



MONTANA  
EMS & TRAUMA  
SYSTEMS PROGRAM

# Montana EMS and Trauma Systems Section

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



## 2019 Activities Report

# Table of Contents

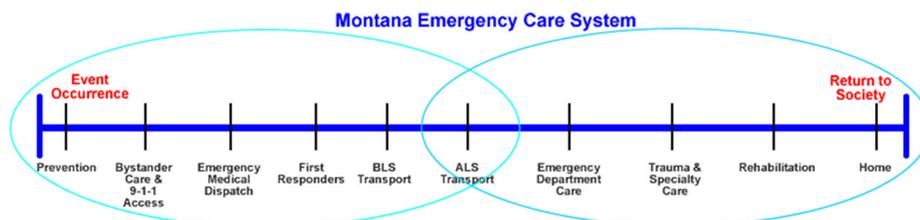
Introduction .....	2
<b>Program Overviews</b>	
EMS System .....	4
Community Integrated Health .....	5
EMS Service Licensing .....	6
EMS Data Systems .....	7
Trauma System .....	8
Trauma Data System .....	12
Montana Violent Death Reporting System .....	14
Injury Prevention .....	15
Substance Use Disorder .....	17
EMS for Children / Pediatric Ready .....	20
Cardiac Ready System .....	23
Simulation in Motion Montana .....	26

## 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.*

## 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.



# Introduction

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We are pleased to present this EMS and Trauma Systems report of 2019 activities. EMSTS has broad responsibilities for emergency care system development and this report summarizes many of our activities for the last year and what to look ahead to in 2020.

Emergency Care is a system of systems. EMS, trauma, cardiac and pediatric are all integrated programs with a common goal of providing optimal care with available resources. Injury Prevention is ingrained in each system. The mission of DPHHS is to *Improve and protect the health, well-being and self-reliance of all Montanans*. I'm personally proud of the work EMSTS staff do throughout the year to support that mission.

Please visit our website at: <http://dphhs.mt.gov/publichealth/emsts> for additional information on these and other programs and strategies.

Some key highlights this past year in this report include summaries of:

- Reformation of the Emergency Care Council and renewed efforts to improve the sustainability of Montana EMS services
- Increased utilization of NEMSIS data for reports, surveillance and performance improvement
- Legislative approval of Community Integrated Health and support of CIH pilot programs
- EMS for Children implementation of Pediatric Ready EMS Services
- Implementation of Violent Death and Substance Use Disorder registries to help improve response to these issues, particularly Montana's high suicide rates
- Continued growth of Simulation in Motion Montana as a recognized source of valuable education and improved patient care
- Helmsley AED funding to provide every law enforcement vehicle with an AED

There continues to be challenges to developing an Emergency Care System and there's never enough time or resources to do everything we'd like to. We're very fortunate to have great partnerships with sister divisions in DPHHS, other state agencies and associations, and many others to meet some of those needs. I'm most humbled by the prehospital and healthcare providers I visit with in meetings, trainings and other events. The boots on the ground work is challenging and the people who are able to keep their sights on what's best for the patient are a Montana treasure.

Field and hospital providers likely don't get all the thanks they deserve, but EMSTS appreciates the work they do and we hope we can continue to be partners in helping prevent injury and care for those patients that never expected to be in a crash, fall off a horse, have a cardiac event or just need someone to hold their hand through something beyond their control.

