

# Montana Trauma System Plan 2019



MONTANA  
EMS, TRAUMA SYSTEMS &  
INJURY PREVENTION PROGRAM

## 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

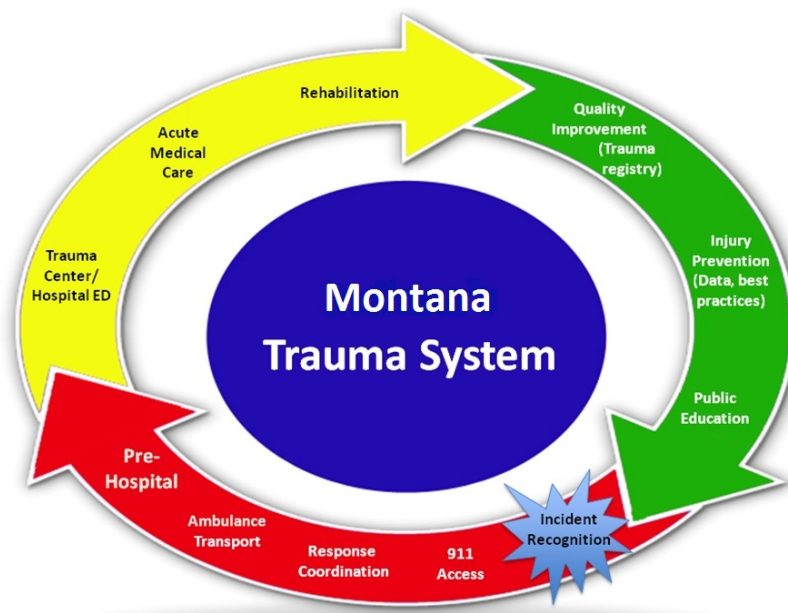
Montana Trauma System's charge is to build and maintain an inclusive comprehensive system that addresses the daily demands of traumatic injury in Montana. Montana hospitals must be able to provide optimal care for the injured and to function within a regionalized system of care to facilitate rapid transfer 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.*

Resources for the Optimal Care of the Injured Patient 2006



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

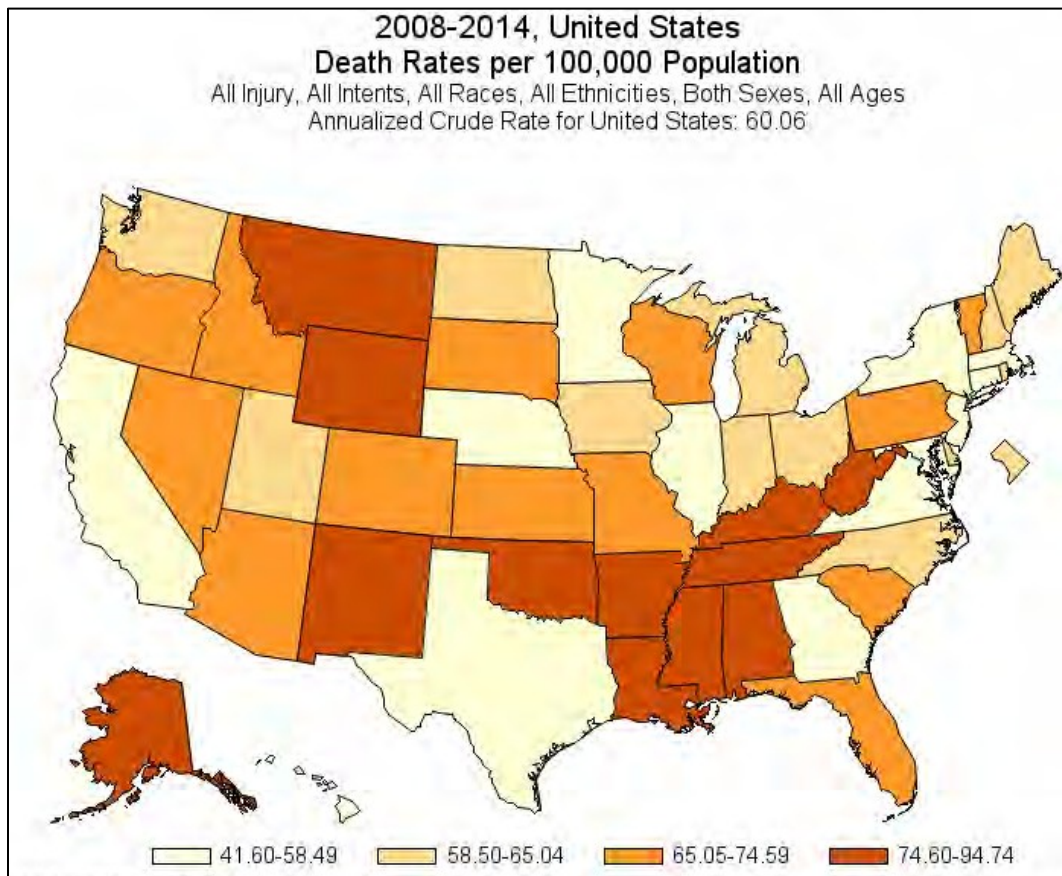
The argument for developing and maintaining organized trauma care systems is perhaps best made through a presentation of trauma statistics.

1. Each year in the US, trauma accounts for 41 million emergency department visits and 2.3 million hospital admissions.
2. 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.
3. Trauma accounts for more years of potential life lost before age 75 than any other cause, including cancer or heart disease.
4. Each year, over 9 million people are treated in emergency departments for nonfatal injuries related to falls.

The economic burden of trauma is estimated at an astounding **\$671 billion** a year, including healthcare costs and lost productivity.

*National Trauma Institute,  
Trauma Statistics*

Montana has one of the highest trauma death rates in the nation.



*Produced by the Statistics, Programming, and Economics Branch, National Center of Injury Prevention and Control*

*Data Sources: NCES National Vital Statistics System for Numbers of Deaths, US Census Bureau for Population Estimates, 2008 – 2014*

