 and 50-6-412:

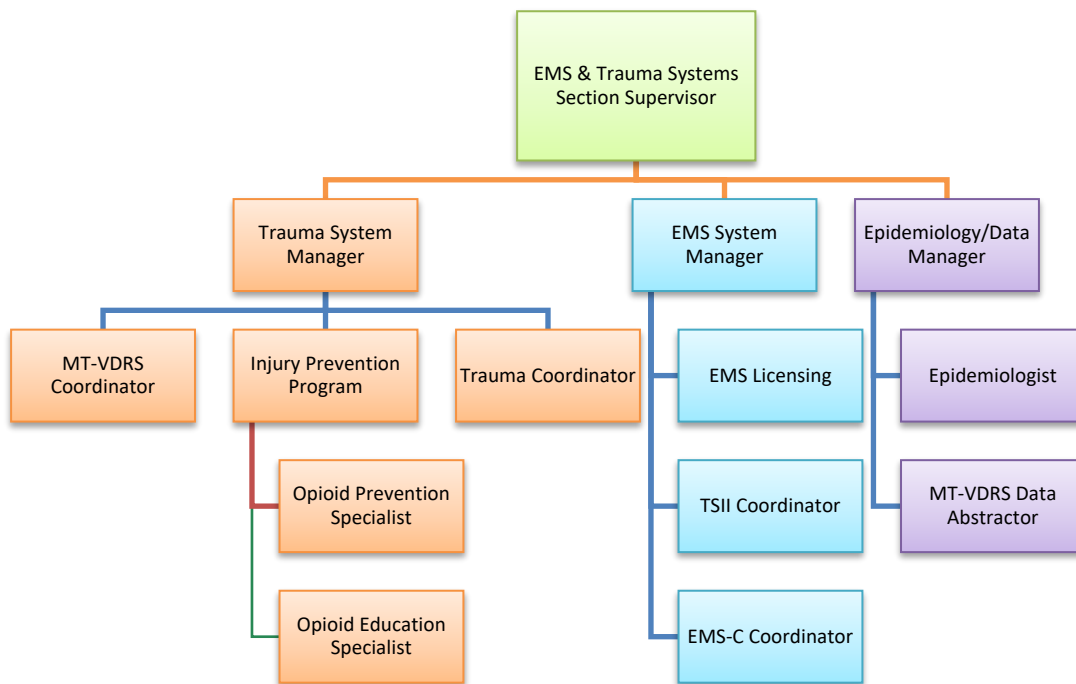
1. Establish standards, policies, procedures, and protocols for the regional trauma care system;
2. Conduct regional trauma care quality improvement, including receipt of reports prepared by the department containing trauma care data and making recommendations to trauma care facilities within the region based upon those reports;
3. Advise the trauma care committee concerning the statewide trauma care system;
4. Establish trauma education and injury prevention programs;
5. Provide advice concerning trauma care to health care facilities and other providers of health care;
6. Perform other duties required by department rule; and
7. Conduct other activities needed to ensure optimal delivery of trauma care services within the region.

RTACs provide a forum to ensure a regional approach to the delivery of trauma care with continuous system evaluation based upon quality/performance improvement and trauma registry data. The RTACs assist in developing local solutions to improve trauma care and consistency. RTACs establish and recommend to the STCC standards of care and performance criteria. RTACs are responsible for writing goals for quality/performance improvement, establishing regional standards of performance, and establishing audit filters or indicators to monitor system performance. Physicians, and trauma coordinators representing Comprehensive, Regional and Area Trauma centers provide administrative leadership for the RTAC activities. The RTACs meet quarterly and have been instrumental in providing creative solutions to regional trauma needs.



## Staff

Montana Trauma System, located within the EMS & Trauma System Section at Dept. of Public Health & Human Services, utilizes a small staff of experienced healthcare professionals to administer state-level operations, manage Montana Trauma System's data registry, offer statewide injury prevention activities and oversee the Montana Violent Death Reporting System.



### **SECTION THREE: PRE-HOSPITAL TRAUMA CARE**

Pre-hospital providers, protocols, and communication systems are critical to the effective delivery of pre-hospital care and transport services for trauma patients. Rural trauma care in Montana is complicated by geographic isolation, time between injury and discovery, extrication issues, distance to immediate healthcare and local health care resource availability. Due to the vast distances between health care facilities in Montana, all pre-hospital providers must be prepared to provide initial care to injured patients while simultaneously expediting their transfer to definitive care.

#### **EMS Providers**

The pre-hospital continuum encompasses all events from notification of an injured person, EMS communications, medical direction of pre-hospital care, triage of the patient, and patient care at the scene of the injury and during transportation. Efforts continue to bring comprehensive, criteria-based dispatch-emergency medical dispatch (CBD-EMD) to the entire state. The population per square mile, seasonal population peaks and decline in EMS service numbers make the speed, accuracy, and clarity of the initial notification essential.

The EMSTS Section of the DPHHS has broad statutory authority for licensing ground, air, transporting and non-transporting EMS units. In addition to its regulatory role, the EMS System staff supports EMS services by providing free or low-cost continuing education and by supporting EMS performance improvement programs.

Montana has both transporting and non-transporting services and there are state requirements for dispatch protocols that assure a transporting unit will respond with each non-transporting unit in case they are needed. There is no state rule or policy concerning air/ground service dispatch, coordination, and rendezvous. There are also no statewide standards for interagency agreements with public safety agencies regarding scene safety and security. These mutual aid and interagency agreements are set between services and are essential in the coordination of patients and in the event of a mass disaster with multiple casualties.

The Montana Board of Medical Examiners (BOME) has the statutory authority to license and regulate the practice of Emergency Care Providers in the state, including Emergency Medical Responders (EMR), Emergency Medical Technicians (EMT), Advanced Emergency Medical Technicians (AEMT) and Paramedics. This office is also responsible for pre-hospital medical direction to provide professional and public accountability for medical care provided in the pre-hospital setting. Approved protocols are available to assist in providing established and approved guidelines for individual providers functioning in pre-hospital, transport, and emergent conditions. The local EMS medical director may choose whether to utilize the protocols. The Board authorizes the medical director to use the Board approved protocols in their entirety or may determine

to limit the service or individual EMT providers function / practice where appropriate and in accordance with provider's abilities or needs of the community they serve.

The availability of EMS services varies across the state. Community support and distribution of personnel and may not be matched to a county's injury statistics or geographic size. Many services remain volunteer and are not able to maintain staffing 24 hours/day. Because of the varied skill levels in the response teams, triage decision schemes and trauma team activation criteria must be consistent, so all responders assess patients uniformly and use the appropriate transport units.

### **Trauma Decision Criteria**

Trauma is a time-sensitive disease. For optimal outcomes to occur, it is to the patient's advantage to receive definitive care as promptly as possible. Patients requiring transfer, either from injury scene or between facilities, must be identified quickly and the transfer process prompt. Standardized trauma transfer criteria assist all providers in rapid identification of patients who need transfer. Protocols can be used to identify patients with injuries and mechanisms that warrant pre-hospital coordination with the trauma center. At the facility the successful management of trauma patients requires the accurate identification of injuries or mechanisms likely to cause severe injury. Preparation should be standardized, prearranged and streamlined so there is no delay for unnecessary workup or paperwork. Setting policies and procedures assist with this process.

The Montana Trauma System utilizes the *National Guideline for the Field Triage of Injured Patients* to support the pre-hospital evaluation and expeditious delivery of trauma patients. This protocol was developed by the Committee on Trauma, American College of Surgeons with input from an expert panel representing EMS, emergency medicine, trauma surgery, and public health. A copy of the *National Guideline for the Field Triage of Injured Patients* is provided in **Appendix B**. It is important to note that the Department does not regulate regional or local trauma patient destination. It is encouraged for regions and communities to work collaboratively with all involved stakeholders to determine a protocol that best meets the needs of all involved.

Another protocol, the *Montana Air Medical Activation Guidelines Criteria for Consideration of Air Medical Transport*, aims to streamline the decision for mode of transport to facilitate timely transfers to definitive care of an injured patient. Factors of distance, injury severity, road conditions, weather, geography/terrain, and traffic patterns must be considered when choosing between air or ground transport. The skill level of the transport team must also be considered. Also, the State of Montana Air Medical Transport Destination Guidelines were created in 2021 to assist air medical personnel in destination decisions based on patient presentation. A copy of both the *Montana Air*

*Medical Activation Guidelines Criteria for Consideration of Air Medical Transport* and *State of Montana Air Medical Transport Destination Guidelines* are provided in **Appendix C**.

To assist providers in the expedition and recognition of geriatric trauma victims, a guideline was developed in 2018. *The Montana Geriatric Early Trauma Activation Guidelines* serve to provide basic physiologic, anatomic, mechanism of injury and special consideration criteria for pre-hospital and hospital providers for trauma victims  $\geq 65$  years of age. A copy of the *Montana Geriatric Early Trauma Activation Guidelines* is provided in **Appendix D**.

#### **Goals and Objectives**

1. The Montana Trauma Registry and pre-hospital data will be used to evaluate the effectiveness of triage schemes to
  - a. Determine the need for any revisions of or additional criteria for transport.
  - b. Develop decision schemes that incorporate emergent needs.
2. The EMSTS Section with the assistance of the STCC and the RTACs will explore EMS quality/performance improvement plans and assist with selection of data reports most useful to evaluate pre-hospital trauma care.

## SECTION FOUR: DEFINITIVE CARE FACILITIES

The network of definitive care facilities that participate in Montana Trauma System represents approximately 68% of all hospitals in Montana that possess an emergency department.

### Trauma Center Designation Process

Montana DPHHS has the authority by statute to designate trauma hospitals/facilities. Minimum acceptable standards (modified from the ACS) for facilities in the state seeking trauma center status exist. Montana recognizes the importance and special needs of its smaller medical facilities. The *Montana Trauma Facility Designation Criteria* can be found in **Appendix E**. This criterion details the essential and desired human and material resources required to tend to the emergent needs of the injured patient at each designation level. To avoid the concept that one level is necessarily better than another, numeric indicators for facility designation have been avoided. Rather, a descriptive title of the trauma care capabilities of the facility is used. Five levels of trauma designation exist:

Brief description of trauma designation levels:

**Optimally, all acute care facilities with emergency departments should be formally prepared and designated to care for injured patients at a level commensurate with their resources, their capabilities, and community's needs...**

*Resources for Optimal Care of the Injured Patient 2014*  
American College of Surgeons Committee on Trauma

- Comprehensive Trauma Centers (CTC): Definitive comprehensive care for complex multisystem injured patients. Research conducted at facility. Residency program affiliation. Leader in professional and community education and system planning.
- Regional Trauma Centers (RTC): Initiate and provide definitive care for all injured patients. Assists with leadership for a geographical area or in lieu of CTC, which includes outreach to small facilities within the same service area.
- Area Trauma Hospitals (ATH): Provide prompt assessment, resuscitation, surgery, intensive care, and stabilization for most injured patients.
- Community Trauma Facilities (CTF): Provide evaluation, stabilization, diagnostic capabilities, and some surgical coverage for injured patients.
- Trauma Receiving Facilities (TRF): Provide initial evaluation, stabilization, and diagnostic capabilities prior to transfer to definitive care. No surgical capabilities at facility.

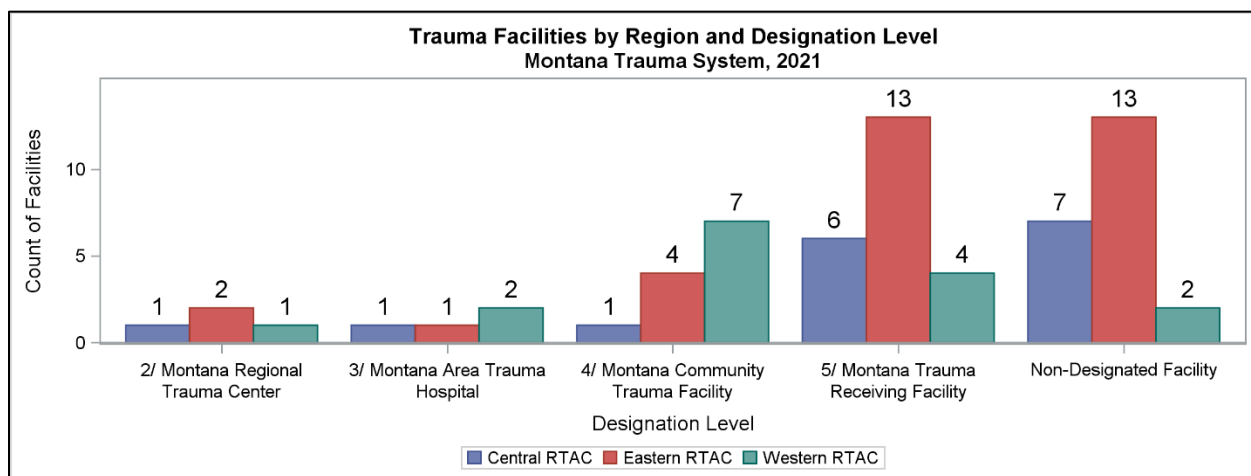
On-site survey teams for trauma center designation may be from the ACS (for those seeking verification) or selected by the Montana Trauma System office. The site review team must be composed of either out-of-state or in-state surveyors from a trauma center that is not owned or operated by the same entity as the applicant and must include a general surgeon, a trauma nurse coordinator, department staff, and other members determined to be necessary by the department or requested by the health care facility being reviewed.