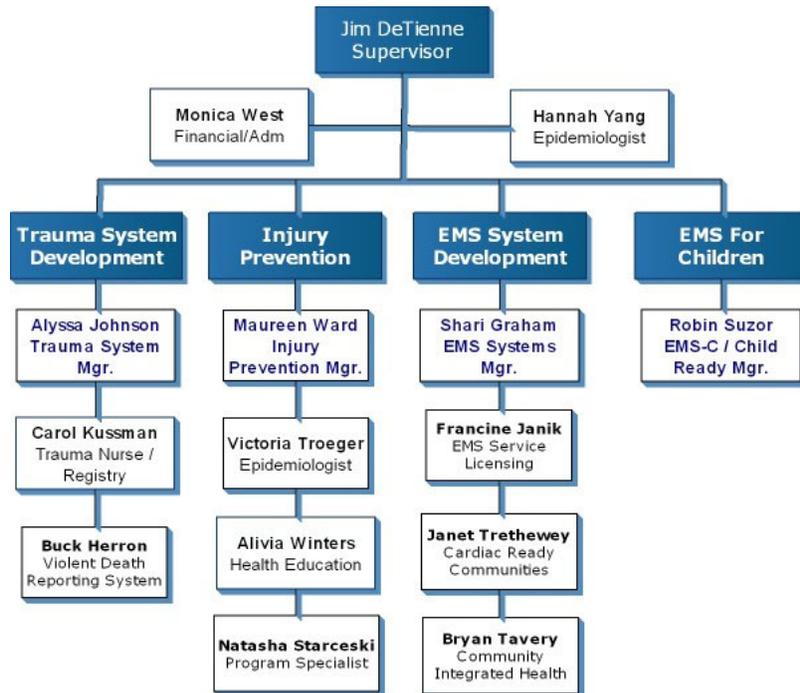


Section Supervisor  
EMS & Trauma Systems

# Program Overviews



EMSTS staff at the Lewistown Advanced Driving Course sponsored by the Office of Public Instruction  
 A great course for anyone that drives and a must for anyone who drives an emergency vehicle  
 Check it out when registration opens again this spring



# EMS Systems

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**EMS Sustainability Project** - The current model of a volunteer EMS has served the state well for nearly a half a century. However, much of the EMS system in Montana is under severe stress. A number of services are down to two or three individuals who are available to respond. It is clearly time that we do an inventory and assessment of our current status, build on our strengths and identify strategies to overcome challenges.

Montana's EMS system needs to undergo a transformation into a more sustainable model. It is no longer sufficient to say that we can just recruit more volunteers when few are to be had in some communities. It is not reasonable for one or two people to be carrying the load to protect an entire community. Einstein is credited with saying "The definition of insanity is doing the same thing over and over expecting different results."

In 2019, we began an assessment of the current state of Montana EMS. An on-line survey was sent to 65 ambulance services and is being followed up with a face-to-face interview with the service manager. Concurrently, we partnered with the Montana Hospital Association who conducted similar interviews with Critical Access Hospitals. Findings from these interviews are being compiled into a draft report which will be taken on the road in early 2020 to validate findings and solicit input on strategies and activities to help strengthen the EMS system. The results of this process will be used to develop a final State of Montana EMS report and a strategic plan.

**Emergency Care Council** - Late last fall, Director Hogan reappointed members to the ECC and the council's first meeting will be in January. Representative of EMS and hospitals; emergency care providers, nurses and physicians; law enforcement, fire and others; the ECC will be instrumental in assisting EMSTS through an EMS strategic planning process and prioritization of strategies to transform EMS for a more sustainable future.

**Prehospital Trauma Life Support Education (PHTLS)** - Trauma care for EMS services is an intense and stressful event. 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 across the state. During the 2019 grant cycle, courses were held in Helena, Missoula, Red Lodge, Ennis, Colstrip, and Big Timber. In the 2019 grant cycle, Montana SIM-MT training has been a welcome addition to the course. Student reviews have been overwhelmingly positive regarding the realistic nature of simulation training. Grant funding has been extended to continue simulation as part of the course into 2020.

**Criteria Based Dispatch - Emergency Medical Dispatch (CBD-EMD)** - 9-1-1 dispatchers are the first "first responder" to encounter a given incident. It is vitally important that dispatchers 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. Since 2018, the CBD-EMD program has been provided at each session of the Montana Law Enforcement Academy's Public Safety Communicator course. Every new 9-1-1 dispatcher receives the 24-hour CBD-EMD education as part of their initial education. EMSTS continues to offer on-site CBD-EMD courses at the request of local PSAPs which is now in 59% of dispatch centers - up from 37% in 2013.