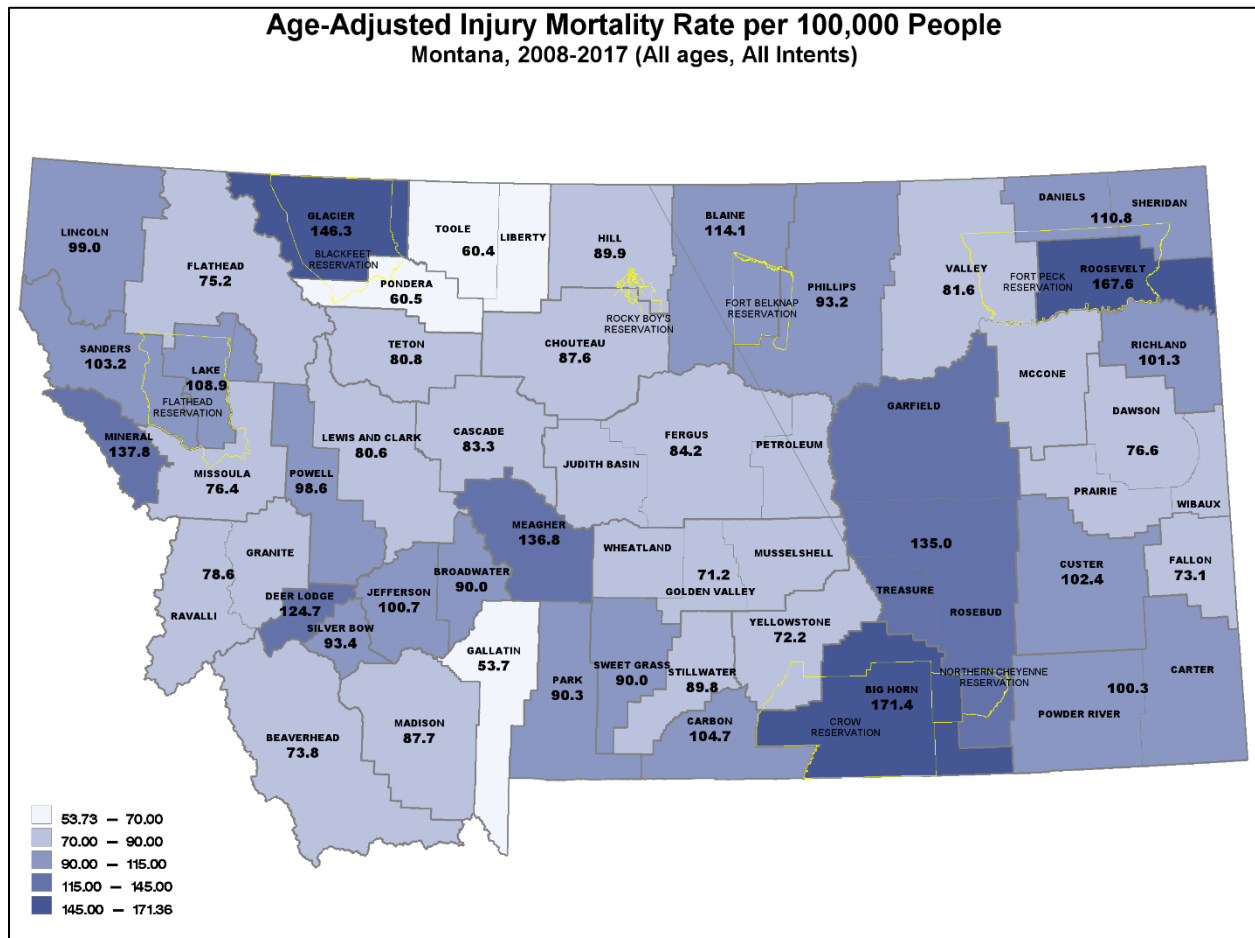
Ten years of Montana death certificate data (from 2008 to 2017) were compiled to obtain sufficient data for county-specific injury death rates (all intents and unintentional). The top three unintentional injury causes in Montana include: motor vehicle crashes, falls and poisonings.

Motor vehicle crashes (MVCs) are one of the most common causes of both fatal and non-fatal injuries in Montana. MVCs result in huge medical and work loss costs, especially since younger people are disproportionately affected. High-risk driving behaviors such as not using a seatbelt consistently, speeding, impaired driving, and distracted driving are highly



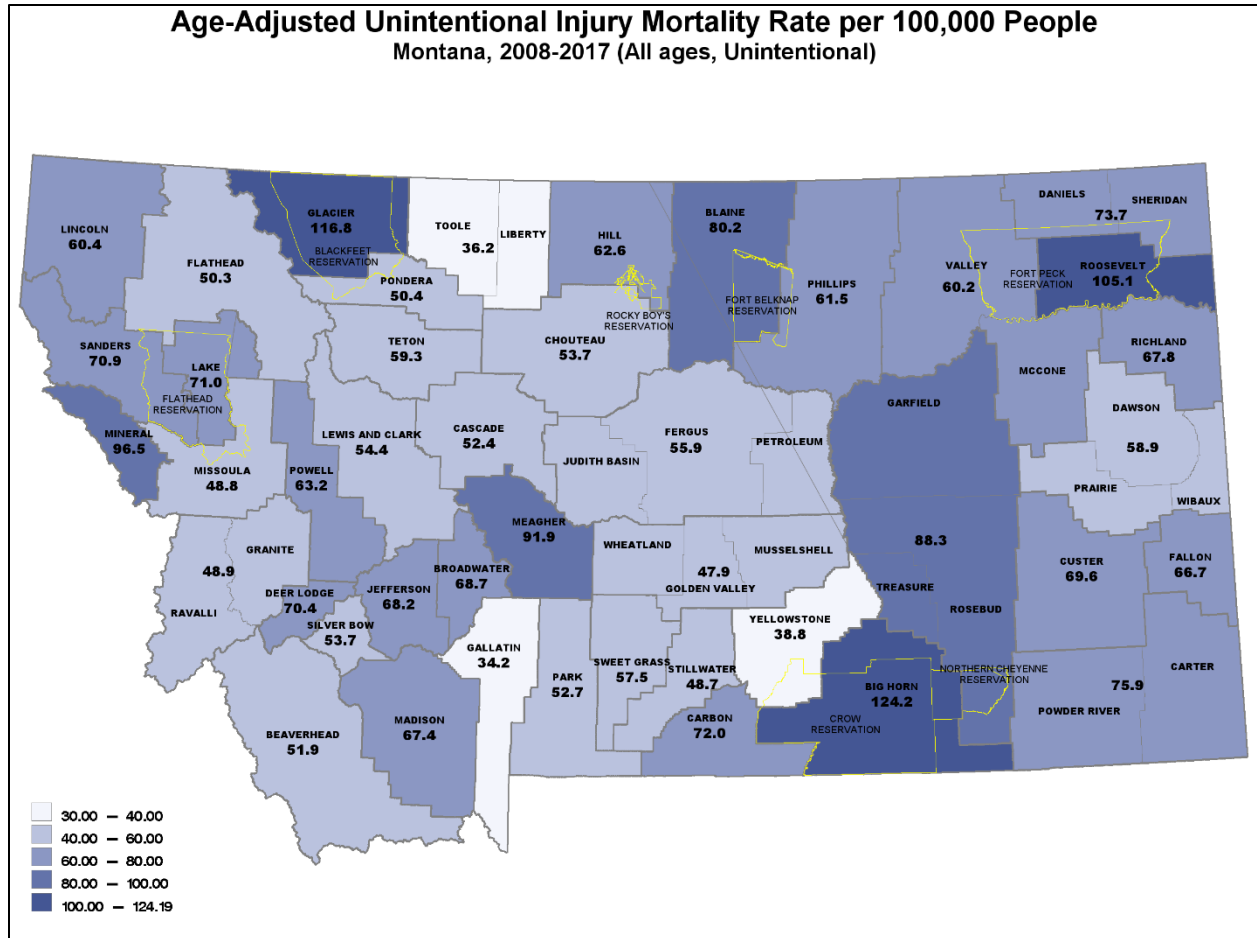
prevalent in Montana. Rural Montana residents have more than double the age-adjusted mortality rate due to MVCs compared with residents of urban or small urban areas.

Falls are the second leading cause of unintentional injury death statewide, accounting for 27% of all fatalities due to unintentional injury in Montana in 2016. This trend is largely driven by falls among older adults, hence, the burden from falls is likely to increase as the Montana population ages. The mortality rate due to falls in Montana is higher than in the U.S. for both all ages and those aged 65 years or older.



On average, 878 Montanans die because of injuries of all intents each year (age-adjusted rate of 83.0 [81.2 – 84.8] per 100,000 people). The lowest rate of injury death in Montana was in Gallatin County, which had an age-adjusted injury mortality rate of 53.7 [48.9 – 58.5] per 100,000 people, followed by Liberty & Toole County grouping, and then Pondera county. Fourteen counties had injury mortality rates lower than the statewide rate. Roosevelt County and Big Horn County had rates more than twice the state rate.





Approximately two-thirds of all injury deaths in Montana are unintentional, meaning the injury was not caused on purpose or there was no intent to harm. On average, 573 Montanans die because of unintentional injury each year (age-adjusted rate of 53.0 [51.6-54.5] per 100,000 people). The three lowest rates of unintentional injury deaths in Montana were in Gallatin County, Liberty and Toole County grouping, and Yellowstone County. Twelve counties had rates lower than the state rate. Glacier County and Big Horn County had rates more than twice the state rate.

