

Montana Trauma System Legislative Report

Title: Montana Trauma System Report – Implementation of 50-6-402 MCA

Abstract: This report describes trauma system strategies that prevent injury and improve outcomes of victims of injury, the leading cause of death for all Montanans between the ages of 1 and 44. The report describes prevention and treatment activities including:

- Development of an inclusive, regionalized system with a role for all healthcare providers and hospitals;
- Continued implementation of rules which authorize designation of trauma centers and provides professional recognition of facilities that meet trauma standards of care; and
- Data collection through a statewide trauma registry that is actively used for performance improvement.

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Montana Trauma System (MCA 50-6-402) Program Report

Background:

Trauma is death or severe injury to the human body caused by mechanical, environmental, thermal or other physical forces. Especially for Montanans between the ages of 1 and 44, trauma continues to be a significant public health issue. It is the fourth leading cause of death for all ages following heart disease, cancer and stroke. Montana leads the nation with a fatal injury rate which is 40% higher than the national average. Montana's death rate from injury accounts for more potential years of life lost than heart disease and cancer combined. Trauma is a disease, not an 'accident', which implies random events outside our control. Like heart disease and other diseases, trauma has identifiable causes, established methods of treatment, and defined methods for prevention.

The Montana trauma system is an inclusive, voluntary system designed to provide an organized, preplanned response for the state's trauma patients by assuring optimal patient care through enhancement of systems, clinical care processes and facility linkages for efficient use of limited health care resources. The overall goal is to facilitate programs for healthcare facilities to enable them to consistently provide the right care in the right place and within the right amount of time. The principles that guide trauma system development and result in enhanced system linkages are also effective in improving care for other time sensitive diseases such as stroke and heart disease. Additionally, the more that these healthcare systems are well-organized and consistently utilized to respond effectively to daily emergencies and individual patients, the better they are able to respond to disasters and multiple patients.

Rural trauma care in Montana is complicated by geographic isolation, time between injury and discovery, distances to health care and the limited availability of local health care resources. Due to the distances between them and their scarcity of resources, all Montana health care facilities must be prepared to provide effective initial care to injured patients while simultaneously expediting the patient's transfer to definitive care. This level of preparation and organization has been proven nationally to reduce the number of preventable deaths and disabilities.

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. Both called for the formation of a State Trauma Care Committee (STCC), which meets on a quarterly basis and serves an advisory role on medical and administrative issues regarding trauma care. Three trauma regions, based upon patient referral patterns, were also formed. The trauma regions are each represented by a Regional Trauma Advisory Committee (RTAC) that meets quarterly to

identify specific regional trauma needs and to collaborate on strategies to address identified needs.

In a retrospective analysis, the Critical Illness and Trauma Foundation of Montana reviewed all traumatic deaths in the state occurring from October 1, 1990 to September 30, 1991. The study revealed an overall preventable trauma death rate of 13%. A subsequent study in 1998 was conducted after the initiation of the state's trauma system implementation. The overall preventable death rate from this follow-up study showed that the preventable death rate had decreased to 8%. This second study demonstrated that efforts to initiate a voluntary state trauma system had a positive effect on the preventable death rate. A third preventable death study of 2008 trauma deaths is currently underway with results expected in early 2013.

Activities completed in FY 2011-2012

The Department's Emergency Medical Services and Trauma Systems Section (EMSTS) continues to strive for further development, implementation and coordination of the trauma system. The trauma system development program was funded with \$315,000 of general funds in the last biennium. Primary activities included:

Trauma Center Facility Designation

All 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. Designation of trauma centers provides a nationally-recognized method for professional evaluation and recognition of standardized facility trauma programs incorporating all phases of patient 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 and tremendous progress has been made in designating Montana Trauma facilities. In only five years, forty of sixty-two (64%) Montana facilities have been designated in one of the four facility-level categories, including thirty-one Critical Access Hospitals and one clinic. This is a remarkable achievement for a voluntary statewide trauma designation system.

An additional four to six new facilities are anticipated to apply for trauma designation this next fiscal year and ten facilities will be due for re-designation reviews.

Funding for Local Trauma Projects

- Funding is provided to each of the three RTACs which they then use to support projects specific to their region including education programs and educational scholarships, planning, injury prevention and performance improvement activities.

Trauma Registry Data Collection and Performance Improvement

- A trauma registry software program has been purchased and implemented in nine of the larger hospitals in the state whose trauma patient volumes are large enough to support use of data collection software. Hospitals utilize the software internally to analyze and trend data, identify patient care and process issues and to conduct

data-based performance improvement activities. These hospitals submit trauma patient data quarterly to the State Trauma Registry. A total of 3515 cases were submitted to the State Trauma Registry in 2011 with 2470 of those cases being submitted utilizing this software.

- Additional data collection has been expanded from twelve smaller facilities in 2006 to forty-one facilities in 2012. These smaller facilities with fewer major trauma cases submit data using a paper abstraction tool. Their submitted case information is then entered into the State Trauma Registry by EMSTS staff (1045 patient cases in 2011). Staff then trend this data, identify issues and provide performance-based individual feedback regarding local care processes. Issues are trended among the trauma regions and state-wide with performance improvement activities implemented to address issues.
- Utilizing the information obtained through the State Trauma Registry, an active, data-driven performance improvement process has been implemented for healthcare facilities, trauma regions and the state. Data-driven trauma system performance indicators are identified, trended, tracked and reported to the State Trauma Care Committee and the three Regional Trauma Advisory Committees. Strategies to improve current performance indicators are implemented throughout the system. Evaluation of data-driven issues provides sources for initiating new performance indicators and improvement strategies when identified.