Designation review processes include interviews with staff, evaluation of medical records, trauma registry, staff rosters and schedules; case quality/performance improvement loop closure; trauma committee minutes; inter-facility transfer agreements and other documents that illustrate trauma patient care and response. The team prepares a confidential written report for the facility, which is forwarded to the STCC designation subcommittee for a recommendation to DPHHS on trauma center designation. Full designation as a trauma facility is for 3 years. Provisional designation can be approved for shorter lengths of time and typically require a follow-up review to evaluate progress made on recommendations to improve the trauma program.

A link to the Trauma Facility Designation Administrative Rule is located at the end of **Appendix A**.

During its 1999 consultation review, the ACS advised the state trauma system to direct its attention to expediting the transfer of all major trauma patients to higher-level trauma centers, bypassing interim centers. It remains the state's assessment that this aim, though ideal, is unrealistic due to Montana's geography requiring long distances be traveled, the limited number of air ambulance services, the predominance of BLS transport units, and potential for frequent road and weather delays. It is imperative, therefore, that every facility in Montana be able to participate effectively in the initial life-saving maneuvers of trauma care while initiating expeditious transfers to definitive care. Designation encourages achievement of this goal.

Currently there are sixty-five acute care facilities eligible for designation in Montana. The goal is to have all eligible facilities obtain designation as a Montana trauma center. Designation of Comprehensive Trauma Centers began in 2024 after administrative rules were approved to designate this new level.



In addition to meeting designation criteria, designated facilities are expected to participate in RTACs and state level activities focusing on performance improvement and injury prevention activities such as the Montana Trauma Systems Conference and the Rocky Mountain Rural Trauma Symposium.

### Goals and Objectives

1. The trauma Administrative Rules will be amended and kept current to reflect changing

medical practice, updated criteria, and any other designation items.

2. Increase the number of voluntarily designated trauma centers to 80% (52/65) across the state.
3. Continue growing strong, educated physician and nurse reviewer teams to provide designation reviews across the entire state.

## Rehabilitation

Rehabilitation services are an integral component of the trauma system to provide coordinated care for trauma patients who have sustained severe or catastrophic injuries. Fully developed trauma center programs and trauma systems should include resources and processes to support rehabilitation of the trauma patient. The goal of rehabilitative interventions is to allow the patient to return to the highest level of function, reducing disability and avoiding handicap whenever possible.

Trauma is the leading cause of disability in the world. In-hospital trauma related mortality has decreased to just 4 percent in the U.S., but little is known about the 96 percent of patients who survive their trauma injuries and suffer debilitating long-term effects. New research shows long-term sequelae of trauma exceed previous expectations and patient sociodemographic factors such as female gender and low education are associated with worse recovery.<sup>8</sup>

All higher-level trauma centers (CTC, RTC, ATH) must have a process in place to determine what clinical and rehabilitation care patients require after trauma center discharge. The level of care identifies the optimal disposition of the patient and their specific needs. Options include discharge to home with services, outpatient rehabilitation, inpatient rehabilitation hospital, a skilled nursing facility or a long-term actual care hospital. Specific services might include expertise that focuses on spinal cord injury, TBI, musculoskeletal rehab, or other relevant needs of the patient, including psychosocial needs.

Currently there is very limited input or focus of the trauma system on this care component.

The rehabilitation of injured patients should begin the first hospital day. Acute care should be consistent with the preservation of optimal functional recovery. The ultimate goal of trauma care is to restore the patient to preinjury status. Not only is this effort best for the patient; it also is less costly. When rehabilitation results in independent patient function, there is a 90% cost saving compared with costs for custodial care and repeated

*Resources for Optimal Care of the Injured Patient  
2014*

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<sup>8</sup> FORTE study offers new ad revealing window into outcomes of trauma patients: Jan. 2, 2019

## **Goals and Objectives**

1. Secure a rehabilitation representative on the STCC to provide valuable understanding and insight into the concerns and issues involved in the rehabilitation phase of the trauma system.
2. The trauma system will conduct a rehabilitation needs assessment (including specialized programs in SCI, TBI, and for children) to identify the number of beds needed and available for rehabilitation in Montana.
3. STCC will develop rehabilitation data sets to become part of state trauma system database for use in regional and statewide quality/performance improvement and planning.
4. Develop methods of feedback on functional outcomes after rehabilitation to the trauma centers.



## SECTION FIVE: STATEWIDE TRAUMA REGISTRY

A statewide trauma registry is a data collection system that includes a file of uniform data elements that describes the injury event, demographics, pre-hospital information, care, outcomes, and billed costs of treatment for injured patients. The purpose of such a registry is to mine the data for what it can tell us – registry data can be coded, compiled, analyzed, and reported. A trauma registry is an important management tool used for performance management and improvement, research, and injury prevention.

Montana's statewide trauma registry was authorized by the Montana Legislature in 1995. The corresponding Administrative Rules were adopted in 2006 and state that for improving the quality of trauma care, all Montana health care facilities, regardless of designation status, must participate in the state trauma registry by collecting and reporting injury data to the statewide trauma registry. Failure of a designated trauma facility to timely and accurately report to the department all data required by these rules is grounds for revocation of designation status. Per ARM 37.104.3014, trauma data must be submitted within 60 days after the end of each quarter.

EMSTS maintains the central trauma registry as a repository of data collected at the local level by software provided to them for that purpose. Montana utilizes ESO Trauma Registry software and provides this free of charge to all facilities in the state. Individual trauma centers verified by the ACS-COT must submit their data to the National Trauma Data Bank (NTDB) and participate in the Trauma Quality Improvement Program (TQIP).

Implementing an evidence-based trauma system cannot be accomplished without data, therefore collecting data is a significant investment in time and resources at all levels. As such, Montana Trauma System commits considerable resources to assure data collected is accurate, complete, and timely.

***"Trauma systems are needed to implement an organized system of care that meets all needs of injured patients. Such a system cannot exist without data collection and analysis."***

***Resources for Optimal care of the injured Patient***

The State Trauma Coordinator assists hospitals with education and technical assistance with the trauma registry, statistical reports, and performance improvement on their trauma patients. In conjunction with the EMSTS epidemiologist, facilities are provided quarterly reviews of the trauma cases they have entered concerning data accuracy, completeness, and identifying opportunities for case reviews and performance improvement. Analysis of the trauma registry data allows EMSTS, the STCC and the RTACs to understand if statewide efforts being made in the trauma system are making a difference and to identify trends and opportunities for improvement. The STCC and each RTAC has identified specific performance improvement indicators that are updated and approved annually. Data is queried using the State Trauma Registry to pull individual patient cases that meet each specified performance improvement indicator. These cases are then discussed as part of a dynamic performance improvement

strategy.

Data is compiled into a comprehensive annual data report that provides a review of the most recent data year and allows for an overview and snapshot of the trauma system. This report is disseminated to stakeholders across the state and nation.

### **Goals and Objectives**

1. Ensure all acute care facilities are submitting injury data to the registry, as mandated, and find ways to entice non-designated and tribal facilities not currently abiding by rule.
2. Support continued development of the comprehensive EMS Registry to include data reporting.
3. Expand the trauma registry data reporting capabilities to allow for performance measure benchmarking and data linkage with EMS & crash records.

## SECTION SIX: PERFORMANCE IMPROVEMENT

Performance improvement efforts in hospitals include formal organizational structures and activities focused on a continuous process of recognition, assessment, and correction. A basic tenet of performance improvement is the opportunities for improving the success, safety, and cost-effectiveness of care are ongoing, i.e., continuous process improvement.

In other words, performance improvement is ultimately focused on improving the *value* of care. The value equation includes three variables: quality of process, quality of outcome, and cost.

*Resources for Optimal Care of the Injured Patient 2014*

$$\text{Value of Care} = \frac{\text{Quality Process} + \text{Quality of Outcome}}{\text{Cost}}$$

American College of Surgeons Committee on Trauma

In Montana, all facilities that choose to and successfully complete either the ACS-COT verification process and/or State of Montana designation process, must include a structured trauma program effort to demonstrate a continuous process for improving care for injured patients. While a specific methodology for this performance improvement requirement is not mandated, it should align with the Institute of Medicine's six quality aims for patient care: safe, effective, patient centered, timely, efficient, and equitable.<sup>9</sup>

Statewide trauma systems also pursue trauma care performance improvement at the regional and statewide levels – utilizing the resources of the statewide trauma registry and the expertise of the STCC and RTACs. At quarterly STCC and RTAC meetings, agreed upon performance improvement indicators are reviewed to determine the effect of the system on patient care, morbidity, and mortality. Data is queried using the State Trauma Registry to pull individual patient cases that meet each specified performance improvement indicator. Sample audit filters include the following:

- Injury Severity Score > 15 & no trauma team activation (TTA) with emphasis on why no activation and those aged > 55
- Crystalloid infusions of > 1 Liter & no blood products given during resuscitation specifically in ED & prehospital (in accordance with 10th edition ATLS)
- Age > 65 (with a trauma mechanism of injury) and no TTA for HR > SPB
- 3 hours in the emergency department for patients:
  - Transferring to another facility; or
  - Admitting to the ICU
- Transfers out of region and out of state

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<sup>9</sup> Crossing the Quality Chasm: A New Health System for the 21<sup>st</sup> Century. Committee on Quality of Health Care in America, Institute of Medicine: National Academies Press; 2001

- Glasgow Coma Score < 8 with no rescue airway and documented number of attempts in notes fields
- Use of vasopressors in trauma patients outside of ATLS guidelines

Audit filters are updated and approved annually by each RTAC and STCC. All designated trauma centers (of all levels) are encouraged to participate in regional and statewide performance improvement and patient safety (PIPS) programs.

The ACS-COT requires verified trauma centers use a risk-adjusted benchmarking program as part of the performance improvement requirement. Currently in Montana, the higher-level centers are collaboratively benchmarking among themselves, but also at quarterly RTAC meetings certain indicators, such as ED Dwell times, are provided to compare all centers across the state.

The Montana Trauma System staff also participate in ongoing performance improvement and is expected to evaluate office procedures, practices, and customer service. Following each designation review, an electronic customer service survey is sent to the facility. Results are compiled and shared with upper administration at DPHHS. This is part of the Accredited Public Health Department accreditation expectations. The goal of this voluntary national accreditation program is to improve and protect the health of the public by advancing the quality and performance of tribal, state, and local public health departments.

## **Goals and Objectives**

1. Each RTAC will review performance improvement indicators for the region and update/alter them as needed depending on current trends and developments.
2. Following each trauma facility designation, a customer service survey will be sent out to each facility to allow evaluation of the site visit members, office staff, and process.

## **SECTION SEVEN: INJURY PREVENTION**

It is a common mistake to consider injuries as random events that are both unpredictable and unavoidable. From a public health perspective, injuries are understood to be a preventable problem, with identifiable risk and protective factors and proven mitigation strategies. Injury prevention activities are a first component of Montana's Trauma System continuum of care and are consistent with the overall system goals of reducing related health care costs, morbidity and mortality, loss of years of productivity and personal pain and suffering.

In 2020, there were 1,117 deaths associated with injury among Montana residents, as well as over 5,000 nonfatal hospitalizations and over 68,000 nonfatal emergency department visits. For every fatal injury, another 5 people are hospitalized due to injury, and 61 require care at an ED. While many nonfatal injuries are a minor or temporary inconvenience, other injuries may lead to disability, chronic pain, and significant changes in lifestyle. The financial and quality of life costs due to injuries can be reduced in Montana through effective prevention efforts.

Montana Trauma System seeks to be an active partner in a state-coordinated system to reduce injuries. The EMSTS has an Injury Prevention Program Manager who reports directly to the State Trauma Manager and oversees a variety of state-wide injury prevention education on topics including poisoning, fall prevention, motor-vehicle occupant protection and impaired driving safety, and opioid overdose prevention. Strong collaboration between EMSTS and other state offices (Montana Dept. of Transportation, Dept. of Justice, and Dept. of Labor & Industry) as well as local, tribal, and private institutions are imperative to the success of injury prevention.

