Montana EMS and Trauma Systems Section

Chronic Disease Prevention & Health Promotion Bureau
Department of Public Health & Human Services
http://dphhs.mt.gov/publichealth/emsts

2016 Activities Report

50-6-101. Legislative purpose

The public welfare requires the providing of assistance and encouragement for the development of a comprehensive emergency medical services program for Montanans who each year are dying and suffering permanent disabilities needlessly because of inadequate emergency medical services. The repeated loss of persons who die unnecessarily because necessary life-support personnel and equipment are not available to victims of accidents and sudden illness is a tragedy that can and must be eliminated. The development of an emergency medical services program is in the interest of the social well-being and health and safety of the state and all its people.

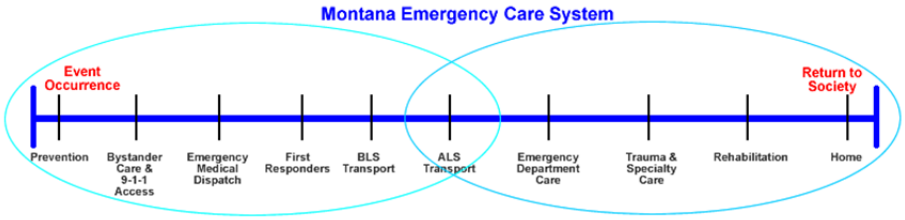
Public Health and Safety Division Strategic Plan

Goal 5.1 – Provide leadership to strengthen the public health and health care system.

Strategy 5.1.3 – Assure the availability of emergency medical and trauma care services, particularly in rural and frontier areas.

EMSTS Mission:

It is our mission to reduce death and disability by providing leadership and coordination to the emergency care community in assessing, planning and developing a comprehensive, evidence-based emergency care system.



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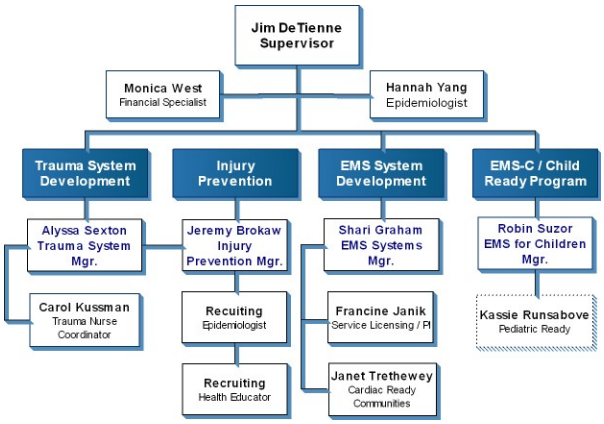
Summary

We are pleased to present this 2016 report on EMS and Trauma Systems key activities. EMSTS has broad responsibilities for emergency care system development. All of our programs intersect with each other on a routine basis, but the stakeholders for each program are not all the same and many people may not know the depth and breadth of our work. As such, this report is meant to tell our story – what we're been working on in the last year and, to a certain extent, some of our priorities for 2017. Please visit our website at: http://dphhs.mt.gov/publichealth/emsts for additional information on these and other programs and strategies.

Much of the work of EMSTS is building a system of systems – hence we describe the focal point of these systems as the Emergency Care System. While separate systems, they are not in any way silos within themselves and EMSTS staff regularly collaborate with each other and with other programs. EMS and Trauma systems are very much linked with each other and the pediatric and injury prevention programs cross all sectors.

We've received additional short-term grant funding to launch new efforts in cardiac and pediatric system development. The EMS and Trauma Systems have aggressively sought focused grants to provide education and technical assistance in their programs. The injury prevention program recently received a CDC grant to develop strategies to find solutions to a growing opioid and drug abuse crisis in Montana. Development of current data systems and implementation of new ones will enable us to do a better job of measuring and improving what we do. We also received new funding this past year to plan for implementation of a statewide mobile simulation program. Due to roll out in spring of 2017, this is one of the most challenging, but exciting, projects we've taken on.

None of this can be accomplished without a qualified and engaged staff and EMSTS has some of the best.



Retirement of one of our staff enabled us to reevaluate some of our work and to repurpose that position into an epidemiologist FTE. We have a lot of data and we need to do a better job putting that information to work.

With much success in 2016, we also continue to have challenges in implementing emergency care systems. At the top of the list are workforce challenges, particularly our fragile emergency medical services and their reliance on a volunteer workforce. We are always appreciative of our emergency care, trauma and pediatric advisory committees that help immeasurably over the year to recommend strategies and solutions to improving each of the systems in the emergency care. We thank you all for what you do for Montana medical care.

Jim DeTienne

Section Supervisor, EMS & Trauma Systems

Program Overviews

EMS Systems

Emergency Care Council – The Emergency Care Council is a multidisciplinary, advisory group of stakeholders brought together to help the EMS and Trauma Systems Section undertake a number of activities to improve Montana's emergency care system and achieve its mission to reduce death and disability by providing leadership and coordination to the emergency care community in assessing, planning, developing and promoting comprehensive, evidence-based emergency medical and trauma services.

The primary role of the council is to help develop a strategic plan which outlines and prioritizes activities which will make measurable improvements in Montana's emergency care system over the next years. There were six new appointments to the council this year. While the council has discussed a wide variety of system issues in the past, this council decided to focus efforts on workforce development. Three areas were identified as key to the future sustainability of Montana's prehospital EMS system:

- **Education** – Focus on ways to bring quality education to rural EMS providers as well as develop a mentorship program to enable valuable knowledge to be passed on to new EMS providers.
- **Medical Oversight** is an integral part of a successful EMS system. Potential strategies being considered include methods to engage and mentor rural directors more; explore improvements in medical director education and technical assistance; and assistance with utilizing a new EMS database due to come online in 2017 for conducting performance improvement.
- **Public Education** – Assist EMS in doing a better job of informing the general public about what EMS in their communities looks like and what challenges they may be having. Education opportunities may range from appropriate use of 9-1-1, the volunteer nature of EMS services and general support of needed improvements and changes in the system.