*Data used in this report were supplied by the Vital Statistics Analysis Unit, Montana Department of Public Health and Human Services. The authors of this document are responsible for all analyses and conclusions reported.*

## 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 2014 revision, the guidebook utilizes the HRSA model and 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.

Preventable Deaths for All Cases	1990 (Pre-system)	1998 (Post-system)	2008 (10 years into trauma system development)
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 (2019-2024) 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.**
  - a. 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.
- b. Continue media campaign emphasizing Montana Trauma System’s mission and tagline “Trauma Systems Save Lives”.
  - c. 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.**
- a. Continue to engage trauma center priority prospects to facilitate new commitments to pursue trauma center designation.
  - b. Continue to facilitate information exchange relative to best practices and shared challenges across the state.
  - c. Continue to provide trauma training opportunities to all level providers and public statewide; i.e. TEAM, PHTLS, ATLS, ENPC and the annual Rocky Mountain Rural Trauma Symposium for providers, nurses and EMTs and facilitate the implementation of the national Stop the Bleed initiative.
- 3. Establish statewide trauma registry data consistent with national standards for facilitating: statewide and regional injury prevention efforts and trauma system performance improvement.**
- a. Expand the trauma registry data reporting capabilities by collaborating with analytics technology companies to allow for performance measure benchmarking and data linking with EMS and crash records to provide for more comprehensive understanding of injuries.
  - b. Support continued development of the comprehensive EMS Registry to include data reporting.
  - c. 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 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 building 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:

1. Montana Committee on Trauma of the American College of Surgeons Committee on Trauma, who shall serve as presiding officer of the committee
2. Two members from each Regional Trauma Advisory Committee
3. A member of the Montana trauma coordinators
4. A representative of the Montana Hospital Association
5. A member of the Montana Medical Association
6. A member of the American College of Emergency Physicians, Montana chapter
7. A member of the Emergency Nurses Association
8. A member of the Montana Emergency Medical Services Association
9. A nurse or physician representing the Indian Health Service
10. 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.

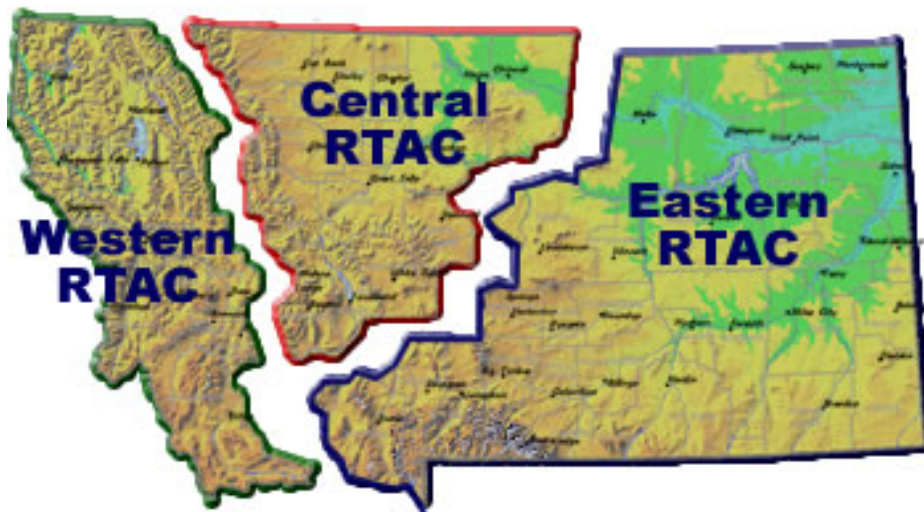
The duties of the STCC are provided for in statute 50-6-404 and include:



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 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;
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.



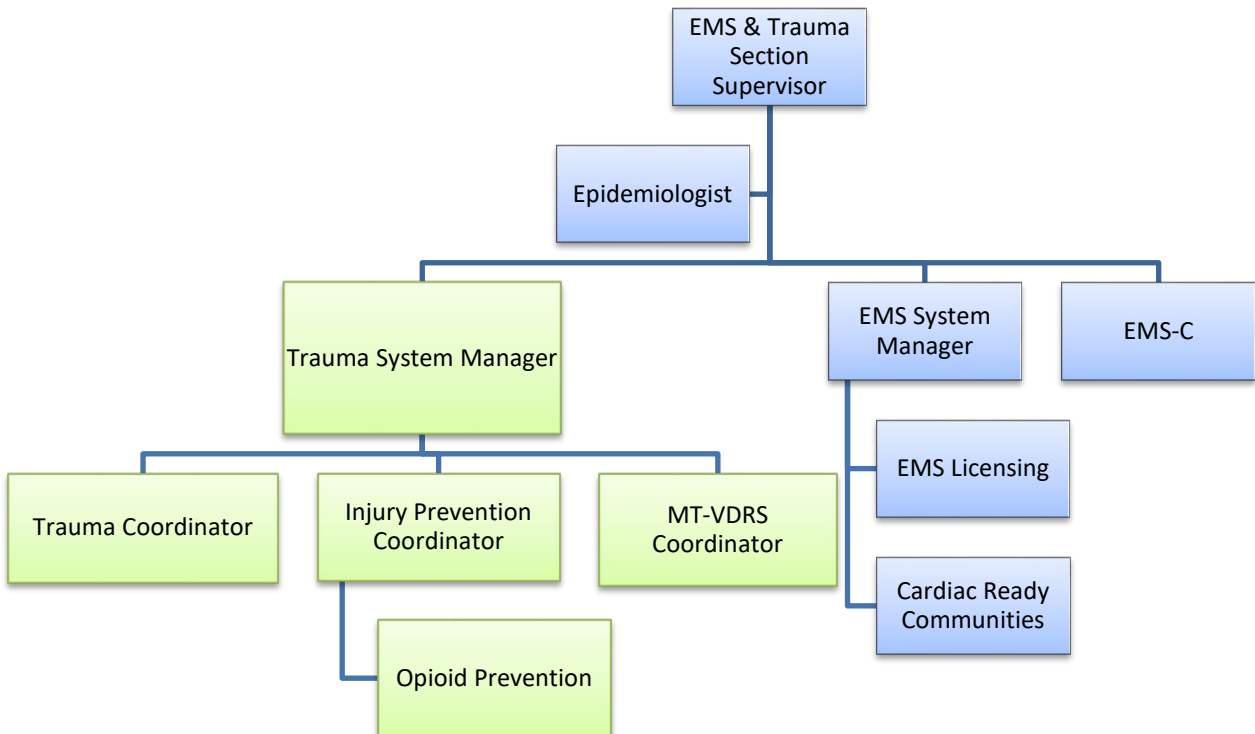
These geographic regions are based on patient referral patterns. A representative of each facility's trauma committee serves on the Regional Trauma Advisory Committee (RTAC) for the region in which the facility is located. RTAC's were mandated and duties charged by 1995 statutes 50-6-411 and 50-6-412:

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. Regional Trauma Center physicians, and trauma coordinators provide 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 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.



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

## 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. EMSTS has a licensing agreement with Seattle/King County Public Health which allows EMSTS to offer CBD-EMD programs to any 9-1-1 dispatch centers in the state. EMSTS provides the education staff and materials for this program.

The EMSTS Section of the DPHHS has broad statutory authority for licensing ground, air, transporting and non-transporting EMS units. Re-licensure occurs every 2 years and there is an articulated goal to link re-licensure with the existence of EMS service quality/performance improvement programs and participation in data collection. Minimal standards of transportation linked to inter-facility transfer should also be established.