Montana Trauma System collaborates with the state-designated trauma centers on injury prevention efforts. Trauma facility designation criteria emphasizes injury prevention at all levels and stresses community education and partnership. Community injury prevention efforts in the state are led and mostly funded by the designated trauma centers.

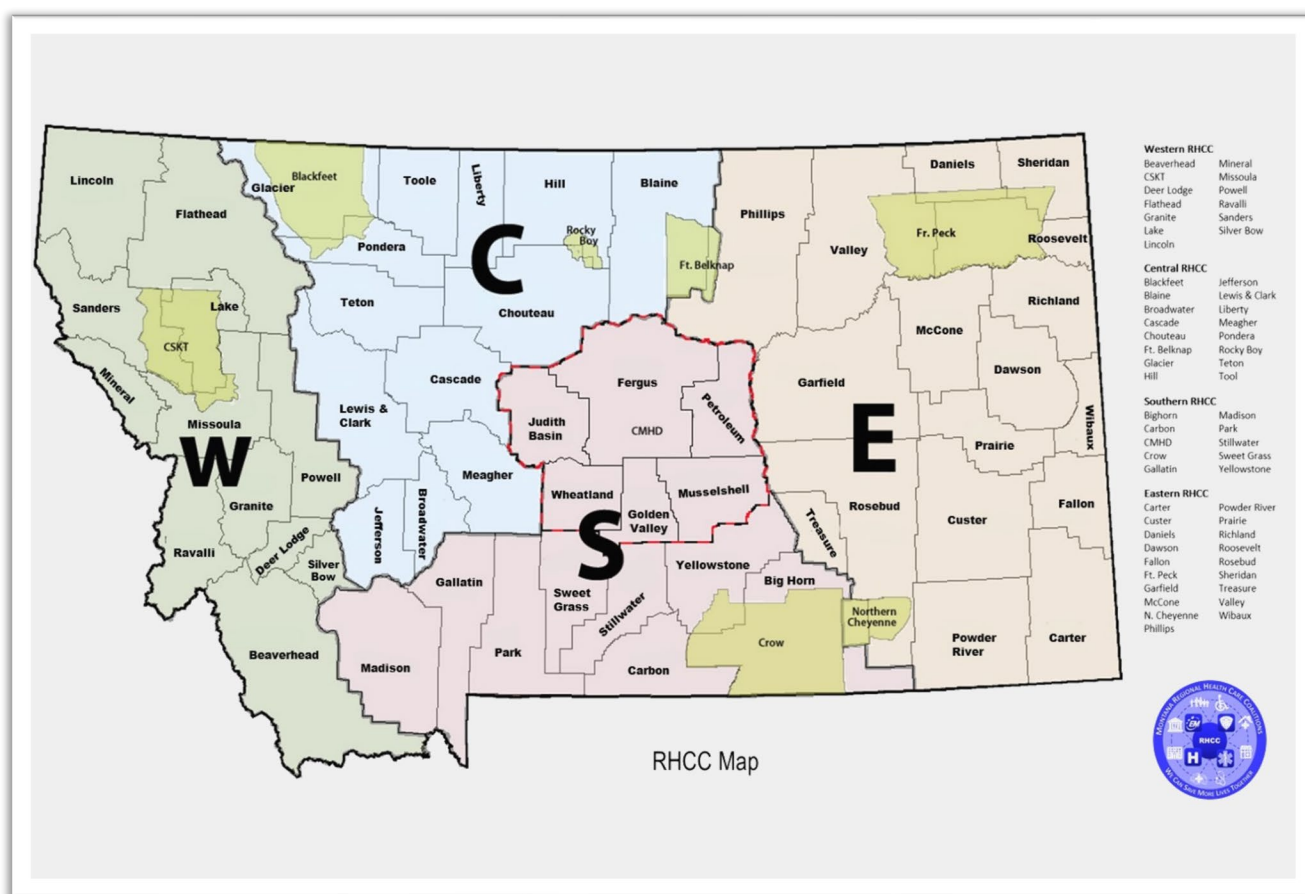
### **Goals and Objectives**

1. Ensure there is a mechanism to identify trauma patients with alcohol and drug misuse issues and the capability to provide intervention or referral of these patients at all Comprehensive, Regional and Area Trauma Hospitals.
2. Provide guidance, support, coordination, and technical assistance to local and regional injury prevention activities. Activities should be based on valid injury data and evaluation criteria used to gauge effectiveness.

## SECTION EIGHT: DISASTER PREPAREDNESS AND RESPONSE

Montana's Public Health Emergency Preparedness (PHEP) Healthcare Preparedness Program (HPP) coordinates the state's response to public health threats of all types, including natural disasters (hurricanes, floods, and pandemics) and man-made emergencies (industrial spills and explosions, other large-scale accidents, and terrorist attacks). EMSTS works in partnership with HPP to provide the state with an effective response through the integration of EMS and Trauma System components with emergency preparedness planning.

A mass casualty incident (often shortened to MCI and sometimes called a multiple-casualty incident or multiple-casualty situation) is any incident in which emergency medical services resources, such as personnel and equipment, are overwhelmed by the number and severity of casualties. Depending on the geographic area and available hospitals, even small numbers of patients can tax the local emergency system. To streamline processes for ensuring appropriate routing of patients involved, Montana Trauma System endorses the use of START Triage guidelines to identify patients.



The geographic size of Montana lends to complication of response to an MCI. Therefore, regions have been created to assist in organizing resources and care for increased efficiency and response. Regional Healthcare Coalitions (RHCC) are a partnership of agencies and health care organizations in a defined geographic area that have a stake or interest in healthcare emergency preparedness within the region. In Montana, four RHCC's were created, originally based off the trauma regions.

Planning for and responding to emergencies depends on numerous factors including,

geography, type of healthcare delivery system, threats and hazards, and demographics. Through the development of healthcare coalitions that link all players in the healthcare system to emergency preparedness activities, HPP provides technical assistance, and facilitates coordination between the healthcare system, public health agencies, emergency management organizations, and others. HPP addresses gaps in healthcare preparedness through capacity building activities, identifying hospital bed surge capacity, and training in diseases caused by bioterrorism. Regional grants support involvement in jurisdictional and regional planning, training, and exercising, resulting in stronger, more resilient systems that can adapt to new threats.

Both a trauma system representative and an EMS representative sit on the HPP Advisory Council to assist in coalition planning, provide governance/oversight, set initiatives and priorities, and offer perspective from the trauma system.

### **Goals and Objectives**

1. Trauma system planning at all levels (state, regional, and local) should incorporate and parallel disaster preparedness.
2. Continue collaborative relationship with HPP to share efforts, information, and resources, such as providing Basic and Advanced Disaster Life Support (BDLS/ADLS), Advanced Burn Life Support (ABLS) and provide disaster training and incident drills.
3. Communicate and share disaster debriefs/after-action reports from drills and live events to increase awareness and education throughout the trauma system.

## **SECTION NINE: FINANCIAL**

### **Montana Trauma System Funding: Sources and History**

Funding for Montana Trauma System comes from the state general fund. Current funding supports operations across EMSTS's three distinct areas of focus: EMS, trauma, and injury prevention. Despite the statutory mandate to design, implement and evaluate a trauma system for Montana, the Legislature has made available only limited general funding. EMSTS staff aggressively pursue grants and alternative monies to continue to support growth and development within the system.

EMSTS is continuously exploring opportunities to secure monies for the trauma system and is continually exploring potential opportunities to pursue dedicated trauma funding. There is significant need for education to the public and legislators that trauma systems are an essential infrastructure for public health emergency preparedness. The goal is recognition of the value of excellence in trauma care translates into financial benefits for the trauma system. It is imperative that the public and policy makers understand the costs of trauma to our state.

### **Goals and Objectives**

1. Develop legislative education and awareness strategies that demonstrate Montana Trauma System's current value. Pursue, as opportunities arise, specific administrative and/or legislative changes that secure recurring, alternative funding for operations and provide incentives for the development of an ideal statewide trauma and other time-sensitive illness systems.
2. Continue to engage key stakeholders to create greater awareness of Montana Trauma System's vision and potential to save the lives of Montana's citizens, and to build support for practical alternative sources of recurring funding for the trauma system.



## SECTION TEN: EDUCATION

Considerable efforts have been made statewide to maintain development and delivery of continuing trauma education for all levels of providers. Consistency and excellence in care is an essential function of trauma education.

Minimum trauma educational requirements have been established by STCC and ACS for designated and verified centers. Emergency Medical Providers have set standards for re-licensure and there is also a national curriculum. The EMSTS office has established, collaborated on, and delivered many educational programs for providers statewide. Many of these efforts have been funded through grant monies and individual facility support.

Courses/training currently offered through EMSTS include:

- ATLS: Advanced Trauma Life Support for physicians and Advanced Practice Clinicians (APCs)
- PHTLS: Pre-Hospital Trauma Life Support
- Trauma TEAM: Trauma Education Assessment & Management (a locally developed program for trauma team preparation)
- RMRTS: Rocky Mountain Rural Trauma Symposium, an annual two-day conference offering trauma education for physicians, APCs, nurses, and pre-hospital personnel.
- Montana Trauma Systems (RMRTS preconference) for trauma coordinators, trauma registrars and trauma medical directors
- Stop the Bleed/Bleeding Control Course
- Geriatric Trauma Module
- Montana Trauma Coordinator Web-ex
- Software & Web-based Trauma Registry Training
- Stepping-On Fall Prevention & SBIRT: Screening, Brief Intervention and Referral to Treatment
- Emergency Medical Dispatch training
- Trauma Protocols & Guideline development:
  - Montana Trauma Treatment Manual
  - Montana Facility Resource Guide
  - Geriatric Early Trauma Activation Guidelines
  - Anti-Coagulation and Trauma (ACT) Alert Protocol
  - Montana Air Medical Activation Guidelines
  - State of Montana Air Medical Transport Destination Guidelines
  - National Guideline for the Field Triage of Injured Patients

Courses/training not directly offered by EMSTS, but promoted and supported include:

- TNCC: Trauma Nurse Core Course
- CALS: Comprehensive Advanced Life Support
- BDLS/ADLS: Basic & Advanced Disaster Life Support
- ABLS: Advanced Burn Life Support
- Regional Trauma Conferences: Spring Fever (WRTAC) and Rimrock (ERTAC)
- Simulation in Motion-Montana

### **Goals and Objectives**

1. Maintain minimum standards for initial and continuing trauma education for all levels of providers in designated trauma centers.
2. Evaluate educational impacts on the trauma system.
3. Pursue cost effective methods of providing continuing trauma education across the state.
4. Continue media campaign emphasizing Montana Trauma System's mission and tagline "Trauma Systems Save Lives" to educate the public and policy makers.

## **CONCLUSION**

Success of a trauma system is largely determined by the degree to which it is supported by public policy. Improving trauma care in Montana will require partnership and commitment from trauma system leaders and trauma stakeholders at all levels. The benefits of a comprehensive, mature trauma system are clear: trauma care between each phase of care is more seamless, resources are identified and integrated making care more cost effective, and patient outcomes are improved. With continued development and support, the Montana Trauma System will enhance community health through an organized system of injury prevention, pre-hospital care, acute care and rehabilitation that is fully integrated with the public health system in a community. The trauma system will have the ability to identify local risk factors and related interventions to prevent injuries in a community. The resources required for each component of a trauma system need to be clearly identified and measured to ensure all injured patients gain access to the appropriate level of care in a timely, coordinated, and cost-effective manner.

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## Appendix A: Montana Trauma System Statues

### Montana Code Annotated

#### TITLE 50. HEALTH AND SAFETY

#### CHAPTER 6. EMERGENCY MEDICAL SERVICES

#### Part 4. State Trauma Care System

##### Definitions

**50-6-401. Definitions.** As used in this part, unless the context clearly requires otherwise, the following definitions apply:

- (1) "Department" means the department of public health and human services provided for in Title 2, chapter 15, part 22.
- (2) "Emergency medical service" means an emergency medical service as defined by [50-6-302](#).
- (3) "Health care facility" or "facility" means a hospital, critical access hospital, or medical assistance facility as defined in [50-5-101](#).
- (4) "Hospital trauma register" means patient-specific trauma data that is maintained by a health care facility, in a format prescribed by department rule, and that has the primary purpose of facilitating peer review and quality improvement at the health care facility.
- (5) "Quality improvement" means the process of defining trauma care system performance standards, collecting data against which the standards may be applied, using the data to determine compliance with the standards, and using the data and compliance information in a nonpunitive manner, including peer review, that will continuously improve performance and facilitate compliance with the standards.
- (6) "State trauma register" means trauma data relating to a specific patient or health care facility that is maintained by the department in an electronic format and that has the primary purpose of facilitating peer review and quality improvement for a health care facility or a trauma care system.
- (7) "Trauma" means a severe, abrupt injury to the human body that is caused by mechanical, environmental, thermal, or other physical force.
- (8) "Trauma care committee" means the trauma care committee created in [2-15-2216](#).
- (9) "Trauma care system" means a state or regional system for the prevention of trauma and the provision of optimal medical care to trauma victims that includes both provision of appropriate health care services and provision of emergency medical care, equipment, and personnel for effective and coordinated pre-hospital, hospital, interhospital, and rehabilitative care for trauma patients.
- (10) "Trauma facility" means a health care facility designated by the department pursuant to [50-6-410](#) as providing a specialized program in trauma care with appropriately trained personnel, equipment, and other facility resources that are specifically organized to provide optimal care to a trauma patient at the facility.