Prehospital Trauma Life Support Education (PHTLS) – Trauma care for EMS services is an intense and stressful event. Yet, in an informal study a few years ago, it was found that availability of quality trauma education was inconsistent across the state. Through a cooperative grant from MDT Highway Traffic Safety, EMSTS has been able to fund the costs of instructors and materials to deliver Prehospital Trauma Life Support courses to EMS providers throughout the state

During the 2016 grant cycle courses were held in Helena, Big Sky, Glendive, Culbertson, Emigrant, Missoula, Seeley Lake, Townsend, and Smith Valley (Kalispell). The first course for the 2017 grant cycle was held in Glasgow. According to course evaluations, 96% of students indicated that they felt the application of their practical skills have improved as a result of this education.

Criteria Based Dispatch - Emergency Medical Dispatch (CBD-EMD) - Our 9-1-1 dispatchers are the first "first responder" to encounter a given incident. It is vitally important that these call takers are educated in how to gain the most pertinent information in a short amount of time, send help, and assist the caller with medical instructions until EMS arrives. 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 and materials for this program.

In 2016, the CBD-EMD course was provided in Jefferson, Butte-Silver Bow, Beaverhead, Carbon and Meagher counties as well as West Yellowstone. Currently, 14 PSAPS are using CBD-EMD, and 12 are using another similar program. CBD-EMD is now in 51% of dispatch centers, up from 37% in 2013.

As of December, 2016, the Montana Public Safety Officer Standards & Training Council (POST) approved the CBD-EMD program for inclusion in the required training of Montana Public Safety Communications Officers. The CBD-EMD course will now be part of the Public Safety Communications Officer's training at the Montana Law Enforcement Academy in 2017.

EMS Service Manager's Workshop – In addition to many EMS services being volunteer, most of the managers of these services are also volunteer. Fifty-four (54) people attended an EMS service manager's workshop that was held in Helena as a preconference to the Rocky Mountain Rural Trauma Symposium this year. Success of this event has prompted planning for similar sessions at least annually. Topics covered included:

- Volunteer Recruitment and Retention
- Public Relations – "How to tell our story."
- HIPAA Policy and Security Updates
- Ambulance Compliance (CMS)
- Ambulance Inspection Process
- Leadership of Volunteers and an Aging Workforce
- What's New in Montana EMS

Epinephrine (EPI) Check and Inject Project - EMSTS continues to make available EPI Check and Inject kits at no cost to EMS agencies throughout the state. This program helps to alleviate some of the financial burden realized due to the huge increase in the cost of EPI Pens. EMTs are now allowed by protocol to draw up and administer EPI to patients displaying signs and symptoms of anaphylaxis. The kit contains all supplies - the service just needs to add the epinephrine. The kit also has a card that displays the protocol, visual cues for proper dosing and a QI card to complete and return to their agency medical director for case review. Each agency that orders the kit also receives a thumb drive with a review of anaphylaxis care and a video that reviews IM injection procedures. Eighty-four (84) kits were distributed in 2016 for a savings of approximately $24,000 to EMS agencies throughout the state.

Community Health EMS / Community Paramedicine – Community Health EMS is an emerging field in health care in which EMTs and Paramedics operate in expanded roles to fill gaps in care in a community. Health care is changing and EMS needs to position itself to be an integral part of this transformation. In addition to continued provision of traditional EMS services, a transformed EMS may provide community-based health services including:

- preventive medical assessment and care
- chronic disease assessment and management support
- post-discharge, follow-up assessment and management support
- transportation or referral to other community health and social service resources

There may be several ways to fill these gaps – public health and home health are good examples of programs that try to meet needs now. However, in a rural state like Montana, there are shortages in most resources and EMS may be in a position to be integrated with the rest of healthcare to help

fill these gaps. In many communities, there likely is a role for EMS to improve their community's and patient's health without crossing over into roles of these other programs and health care providers. In any community, there are patients that fall through the cracks of other programs and EMS could be a solution.

Community health EMS may provide a path for many EMTs interested in community health and looking for a role that's less demanding and doesn't take them away from family and other interests. CHEMS may also present new funding models that can allow emergency care providers to be paid for what they do and for EMS services to become more viable.

There are several challenges to implementing CHEMS including increased education, medical oversight, integration with other health care providers and funding. Whether or not current EMT and EMS services statutes allow for EMS providing non-emergency and primary care have been brought into question and updated legislation will be introduced in the 2017 session.

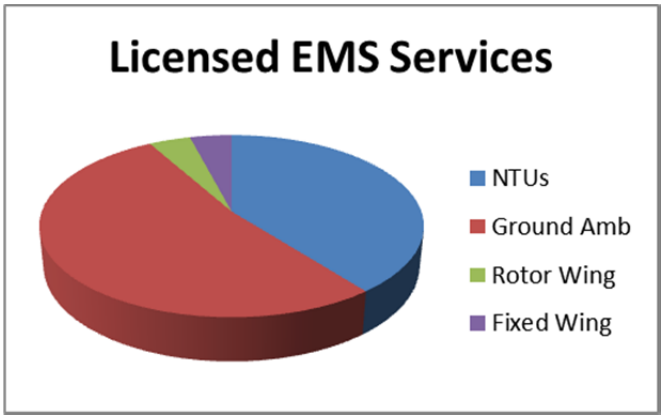
In the first quarter of 2017, a statewide gap analysis of the potential need for CHEMS will be conducted and a May statewide conference is being planned for. This meeting will bring together EMS, hospitals, regulators, payers and others to help develop a plan for the development and implementation of CHEMS for Montana.

EMS Service Licensing

50-6-301 MCA The legislature finds and declares that:
(1) the public welfare requires the establishment of minimum uniform standards for the operation of emergency medical services;
(2) the control, inspection, and regulation of persons providing emergency medical services is necessary to prevent or eliminate improper care that may endanger the health of the public; and
(3) the regulation of emergency medical care services is in the interest of the social well-being and the health and safety of the state and all its people.