**EMS Service Managers Workshop** - In addition to many EMS services being volunteer, most of the managers of these services are also volunteer. Each year EMSTS offers a Managers Workshop the day before the Rocky Mountain Rural Trauma Symposium. Thirty-three managers attended the

2019 workshop. Topics included EMS/hospital communications, an intro to the Biospatial reporting platform, an EMS for Children overview, an EMS System update, a Department of Labor BOME Update, a presentation on Health Care Coalitions and ImageTrend Q&A.

**Mental Health First Aid for Fire/EMS** - Mental Health First Aid for Fire and EMS focuses on the unique experiences and needs of firefighters and EMS personnel and is a valuable resource that can make a difference in their lives, their families' lives and the communities in which they live. Firefighters and EMS workers learn about the importance of early intervention and how, as first responders, they can intervene in the field and provide assistance to another provider who is experiencing a mental health challenge or crisis. EMSTS is researching how to develop a local instructor base for this program to meet the growing mental health needs of our responders and the population they serve.

**Community Integrated Health (CIH) / Community Paramedicine (CP)** - Community Integrated Health (CIH), also referred to as Community Paramedicine or Mobile Integrated Health, is relatively new for Montana, but not necessarily a new idea. Emergency care providers (ECPs), have been providing similar services in their everyday duties since the inception of EMS.

The traditional EMS model has been for an ambulance to be dispatched, pick up a patient, and transport to the emergency department (ED). However, the ED may not always be the best place for the patient. Many 911 calls can be avoided with proper chronic disease management, post hospital discharge care, or finding an alternative place for a patient to receive the care they need.

CIH is a simple concept. Expand the roles of ECPs, within their current scope of practice, to help fill gaps of healthcare in their community. EMS providers deliver health services where access to traditional healthcare is limited or does not exist. CIH does this by working collaboratively with primary care physicians, clinics, hospitals, behavioral health, and much more. Around the nation, CIH programs have been able to reduce 911 calls, hospital readmissions, ED visits, and most importantly, improve patient wellbeing. We fully expect Montana to continue this trend, not only improving patient care, but also offering an additional means for EMS agencies to become more sustainable. CIH will offer EMS agencies additional recruitment opportunities and revenue sources especially needed in our rural areas.

In the spring of 2019, the Montana Legislature passed Senate Bill SB38. This bill authorizes the Board of Medical Examiners (BOME) and DPHHS to implement and regulate a CIH for ECPs and EMS services.

Five CIH pilot sites were identified in the summer of 2019. The pilot sites selected have experienced, passionate, and motivated paramedics and EMTs willing to attain their CIH endorsement. The students were finishing their education in December 2019 and their respective CIH programs are set to begin in early 2020. These sites will be instrumental in the development of future programs.

EMSTS, with funding support from the Health Improvement Section, has been able to hire a CIH program manager position for the next several years. Bryan Tavary, previously with the Hospital Preparedness Program (HPP) and a prior EMS provider, accepted the position as education specialist for the CIH program. Bryan is currently working with the pilot sites as they progress toward full-fledged CIH entities.

# EMS Service Licensing

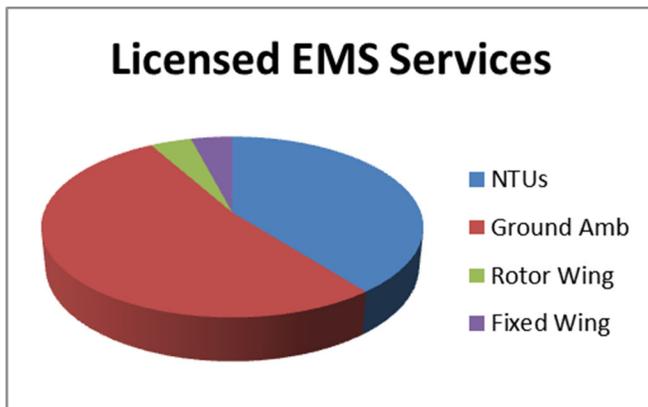
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**50-6-301 MCA the legislature finds and declares that:**

- (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 272 licensed non-transporting, ground and air medical EMS agencies, half were subject to site visits in 2019.