(11) "Trauma region" means a geographic area, designated by department rule pursuant to [50-6-402](#), within which trauma services are coordinated and evaluated through a regional trauma care system.

## **Department Duties -- Rules**

**50-6-402. Department duties -- rules.** (1) The department shall plan, coordinate, implement, and administer a statewide trauma care system that involves all health care facilities and emergency medical services within the state. The department shall also develop and adopt a statewide trauma care system plan and a state trauma register.

(2) The department shall adopt rules to:

(a) establish and coordinate the statewide trauma care system, including rules that establish:

(i) various levels of trauma facilities and the standards each facility is required to meet concerning personnel, equipment, resources, data collection, and organizational capabilities;

(ii) procedures for, standards for, and the duration of designation and revocation of designation of a trauma facility, including application procedures, site survey procedures, complaint investigation, and emergency suspension of designation;

(iii) operational procedures and criteria for the regional trauma advisory committees;

(iv) pre-hospital emergency medical services triage and treatment protocols for trauma patients;

(v) triage and treatment protocols for the transfer of injured persons between health care facilities;

(vi) requirements for collection and release of trauma register data;

(vii) quality improvement standards for emergency medical services and trauma care facilities; and

(viii) the duties, responsibilities, and functions of the trauma care committee created by [2-15-2216](#) and the regional trauma care advisory committees created pursuant to [50-6-411](#);

(b) designate trauma regions throughout Montana, taking into consideration geographic distance from available trauma care, transportation modalities available, population location and density, health care facility resources, historical patterns of patient referral, and other considerations relevant to optimum provision of emergency medical care;

(c) establish the procedure to be followed by a health care facility to appeal to the department a decision by the department pursuant to [50-6-410](#) affecting the facility's designation as a trauma facility;

(d) specify the information that must be submitted to the department, including information from health care facilities, for statistical evaluation of the state and

regional trauma care systems, planning prevention programs, assessing trauma-related educational priorities, and determining how trauma facilities and emergency medical services may comply with protocols and standards adopted by the department; and

(e) establish the electronic format and other standards that a health care facility trauma data system is required to meet in order to qualify as a hospital trauma register.

(3) The department shall submit a report to each session of the legislature concerning the effectiveness of the trauma care system established under this part.

(4) This part does not restrict any other provisions of law allowing or requiring a health care facility or health care provider to provide health care services.

### **Duties Of Trauma Care Committee**

**50-6-404. Duties of trauma care committee.** The trauma care committee provided for in [2-15-2216](#) shall:

(1) provide recommendations and guidance to the department concerning:

(a) trauma care, including suggestions for changes to the statewide trauma care system;

(b) the implementation of a hospital data collection system; and

(c) the design and implementation of a statewide and regional quality improvement system for trauma care that considers the standards recommended by the American college of surgeons and the joint commission on accreditation of healthcare organizations;

(2) assist the department in conducting statewide quality improvement and peer review functions by regularly analyzing the effect of the statewide trauma care system on patient care, morbidity, and mortality; and

(3) provide recommendations to and oversight and coordination of the activities of the regional trauma care advisory committees.

### **Department Designation Of Trauma Facility -- Revocation Of Designation -- Appeal**

**50-6-410. Department designation of trauma facility -- revocation of designation -- appeal.** (1) In order to be designated as a trauma facility, a health care facility shall submit to the department an application, on a form specified by the department, that provides the information required by department rule.

(2) Upon receipt of a completed application for designation as a trauma facility, the department shall review the application for compliance with standards adopted by the department for designation of trauma care facilities. If the facility meets the standards adopted by the department, the department shall designate the facility as a trauma care facility, specifying the level of trauma care determined by the department to be appropriate for the facility.

(3) The department may revoke a designation as a trauma care facility if the

facility no longer meets the requirements for designation or otherwise violates a department standard required to maintain designation.

(4) The department shall notify the applicant in writing of the department's decision to approve, deny, or revoke a health care facility's designation as a trauma facility.

(5) A health care facility that submitted an application pursuant to subsection (1) may appeal a department decision refusing to designate the facility, a decision designating the facility for a different level of trauma care than requested by the facility, or a decision to revoke a designation as a trauma facility. In order to appeal the decision, the health care facility shall submit a written request for a hearing to the department within 30 days after the facility receives notice of the department's decision. The hearing on the appeal must be conducted pursuant to [2-4-604](#).

(6) Unless the appellant agrees to an extension of time, the department shall, within 30 days of its decision in an appeal pursuant to subsection (5), serve the appellant with written findings and conclusions that form the basis for the department's decision.

### **Regional Trauma Care Advisory Committees**

**50-6-411. Regional trauma care advisory committees.** (1) Each trauma facility designated by the department pursuant to [50-6-410](#) shall appoint one representative to a regional trauma care advisory committee for the region in which the facility is located.

(2) Members of a regional trauma care advisory committee serve 4-year terms, except that one-half of the members initially appointed shall, as determined by lot, serve 2-year terms. If a vacancy occurs, the appointing authority shall appoint a replacement to fill the unexpired term. Members may be reappointed and may be removed for cause by the appointing authority.

(3) Members of a regional trauma care advisory committee shall elect a presiding officer who shall serve a term of 2 years.

(4) Members of a regional trauma care advisory committee do not receive compensation from the state and may not be reimbursed by the state for their expenses.

(5) Regional trauma care advisory committees have the duties provided in [50-6-412](#).

### **Duties Of Regional Trauma Care Advisory Committees**

**50-6-412. Duties of regional trauma care advisory committees.** A regional trauma care advisory committee shall:

(1) establish standards, policies, procedures, and protocols for the regional trauma care system;

(2) conduct regional trauma care quality improvement, including receipt of reports prepared by the department containing trauma care data and making



recommendations to trauma care facilities within the region based upon those reports;

(3) advise the trauma care committee concerning the statewide trauma care system;

(4) establish trauma education and injury prevention programs;

(5) provide advice concerning trauma care to health care facilities and other providers of health care;

(6) perform other duties required by department rule; and

(7) conduct other activities needed to ensure optimal delivery of trauma care services within the region.

## **Confidentiality**

**50-6-415. Confidentiality.** (1) Data in a health care facility's hospital trauma register and reports developed from that data pertaining to quality of trauma care may be given by the facility only to:

(a) the facility's peer review committee;

(b) the regional trauma care advisory committee of the region in which the facility is located;

(c) the trauma care committee; or

(d) the department.

(2) Data in the state trauma register and hospital trauma registers is not subject to discovery in a civil action and may not be introduced into evidence in a judicial or administrative proceeding.

(3) Data and reports concerning peer review, quality improvement, or the quality of the trauma care provided by a health care facility or a health care provider that are produced by a regional trauma care advisory committee or the trauma care committee or provided by a health care facility to a regional trauma care advisory committee or the trauma care committee, as well as the proceedings of those committees concerning peer review and quality improvement, are not subject to discovery in a civil action and may not be introduced into evidence in a judicial or administrative proceeding.

(4) A statistical report on trauma and trauma care developed by the department that does not identify specific health care facilities, health care providers, or patients is not confidential and is considered public information.

(5) A statistical report developed by a health care facility from information in its hospital trauma register that does not pertain to peer review or quality improvement is not confidential and is considered public information.

(6) Information in a department record or report that is used to evaluate and improve the quality of emergency medical service and trauma care by a health care facility or emergency medical service is not subject to discovery and may not be introduced in evidence in a judicial or administrative proceeding.

- (7) Information in a department record or report that is used to determine whether a health care facility will be designated or lose its designation as a trauma care facility is not confidential and is considered public information.
- (8) A standard or protocol adopted by the department pursuant to this part may not be used to demonstrate negligence or lack of negligence by a health care provider or health care facility to whom the standard or protocol applies.

In addition to the requirements specified in 50-6-401 to 50-6-415 MCA, Administrative Rules of Montana (ARM), Rule 37.104.30 addresses Trauma Facility Designation. A link to the most recent ARM can be found at:

<http://www.mtrules.org/gateway/Subchapterhome.asp?scn=37.104.30>

# National Guideline for the Field Triage of Injured Patients

## RED CRITERIA

### High Risk for Serious Injury

Injury Patterns	Mental Status & Vital Signs
<ul style="list-style-type: none"> <li>• Penetrating injuries to head, neck, torso, and proximal extremities</li> <li>• Skull deformity, suspected skull fracture</li> <li>• Suspected spinal injury with new motor or sensory loss</li> <li>• Chest wall instability, deformity, or suspected flail chest</li> <li>• Suspected pelvic fracture</li> <li>• Suspected fracture of two or more proximal long bones</li> <li>• Crushed, degloved, mangled, or pulseless extremity</li> <li>• Amputation proximal to wrist or ankle</li> <li>• Active bleeding requiring a tourniquet or wound packing with continuous pressure</li> </ul>	<p>All Patients</p> <ul style="list-style-type: none"> <li>• Unable to follow commands (motor GCS &lt; 6)</li> <li>• RR &lt; 10 or &gt; 29 breaths/min</li> <li>• Respiratory distress or need for respiratory support</li> <li>• Room-air pulse oximetry &lt; 90%</li> </ul> <p>Age 0–9 years</p> <ul style="list-style-type: none"> <li>• SBP &lt; 70mm Hg + (2 x age in years)</li> </ul> <p>Age 10–64 years</p> <ul style="list-style-type: none"> <li>• SBP &lt; 90 mmHg or</li> <li>• HR &gt; SBP</li> </ul> <p>Age ≥ 65 years</p> <ul style="list-style-type: none"> <li>• SBP &lt; 110 mmHg or</li> <li>• HR &gt; SBP</li> </ul>

*Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system*

## YELLOW CRITERIA

### Moderate Risk for Serious Injury

Mechanism of Injury	EMS Judgment
<ul style="list-style-type: none"> <li>• High-Risk Auto Crash <ul style="list-style-type: none"> <li>– Partial or complete ejection</li> <li>– Significant intrusion (including roof) <ul style="list-style-type: none"> <li>• &gt;12 inches occupant site OR</li> <li>• &gt;18 inches any site OR</li> <li>• Need for extrication for entrapped patient</li> </ul> </li> <li>– Death in passenger compartment</li> <li>– Child (age 0–9 years) unrestrained or in unsecured child safety seat</li> <li>– Vehicle telemetry data consistent with severe injury</li> </ul> </li> <li>• Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.)</li> <li>• Pedestrian/bicycle rider thrown, run over, or with significant impact</li> <li>• Fall from height &gt; 10 feet (all ages)</li> </ul>	<p>Consider risk factors, including:</p> <ul style="list-style-type: none"> <li>• Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact</li> <li>• Anticoagulant use</li> <li>• Suspicion of child abuse</li> <li>• Special, high-resource healthcare needs</li> <li>• Pregnancy &gt; 20 weeks</li> <li>• Burns in conjunction with trauma</li> <li>• Children should be triaged preferentially to pediatric capable centers</li> </ul> <p>If concerned, take to a trauma center</p>

*Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highest-level trauma center)*

### Montana Air Medical Activation Guidelines Criteria for Consideration of Air Medical Transport (AMT)

The decision for mode of transport for both field and inter-facility transfer patients is based on the premise that the time to definitive care and quality of care are critical to achieving optimal outcomes. Factors of distance, injury severity, road conditions, weather, geography and traffic patterns and skills of transport team must be considered when choosing between air or ground transport. **Flight should be considered when the potential benefit to the patient outweighs the risks associated with air transport.**

Anytime EMS personnel or treating provider determines patient condition may warrant an air transport, AMT can be launched. If patient requires Advanced Life Support (ALS) and none is available, consider launching AMT. **Priority should always be made to move the patient towards definitive care.** This includes EMS personnel activating AMT with goal to rendezvous at nearest facility capable of initial resuscitation or other determined safe location. The State Trauma Care Committee supports the ability for prehospital launching of AMT by dispatch, law enforcement, fire, and EMS professionals.

Cancelling Air Medical Transport should be made by the EMS professionals on scene able to evaluate the situation and patient needs. If cancelled, dispatch/transport service should contact the requesting agency/entity (if different from those cancelling) to confirm.