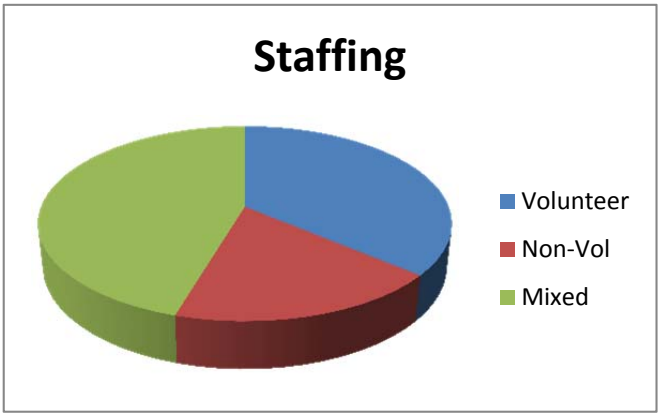
For protection of the public's health and safety, EMSTS is required to develop rules for the licensure and operation of EMS services and to inspect these services for compliance. Of the 270 licensed non-transporting, ground and air medical EMS agencies, 175 were subject to site visits in 2016.

In addition to inspections, this program began to make changes this year that we've wanted to implement for some time. In addition to the service manager workshop mentioned above, the inspection process includes an opportunity for more technical assistance than we've provided previously. For example, services had an opportunity to learn about OSHA, CMS, HIPAA and other compliance issues. This increased the time needed for some of these visits, but it was a good return on investment for the services and our program.



Licensed EMS Services

- 106 Non-transporting services
- 142 Ground ambulance services
- 11 Fixed-wing ambulance services
- 11 Rotor-wing ambulance services

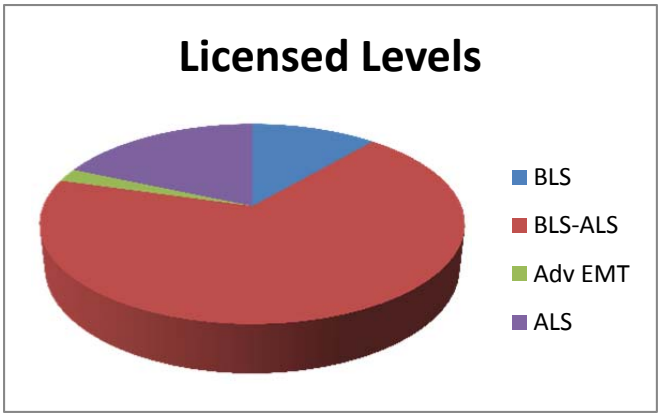


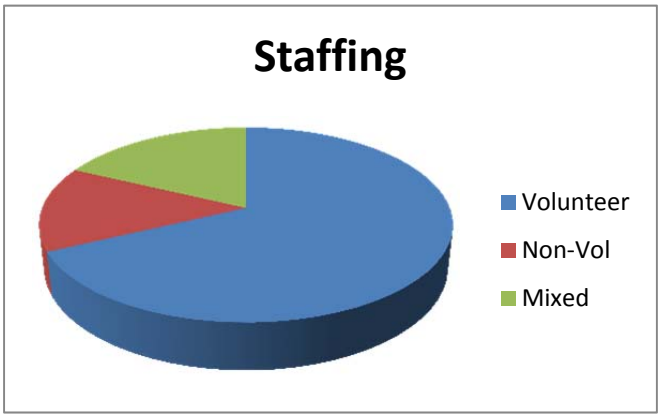
Of the 141 ambulance services:

- 51 are volunteer
- 26 are non-volunteer
- 64 have mixed paid-volunteer staffing (many are smaller services with a paid manager or a few full time staff to supplement the volunteer providers).

Ambulance Service Levels:

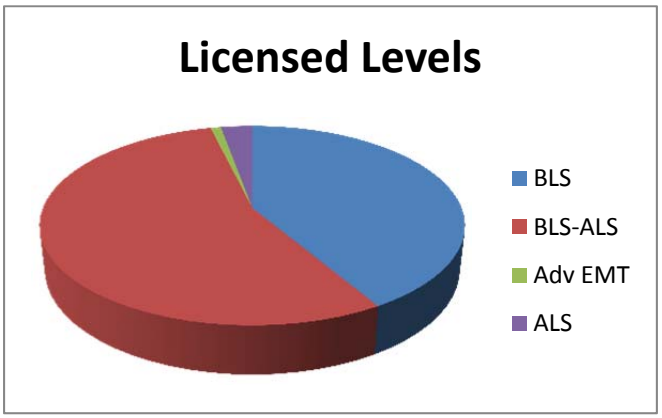
- 16 are BLS
- 96 are BLS w/auth to provide ALS
- 3 are Advanced EMT
- 26 are Advanced Life Support.





Of the 106 NTUs:

- 72 are volunteer services,
- 15 are non-volunteer (mine rescue teams, airport units, some fire departments)
- 19 have mixed volunteer/paid staffing



NTU Licensed Levels

- 44 are Basic Life Support
- 58 are BLS w/Auth to provide ALS
- 1 is Advanced EMT Level
- 3 are Advanced Life Support

EMS Data Systems

EMS DATA Collection - EMS services cannot bill appropriately if they do not complete good patient care records. More and more grants require data to justify a request for funding. EMS services need to justify what they do to their constituents and city councils or county governments to realize support for their programs. EMSTS needs to justify the strategies and programs it funds. If we're going to continue to solicit support for the system broadly and for EMS services specifically, we need data to tell the story.

The Health Information and Resource Management System (HIRMS) has been our main platform for collecting information about EMS services and what they do for over 10 years. It is old technology and has become ever more problematic for EMS services to use and for us to support. Fortunately, with significant funding support from one of our Helmsley grants and additional funding from the Highway Traffic Safety Traffic Records committee, we were able to issue an RFP soliciting a contract for a new data system.

We secured a contract with ImageTrend that enables us to update our EMS service licensing processes, for EMS services to complete electronic care records and for robust reporting capabilities on any of the data collected.. We anticipate rollout to begin February 2017. EMS services will be recipients of:

- A user-friendly ePCR software at no cost to services that wish to use the State system,
- A seamless system to be able to collect information in real time on tablets and transfer that data to the server when internet is available,
- Data that is hosted and stored securely on the vendor's servers with very little downtime,
- Reports, reports, reports

Our implementation plan includes numerous training and technical assistance strategies including the use of master trainers around the state for initial and ongoing training on the system as well as ongoing training at conferences, face-to-face or WebEx.