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 *Montana Field Trauma Decision Scheme/Trauma Team Activation Criteria* to support the pre-hospital evaluation and expeditious delivery of trauma patients. This protocol is based on the CDC Field Triage Scheme 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 *Montana Field Trauma Decision Scheme/Trauma Team Activation Criteria* is provided in **Appendix B**.

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. A copy of the *Montana Air Medical Activation Guidelines Criteria for Consideration of Air Medical Transport* is 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 63% 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. Four levels of trauma designation exist:

1. Regional Trauma Centers (RTC) - Initiate and provide definitive care for all injured patients by serving as the lead trauma facility for a geographical area, which includes outreach to small facilities within the same service area.
2. Area Trauma Hospitals (ATH) –Provide prompt assessment, resuscitation, surgery, intensive care and stabilization for most injured patients.
3. Community Trauma Facilities (CTF) - Provide evaluation, stabilization, diagnostic capabilities and some surgical coverage for injured patients.
4. Trauma Receiving Facilities (TRF) – Provide initial evaluation, stabilization and diagnostic capabilities prior to transfer to definitive care.

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 onsite survey teams include Montana Trauma System staff, a trauma surgeon or a physician with special interest and expertise in trauma care, and an experienced trauma nurse coordinator. 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.

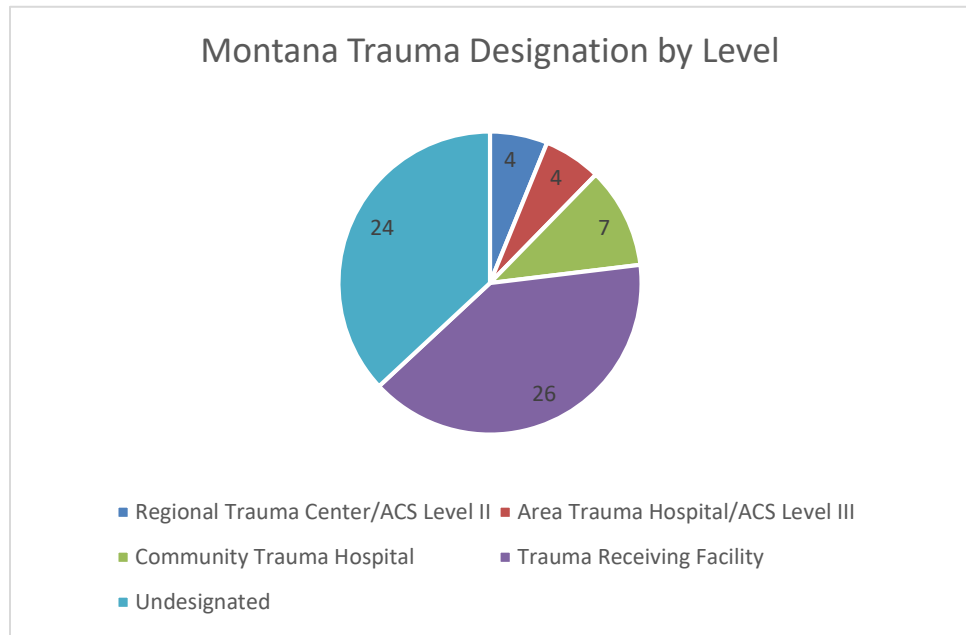
A link to the Trauma Facility Designation Administrative Rule is located at the end of Appendix A.

During its 1999 consultation review, the ACS advised the state trauma system to direct its

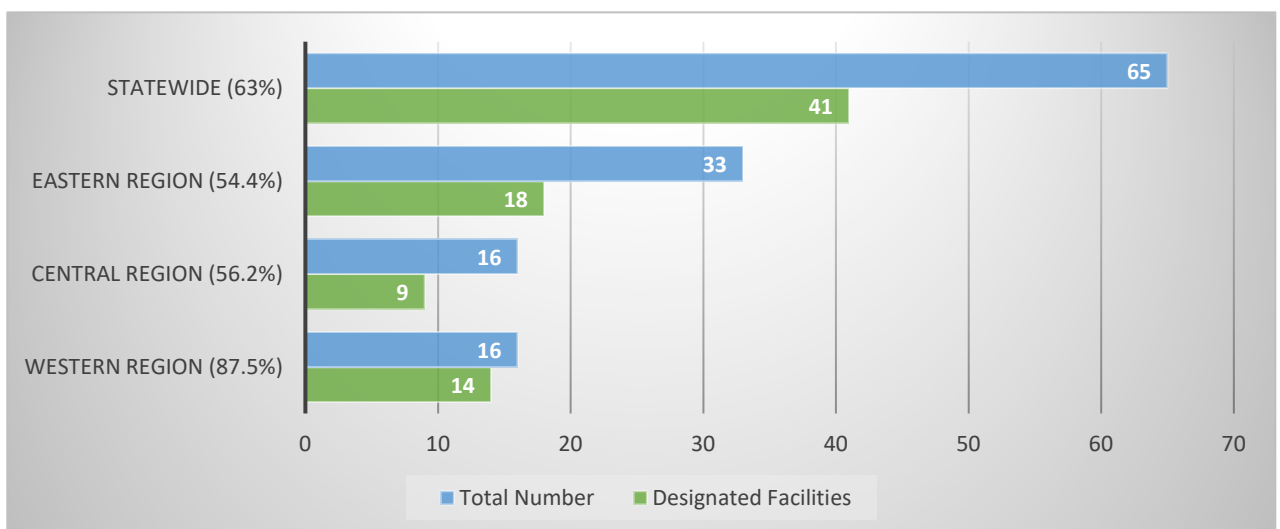


attention to expediting the transfer of all major trauma patients to higher-level trauma centers, bypassing interim centers. It remains the state’s assessment that this aim, though ideal, is unrealistic due to Montana’s geography requiring long distances be traveled, the limited number of air ambulance 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. There are four Regional Trauma Centers in the urban areas that have sought and received national recognition as Level II Trauma



Centers under the auspices of the ACS Trauma Center Verification Program. Three (of four) Area Trauma Hospitals are also verified as ACS Level III Trauma Centers. The goal is to have all eligible facilities obtain designation as a Montana trauma center.



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 surgeon and nurse reviewer teams to provide designation reviews across the entire state.

**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

## 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.

Montana's Regional Trauma Centers offer rehabilitation services consistent with ACS-COT trauma center verification requirements, including, but not limited to:

1. In Level II trauma centers, rehabilitation services must be available within the hospital's physical facilities or as a freestanding rehabilitation hospital, in which case the hospital must have transfer agreements.
2. In Level II trauma centers, these services [physical therapy, social services, occupational therapy and speech therapy] must be available during the acute phase of care, including intensive care<sup>1</sup>.

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 hospitalizations.

*Resources for Optimal Care of the Injured Patient 2014*

American College of Surgeons

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>2</sup>

<sup>1</sup> Criteria Quick Reference Guide, Resources for Optimal Care of the Injured Patient 2014

<sup>2</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 is 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 Digital Innovation Incorporated V5 Trauma Registry software and provides this free of charge to all facilities in the state. The version provided to larger facilities enables data collection and advanced reporting and performance improvement on their local data servers. The remaining facilities utilize a web-based system that enables them to enter their data electronically. 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

***“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 2014***

System commits considerable resources to assure data collected is accurate, complete and timely. A data dictionary and user manual are available for web-based users and includes a list of specific data elements and outlines requirements for the hospital patient registry.

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.

### 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

Today, 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.