**The following patients should be transported preferentially to the highest level of care within the emergency care system that is geographically available**

#### **GENERAL CRITERIA**

Mass Casualty Incidents

Transport via ground not feasible due to conditions or remoteness of location

Ground transport would deplete local EMS coverage to critical level

ALS not available locally

#### **MEDICAL**

##### ***Airway***

Unable to maintain airway or in need of ventilatory support/advanced airway

Concern for potential loss of airway (ie. Angioedema/anaphylaxis, overdose)

##### ***Breathing***

Apnea, Respiratory distress, bradypnea or tachypnea

Hypoxia (SpO<sub>2</sub> <88%) despite supplemental oxygen

Pediatrics-Grunting/Nostril Flaring/Retractions or stridor

***Circulation***

Unstable Chest pain/SOB  
Cardiac arrest  
SBP<90 in adults or age-specific hypotension in children

***Disability***

GCS<13, unresponsive to verbal on AVPU  
Concern for stroke: new onset within 24 hours of facial droop, weakness/numbness, slurred speech

**TRAUMA*****Airway***

Unable to maintain airway or in need of ventilatory support/advanced airway  
Concern for potential loss of airway (ie. Burns, neck/facial injuries)

***Breathing***

Apnea, Respiratory distress, significant bradypnea or tachypnea  
Hypoxia (SpO2 <88%) despite supplemental oxygen  
Decreased breath sounds, flail chest, sucking chest wound, chest deformity  
Pediatrics-Grunting/Nostril Flaring/Retractions or stridor

***Circulation***

SBP<90 in adults or age-specific hypotension in children  
Uncontrollable life-threatening bleeding

***Disability***

GCS<13, unresponsive to verbal on AVPU  
Paralysis/weakness/numbness

***Extremities***

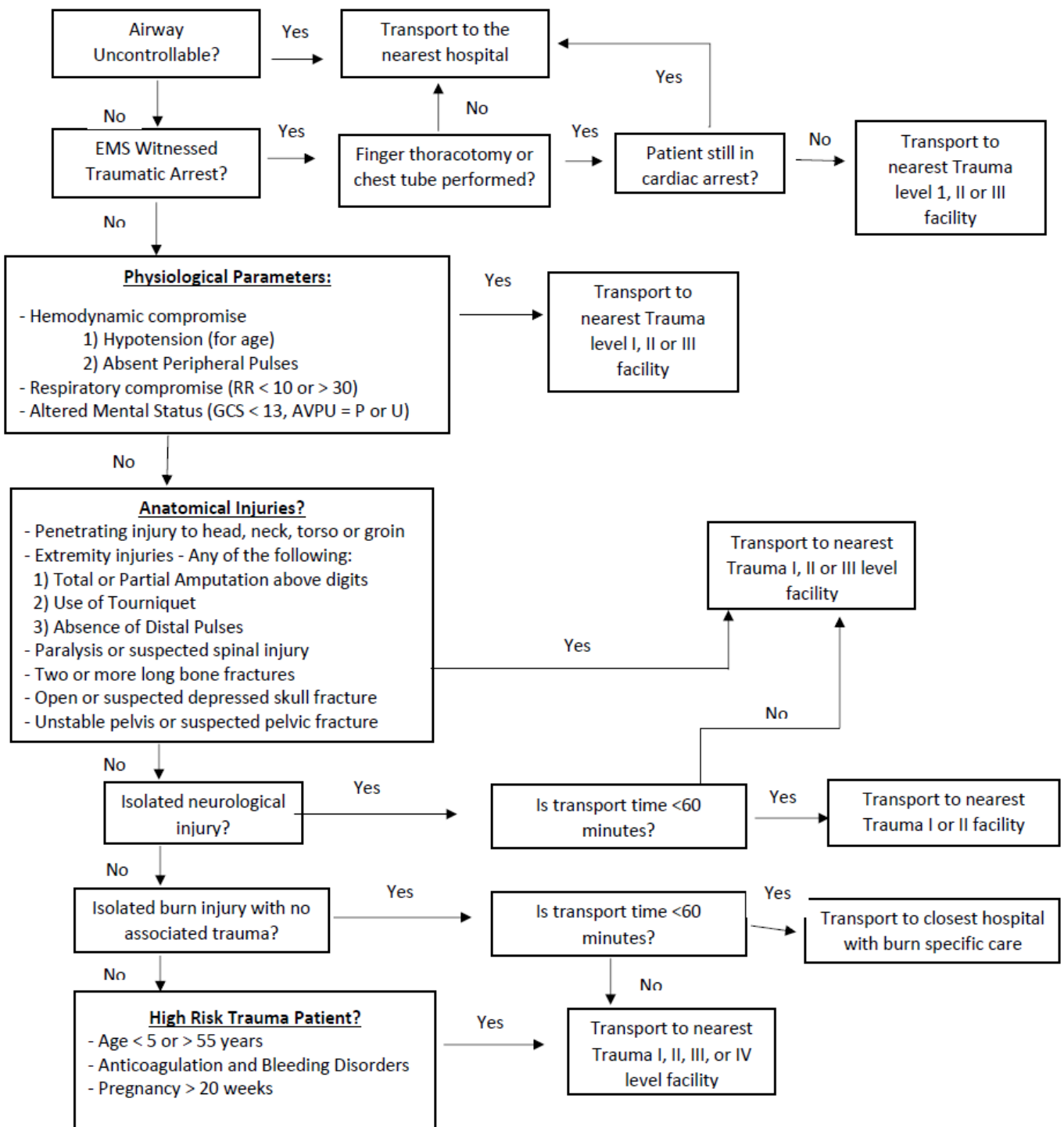
Amputations/near amputations (not including digits)  
De-gloving injuries  
Fractures/injuries with signs of vascular compromise

Penetrating/crush injuries to the head, face, neck, chest, abdomen or groin  
Rigid abdomen or significant abdominal bruising  
Unstable pelvic fracture  
Burns involving head/face/groin/circumferential or major burns to any body part

***Dangerous Mechanisms of Injury:***

MVC with:  
Death in passenger compartment  
Ejection from automobile  
Prolonged extrication  
Train vs. automobile  
Automobile vs. pedestrian  
Multiple patient incidents  
(Near) Drownings  
Traumatic Asphyxiation  
Fire/smoke exposure with decreased level of consciousness

## State of Montana Air Medical Transport Destination Guidelines





## Geriatric Early Trauma Activation Guidelines

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A geriatric trauma victim is a person ≥65 years of age, exhibiting one of more of the following:

### PHYSIOLOGIC CRITERIA:

- a. **GCS score ≤13 with a known or suspected traumatic head/brain injury** (defined as an indication that the brain has suffered an injury caused by an external force) including, but not limited to:
  - i. Decrease in level of consciousness
  - ii. Unequal pupils
  - iii. Blurred vision
  - iv. Severe or persistent headache
  - v. Nausea or vomiting
  - vi. Change in neurological status
- b. **Systolic BP <110 mmHg** or absent radial pulse with carotid pulse present

### ANATOMIC CRITERIA:

- c. Known or suspected **proximal long bone fracture sustained in a motor vehicle crash**
- d. **Multiple body regions injured**

### MECHANISM OF INJURY CRITERIA:

- e. **Fall from any height**, including standing falls, **WITH evidence of traumatic head/brain injury** (see above)
- f. **Pedestrian struck by motor vehicle**

### SPECIAL CONSIDERATIONS:

- g. **Anticoagulation agents**
- h. **Co-morbidities:** diabetes, cardiac disease (CHF/HTN/arrhythmias), pulmonary disease (COPD), clotting disorder, immunosuppressive disorder or required dialysis

**MAINTAIN A HIGH INDEX OF SUSPICION FOR INJURY AND PROMPTLY CONSIDER THE NEED TO TRANSFER TO A HIGHER LEVEL OF CARE**

# MONTANA TRAUMA FACILITY DESIGNATION CRITERIA (2024)

Montana Department of Public Health and Human Services  
EMS and Trauma Systems Section

**Note:** Occasional variances from these standards may occur.  
These should be reviewed as part of the hospital's trauma performance improvement process.

The following table shows levels of trauma facility designation and their essential ("E") or desirable ("D") characteristics.

TRAUMA FACILITY CRITERIA	LEVELS				
CTC = Comprehensive Trauma Center (Level 1 equivalent) RTC = Regional Trauma Center (Level 2 equivalent) ATH = Area Trauma Hospital (Level 3 equivalent) CTH = Community Trauma Hospital (Level 4 equivalent) TRF = Trauma Receiving Facility (Level 5 equivalent)	CTC	RTC	ATH	CTH	TRF
<b>INSTITUTIONAL &amp; ADMINISTRATIVE COMMITMENT</b>					
<b>Facility</b>					
Demonstrated continuous institutional commitment/resolution by the hospital Board of Directors and Medical Staff within the last three years to maintain the human and physical resources to optimize trauma patient care provided at the facility.	E	E	E	E	E
The trauma program has adequate administrative support and defined lines of authority that ensure comprehensive evaluation of all aspects of trauma care.	E	E	E	E	E
Hospital administration must demonstrate support for the research program (i.e., research equipment, biostatistical support, salary support, etc.)	E				
<b>PROGRAM ORGANIZATION &amp; GOVERNANCE</b>					
<b>Trauma Service</b>					
A clinical service recognized in the medical staff structure that has the responsibility for the oversight of the care of the trauma patient. Specific delineation or credentialing of privileges for the medical staff on the Trauma Service must occur.	E	E	E		
Must care for at least 1,200 trauma patients annually who meet National Trauma Data Standard (NTDS) inclusion criteria or 240 NTDS patients with an Injury Severity Score (ISS) greater than 15 per year.	E				
<b>Trauma Program</b>					
There is an identifiable trauma program that has adequate administrative support and defined lines of authority that ensure comprehensive evaluation of all aspects of trauma care.	E	E	E	E	E
<b>Trauma Team</b>					
A team of care providers to provide initial evaluation, resuscitation and treatment for all injured patients meeting trauma system triage criteria. The members of the team must be identified and have written roles and responsibilities.	E	E	E	E	E
The trauma team is organized and directed by a general surgeon with demonstrated competence in trauma care who assumes responsibility for coordination of overall care of the trauma patient.	E	E	E	D	
The trauma team is organized and directed by a physician with demonstrated competency in trauma care and is responsible for the overall provision of care for the trauma patient from resuscitation through discharge.				E	
The trauma team is organized and directed by a physician, physician assistant, or nurse practitioner with demonstrated competency in trauma care and is responsible for the overall provision of care for the trauma patient from resuscitation through discharge.					E
There are clearly written criteria for trauma team activation that are continuously evaluated by the multidisciplinary trauma committee.	E	E	E	E	E



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Criteria for tiered activations must be clearly defined. Highest level of activation must include: <ul style="list-style-type: none"> <li>Confirmed BP less than 90 mm Hg at any time in adults, and age-specific hypotension in children;</li> <li>Gunshot wounds to the neck, chest, or abdomen</li> <li>GCS less than 9 (with mechanism of trauma);</li> <li>Receipt of transfer patients from another hospital who require ongoing blood transfusion;</li> <li>Patients intubated in the field and directly transported to the trauma center;</li> <li>Patients who have respiratory compromise or need an emergent airway; and</li> <li>Receipt of transfer patients from another hospital with ongoing respiratory compromise (excludes patients intubated at another facility who are now stable from a respiratory standpoint).</li> </ul>		E	E	E		
The general surgeon is expected to be present in the ED upon patient arrival for all patients meeting hospital specific criteria for the highest level of trauma team activation, given sufficient advance notification or within 15 minutes of notification 80% of the time.		E	E			
Trauma response criteria for general surgeon activation will be specified. The general surgeon is expected to be present in the ED upon patient arrival for those meeting criteria, if given sufficient advance notice or within 30 minutes of notification 80% of the time				E		
The Community Trauma Facility must have a trauma team plan for when the general surgeon is available and a second schema for when the general surgeon is not available. When available to respond, the general surgeon is expected to be present in the ED upon patient arrival for those meeting criteria, if given sufficient advance notice or within 30 minutes of notification 80% of the time.					E	
<b>Trauma Medical Director</b>						
Board-certified or board eligible surgeon, credentialed to provide trauma care, and participates on trauma call panel. Serve as the director of a single trauma program. Holds current ATLS certification. The trauma director has the authority to affect all aspects of trauma care including oversight of clinical trauma patient care, recommending trauma service privileges, development of clinical care guidelines, coordinating performance improvement, correcting deficiencies in trauma care, and verification of continuing trauma education.		E	E	E		
TMD is an ATLS instructor or course director.		E	E	D		
Physician board-certified or board eligible in a recognized specialty; with a special interest in trauma care who leads the multidisciplinary activities of the trauma program. The trauma director has the authority to affect all aspects of trauma care including oversight of clinical trauma patient care, development of clinical care guidelines, coordinating performance improvement, correcting deficiencies in trauma care, and verification of continuing trauma education.					E	
Physician, nurse practitioner, or physician assistant with a special interest in trauma care who leads the multidisciplinary activities of the trauma program. The trauma director should have the authority to affect all aspects of trauma care including oversight of clinical trauma patient care, development of clinical care guidelines, coordinating performance improvement, correcting deficiencies in trauma care, and verification of continuing trauma education.						E
The trauma medical director must provide evidence of 36 hours in 3 years of verifiable external trauma-related CME and maintain successful completion of most recent edition of ATLS course.		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>		
The trauma medical director must provide evidence of 36 hours in 3 years of verifiable external trauma-related CME or maintain successful completion of most recent edition of ATLS course.					E <sup>2</sup>	E <sup>2</sup>
TMD must attend 60% of all multidisciplinary trauma committee meetings. This obligation cannot be delegated.		E	E	E	E	E