Cardiac Arrest Registry for Enhanced Survival (CARES) - EMSTS began participation in CARES in 2016. The registry, which was initiated by the CDC and Emory University in 2004, is a tool to increase out-of-hospital cardiac arrest survival (OHCA) rates through system improvement. CARES provides a seamless web based platform for tracking OHCA from bystander CPR through hospital discharge. CARES provides EMS services with not only data to assess the entire cardiac event, but also outcomes so that performance improvement can be performed.

Montana CARES data has been collected by Billings and Bozeman AMR for some time. In 2016, Big Horn County Ambulance, Big Sky Fire Ambulance, Columbus Rural Fire District #3, Great Falls Emergency Services, Hebgen Basin Fire/Ambulance, Missoula Emergency Services, Polson Ambulance Service, Ronan Ambulance Service, St. Peters Ambulance Service, Three Forks Ambulance and Three Rivers Ambulance began submitting CARES data. Our goal for 2017 is to have all major population centers providing CARES data. CARES will aid each EMS agency, as well as EMSTS, to focus on areas of weakness in the sudden cardiac arrest chain of survival.

Trauma Systems

Montana's statewide trauma system seeks to make the delivery of trauma care cost effective, reduce the incidence of inappropriate or inadequate trauma care, prevent unnecessary suffering and reduce the personal and societal burden resulting from trauma. The goals and objectives of a trauma care system include:

- Providing optimal care for the trauma victim;
- Preventing unnecessary death and disability from trauma and emergency illness; and
- Conducting trauma prevention activities to decrease the incidence of trauma.

STCC and RTACs - Administratively, Montana's trauma system is divided into a State Trauma Care Committee (STCC) and three regions (Western RTAC, Central RTAC and Eastern RTAC) each with a regional council.

Regional Trauma Advisory Committees each meet quarterly. Trauma staffs attend each of the 12 meetings to provide State trauma reports. Other staff attend as well to provide reports and answer questions about our EMS, pediatric and other programs. A key activity added this last year incorporates trauma staff querying the State Trauma Registry to pull individual patient cases that meet specified performance improvement indicators selected by each region. These cases are then discussed as a dynamic performance improvement strategy.

Fifteen persons appointed by the Governor also meet quarterly as the State Trauma Care Committee. Statewide reports as well as state level registry reports are presented at each meeting by trauma staff. Also coming together before each STCC meeting is the Designation/PI subcommittee to discuss trauma facility designation activities and recommendations and the Education subcommittee which plans a variety of trauma education projects.

This year, the STCC and RTACs assisted EMSTS on a rules amendments and adoption of various rules related to trauma care councils and the trauma registry.

Health in the 406 - As part of the Department's *Health in the 406* activity to provide public health information on a variety of public health issues, our Trauma and Injury Prevention programs collaborated on two reports - Focus on Falls in January and Motor Vehicle Crashes in June. http://dphhs.mt.gov/HealthInThe406/HealthInThe406Archive//injuryprevention

Air Medical Committee - Through the trauma program, EMSTS staff facilitates meetings of air medical providers around the state. While these services may be competitors outside of the room, these meetings (typically the day before STCC meetings) are about how to collaborate on medical and safety issues. Work was begun this year on updated air medical licensing rules. Pursuant to release of Air Medical Model Rules by the National Association of EMS Officials last fall, this group will continue to advise us on rules revisions slated for spring 2017.

Trauma Facility Designations continue to be a key activity of the EMSTS trauma program. Designation verifies a significant hospital commitment to the trauma care they provide and the

continual performance improvement to improve patient care over time. State staff, consultants and surgeons perform designation visits for 4 levels of trauma designation:

- Regional Trauma Centers (RTC) - Provides advanced trauma care for a region
- Area Trauma Hospital (ATH) - Provides care to most trauma patients within their service area
- Community Trauma Facility (CTF) - Provides limited emergency and surgical coverage
- Trauma Receiving Facility (TRF) - Provides limited emergency care with no surgical coverage

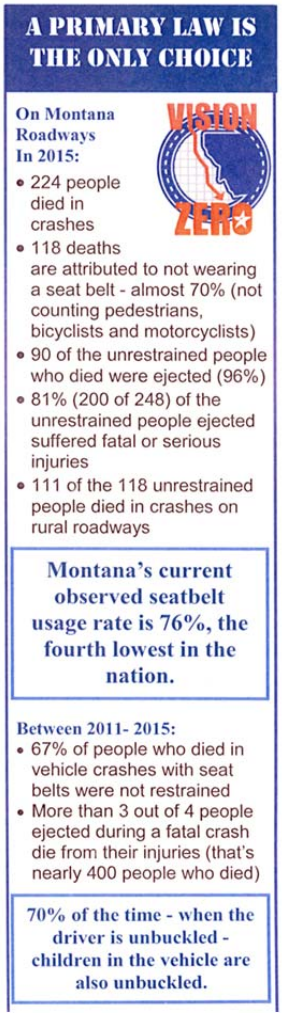
Currently 44 of 65 hospitals are designated (two new acute care hospitals were added to the list this year (Great Falls Clinic and Big Sky Hospital).

No new facilities were designated this year. Eight full designation visits were held (Lewistown, Superior, Colstrip, Missoula, Billings, Great Falls, Chester, and Harlowton). Seven on-site Focus Reviews were performed (Dillon, Missoula/Community, Whitefish, Helena, White Sulphur Springs, Shelby, Havre). Documentation Focus Reviews were held in two facilities: Sheridan and Terry.

In addition to EMSTS trauma staff, three in-state and one out-of-state surgeon perform designation visits. As our capacity to perform these visits is being stretched thin, we began orienting four new nurse consultants this year to serve as designation staff.