In addition to inspections, this program utilizes the inspection process as an opportunity for technical assistance. This year, the inspection process was updated and our inspector, Francine Janik, was able to document the inspection electronically and provide automated feedback through the OPHI-eLicense system. The system is set up to send automatic notification of inspection date, inspection results and service license invoice. A few bugs in the system were identified and will be corrected for the 2020 inspection season.



- Licensed EMS Services**
- 111 Non-transporting services
  - 146 Ground ambulance services
  - 13 Fixed-wing ambulance services
  - 7 Rotor-wing ambulance services

Montana EMS service licensing rules have not been comprehensively reviewed for some time. EMST is launching upon a 2020 revision of these rules to make them more user friendly and up to date. The NASEMSO Model Rules for the Regulation of Air Medical Services will be 'Montanized' for air and ground ALS services. Updated requirements for vehicle standards and safety will be incorporated as appropriate. We look forward to taking drafts of updated rules to the field sometime this summer and adopting them by the end of the year.

# EMS Data Systems

**EMS DATA Collection** - EMS data is an essential element of patient care, measuring how well we are doing and guiding improvements. If we're going to continue to solicit support for improving the EMS system, we need data to tell the story.

Utilization of the Online Prehospital Information System (OPHI) eLicense and ePCR developed by ImageTrend continues to grow. The system provides a user-friendly ePCR software at no cost to services that wish to use the system. In addition to the 25 tablets provided to volunteer services in 2018, opioid grant funding was utilized to provide another 25 in 2019. Other than a few waiting training, all ambulance services are providing data into the system and the list of non-transporting units completing electronic patient care records is growing. Over 131,000 records were entered in 2019.

	<b>Incident Complaint Reported by Dispatch - 9-1-1 &amp; Transfers</b>	Number of Runs	% of Total
1	Transfer/Interfacility/Palliative Care	16,819	12.8%
2	Sick Person	14,570	11.2%
3	No Other Appropriate Choice	14,195	10.8%
4	Falls	13,110	10.1%
5	Motor Vehicle Crash	9,456	7.1%
6	Breathing Problem/Shortness of Breath	7,253	5.5%
7	Chest Pain	5,346	4.1%
8	Unknown Problem/Person Down	4,761	3.6%
9	Convulsion/Seizure	4,674	3.5%
10	Unresponsive	4,370	3.3%
	All other	36,901	28%
	<b>TOTAL</b>	<b>131,455</b>	<b>100.0%</b>

	<b>Incident Complaint Reported by Dispatch - 9-1-1 Only</b>	Number of Runs	% of Total
1	Falls	12,486	12.3%
2	Sick Person	12,176	12.1%
3	No Other Appropriate Choice	10,588	10.5%
4	Motor Vehicle Crash	9,342	9.3%
5	Breathing Problem/Shortness of Breath	6,707	6.7%
6	Chest Pain	4,850	4.7%
7	Convulsion/Seizure	4,594	4.5%
8	Unknown Problem/Person Down	4,594	4.5%
9	Unresponsive	4,314	4.2%
10	Abdominal Pain/Problems	2,978	2.9%
	All Others	28,628	28.3%
	<b>Total</b>	<b>101,257</b>	<b>100.0%</b>

Summary of 9-1-1 calls in OPHI-ePCR

**National Collaborative for Bio-Preparedness (NCBP)** - In 2018, Montana became the seventh state to join the NCBP. Funded by Homeland Security (managed by BioSpatial), the NCBP is a collaborative of state and local responders and Homeland Security to provide early warning of health events and trends not otherwise detectable. Data submitted to the system does not contain personal identifiers but can be utilized to visualize data to help strategize programs and initiatives. We began by first submitting EMS NEMSIS data and we added hospital trauma registry data. Initial steps to add poison control and highway crash data are ongoing.