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TMD must hold active membership in at least one national trauma organization and have attended at least one meeting during the last 3 years. (Membership in an ACS State COT is not equivalent to membership in a national organization)		E				
TMD must hold active membership in at least one regional, state, or national trauma organization and have attended at least one meeting during the last 3 years.			E	E		
TMD must attend at least one state trauma meeting during the last 3 years (examples include Trauma Systems Conference, Rocky Mountain Rural Trauma Symposium, Rimrock Trauma Conference, Spring Fever Conference etc.)		E	E	E	E	E
<b>Trauma Coordinator/Trauma Program Manager</b>						
A 1.0 full-time dedicated Registered Nurse or Advanced Practice Clinician working in concert with the trauma director, with responsibility for organization of services and systems necessary for a multidisciplinary approach to care for the injured. Assumes day-to-day responsibility for process and PI activities for any nursing and ancillary personnel involved in the care of trauma patients. Activities include completion of the on-line trauma coordinator course, clinical oversight, with periodic rounding on admitted trauma patients, provision of clinical trauma education and prevention, performance improvement, provision of feedback to referring facility trauma programs, supervision of the trauma registry, and development of policies. Must be involved in local, regional and the state trauma system activities. Reporting structure must include the TMD to ensure an opportunity to provide leadership and partnership for the benefit of the program.		E	E	E		
A Registered Nurse or Advanced Practice Clinician working in concert with the trauma director, with responsibility for organization of services and systems necessary for a multidisciplinary approach to care for the injured. Activities include completion of the on-line trauma coordinator course, clinical care and oversight, provision of clinical trauma education and prevention, performance improvement, provision of feedback to referring facility trauma programs, trauma registry, utilization of the MT Trauma Treatment Manual, and involvement in local, regional and state trauma system activities. There must be dedicated and adequate hours for this position.					E	
A Registered Nurse, Advanced Practice Clinician or alternately a qualified allied health personnel working in concert with the trauma director, with responsibility for organization of services and systems necessary for a multidisciplinary approach to care for the injured. Activities include completion of the on-line trauma coordinator course, clinical care and oversight, provision of clinical trauma education and injury prevention, performance improvement, trauma registry, utilization of the MT Trauma Treatment Manual, and involvement in local, regional, and state trauma system activities. There must be dedicated and adequate hours for this position.						E
Must provide evidence of 36 hours of trauma related continuing education during the last 3 years.		E	E	E		
Must provide evidence of 24 hours of trauma related continuing education during the last 3 years.					E	E
Hold current membership in a national or regional trauma organization.		E	E	E		
<b>Trauma Registrar/Registry</b>						
Designated trauma registrar working in concert with the trauma coordinator, with responsibility for data abstraction, entry into the trauma registry and ability to produce a variety of reports routinely and upon request. At least 0.5 FTE dedicated to the trauma registry per 200-300 annual patient entries. (Entries are defined as all patients that meet NTDS and state-specific inclusion criteria. There must be sufficient dedicated hours for this position to complete a minimum of 80% of patient records within 60 days of the patient discharge date.		E	E	E		
Identified trauma registrar or trauma coordinator with responsibility for data abstraction, entry into the trauma registry and ability to produce a variety of reports routinely and upon request. There must be sufficient dedicated hours for this position to complete a minimum of 80% of patient records within 60 days of the patient discharge date.					E	E

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All staff members who have a registry role in data abstraction and entry, injury coding, ISS calculation, data reporting or data validation for the registry must: (1) complete the most recent version of the AAAM's Abbreviated Injury Scale (AIS) course within 12 months of hire; and (2) participate in a trauma registry course and ICD-10 course or refresher course every 5 years.		E	E	E		
Trauma Registrar (at least one) must currently be a Certified Abbreviated Injury Scale Specialist (CAISS)		E	E	E		
The trauma registrar/trauma coordinator must attend, or have previously attended, within 12 months of hire a trauma registry training with the State Trauma Coordinator.					E	E
Active and timely participation in the State Trauma Registry (cases should be current per ARM 37.104.3014, which is 60 days following close of the quarter).		E	E	E	E	E
Trauma Registry data must be collected in compliance with the NTDS inclusion criteria and Montana Trauma Registry specific criteria.		E	E	E	E	E
Registry data must have been submitted to the TQP Data Center (if ACS verified) and Montana Trauma Registry in the most recent call for data.		E	E	E		
Registry data must have been submitted to the Montana Central Site in the most recent call for data.					E	E
Must have a written data quality plan that details a process for measuring, monitoring, identifying and correcting data quality issues and ensures data is fit for use. Requires at least a quarterly review of data quality.		E	E	E	D	D
Trauma Registrar must accrue at least 24 hours of trauma-related continuing education (CE) during the previous 3 years.		E	E	E	D	D
<b>Trauma Committees</b>						
<i>Multidisciplinary Trauma Committee</i> functions with a multidisciplinary committee which includes representation from all trauma related services to assess and correct global trauma program process issues. This committee is chaired by the TMD with the major focus on PI activities, policy development, communication among all team members, development of standards of care, education, outreach programs, and injury prevention. The committee oversees the implementation of the process which includes all program related services, meets regularly, takes attendance, maintains minutes, and works to correct overall program deficiencies to optimize patient care.		E	E	E	E	E
<i>Multidisciplinary Trauma Peer Review</i> requires attendance of medical staff active in trauma resuscitation, including the trauma coordinator, to review systemic issues and/or provider issues, as well as proposed improvements to the care and safety of the injured. Must meet regularly and document comprehensive minutes that capture the essence of the discussion and consensus of the participants and documenting loop closure. Must systematically review mortalities, significant complications, and process variances associated with unanticipated outcomes and determine opportunities for improvement.		E	E	E	E	E
The trauma medical director ensures dissemination of information and findings from the trauma peer review meetings to the medical providers not attending the meeting.		E	E	E	E	E
Must adopt/utilize evidence-based clinical practice guidelines/protocols/algorithms that are reviewed at least every three years.		E	E	E	E	E
<b>Trauma System Participation</b>						
There is active involvement by the hospital trauma program staff in state/regional trauma system planning, development, and operation.		E	E	E	E	E
Participation in the statewide trauma system including participation in at least 50% of Regional Trauma Advisory Committees; support of regional and state performance improvement programs; and submission of data to the Montana State Trauma Registry.		E	E	E	E	E
<b>Prehospital Trauma Care</b>						
The trauma program reviews pre-hospital protocols and policies related to care of the injured patient. A physician/provider from the ED or trauma program must participate in the prehospital Performance Improvement (PI) process, including assisting EMS agency medical directors in the development and adoption of prehospital care protocols relevant to care of the trauma patient.		E	E	E	E	E

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The trauma program reviews pre-hospital protocols and policies related to care of the injured specialty patient: Pediatrics, Geriatrics, Obstetrical		E	E	E	E	E
Trauma team activation criteria have been provided to EMS and are readily available to allow for appropriate and timely trauma team activation.		E	E	E	E	E
EMS has representation on the multidisciplinary trauma committee or documentation of involvement where perspective and issues are presented and addressed.		E	E	E	E	E
Review of prehospital trauma care is included in the trauma performance improvement program.		E	E	E	E	E
EMS is provided feedback through the trauma performance improvement program, which includes accuracy of triage and provision of care, outcomes of their patients and any potential opportunities for improvement in initial care.		E	E	E	E	E
Participates in the training of prehospital personnel.		E	E	E	D	D
PERSONNEL & SERVICE RESOURCES						
General / Trauma Surgeon						
Full, unrestricted general surgery privileges		E	E	E	E	
Board-certified or board eligible		E <sup>1</sup>	E <sup>1</sup>	E <sup>1</sup>	D <sup>1</sup>	
ATLS course completion		E	E	E	E	
Must remain current in board-certification to satisfy CME requirements.		E	E	E	E	
Attendance of each of the general surgeons at a minimum of 50% of the trauma peer review committee meetings.		E	E	E	E	
Must have trauma surgery coverage by senior (PGY3, 4 or 5) general surgery residents and/or fellows from an accredited ACGME program.		E				
Published back-up schedule and dedicated to a single hospital when on call or performance improvement process in place to demonstrate prompt general surgeon availability.		E	E	D	D	
Must have a documented backup plan for trauma surgery which must include transferring patients requiring surgery to a higher level of care when trauma surgery is unavailable.				E	E	
Process in place to assure the on-call general surgeon is notified and responds to the ED within the required time frame for trauma patient resuscitation. The trauma performance improvement process will monitor each surgeon's notification and response times.		E	E	E	E	
Trauma surgeon must be present in the operating suite for the key portions of the surgical procedures for which they are responsible and must be immediately available throughout the entire procedure.		E	E	E	E	
Shared roles and responsibilities of trauma surgeons and emergency medicine physicians must be defined and approved by the TMD.		E	E	E		
Emergency Medicine						
Physicians must be board-certified or board eligible in emergency medicine.		E <sup>1</sup>	E <sup>1</sup>			
Physicians must be board-certified or board eligible in emergency medicine or a specialty other than emergency medicine.				E <sup>1</sup>	E <sup>1</sup>	
Emergency Department physician medical director must be board-certified or board eligible.		E <sup>1</sup>	E <sup>1</sup>	E <sup>1</sup>	D <sup>1</sup>	D <sup>1</sup>
Emergency Department covered by medical providers qualified to care for patients with traumatic injuries who can initiate resuscitative measures.		E	E	E	E	E
A board-certified or board eligible emergency medicine physician must be present in the ED at all times.		E <sup>1</sup>	E <sup>1</sup>	D		
Emergency Department coverage may be physician, physician assistant, or nurse practitioner on-call and promptly available.					E	E
Must remain current with board certification to satisfy CME requirements. If functioning as an ED provider or providing care in the ED for patients outside of current board-certified specialty and/or are an Advanced Practice Practitioner, current ATLS is required.		E	E	E	E	E

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CALS (Comprehensive Advanced Life Support) Provider certification (WITH completion of CALS Trauma Module) may substitute for ATLS recertification for Community & Trauma Receiving Facilities.  Provider must be current in or be pursuing the most recent ATLS edition before CALS may be substituted for recertification.					E	E
Emergency Department trauma liaison (may be Trauma Medical Director if ED Provider serves in that role).		E	E	E	E	E
Attendance of an emergency physician representative at a minimum of 50% of the trauma peer review committee meetings.		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	
Attendance of all ED providers at a minimum of 50% of the trauma peer review committee meetings.						E <sup>2</sup>
<b>Anesthesia – MD or CRNA</b>						
Board certified or board eligible anesthesiologist trauma liaison.		E	E	D	D	
Anesthesia trauma liaison.		E	E	E	E	
CRNAs and certified anesthesiologist assistants who are licensed to practice independently can serve as anesthesia liaison.				E	E	
Attendance of anesthesia representative at a minimum of 50% of the trauma peer review committee meetings.		E	E	E	E	
The availability of anesthesia and the absence of delays in airway control and operative anesthesia management must be identified and reviewed to determine reasons for delay, adverse outcomes and opportunities for improvement.		E	E	E	E	
Anesthesia services must be available within 15 minutes of request, and attending anesthesiologist must be present within 30 minutes of request of all operations.		E	E			
Anesthesia services must be available within 30 minutes of request.				E	D	
<b>Neurosurgery E*: Applies only to Area Trauma Hospitals with neurotrauma capabilities.</b>						
Board-certified or board-eligible neurosurgeons continuously available for care of the neurotrauma patient.		E <sup>1</sup>	E <sup>1</sup>			
Board-certified or board-eligible neurosurgeons.				E <sup>1</sup> */D <sup>1</sup>		
ATLS course completion.		D	D	D		
Must remain current in board-certification to satisfy CME requirements.		E	E	E*/D		
Board-certified or board eligible neurosurgical trauma liaison.		E <sup>1</sup>	E <sup>1</sup>	E <sup>1</sup> */D <sup>1</sup>		
Attendance of a neurosurgery representative at a minimum of 50% multidisciplinary peer review committee meetings.		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup> */D <sup>2</sup>		
Neurosurgical evaluation must occur within 30 minutes for any patient with severe TBI (GCS <9), moderate TBI (GCS 9-12) with evidence of intracranial mass lesion, neurologic deficit from spinal cord injury, or at the discretion of the trauma surgeon.		E	E	E*/D		
Must have a written plan approved by the TMD that defines the types of neurotrauma injury that may be treated at the center.				E	D	
Must have a neurotrauma contingency plan for when neurosurgery capabilities are encumbered or overwhelmed.		E	E	E*/D		
<b>Orthopedic Surgery E*: Applies only with orthopedic capabilities</b>						
Board certified or board eligible orthopedic surgeons continuously available for the care of trauma patients and must have a contingency plan for when orthopedic trauma capabilities become burdened or overwhelmed.		E <sup>1</sup>	E <sup>1</sup>	E <sup>1</sup>		
ATLS course completion.		D	D	D	D	
Must remain current in board-certification to satisfy CME requirements.		E	E	E	D	
Board-certified or board eligible orthopedic trauma liaison.		E <sup>1</sup>	E <sup>1</sup>	E <sup>1</sup>	D <sup>1</sup>	
Orthopedic trauma liaison must have completed an orthopedic traumatology fellowship approved by the Orthopaedic Trauma Association.		E				
Attendance of an orthopedic surgery representative at a minimum of 50% of the trauma peer review committee meetings.		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E*	