MDT / Highway Traffic Safety Collaboration – There has always been synergy among our trauma program and traffic safety programs at the Montana Department of Transportation and their Highway Traffic Safety Program. This includes collaboration with the MDT advisory committee, occupant protection and other meetings. Numerous EMSTS and DPHHS staffs attend the annual Comprehensive Highway Traffic Safety Plan meeting. The primary safety belt fact sheet at the right is but one example of collaboration to promote an important public health issue. Other examples of collaboration and funding include:

- Together Everyone Achieves More (TEAM) courses - Funding for the three RTACS to provide six TEAM courses. This Montana-developed course helps a hospital to assess their preparedness as a trauma facility and their role in the trauma system.
- "Trauma Systems Save Lives" Media Campaign – Utilizing Federal Highways funding administered through Highway Traffic Safety, a media company has been engaged to develop this trauma system public awareness campaign. Video shoots were done at two locations in November: one rural (Hardin) and one urban (Billings). These materials will be used to produce two 30-second TV spots, radio spots, billboard, print and still photos for a 2017 campaign.



Trauma/Performance Improvement Network (PIN) – A new activity this year, funded with HRSA/Rural Flex grant funds was a Trauma Reimbursement Project. This project piloted methods to assist rural trauma facilities with optimizing their Trauma Team Activation fee thereby helping to fund their trauma program. We worked with three facilities from the Central Trauma Region and final outcomes were presented at the Trauma Systems meeting in September. Funding to expand the successes of this program to additional facilities in 2017 is planned.

Online Trauma Medical Director Course – Also a new activity funded with HRSA/Rural Flex funding this year, a retired trauma coordinator was contracted to develop a trauma facility medical director course to meet the continued need to orient new directors. This online tool was just posted on our website this December and will be another tool to help orient trauma physicians to their responsibilities and roles.

Rocky Mountain Rural Trauma Symposium (RMRTS) - Each year EMSTS trauma staff coordinates the planning for the annual RMRTS which rotates to a different region each year. This two-day conference has become one of Montana's premier education offerings. The symposium, held in Helena this last September, had nearly 300 attendees.

Montana Trauma Systems Conference (MTS) – Held the day before RMRTS, this one-day conference specifically for hospital trauma staff (trauma registrars, trauma coordinators, trauma medical directors) represents a year's planning to assure that system issues and performance improvement subjects are covered.

Advanced Trauma Life Support (ATLS) – This American College of Surgeons foundational course on the care of trauma patients continues to be one of the most important education opportunities we provide. This year, 98 providers participated in our five ATLS courses. Seventy-one percent (71%) of students received recertification and 18% were providers who have never had the course before.

Trauma Data System

A critical element of a trauma system is the collection of data to support evaluation of the system and ongoing performance improvement at the local, regional and state levels. EMSTS maintains a central trauma registry that is a repository of data collected at the local level by software provided to them for that purpose. The version provided to larger facilities enables data collection and advanced reporting and PI on their local data servers. Until recently smaller facilities extracted their data to paper which was sent to the State for data entry. EMSTS has now invested in a web-based system that enables smaller hospitals to enter their data electronically.

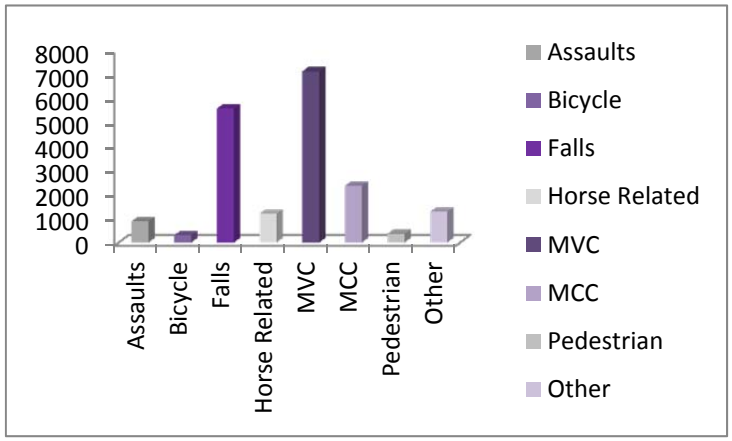
Trauma Registry Support – While implementing an evidence-based trauma system cannot be accomplished without data, collecting data is a significant investment in time and resources at all levels. As such, EMSTS commits considerable resources to assure data collected is accurate, complete and timely. In addition to deployment of the new web-based system, upgrades to new versions of coding and data functionality have occurred this year. Training, statewide and locally, has been a high priority. As trauma registrar/coordinator vacancies have been filled, we aggressively provide local and web-based training.

Clean and accurate data is of no use if it isn't being used. Examples of strategies supported by EMSTS include:

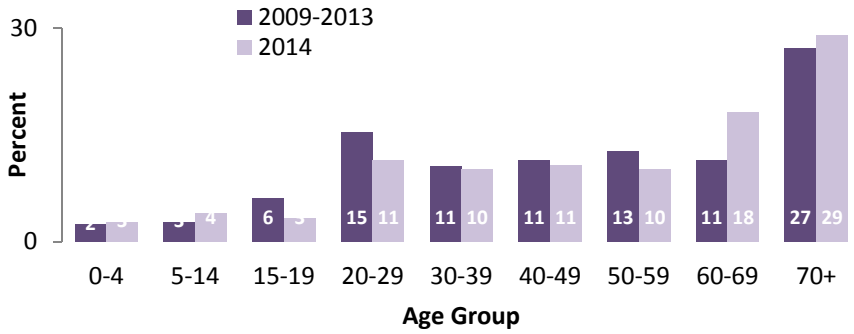
- Our State trauma nurse coordinator assists hospitals with education and technical assistance on how to query the trauma registry for statistical and performance improvement.
- Smaller facilities are provided reviews quarterly of the trauma cases they have entered and points out opportunities for case reviews and performance improvement
- A statewide WebEx is conducted annually to address trauma system issues, performance improvement, registry and data issues and clinical care issues.