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

*Resources for Optimal Care of the Injured Patient 2014*  
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>3</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:

1. GCS ≤8 without advanced airway
2. ED Dwell time
3. Transfer of patient after admission
4. Transfer of patient out-of-state
5. Tourniquet use
6. CT of children ≤14 with dosage
7. Age ≥55 with ISS≥15 without trauma team activation

<sup>3</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



- |  |  |
|--|--|
| 8. Met physiological criteria without trauma team activation   | 10. GCS documented by EMS with a >2-point discrepancy between EMS & initial ED GCS |
| 9. IV fluids $\geq$ 2000 ml before blood products administered | 11. Air medical trauma transfers dismissed from the ED                             |

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 Level II and III 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 Montana, there are approximately 900 deaths from injury each year, two-thirds of which are unintentional. But death only represents a small number of injuries occurring each year. There are also many hospitalizations, emergency department and physician visits resulting from injury. For some, an injury is a temporary inconvenience while for others it leads to disability, chronic pain, significant changes in lifestyle, and death. 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 Specialist 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. The *2014 American College of Surgeons Resources for Optimal Care of the Injured Patient* manual requires Level I and Level II Trauma Centers to implement at least two programs that address one of the major causes of injury in the community. Community injury prevention efforts in the state are led and mostly funded by the designated trauma centers.

### Goals and Objectives

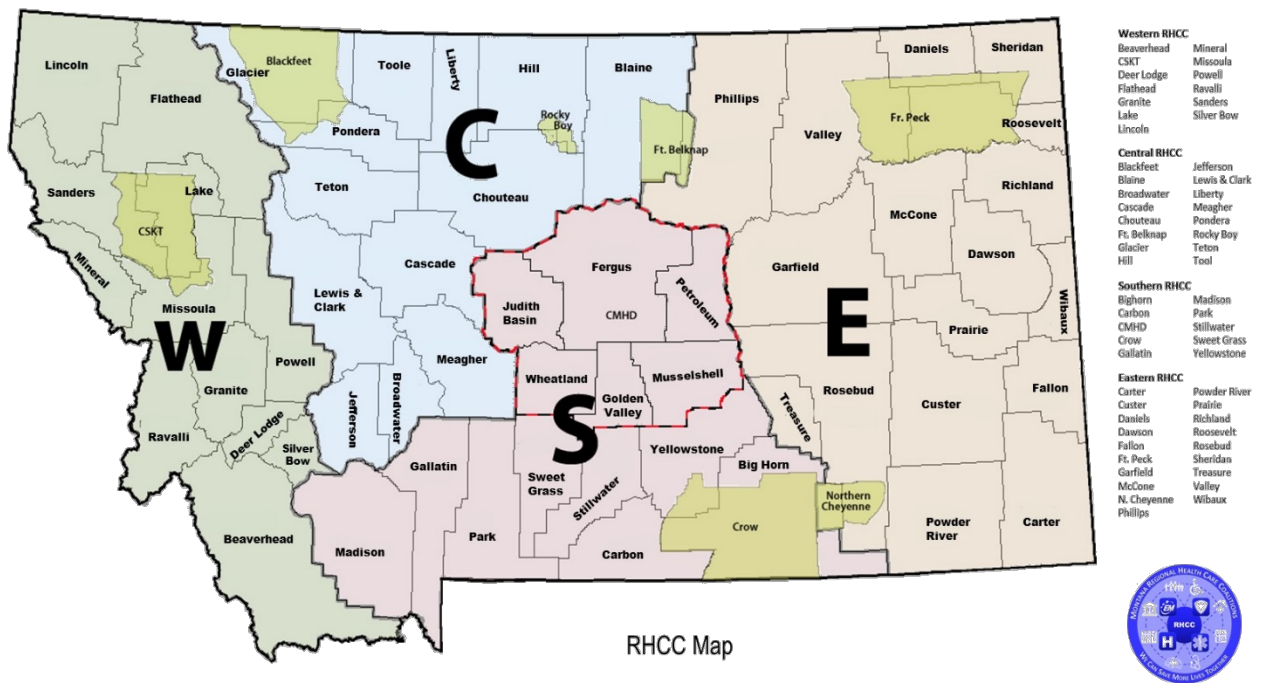
1. Ensure there is a mechanism to identify trauma patients with alcohol and drug misuse issues and the capability to provide intervention or referral of these patients at all Regional and Area Trauma Hospitals.
2. Provide guidance, support, coordination and technical assistance to local and regional 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 a 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.

## 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:

1. ATLS: Advanced Trauma Life Support for physicians and Advanced Practice Clinicians (APCs)
2. PHTLS: Pre-Hospital Trauma Life Support
3. PEPP: Pediatric Emergencies for Pre-hospital Providers
4. ENPC: Emergency Nursing Pediatric Course
5. Trauma TEAM: Together Everybody Achieves More (a locally developed program for trauma team preparation)
6. RMRTS: Rocky Mountain Rural Trauma Symposium, an annual two-day conference offering trauma education for physicians, APCs, nurses and pre-hospital personnel.
7. Montana Trauma Systems (RMRTS preconference) for trauma coordinators, trauma registrars and trauma medical directors
8. Stop the Bleed/Bleeding Control Course
9. Geriatric Trauma Module
10. Montana Trauma Coordinator Web-ex
11. Software & Web-based Trauma Registry Training
12. Stepping-On Fall Prevention & SBIRT: Screening, Brief Intervention and Referral to Treatment
13. Emergency Medical Dispatch training
14. Trauma Protocols & Guideline development:
  - a. Montana Trauma Treatment Manual
  - b. Montana Facility Resource Guide
  - c. Geriatric Early Trauma Activation Guidelines
  - d. Anti-Coagulation and Trauma (ACT) Alert Protocol
  - e. Montana Air Medical Activation Guidelines
  - f. Montana Field Trauma Decision Scheme/Trauma Team Activation Criteria

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

1. TNCC: Trauma Nurse Core Course
2. CALS: Comprehensive Advanced Life Support
3. BDLS/ADLS: Basic & Advanced Disaster Life Support
4. ABLs: Advanced Burn Life Support
5. Regional Trauma Conferences: Spring Fever (WRTAC) and Rimrock (ERTAC)
6. MobileSim-Simulation in Motion