Trauma Education for Montana Health Care Professionals

- The Rocky Mountain Rural Trauma Symposium is held annually - the 25th anniversary conference is being held in Bozeman in 2012. This conference provides trauma patient care education to over 250 medical providers annually. Additional meetings and education are conducted at the same time including the Montana Trauma System pre-conference which provides targeted trauma system education for the facility trauma registrars, trauma coordinators, and trauma medical directors. Meetings for groups such as the Montana Chapter of the American College of Surgeons Committee on Trauma are also conducted within this same time period. The location, planning and hosting of these conferences is rotated annually through each of the three trauma regions and corresponding Regional Trauma Advisory Committees.
- Four Advanced Trauma Life Support courses for physician and physician-extenders have been conducted annually to provide trauma education to 190 providers and an additional 78 EMTs and nurses who provided course support as staff in 2011 and 2012. The location of these courses is also being rotated among the three trauma regions. The American College of Surgeons anticipates providing a new course format with its 2013 release of a revised ATLS course. Tailored to improve access for rural medical providers, the new course will accommodate an “on-line” computerized course component that allows providers to take didactic education locally. The ‘hands-on’ portion of the course will still be located in regional locations, but with less time and travel commitment to students and staff.

- TEAM - “*Together Everyone Achieves More*” – a trauma education course previously developed by the Eastern Region Trauma Advisory Committee was updated. This course provides education for all members of a local rural trauma team - law enforcement, dispatch, fire, EMS, nursing and other medical providers - on processes for developing their local trauma system to provide optimal care to injured patients. The course, coordinated through each of the three trauma regions, is provided at no cost to rural facilities and has been conducted for many rural Montana communities. The American College of Surgeons *Rural Trauma Team Development* course, which is provided nationally to improve delivery of trauma care education to rural locations, emulates components of the original Montana TEAM course.
- Education support has been provided for pre-hospital providers with basic and advanced *Pre-hospital Trauma Life Support* and *Assessment and Treatment of Trauma* courses in each trauma region. Funding was utilized to provide instructor-trainer courses by supporting costs for textbooks, instructor materials and training supplies.
- Staff and medical provider turnover is problematic, especially in small rural facilities. Access to basic Trauma Coordinator education is essential in order for programs to develop, succeed and become sustainable. A modular, self-study Trauma Coordinator Course has been developed and posted on the EMS and Trauma Systems Section website. The roles and responsibilities for trauma coordinators charged with organizing, integrating and managing a facility-based trauma program are many and varied. The development of this web-based orientation course improves access to education for trauma coordinators, experienced and new.
- Funding has been utilized to support travel for the State Trauma Care Committee members to attend quarterly and committee meetings and for local trauma coordinators to attend RTAC meetings, trauma registry training and other educational opportunities. Telemedicine and WebEx formats are also utilized for these meetings to increase access for attendance, decrease costs and decrease risks associated with travel.
- Patient care guidelines have been developed and implemented for regional and state-wide utilization. The *Montana Field Trauma Decision Scheme/Trauma Team Activation Criteria*, based on the 2006 and 2011 *CDC Field Triage of Injured Patients* guidelines, have been developed by a multidisciplinary workgroup. The *Montana Air Activation Criteria for Consideration of Air Medical Transport* have been developed by the Air Medical workgroup.

Trauma Program Staffing

- Jennie Nemecek, RN, the Trauma System Manager, Carol Kussman, RN, contract Trauma Coordinator, and Kim Todd, RN, contract Trauma Designation Coordinator provide oversight, assistance and ongoing support for the local, regional and statewide trauma system development activities including:
 - Participating in quarterly meetings of each of the three RTACs and the STCC;

- Oversight and coordination of all trauma facility designation processes including site reviews, procedural components and communications;
- Providing support to trauma coordinators, trauma registrars and medical directors in each local medical facility to assist them in developing their own local trauma programs and in preparation for trauma facility designation;
- Primary coordination in conducting various trauma system educational programs and facility consultations in local medical facilities;
- Coordination of trauma-related data collection, analysis and performance improvement activities locally, regionally and state-wide;
- Collaboration in activities for disaster/emergency preparedness and medical response to disaster;
- Participation in collaborative activities for medical and trauma care for special populations, patients suffering from time-sensitive diseases and population-specific issues;
- Provision of technical support to Montana healthcare facilities for evaluation, development and implementation of effective trauma care processes and clinical strategies.

Trauma System Programmatic Planning

The trauma program will continue efforts into the next biennium to enhance and improve of the State's trauma system through:

- Conducting a third Montana Preventable Mortality study of 2008 trauma deaths in order to evaluate the preventable death rate and occurrence of opportunities for improvement in trauma care in Montana after twenty years of continued efforts to develop and implement a voluntary, inclusive trauma system.

Study objectives include;

- Evaluate effectiveness of the provision of trauma care to injured patients inclusive of pre-hospital through hospital phases of care.
 - Identify EMS/trauma care system issues that provide a basis for continued development and implementation of regional and statewide data-driven, performance improvement strategies.
- Continue trauma facility designation with a goal of recognizing all Montana hospitals and medical facilities that treat trauma patients as designated Montana trauma facilities. Through their efforts at identifying, organizing and enhancing their resources and processes, facilities can provide optimal, timely trauma care within their level of resources and capabilities.
 - Continue to expand the trauma registry with a goal of participation by all of the state's medical facilities. A web-based version of the trauma registry software will be provided to smaller facilities that will benefit from improved data entry efficiency and access to data reporting functions.
 - Provide continued support for educational opportunities to pre-hospital and hospital personnel, trauma coordinators, trauma registrars and trauma medical directors.

- Develop regional and state performance improvement plans and implement performance improvement activities at STCC and RTAC meetings.
- Explore development of a central medical dispatch system, which can facilitate more efficient and appropriate interfacility patient transfers.