Montana Trauma Registry Data Report: 2009-2014 - This report summarizes over 21,000 records submitted during this period. Analysis of the data allows EMSTS, the STCC and RTACS to understand patterns in injury and helps plan system improvement and prevention activities. A sampling of the report includes:

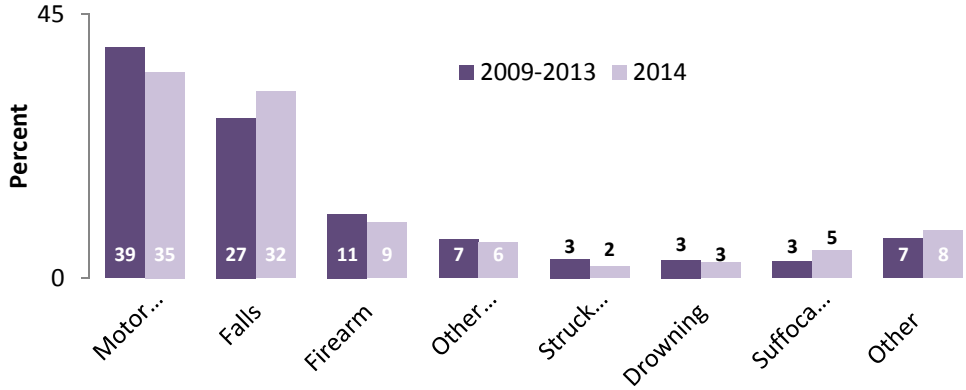
Top Seven Causes of Blunt Trauma



Percent of Trauma Deaths by Age Group

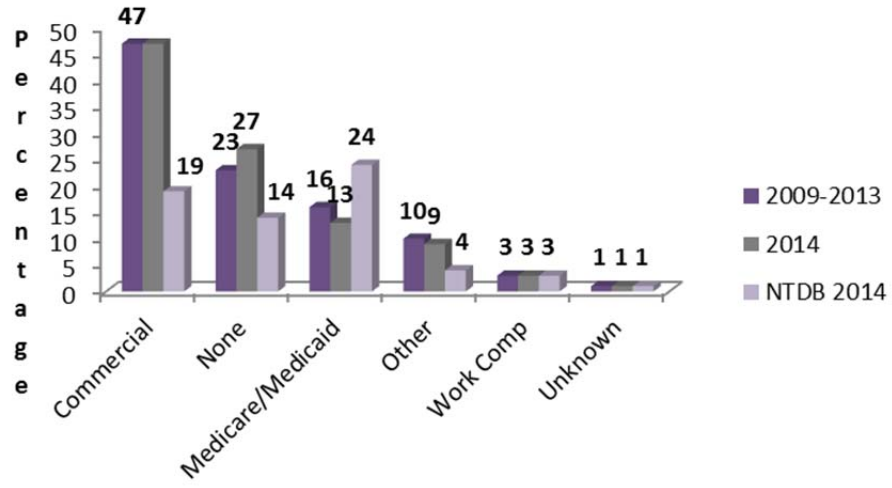


Percent of Trauma Deaths by Mechanism



Payors (NTDB represents national trauma database)

FIGURE 15.



Injury Prevention

Montana leads the nation with one of the highest rates of injury death - injury is the leading cause of death for Montanans age 1-44. On average each year, approximately 850 Montanans die from an injury. 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.

Motor vehicle crashes represent the number one cause of unintentional injury, the leading cause of death for Montanans age 1 to 44. From 2006-2015 there were 2,244 motor vehicle occupants killed in crashes; 66% were unrestrained at the time of the crash. These preventable injuries not only result in life-long disability, they also cost Montanan's over $34 million in medical costs for emergency department visits and hospitalizations each year (Montana Hospital Discharge Data 2012-2014). EMSTS continues to be a strong partner with MDT Highway Traffic Safety and others with initiatives to increase use of seat belts and child safety seats, promote teen driver safety, decrease distracted driving and impaired driving and other prevention strategies.

Poison Prevention - Poisons can occur by being ingested, absorbed through the skin or eyes, or inhaled through the nose and mouth. Recognizing when a poisoning has occurred and getting help right away, as well as learning how to prevent poisonings for both children and adults are vital to staying safe from poisons.

POISON Help™ 1-800-222-1222

Funded through EMS Block Grant and General Funds, EMSTS contracts with the Rocky Mountain Poison Control Center in Denver for an 800-number that anyone can call for assistance with a suspected or actual poisoning. Over 12,000 times annually, Montana citizens call this number to get help with whether a substance is a poison, how toxic it may be and immediate measures to take while the poison center calls EMS if necessary.

Approximately half of all calls made to the Poison Center are informational: the caller is seeking information about a medication, to learn about environmental or medical effects of a poison or pesticide, or to receive poison control stickers and pamphlets or other public education materials. Nearly 16,000 poison control stickers, pamphlets and other materials were distributed in 2016.

Fifty-eight percent (58%) of all poison exposures reported to the Poison Center occur in children under the age of 6 years old. Three-fourths of all exposures are handled over the phone. An estimated $4 million in healthcare costs are saved annually by the Poison Center managing poison exposures on site instead of in the emergency department.

> *"My one-year old son was playing with a glow stick that opened and got liquid into his eyes and mouth. He was crying and my wife was worried he was poisoned by the liquid. She needed me to leave work to drive him and her to the emergency room in Billings, which is a 45 minute trip from our house. Instead, we called the*

Poison Center and the nurse reassured us that we could irrigate his eyes and the worst he would get from ingesting the liquid was a belly ache. We didn't need to go to the emergency room and I didn't miss work. The Poison Center helped me and I'm glad it was there." - Steven

Fall Prevention - Falling is not an inevitable part of growing older, but rather can be prevented by making a few simple changes to everyday life. Unfortunately, falls is a leading cause of injury and death for Montanans age 65 and older. Hip fractures and brain injury are all too common injuries frequently associated with loss of independence following a fall. The good news is that most falls can be prevented.

The EMSTS Injury prevention program primarily facilitates Stepping On, an evidence-based fall prevention program that reduces falls among participants. The Stepping On course is a seven week program designed to help older adults reduce their risk for falls. Participants attend a weekly two-hour session that includes interactive discussions and story-telling to promote adult learning.

In 2016, the program:

- Organized "Stepping On" leader training in Billings and trained 15 new leaders.
- Awarded 17 "Stepping On" mini grants to sites to run community fall prevention classes.