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Orthopedic surgeon must be at bedside within 30 minutes of request for any patient that is hemodynamically unstable due to pelvic fracture, has suspected compartment syndrome, fractures/dislocations at risk for avascular necrosis or vascular compromise, or at the discretion of the trauma surgeon.		E	E	E		
Must have treatment guidelines in place for orthopedic injuries, including pelvic ring fractures, long bone fractures, open extremity fractures, and hip fractures in geriatric patients.		E	E	E	D	
<b>Radiologist</b>						
Board certified or board eligible.		E	E	E		
Board-certified or board eligible radiologist trauma liaison.		E	E	E		
Attendance of a radiologist representative at a minimum of 50% of the trauma peer review committee meetings.		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	D <sup>2</sup>	D <sup>2</sup>
A radiologist must have access to patient images and be available for imaging interpretation, in person or by phone, within 30 minutes of request.		E	E	E	D	D
<b>Interventional Radiology</b>						
Necessary human and physical resources continuously available to provide endovascular or interventional radiology procedure for hemorrhage control within 60 minutes of request and arterial puncture.		E	E	D		
<b>Critical Care Physician</b>						
Board-certified or board-eligible critical care physician.		E	E	E		
Critical Care surgical director board-certified or board-eligible in surgical critical care and actively participates in Critical Care administration. May be the TMD.		E				
Critical Care surgical director board-certified or board-eligible in general surgery and actively participates in Critical Care administration. May be the TMD.			E	D		
At least one intensivist must be board-certified or board eligible in surgical critical care.			E			
Critical Care/Hospitalist trauma liaison.					D	
Attendance of a critical care physician representative at a minimum of 50% of the trauma peer review committee meetings.		E	E	E	D	
<b>Advanced Practitioners</b>						
Advanced practitioners who participate in the initial evaluation of trauma patients must demonstrate currency as an ATLS provider.		E	E	E	E	E
<b>Geriatric Provider</b>						
A geriatric provider trauma liaison (may be a geriatrician, physician with expertise and a focus in geriatrics, or an advanced practice provider with certification and expertise in geriatrics).		E	E	D		
<b>Additional Medical Specialists</b>						
<ul style="list-style-type: none"> <li>Pain Management (with expertise to perform regional nerve blocks)</li> <li>Physiatry</li> <li>Psychiatry</li> </ul>		E	E	D		
		E	E	D		
		E	E	D		
Institutionally defined, response parameters for consultants addressing time-critical injuries should be determined and monitored. Variances should be documented and reviewed regarding reason for delay, opportunities for improvement and corrective actions.		E	E	E	D	
*Must have continuous availability of the following surgical specialties:						
*Cardiothoracic surgery		E	E			
Craniofacial expertise		E	D			
*Hand surgery		E	E	D		
*Obstetric/Gynecologic surgery		E	E	D	D	
*Ophthalmic surgery		E	E	D		
*Otolaryngology		E	E	D		
*Plastic surgery		E	E	D		



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*Replantation Services (if not continuously available must have a triage and transfer process with a replant center).		E	E	D		
Soft tissue coverage including microvascular for free flap coverage.		E	D			
*Urologic surgery		E	E	D		
*Vascular surgery		E	E	D		
*Must have continuous coverage of the following medical specialists:						
* Cardiology		E	E	E		
*Gastroenterology		E	E	E		
*Internal medicine or pediatrics		E	E	E		
*Infectious Disease		E	E	E		
*Nephrology		E	E	E		
*Pulmonary Medicine		E	E	E		
FACILITIES/RESOURCES/CAPABILITIES						
Emergency Department						
A board-certified or board-eligible emergency physician must be present in the emergency department at all times.		E <sup>1</sup>	E <sup>1</sup>			
If the in-house emergency medical provider must be temporarily out of the department to cover in-house emergencies, there must be a Performance Improvement (PI) process in place to assure that care of the trauma patient is not adversely affected				E		
There is a system in place to assure early notification of the on-call medical provider, so they can be present in the ED at the time of trauma patient arrival. This is tracked in the trauma performance improvement process.					E	E
Emergency Department staffing shall ensure nursing coverage for immediate care of the trauma patient.		E	E	E	E	E
Trauma nursing education: Maintenance of TNCC/ATCN or equivalent.		E	E	E	E	E
Trauma nursing education: 6 hours of verifiable trauma-related education annually or trauma-related skill competency through internal or external educational process.		E	E	E	E	E
Nursing personnel to provide continual monitoring of the trauma patient from hospital arrival to disposition to ICU, OR, floor or transfer to another facility.		E	E	E	E	E
<i><b>Equipment for resuscitation for patients of ALL AGES</b></i>						
Airway control and ventilation equipment including laryngoscope and endotracheal tubes, bag-mask resuscitator, and oxygen source		E	E	E	E	E
Rescue airway devices		E	E	E	E	E
Pulse oximetry		E	E	E	E	E
Suction devices		E	E	E	E	E
End-tidal CO <sup>2</sup> detector		E	E	E	E	E
Cardiac monitor and defibrillator		E	E	E	E	E
Internal paddles		E	E	E		
Waveform capnography		E	E	E	E	E
Standard IV fluids and administration sets		E	E	E	E	E
Large bore intravenous catheters		E	E	E	E	E
<i><b>Sterile surgical sets for:</b></i>						
Airway control/cricothyrotomy		E	E	E	E	E
Thoracostomy (chest tube insertion)		E	E	E	E	E
Central line insertion		E	E	E	D	D
Thoracotomy		E	E	E		
Peritoneal lavage or ability to do FAST ultrasound exams		E	E	E	E	D
Arterial pressure monitoring		E	E	E	D	
Ultrasound availability		E	E	E	D	D
Drugs necessary for emergency care		E	E	E	E	E
Cervical stabilization collars		E	E	E	E	E
Pelvic stabilization method		E	E	E	E	E

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Pediatric equipment appropriately organized.	E	E	E	E	E	E
Current pediatric length-based resuscitation tape	E	E	E	E	E	E
Intraosseous Insertion Device	E	E	E	E	E	E
Thermal control equipment:						
Blood and fluids	E	E	E	E	E	E
Patient	E	E	E	E	E	E
Resuscitation room	E	E	E	E	E	E
Rapid fluid infuser system	E	E	E	E	E	E
Communication with EMS vehicles	E	E	E	E	E	E
<b>Operating Room (OR)</b>						
Adequately staffed and available in a timely fashion 24 hours/day.	E	E	E	E	D	
OR booking policy that defines target for timeliness to the OR based on level of urgency and trauma priorities.	E	E	E			
OR must be adequately staffed and available within 15 minutes. If the first OR is occupied, an additional OR must be staffed and available.	E	E				
OR must be adequately staffed and available within 30 minutes. Access to the OR must be made available for nonemergent orthopedic trauma.			E			
Dedicated OR for fracture care of non-emergent orthopedic trauma.	E	E				
Anesthesia services must be available in-house 24 hours/day.	E	E				
Trauma performance improvement will monitor OR availability and on-call surgical staff response times. Any case which exceeds the institutionally agreed upon response time must be reviewed to identify reasons for the delay and opportunities for improvement.	E	E	E	D		
Trauma-specific training opportunities, applicable to the specialty, are available for all RNs working in the OR.	D	D	D	D		
<b>Age-specific Equipment</b>						
Equipment for monitoring and resuscitative	E	E	E	E		
Cardiopulmonary bypass	E	E				
Thermal control equipment:						
Blood and fluids	E	E	E	E		
Patient	E	E	E	E		
Operating room	E	E	E	E		
X-ray capability	E	E	E	E		
Endoscopes, bronchoscopes	E	E	E	D		
Craniotomy instruments	E	E	D	D		
Equipment for long bone and pelvic fixation	E	E	E	D		
Rapid fluid infuser system	E	E	E	E		
<b>Post-Anesthetic Recovery Room (PACU) (ICU is acceptable)</b>						
Registered nurses available 24 hours/day	E	E	E	D		
Trauma-specific training opportunities, applicable to the specialty, are available for all RNs working in the PACU.	E	E	E	D		
<b>Age-specific Equipment</b>						
Equipment for monitoring and resuscitation	E	E	E	E		
Intracranial pressure monitoring equipment	E	E	D	D		
Pulse oximetry	E	E	E	E		
Thermal control equipment:						
Blood and fluids	E	E	E	E		
Patient	E	E	E	E		
<b>Intensive Care Unit (if available...)</b>						
Director must be board certified in surgical critical care.	E					
Director or co-director must be surgeon, board certified in critical care.		E	D			
Designated Physician/APC director.			E	D		
Trauma surgeon remains in charge of the multisystem trauma patient in the ICU.	E	E	E	E		
ICU physicians immediately available within 15 minutes of request.	E	E	D			



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Provider coverage of the ICU must be available within 30 minutes of request, with a formal plan for emergency coverage.				E	D	
Nurse-to-patient ratio in the ICU must be 1:1 or 1:2 depending on patient acuity.		E	E	E	E	
Registered nurses with 6 hours trauma education annually.		E	E	E	E	
Trauma patients requiring ICU admission must be admitted to, or be evaluated by, a surgical service pursuant to hospital policy.		E	E	E	E	
Equipment for monitoring and resuscitation of trauma patient.		E	E	E		
Cerebral monitoring equipment.		E	E	E*/D		
Cardiopulmonary bypass equipment must be immediately available when required or a contingency plan must exist to provide emergency cardiac surgical care.		E	E			
Pulmonary artery monitoring equipment		E	E	E		
Thermal control equipment:						
Blood and fluids		E	E	E	E	
Patient		E	E	E	E	
<b>Pediatric Services</b>						
Adult centers that care for 100 or more injured children under age 15 years of age who meet trauma registry inclusion requirements must have the following:						
• Pediatric emergency department area		E	E	E		
• Pediatric intensive care area		E	E	E		
Appropriate resuscitation equipment to care for all ages of pediatric patients		E	E	E	E	E
Must have a process in place to assess children for non-accidental trauma		E	E	E	E	E
Emergency Department must evaluate their pediatric readiness and have a plan to address any deficiencies. Pediatric readiness refers to the infrastructure, administration and coordination of care, personnel, pediatric-specific policies and equipment to ensure the center is prepared to provide care to an injured child.		E	E	E	D	D
<b>Respiratory Therapy Services</b>						
In-house respiratory therapist continuously available (24/7/365)		E	E	E		
Respiratory therapist available					D	D
<b>Renal Replacement Therapy Services</b>						
Renal replacement therapy available to support patients with acute renal therapy.		E	E			
Renal replacement therapy available to support patients with acute renal therapy or have a transfer agreement and process in place.				E		
<b>Radiological Services</b>						
A radiologist must be available within 30 minutes in person or by teleradiology for the interpretation of images.		E	E	E		
Radiologists, in person or by teleradiology, are promptly available for interpretation of radiographic studies.					E	E
Availability of the following services 24 hours/day within time frame specified:		E	E			
<ul style="list-style-type: none"> <li>Conventional radiography (15 minutes)</li> <li>Computed Tomography (CT) (15 minutes)</li> <li>Point of Care Ultrasound (15 minutes)</li> <li>Interventional radiologic procedures (1 hour)</li> <li>MRI (2 hours)</li> </ul>						
Availability of the following services 24 hours/day within time frame specified:				E	D	D
<ul style="list-style-type: none"> <li>Conventional radiology (30 minutes)</li> <li>CT (30 minutes)</li> <li>Point of Care Ultrasound (15 minutes)</li> </ul>						
In-house radiology technologist.		E	E	E		
Radiology technologist available in-house or on-call 24 hours/day.					E	D
Must have a mechanism to remotely view radiographic images from referring hospitals within their regional catchment area.		E	E			
Radiologist diagnostic information is communicated in a written form in a timely manner and includes evidence that critical findings were communicated to the trauma team.		E	E	E	E	E