### 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 Statuses

### 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>



## Appendix B:

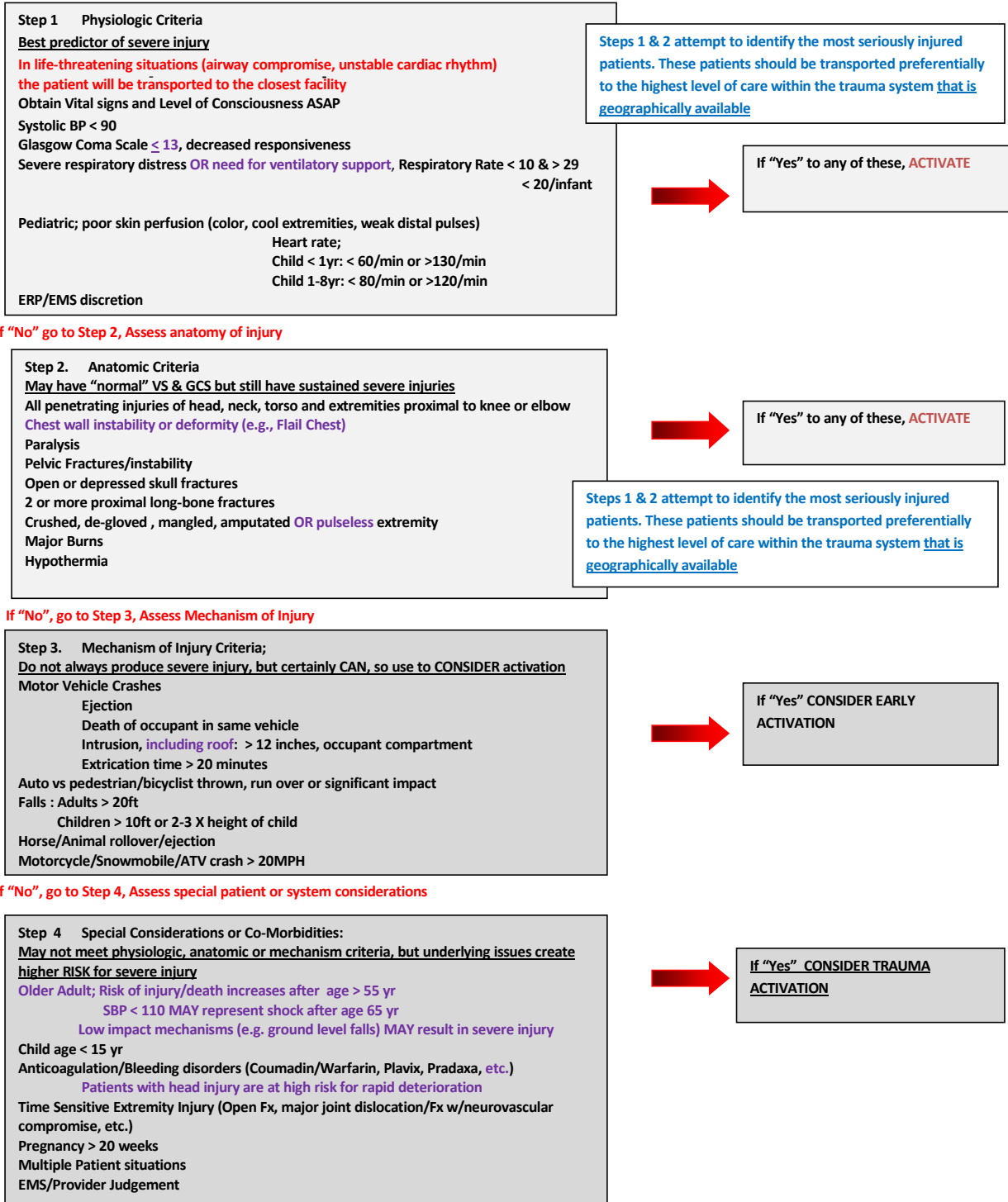
### Montana Field Trauma Decision Scheme/Trauma Team Activation Criteria

EMS & Facilities should utilize these criteria to identify patients needing trauma team activation

Goals for all phases of care include early identification, communications with EMS/medical control/facilities and notification to enhance effectiveness

While these criteria are presented in sequential fashion, using all applicable criteria to identify significantly injured patients is advised

Trauma Patients with severe injuries should be transported preferentially to the highest level of care within the trauma system [geographically available](#)



**When in doubt, Activate!**

## Appendix C

### 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/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.

*The potential benefit to the patient should outweigh the risks associated with air transport*

**The following patients need to go by air or ground to the closest appropriate facility capable of resuscitation**

#### General Criteria

- Unable to maintain patent airway or need for ventilatory support
- Need for advanced airway
- Respiratory Failure with inability to control breathing and/or intubated
- Unable to control bleeding
- BP < 90 systolic at any time in adult patient or age-specific for children
- Paralysis
- Major burns to any area of body
- Patients in remote locations inaccessible in a timely manner by ground EMS
- Mass/Multiple Casualty incidents with potential to overwhelm current resource capabilities.
- Depletion of EMS coverage to area if ground transport was to be utilized
- Request by trained Emergency responders

#### Head/Face/Neck

- GCS  $\leq$  9
- Unresponsive on AVPU scale
- Pediatrics; unresponsive to Voice on AVPU
- Penetrating or crush injury to head or face
- Neurologic deficit with numbness, tingling, or loss of function to one side of body
- Penetrating or crush injury to neck

#### Chest

- Respiratory Distress
- Apnea; any patient
- RR < 10 or > 35
  - Infants (less than 1 year old) - RR < 20
  - Pediatrics - RR < 10 or > 60
- Cyanosis
- Hypoxia with oxygen saturations < 88 percent with oxygen therapy
- Chest Pain and/or ST Elevation on EKG

- Penetrating or crush injury to chest
  - Sucking chest wound
  - Signs of Tension Pneumothorax
  - Hypotension
  - One sided decrease in breath sounds
  - Distended neck veins
  - Subcutaneous emphysema
- Signs of Flail Chest
  - Paradoxical movements of chest wall
  - Extreme pain on inspiration
- *Pediatric specific*
  - Bradycardia
  - Respiratory Distress
  - Agitation
  - Decreased Level of Consciousness
  - GFR – Grunting – Flaring – Retracting

#### **Abdomen/Pelvis**

- Penetrating or crush injury to abdomen/pelvis
- Rigid abdomen
- Pediatrics; bruising of abdomen
- Increasing abdominal girth
- Unstable pelvic fracture
- Major burns to groin

#### **Extremities**

- Amputations/near amputations above wrist/ankle
- De-gloving injuries
- Any penetrating injury or open wound with signs of vascular compromise distal to injury
- Decreased or absent pulse/movement/sensation

Consideration for cancelling Air Medical Transport should be made by EMS professionals on scene able to evaluate the situation and patient needs:

- A. Trained EMS with full report. Discretion will still go to the AMT team as to whether they will continue to the scene
- B. If canceled, initial/requesting agency/entity will be contacted for information
- C. Depending on circumstances, AMT may choose to cancel for medical reasons or lack of on-scene resources OR may continue on to scene for patient evaluation

**Optimal communications will enhance the decision process**

## Appendix D: Montana Geriatric Early Activation Guidelines

## Geriatric Early Trauma Activation Guidelines

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**

## Appendix E

# MONTANA TRAUMA FACILITY DESIGNATION CRITERIA

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			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility
<b>FACILITY ORGANIZATION</b>				
<i><b>Facility</b></i>				
Demonstrated 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
Participation in the statewide trauma system including participation in Regional Trauma Advisory Committee; support of regional and state performance improvement programs; and submission of data to the Montana State Trauma Registry.	E	E	E	E
<i><b>Trauma Service</b></i>				
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		
<i><b>Trauma Program</b></i>				
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
<i><b>Trauma Team</b></i>				
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
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	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				E

TRAUMA FACILITY CRITERIA		LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility	
with demonstrated competency in trauma care and is responsible for the overall provision of care for the trauma patient from resuscitation through discharge.					
There are clearly written criteria for trauma team activation that are continuously evaluated by the multidisciplinary trauma committee.	E	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				
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 with a special interest in trauma care who leads the multidisciplinary activities of the trauma program. TMD is an ATLS instructor or course director. 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				
Physician board-certified or board eligible in surgery 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, recommending trauma service privileges, development of clinical care guidelines, coordinating performance improvement, correcting deficiencies in trauma care, and verification of continuing trauma education.		E			
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			E		



TRAUMA FACILITY CRITERIA	LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility
performance improvement, correcting deficiencies in trauma care, and verification of continuing trauma education.				
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 accrue an average of 12 hours annually or 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>	E <sup>2</sup>	E <sup>2</sup>
<b>Trauma Coordinator</b>				
A 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. 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 involvement in local, regional and the state trauma system activities.	E			
A registered nurse 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	E	
A registered nurse 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 clinical care and oversight, provision of clinical trauma education and injury prevention, performance improvement, trauma registry, utilization of the MT Trauma Treatment				E