Opioid Grant – While traffic crashes, falls and poisoning have been the program's top three issues for some time, we added a new initiative this year. Drug overdose deaths are on the rise nationally and in Montana, they accounted for 1,334 deaths between 2003 and 2014. Montana's drug overdose death rate of 12.6 in 2013-2014 was just slightly below the national rate of 14.3 deaths per 100,000. Montana deaths from opioids were 5.4 in 2013-2014, just below the national rate of 5.5 deaths per 100,000.

In August, the program was successful in receiving a CDC Prescription Drug Overdose: Data-Driven Prevention Initiative (DDPI) grant. This funding, $300,000/year for three years, will support strategies to measure Montana's problem and develop a strategic plan to support implementation of data-driven initiatives. EMSTS has convened an overall advisory group of partners interested or already working on this problem as well as focus groups to develop Montana solutions for Montana issues.

EMS for Children – Pediatric Ready

The goal of the Emergency Medical Services for Children (EMS-C.) program is to reduce child and youth mortality and morbidity caused by severe illness or trauma. EMS for Children aims to ensure that

- State of the art emergency medical care is available for the ill and injured child or adolescent,
- Pediatric service is well integrated into an EMS system backed by optimal resources, and
- The entire spectrum of emergency care, including primary prevention of illness and injury, acute care, and rehabilitation, is provided to children and adolescents as well as adults, no matter where they live, attend school or travel.

While the program has been traditionally funded each year through a federal Maternal Child Health grant, Montana has also been the recipient of a demonstration State Regionalization of Pediatric Care (SPROC) grant over the last few years. This has provided the state which additional opportunities and resources to make improvements in pediatric care.

Pediatric Readiness Assessment - At the onset of the SPROC grant, 52 hospitals had responded to a Pediatric Readiness Assessment which measured hospital pediatric readiness in meeting essential guidelines and having resources in place to provide effective emergency care to children. Montana's overall average score was 58 / 100 compared with a national average of 69. An EMS-C/Child Ready Advisory Committee was convened to review this and other data to provide recommendations on activities and strategies to improve Montana's system.

Education for hospital and EMS personnel rose to the top of the list. Numerous activities have been implemented in 2016 including:

- The grant funded 161 nurses taking part in 19 Emergency Nurse Pediatric (ENPC) courses
- 42 EMS personnel took part in the Emergency Pediatric (EPC) course at no cost
- Funding was provided for pediatric education at 3 EMS refresher courses
- Each of the three trauma regions were provided funding to support pediatric education at regional opportunities (Spring Fling, Rimrock Conference, Spring Fever, Rocky Mountain Trauma Symposium and MEMSA)
- Support for a Montana Farm Bureau pediatric care/agricultural and ATV injury presentation

Pediatric Equipment for Prehospital Services – Funding was utilized to provide 91 mini-grants of pediatric equipment and supplies to EMS services.

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EMS-C/Pediatric Ready Connection Newsletters – The program has distributed a monthly newsletter broadly across Montana with information related to pediatric care including new practice guidelines, educational opportunities, other related pediatric programs and cultural awareness.

Pediatric Facility Recognition – A key activity of the advisory committee was to develop standards for hospitals to enable them to assess their pediatric readiness and provide goals for improvement. Hospitals have been offered the opportunity to undergo an external assessment of their readiness. Modeled after trauma designation, two levels of pediatric readiness were crafted and endorsed by the Montana Academy of Pediatrics:

- Pediatric Capable – smaller hospitals with limited resources that enable them to stabilize injured and ill children and safely transport them to a larger facility, or
- Pediatric Prepared – larger hospitals with more resources and the ability to receive and treat most children

Fifteen (15) Montana hospitals were assessed and formally recognized as pediatric ready this year:

Pediatric Prepared	**City**
St. Vincent Health Care	Billings
Northern Montana Hospital	Havre
North Valley Hospital	Whitefish
Beartooth Billings Clinic	Red Lodge
Kalispell Regional Healthcare	Kalispell
Billings Clinic	Billings
St. Patrick/Providence Hospital	Missoula
Benefis Health Care	Great Falls

Pediatric-Capable	**City**
Stillwater Billings Clinic	Columbus
Phillips County Hospital	Malta
Central Montana Medical Center	Lewistown
Colstrip Medical Center	Colstrip
St. Joseph Hospital	Polson
Community Hospital of Anaconda	Anaconda
Big Horn County Memorial Hospital	Hardin

Cardiac Ready Communities

In January of 2015, EMSTS received a $3.2 million Leona M. and Harry B. Helmsley Charitable Trust grant aimed at improving cardiac arrest survival rates in Montana. A centerpiece of the Cardiac Ready Communities initiative includes the purchase of 220+ automatic compression devices, called the Physio-Control LUCAS® 2 Chest Compression System. This was enough units to equip Montana communities that have an organized EMS service with the staff and vehicle to respond. Units were also designated for many hospitals, including Critical Access Hospitals.

While the deployment of Lucas devices is a key activity for this initiative, it will do little to place these devices with EMS services and hospitals if the entire community is not engaged with all links of the Cardiac Chain of Survival. i.e. If the patient or someone near them does not readily recognize signs of a cardiac arrest and call 9-1-1 immediately, the patient may not survive until EMS can respond with an automatic compression device. Likewise, deployment of Lucas devices will not do anything to change patient outcomes if AEDs are not available and utilized where possible and if EMS and hospitals do not adopt high performance CPR standards.

Deployment of Lucas devices – Three regional distribution and training events were conducted this year. Over 200 EMS and hospital trainers were provided high performance CPR education and training on utilization of the Lucas device to enhance HP-CPR. Additional training events were conducted across the regions to assure that any site receiving the Lucas received initial training.

Through 2015 and 2016, one hundred and two (102) Lucas devices were deployed to EMS services and hospitals. With available year-end funding, another 16 units were ordered in December and additional requests for Lucas will be filled in early 2017.

Ongoing and frequent training is important when new devices and new concepts are introduced. The program has employed Master Trainers to follow up about every six months with EMS and hospitals. Approximately 90 sites were visited for updates and reviews this year.

Resuscitation Academy – Several EMS providers and physicians have attended the Seattle-King County Resuscitation Academy over the life of the grant. This two-day program provides information and discussions on strategies to improve the cardiac chain of survival in communities.