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Final radiology reports accurately reflect communications, including changes between preliminary and final interpretations.		E	E	E	E	E
Documentation of the final interpretation of CT scans must occur no later than 12 hours after completion of the scan.		E	E	E	E	E
Angiography		E	E	E		
Ultrasound		E	E	E	D	D
Computed Tomography		E	E	E	E	D
In-house CT technologist		E	E	E		
CT technologist available in-house or on-call 24 hours/day					E	D
CT has pediatric dose reduction protocols/policies		E	E	E	E	E
Magnetic Resonance Imaging		E	E	E	D	D
MRI technologist in-house or on-call 24 hours/day		E	E	E		
Must routinely monitor on-call radiology, CT and MRI technologist institutionally agreed upon response time and review reasons for any delay and opportunities for improvement.		E	E	E	E	E
<b>Clinical Laboratory Service</b>						
In-house laboratory technician		E	E	E		
Laboratory technician available in-house or on-call 24 hours/day					E	E
Must routinely monitor on-call technician institutionally agreed upon response time and review for reasons for any delay and opportunities for improvement.		E	E	E	E	E
Standard analysis of blood, urine, and other body fluids, including micro-sampling when appropriate		E	E	E	E	E
Blood typing and cross-matching		E	E	E	E	D
Coagulation Studies		E	E	E	E	E
Massive or Rapid Transfusion Policy (clinical and laboratory) if blood is available at the facility		E	E	E	E	E
The blood bank has an adequate supply of packed red blood cells, plasma, platelets, and cryoprecipitate or coagulation factors to meet the needs of the injured patient.		E	E			
The blood bank has an adequate supply of packed red blood cells and plasma to meet the needs of the injured patient.				E	D	D
Process of care for rapid reversal of anticoagulation		E	E	E	E	E
Blood gases and pH determinations		E	E	E	E	E
Microbiology		E	E	E	E	D
Operating microscope available 24 hours/day		E	E			
Drug and alcohol screening		E	E	E	D	D
<b>Allied Health-Services</b>						
Nutrition Support		E	E	E	D	D
Physical Therapy (7 days/week)		E	E			
Physical Therapy				E	D	D
Occupational Therapy (7 days/week)		E	E			
Occupational Therapy				E	D	D
Social Services (7 days/week)		E	E			
Social Services				E	D	D
Speech Therapy		E	E	E	D	D
<b>PERFORMANCE IMPROVEMENT</b>						
There is a comprehensive, written performance improvement (PI) plan outlining the PI process, organizational structure, event identification, list of audit filters and defined levels of review. Needs to be reviewed annually.		E	E	E	E	E
The Trauma PI program must be independent of the hospital or departmental PI program, but it must report to the hospital or departmental PI program.		E	E	E	D	D
Must have documented evidence of event identification, effective use of audit filters, demonstrated loop closure, and attempts at corrective actions and strategies for continued improvement over time.		E	E	E	E	E

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There is a process to identify the trauma patient population for performance improvement review.		E	E	E	E	E
At least 0.5 FTE dedicated PI personnel (if annual volume exceeds 500 patient entries) and 1.0 FTE if volume >1000 patient entries that meet NTDB and State inclusion criteria		E	E	E		
The results of issue analysis will define corrective action strategies or plans that are documented.		E	E	E	E	E
Use of telehealth for collaborative care of the trauma patient requires inclusion of the off-site service in the PI process.		E	E	E	E	E
All nonsurgical services admissions should be subject to individual case review to determine rationale for admission onto a non-surgical service, adverse outcomes, and opportunities for improvement.		E	E	E	D	
Neurotrauma care should be routinely evaluated for compliance with the Brain Trauma Foundation Guidelines.		E	E	E	D	
All trauma deaths and transfers to hospice must be reviewed to identify opportunities for improvement. Deaths must be categorized as either:		E	E	E	E	E
<ul style="list-style-type: none"> <li>• Mortality with opportunity for improvement; or</li> <li>• Mortality without opportunity for improvement.</li> </ul>						
Must have standardized treatment protocols for geriatric trauma management.		E	E	D	D	D
All transfers of trauma patients to a higher level of care both within the hospital and via interfacility transfer must be routinely monitored, and identified cases reviewed to determine rationale for transfer, adverse outcomes, and opportunities for improvement.		E	E	E	E	E
Must have protocols and processes in place that determine the rehabilitation needs and services required during the acute inpatient stay and to determine the level of care patients require after discharge.		E	E	E		
The trauma program participates in benchmarking with other facilities of the same designation level to identify how the trauma center performs compared to others.		E	E	E	E	E
PATIENT CARE EXPECTATIONS & PROTOCOLS						
<i>Diversion</i>						
A written policy and procedure to divert patients to another designated trauma care service when the facility's resources are temporarily unavailable for optimal trauma patient care. Must include a process for notification of affected EMS services and outlying facilities.		E	E	E	E	E
All trauma patients who are diverted to another trauma center, acute care hospital, or specialty center must be subjected to performance improvement case review. Documentation showing reasons for, and duration of diversion is required.		E	E	E	E	E
Diversion cannot exceed 400 hours during the reporting period and all instances must be reviewed by the trauma committee.		E	E	E	E	E
<i>Organ Procurement</i>						
Must have an affiliation with an organ procurement organization.		E	E	E	E	E
Must have a written policy for notification of the regional organ procurement organization.		E	E	E	E	E
Must have protocols defining clinical criteria and confirmatory tests for the diagnosis of brain death.		E	E	E	D	D
<i>Inter-Facility Transfer</i>						
Must have clearly defined transfer protocols that include the types of patients and expected time frame for initiating transfer to predetermined referral centers for outgoing transfers.		E	E	E	E	E
Decision to transfer a patient must be based solely on the needs of the injured patient without consideration of their health plan, payor status, or affiliation with a healthcare system.		E	E	E	E	E

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The transferring provider must directly communicate with the receiving provider to ensure safe transition of care when transferring a patient. This communication may occur through a transfer center.		E	E	E	E	E
Feedback regarding trauma patient transfers shall be provided to the trauma program at the transferring hospital in a timely manner after patient discharge from the receiving hospital.		E	E	E		
The trauma coordinator at the transferring hospital is encouraged to contact the receiving facility trauma coordinators for feedback.		E	E	E	E	E
All trauma patients who are transferred during the acute hospitalization to another trauma center, acute care hospital or specialty center must be subjected to performance improvement case review.		E	E	E	E	E
Signed and current inter-facility transfers agreements for transfer of special population trauma patients to a higher level of care.		E	E	E	E	E
<b>Burn Care – Organized</b>						
In-house or transfer agreement with Burn Center		E	E	E	E	E
<b>Acute Spinal Cord Management</b>						
In-house or transfer agreement with Comprehensive/Regional Trauma Center		E	E	E	E	E
<b>Pediatrics</b>						
In-house or transfer agreement with Comprehensive/Regional or Area Trauma Center with pediatric trauma care capability or a Pediatric Hospital.		E	E	E	E	E
<b>CONTINUING EDUCATION / RESEARCH</b>						
Clinical trauma education provided by hospital for:						
Physicians, physician assistants & nurse practitioners		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>
Nurses		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>
Allied health personnel		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>
Prehospital personnel		E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>
Must provide trauma orientation to new nursing and provider staff caring for trauma patients.		E	E	E	E	E
The trauma center will participate in a TEAM course every 3 years or when significant change in staff warrants additional training.					D	D
<b>Research</b>						
All residents on the trauma service must be from an Accreditation Council for Graduate Medicine Education (ACGME) accredited program.		E				
Demonstrate commitment to postgraduate training by having residency rotations in trauma with a defined trauma curriculum. Rotations in general surgery, orthopedic, neurosurgery and emergency medicine with sufficient volume to meet competency requirements set forth by ACGME.		E				
Research portfolio should be balanced to reflect the diverse aspects of trauma care and include peer-reviewed articles published in journals that results from work related to the trauma center or the trauma system in which the center participates.		E				
<b>INJURY PREVENTION &amp; DISASTER PRPAREDNESS</b>						
Must provide public trauma/injury prevention education.		E	E	E	E	E
The trauma center implements at least two activities over the course of the 3-year designation period with specific objectives and deliverables that address separate major causes of injury in the community.		E	E	E	E	E
The trauma center has a designated injury prevention coordinator or spokesperson (can be the trauma coordinator/trauma program manager for ATH, CTH & TRF), with adequate hours to perform duties.		E	E	E	E	E
Identified injury prevention professional must be someone other than the trauma program manager or PI personnel.		E	E	D		
Injury prevention priorities are based on local/state data.		E	E	E	E	E
Demonstrates evidence of partnerships with community organizations to support injury prevention efforts.		E	E	E	E	E

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Monitor progress / effect of prevention program		E	E	E	D	D
Must screen at least 80% of all admitted patients over age 12 for alcohol misuse with a validated tool or routine blood alcohol content testing.		E	E	E	D	D
At least 80% of patients who have screened positive for alcohol misuse must receive a brief intervention by trained staff and must be documented.		E	E			
At least 80% of patients who have screened positive for alcohol misuse must have a mechanism for referral if brief intervention is not available as an inpatient.				E		
There is a protocol to screen patients at high risk for psychological sequelae with referral to mental health provider.		E	E	D		
A process for referral to a mental health provider when required.				E	D	D
<b>Disaster Preparedness</b>						
There is a written emergency operation plan that is updated and exercised routinely.		E	E	E	E	E
Ability to decontaminate single and multiple injured patients prior to entry to the facility.		E	E	E	E	E
Participation in regional disaster/emergency management activities including Local Emergency Planning Committee (LEPC), health care coalitions, and regional mass casualty exercises.		E	E	E	E	E
The trauma surgeon liaison to the disaster committee must complete the Disaster Management and Emergency Preparedness Course at least once.		E	D	D		
A trauma surgeon from the trauma panel must be included as a member of the hospital's disaster committee and be responsible for the development of a surgical response to a mass casualty event.		E	E	E		
An orthopedic surgeon from the orthopedic trauma call panel serves as a member of the hospital's disaster committee.		E				
The trauma program must participate in two hospital drills or disaster plan activations per year that include a trauma response and are designed to refine the hospital's response to mass casualty events. A facility that is involved in one or more real-world disaster events having a trauma component and requiring activation of the disaster plan is exempt from participating in drills.		E	E	E	E	E

- 1 Alternate Pathway requirements include:
    - a. Completion of training equivalent to that required by the United States or Canada.
    - b. Evidence of 36 hours (12 hours annually prorated for new hires) of trauma-related CME during the verification cycle. For pediatric trauma care, 9 of 36 hours must be pediatric-specific CME.
    - c. Hold current ATLS certification.
    - d. Hold active membership in at least one national or regional trauma organization and attended at least one meeting during the reporting period.
    - e. Trauma multidisciplinary PIPS committee meeting attendance rate of 50 percent or more during the reporting period.
    - f. Credentialed to provide trauma care.
    - g. Processes and outcomes of care must be comparable to that of other physicians.
  - 2 Trauma continuing education can be obtained in a variety of ways such as attending facility trauma committee and peer review meetings (attendance may be met through teleconferencing or videoconferencing participation.) which provide education, Regional Trauma Advisory Committee (RTAC) meetings and State Trauma Care Committee (STCC) meetings. External trauma-related education can be obtained outside of one's own institution and/or by educators from outside the institution.
- E\* Applies only to Area Trauma Hospitals (Level III-N) with neurotrauma capabilities.
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Brief description of trauma designation levels:

- Comprehensive Trauma Centers (CTC): Definitive comprehensive care for complex multisystem injured patients. Research conducted at facility. Residency program affiliation. Leader in professional and community education and system planning.
- Regional Trauma Centers (RTC): Initiate and provide definitive care for all injured patients. Assists with leadership for a geographical area or in lieu of CTC, which includes outreach to small facilities within the same service area.

- Area Trauma Hospitals (ATH): Provide prompt assessment, resuscitation, surgery, intensive care, and stabilization for most injured patients.
- Community Trauma Facilities (CTF): Provide evaluation, stabilization, diagnostic capabilities, and some surgical coverage for injured patients.
- Trauma Receiving Facilities (TRF): Provide initial evaluation, stabilization, and diagnostic capabilities prior to transfer to definitive care. No surgical capabilities at facility.