TRAUMA FACILITY CRITERIA	LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility
Manual, and involvement in local, regional, and state trauma system activities. There must be dedicated and adequate hours for this position.				
<b>Trauma Registrar</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. There must be sufficient dedicated hours for this position to complete the trauma registry for each trauma patient within 60 days of discharge	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 the trauma registry for each trauma patient within 60 days of discharge		E	E	E
The trauma registrar must attend, or have previously attended, within 12 months of hire a national trauma registry course.	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
<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 meets regularly, takes attendance, has minutes, and works to correct overall program deficiencies to optimize trauma patient care.	E	E	E	E
<i>Trauma Peer Review</i> functions with a multidisciplinary committee of medical disciplines (including the trauma coordinator) involved in caring for trauma patients to perform confidential, protected peer review for issues such as response times, appropriateness and timeliness of care, and evaluation of care priorities. This committee under the auspices of performance improvement meets regularly takes attendance and documents performance improvement evaluation and agreed upon action plans.	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



TRAUMA FACILITY CRITERIA	LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility
<b><i>Diversion Policy</i></b>				
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.	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.	E	E	E	E
<b><i>Prehospital Trauma Care</i></b>				
The trauma program reviews pre-hospital protocols and policies related to care of the injured patient.	E	E	E	E
The trauma program reviews pre-hospital protocols and policies related to care of the injured specialty patient: Pediatrics, Geriatrics, Obstetrical	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
EMS has representation on the multidisciplinary trauma committee or documentation of involvement where perspective and issues are presented and addressed.	E	E	E	E
EMS is provided feedback through the trauma performance improvement program.	E	E	E	E
<b><i>Inter-Facility Transfer</i></b>				
Inter-facility transfer guidelines and agreements consistent with the scope of the trauma service practice available at the facility.	E	E	E	E
Signed, and current within last 6 years, inter-facility transfer agreements for transfer of special population trauma patients to a higher level of care.	E	E	E	E
<b><i>Burn Care – Organized</i></b>				
In-house or transfer agreement with Burn Center	E	E	E	E
<b><i>Acute Spinal Cord Management</i></b>				
In-house or transfer agreement with Regional Trauma Center	E	E	E	E
<b><i>Pediatrics</i></b>				
In-house or transfer agreement with Regional Trauma Center or Pediatric Hospital	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. The trauma coordinator at the transferring hospital is encouraged to contact the Regional Trauma Center/Area Trauma Hospital coordinators for verbal feedback.	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

TRAUMA FACILITY CRITERIA		LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility	
<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	
<b>Disaster Preparedness</b>					
There is a written emergency operation plan that is updated and exercised routinely	E	E	E	E	
Ability to decontaminate single and multiple injured patients prior to entry to the facility.	E	E	E	E	
Active hospital representation on the Local Emergency Planning Committee (LEPC)	E	E	E	E	
Routine participation in disaster drills. At least 2 drills per year. One must be live, one with an influx of patients and one that involves the community plan	E	E	E	E	
<b>CLINICAL CAPABILITIES</b>					
<b>On-call and Promptly Available</b>					
General / Trauma Surgeon	E	E	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	D	D		
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		
Anesthesia – MD or CRNA	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		
Cardiac surgery	D				
Critical care medicine	E	D	D		
Hand surgery	E	D			
Microvascular/replant surgery	D				
Neurologic surgery	E	D			
Dedicated to one hospital or performance improvement process in place to demonstrate prompt neurosurgeon availability	E	D			
Obstetric / Gynecologic surgery	E	E	D		
Ophthalmic surgery	E	E			
Oral / maxillofacial surgery	E	E			
Orthopaedic surgery	E	E	D		
Plastic surgery	E	E			
Pediatric service or Pediatrician availability	E	E			
Radiology	E	E	D		
Thoracic surgery	E	D			
Urologic surgery	E	D			
Vascular surgery	E	D			
Institutionally defined, response parameters for consultants addressing time-critical injuries should	E	E	D		

TRAUMA FACILITY CRITERIA		LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility	
be determined and monitored. Variances should be documented and reviewed regarding reason for delay, opportunities for improvement and corrective actions.					
<b>CLINICAL QUALIFICATIONS</b>					
<b>General / Trauma Surgeon</b>					
Full, unrestricted general surgery privileges	E	E	E		
Board-certified or board eligible	E <sup>1</sup>	E <sup>1</sup>	D <sup>1</sup>		
ATLS course completion	E	E	E		
Must remain current in board-certification to satisfy CME requirements.	E	E	E		
Attendance of the general surgeons at a minimum of 50% of the trauma peer review committee meetings.	E	E	E		
<b>Emergency Medicine</b>					
Physicians are board-certified or board eligible	E <sup>1</sup>	E <sup>1</sup>	E <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	
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	
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	
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>	D	
<b>Anesthesia – MD or CRNA</b>					
Board certified or board eligible	E <sup>1</sup>	E <sup>1</sup>	D		
Anesthesia trauma liaison	E	E	E		
Attendance of anesthesia representative at a minimum of 50% of the trauma peer review committee meetings	E	E	E		
<b>Neurologic Surgery (if available...)</b>					
Board-certified or board-eligible	E <sup>1</sup>				
ATLS course completion	D	D			
Must remain current in board-certification to satisfy CME requirements.	E	E			
Neurosurgical trauma liaison	E	E			

TRAUMA FACILITY CRITERIA	LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility
Attendance of a neurosurgery representative at a minimum of 50% multidisciplinary peer review committee meetings.	E <sup>2</sup>	E <sup>2</sup>		
<b>Orthopaedic Surgery</b>				
Board certified or board eligible	E <sup>1</sup>	E <sup>1</sup>		
ATLS course completion	D	D	D	
Must remain current in board-certification to satisfy CME requirements.	E	E	D <sup>2</sup>	
Orthopaedic trauma liaison	E	E	D	
Attendance of an orthopaedic surgery representative at a minimum of 50% of the trauma peer review committee meetings.	E <sup>2</sup>	E <sup>2</sup>	D <sup>2</sup>	
<b>Radiologist</b>				
Board certified or board eligible	E <sup>1</sup>	E <sup>1</sup>		
Radiologist trauma liaison	E	D		
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>		
<b>ICU Physician</b>				
ICU physician trauma liaison	E			
Attendance of an ICU physician representative at a minimum of 50% of the trauma peer review committee meetings.	E	E	D	
ICU/Hospitalist trauma liaison		E	D	
<b>FACILITIES / RESOURCES / CAPABILITIES</b>				
<b>Emergency Department</b>				
<b>Personnel:</b>				
Designated physician director	E	E	D	D
Emergency Department coverage by in-house emergency physician	E	E		
Emergency Department coverage by in-house physician, physician assistant, or nurse practitioner			D	D
If the in-house emergency medical provider must be temporarily out of the department to cover in-house emergencies, there must be a PI process in place to assure that care of the trauma patient is not adversely affected	E	E		
Emergency Department coverage may be physician, physician assistant, or nurse practitioner on-call and promptly available			E	E