Modeled after the Seattle program, Montana conducted two of its own Resuscitation Academies this year. Incorporating faculty from the Seattle program, Alaska and local providers, 28 people attended the Missoula program in May and 35 people attended the Billings program in October. Additional presentations are planned for 2017 – a mini-academy in conjunction with the STEMI conference in March and another academy in Helena in May.

Montana Heart Rescue – Gallatin Heart Rescue was formed after a cardiac arrest save in July of 2011. The patient was saved, in part, because bystander CPR had been initiated very quickly after sudden cardiac arrest (SCA). The patient walked out of the hospital without any neurologic deficits. Gallatin Heart Rescue is a product of two pre-hospital caregivers, Kevin Lauer and Mike Pasque,

who responded to that emergency. Mike and Kevin recognized the impact early bystander CPR had on the outcome of this call and wanted to increase the number of community members trained in compression-only CPR.

Over the next few years, Gallatin Heart Rescue grew and soon CPR trainings were being held all across Montana using the curriculum Mike and Kevin developed. In 2016, Gallatin Heart Rescue became part of the Montana Cardiac Ready Communities Program. Other than a name change to Montana Heart Rescue, the mission is still the same: "To increase the rate of survival from SCA within Montana by increasing the rates of bystander CPR through direct involvement in the community." The Cardiac Ready Communities Program plans on continuing the work started in 2011 by incorporating CPR trainings in each county across Montana.

Through 2016, over 53,000 people have been trained in compression only CPR. The Cardiac Ready program has distributed 100 'CPR in-a-Box' kits to communities. The tote contains everything needed to walk into any setting and provide hands-only CPR training to 20 students at a time.

Cardiac Ready Communities – The Lucas device in itself will not save lives. The importance of the Helmsley grant is that we will use funding to develop Cardiac Ready Communities. In order for any community to be successful, they need to develop all the links of the cardiac chain of survival. Project strategies toward that end include:

- Each community is visited before deployment of the Lucas in order to engage their commitment towards cardiac ready as a condition of receiving a device. Since the beginning of the project, the project manager has traveled almost 30,000 miles and has visited each county at least once.
- In 2016, 29 community visits were conducted and presentations were provided to 20 Local Emergency Planning Committees (LEPCs).
- Presentations about the program were made at three state conferences and an "Aging Horizons" session was filmed.
- In the first year, a community gap analysis tool to help communities evaluate their readiness was developed. In conjunction with project evaluators at the University of North Dakota, a toolkit was developed for communities to reference as they develop and implement their Cardiac Ready Community plan.
- A table top exercise was drafted this year to enable EMSTS to conduct an external evaluation of the community's Cardiac Ready status.
- A video to be used in conjunction with the Table Top Exercise is in production and will be ready for use in January 2017.

Ultimately, the goal of the project is assist communities to meet standards identified in the gap analysis tool and to become formally recognized as Cardiac Ready Communities. Doing so will ultimately improve Montana's survival rate for cardiac arrest.

Simulation in Motion Montana

In January 2016, the Leona M. and Harry B. Helmsley Charitable Trust awarded EMSTS a three-year $4.2 million dollar grant to purchase three mobile simulation trucks. Each of these units comes with a suite of an adult, child, infant and O.B. high fidelity manikins. The front of the unit has pull-outs and simulates an emergency room and the rear of the unit simulates an ambulance. Custom made, these units are due to arrive in February 2017. We estimate that it will take several months to supply and test all the equipment and to train instructors and support staff. Estimated deployment is planned for spring 2017.

The three-year grant also funds operations such as staff, training and marketing, albeit at decreasing amounts each year (100% in year one; 66% in year two, 33% in year three). As such, sustainability and marketing will be part of the project's business plan from day one.

The primary goal of MobileSim Montana will be to provide education and training to rural EMS services and hospitals. As part of a plan to assure sustainability, other stakeholders such as universities, colleges and others who have a need for simulation education could also receive simulation education. Our research suggests that simulation education is being implemented across Montana, but that organizations are finding it difficult and expensive to maintain these programs when, in reality, they only use these resources for short periods at a time. We feel there may be potential for a MobileSim Montana project to provide education when such organizations and institutions need it and alleviate them the burden to maintain the proficiency of their own staff to utilize simulation education.

Our project proposes a fundamentally different way of managing MobileSim Montana than prior awardees have done. Our project will be managed by a public/private nonprofit corporation (501c3). Such an organizational structure will enable the corporation to manage the program over the next three years and to better plan for sustainability beyond that time. The sustainability of Montana's mobile simulation, public/private partnership will be governed through a non-profit corporation with a board consisting of members who have sustainability of mobile simulation for education and workforce development as their key interest.

Additionally, MobileSim Montana will contract with a Project Management Entity (PME) to manage the day to day operations of MobileSim Montana for marketing, staffing and education as well as for seeking contracts, grants and other sustainability funding.

Through 2016, an advisory group has been meeting about this project brainstorming activities and project goals. Early this fall, five inaugural members of a MobileSim Board began meeting. Their first order of business was to adopt Articles of Incorporation and Bylaws for this new corporation and file them with the Secretary of State.

Current MobileSim Montana board members are:

- Steve McNeece, CEO, Community Hospital of Anaconda – Board Chair

- Drew Dawson, Boulder, retired, Office of EMS, National Highway Traffic Administration - Vice-Chair
- Tiffany Kuehl, MD, Absaroka Emergency Physicians, Bozeman - Treasurer
- Dave Gurchiek, PhD, NRP, MSU Billings - Secretary
- Kyle Gibson, RN, Glasgow, STAT Air Ambulance Service

Other board members will be added as the project becomes more established. While the board will be the governance of the project, membership of the corporation also includes an advisory group representing EMS, hospitals, colleges, universities and other stakeholders.

Early 2017, the board will issue a Request for Proposal for a PME group to manage the day-to-day operations of the project. This will be a group that hires the instructors and provides the education as well as a role in maintenance of equipment and trucks. This will be a group invested in the long-term sustainability of MobileSim Montana and they will need to collaborate closely with the board.