TRAUMA FACILITY CRITERIA		LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility	
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	
Trauma nursing education: Maintenance of TNCC/ATCN or equivalent.	E	E	E	D	
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	
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	
<b><i>Equipment for resuscitation for patients of ALL AGES</i></b>					
Airway control and ventilation equipment including laryngoscope and endotracheal tubes, bag-mask resuscitator and oxygen source	E	E	E	E	
Rescue airway devices	E	E	E	E	
Pulse oximetry	E	E	E	E	
Suction devices	E	E	E	E	
End-tidal CO <sup>2</sup> detector	E	E	E	E	
Cardiac monitor and defibrillator	E	E	E	E	
Internal paddles	E	E			
Waveform capnography	E	E	E	E	
Standard IV fluids and administration sets	E	E	E	E	
Large bore intravenous catheters	E	E	E	E	
<b><i>Sterile surgical sets for:</i></b>					
Airway control/cricothyrotomy	E	E	E	E	
Thoracostomy (chest tube insertion)	E	E	E	E	
Central line insertion	E	E	D		
Thoracotomy	E	E			
Peritoneal lavage or ability to do FAST ultrasound exams	E	E	E		
Arterial pressure monitoring	E	E	D		
Ultrasound availability	E	E	D		
Drugs necessary for emergency care	E	E	E	E	
Cervical stabilization collars	E	E	E	E	
Pelvic stabilization method	E	E	E	E	
Pediatric equipment appropriately organized	E	E	E	E	
Current pediatric length-based resuscitation tape	E	E	E	E	
Intraosseous Insertion Device	E	E	E	E	
Thermal control equipment:					
Blood and fluids	E	E	E	E	
Patient	E	E	E	E	
Resuscitation room	E	E	E	E	
Rapid fluid infuser system	E	E	E	E	
Communication with EMS vehicles	E	E	E	E	
<b><i>Operating Room</i></b>					
Adequately staffed and available in a timely fashion 24 hours / day	E	E	D		

TRAUMA FACILITY CRITERIA		LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility	
Trauma performance improvement will monitor operating room availability and on-call surgical staff response times must be routinely monitored and any case which exceed the institutionally agreed upon response time must be reviewed for reasons for delay and opportunities for improvement.	E	E	D		
<b>Age-specific Equipment</b>					
Equipment for monitoring and resuscitative	E	E	E		
Cardiopulmonary bypass	E				
Thermal control equipment:					
Blood and fluids	E	E	E		
Patient	E	E	E		
Operating room	E	E	E		
X-ray capability	E	E	E		
Endoscopes, bronchoscopes	E	E	D		
Craniotomy instruments	E	D			
Equipment for long bone and pelvic fixation	E	E	D		
Rapid fluid infuser system	E	E	E		
<b>Post-Anesthetic Recovery Room (ICU is acceptable)</b>					
Registered nurses available 24 hours / day	E	E	D		
<b>Age-specific Equipment</b>					
Equipment for monitoring and resuscitation	E	E	E		
Intracranial pressure monitoring equipment	E				
Pulse oximetry	E	E	E		
Thermal control equipment:					
Blood and fluids	E	E	E		
Patient	E	E	E		
<b>Intensive Care Unit (if available...)</b>					
Registered nurses with 6 hours trauma education annually	E	E	D		
Designated surgical director or surgical co-director	E	D			
Designated Physician/APC director		E	D		
ICU service in-house 24 hours / day	E	D			
Trauma surgeon remains in charge of the multiple trauma patient in the ICU	E	E	E		
<b>Age-specific Equipment</b>					
Equipment for monitoring and resuscitation	E	E			
Intracranial pressure monitoring equipment	E	D			
Pulmonary artery monitoring equipment	E	E			
Thermal control equipment:					
Blood and fluids	E	E	E		
Patient	E	E	E		
<b>Respiratory Therapy Services</b>					
In-house respiratory therapist	E	E			
Respiratory therapist available in-house or on-call 24 hours / day			D	D	
<b>Radiological Services</b>					
In-house radiology technologist	E	E			
Radiology technologist available in-house or on-call 24 hours / day			E	D	
Radiologists are promptly available for interpretation of radiographs, CT scans, performance of complex imaging studies and interventional procedures.	E	E			

TRAUMA FACILITY CRITERIA	LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility
Radiologists are promptly available for interpretation of radiographic studies			E	E
Radiologist diagnostic information is communicated in a written form in a timely manner.	E	E	E	E
Final radiology reports accurately reflect communications, including changes between preliminary and final interpretations.	E	E	E	E
Angiography	E	D		
Ultrasound	E	E	D	D
Computed Tomography	E	E	E	D
In-house CT technologist	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
Magnetic Resonance Imaging	E	E		
MRI technologist in-house or on-call 24 hours / day	E			
Must routinely monitor on-call radiology, CT and MRI technologist institutionally agreed upon response times and review for reasons for delay and opportunities for improvement.	E	E	E	D
<b>Clinical Laboratory Service</b>				
In-house laboratory technician	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 must be reviewed for reasons for delay and opportunities for improvement.	E	E	E	E
Standard analysis of blood, urine, and other body fluids, including micro-sampling when appropriate	E	E	E	E
Blood typing and cross-matching	E	E	E	D
Coagulation Studies	E	E	E	D
Massive or Rapid Transfusion Policy (clinical and laboratory)	E	E	E	D
The blood bank has an adequate supply of packed red blood cells, fresh frozen 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 fresh frozen plasma to meet the needs of the injured patient.			E	D
Process of care for rapid reversal of anticoagulation	E	E	E	E
Blood gases and pH determinations	E	E	E	D
Microbiology	E	E	E	D
Drug and alcohol screening	E	E	D	D
<b>Rehabilitation Services</b>				
Physical Therapy	E	E	D	D
Occupational Therapy	E	E	D	
Speech Therapy	E	E	D	
Social Services	E	E	D	D

TRAUMA FACILITY CRITERIA		LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility	
<b>PERFORMANCE IMPROVEMENT</b>					
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	
There is a clearly defined performance improvement program for the trauma patient population.	E	E	E	E	
There is a process to identify the trauma patient population for performance improvement review.	E	E	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	
All trauma deaths are reviewed with analysis done to identify opportunities for improvement.	E	E	E	E	
There is a process where clinical care issues are discussed in confidential, protected trauma care peer review with analysis at regular intervals to meet the needs of the trauma program. Trauma Coordinators are to be present at trauma peer review.	E	E	E	E	
There is a process where operational issues are discussed in the multidisciplinary trauma committee for analysis at regular intervals to meet the needs of the trauma program.	E	E	E	E	
The results of issue analysis will define corrective action strategies or plans that are documented.	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	
The results or effectiveness of the corrective action plans/strategies are documented.	E	E	E	E	
Review of prehospital trauma care is included in the trauma performance improvement program.	E	E	E	E	
Programs that admit more than 10% of trauma patients to nonsurgical services 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	D		
Neurotrauma care should be routinely evaluated as to compliance with the Brain Trauma Foundation Guidelines.	E	E			
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	
The trauma program will participate in benchmarking with other facilities of the same designation level to identify how the trauma center performs compared to others.	E	E	E	E	
<b>CONTINUING EDUCATION / OUTREACH</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>	
Nurses	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	E <sup>2</sup>	



TRAUMA FACILITY CRITERIA	LEVELS			
	Regional Trauma Center	Area Trauma Hospital	Community Trauma Hospital	Trauma Receiving Facility
Allied health personnel	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>
The trauma center will participate in a TEAM course every 3 years or when significant change in staff warrants additional training.			D	D
<b>PREVENTION</b>				
The trauma center participates in injury prevention	E	E	E	D
Designated injury prevention coordinator (can be the trauma coordinator for ATH, CTH & TRF) with adequate hours to perform duties	E	D		
Identified injury prevention spokesperson which could be the trauma coordinator or designee		E	E	D
Injury prevention priorities are based on local/state data	E	D	D	D
Collaboration with existing national, regional and state programs	E	D	D	D
Monitor progress / effect of prevention program	E	D	D	D
There is a mechanism to identify trauma patients with alcohol and drug misuse issues	E	E		
The trauma center has the capability to provide intervention or referral for trauma patients identified with alcohol and drug misuse issues	E	E		

- 1 Alternate criteria for board certification are the physician must have completed an approved residency program, be licensed to practice medicine, be approved by the hospital credentialing committee, and have experience caring for trauma patients which must be followed in the performance improvement program.
- 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.