Having dedicated time to learning the system and how to manage it, we began deploying NCBP to EMS services and hospitals this past year. While very good EMS reports are available in OPHI ePCR ImageTrend, the NCBP enhances reporting to include geographic mapping of data and incidents. In addition to an individual EMS service reviewing details of their data, aggregated comparisons to other EMS services in Montana are available. BioSpatial continues to work on linking data which will enhance the power of each database by itself. For example, to link a crash record with the EMS event and the patient outcomes in the trauma registry will enable review of an entire event and better support performance improvement and public policy.

# Trauma Systems

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Montana's 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 consists of a State Trauma Care Committee (STCC) and three regional trauma advisory committees (Western, Central and Eastern).

The State Trauma Care Committee (STCC) meets quarterly and consists of fifteen Governor appointed representatives. 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. Statewide reports as well as state level registry reports are presented at each meeting by trauma staff. Statewide performance improvement and peer review occurs by regularly analyzing the effect of the statewide trauma care system on patient care, morbidity and mortality.

STCC Indicators include:

- GCS  $\leq 8$  without advanced airway support
- ED Dwell Time for ISS  $\geq 15$
- Met physiologic criteria, but no Trauma Team Activation (TTA)
- Transfer of patient after admission to facility
- Transfer of patient out-of-state

Also, in concert with each STCC meeting, the Designation/PI subcommittee meets to discuss trauma facility designation activities and recommendations. The Education subcommittee plans a variety of statewide trauma education projects. In 2019, the Education subcommittee focused on both updating the TEAM (Together Everybody Achieves More) course to standardize instruction across the state and the Trauma Treatment Manual to reflect the most recent patient care information.

Each of the three Regional Trauma Advisory Committees meet quarterly. Trauma staff attend each of the 12 meetings to provide State trauma reports. Other staff often attend to provide updates of EMSTS programs. Each RTAC has 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. 2019 region-specific indicators include:

## CRTAC PI Indicators

- GCS  $\leq 8$  without advanced airway (biannual report)
- Patient transfers elsewhere (other than their Regional Trauma Center) and why
- ISS  $> 15$  & no TTA with emphasis on why no activation on patients  $> 55$  yo
- IV antibiotic use within 1 hour of patient arrival for open fractures
- EMS full set of vital signs with GCS, repeat VS if transfer time greater than 15 minutes
- Crystalloid use  $> 1$  liter

## WRTAC PI Indicators

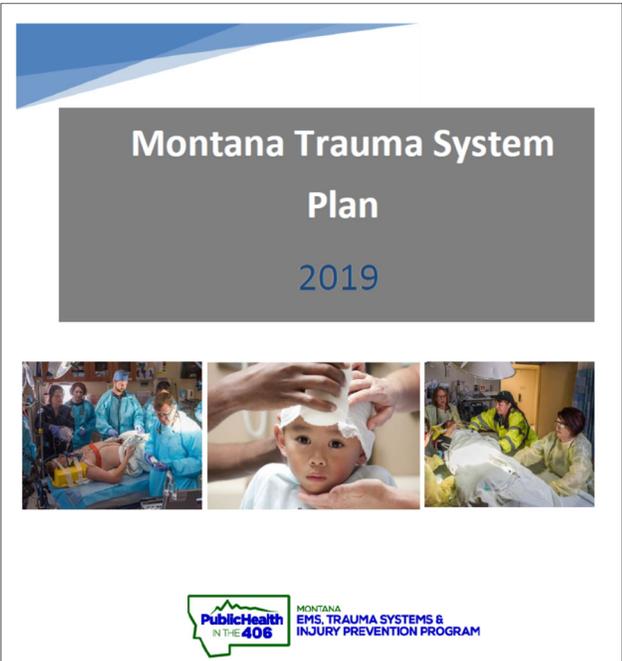
- GCS  $\leq 8$  without advanced airway and  $>$  two attempts at airway placement
- No TTA but met physiological criteria
- Transfer of patients after admission at first facility or  $> 3$  hrs in ED
- CT of children  $\leq 14$  and transferred out of facility and if repeat
- ISS  $> 15$  & No TTA with emphasis on why no activation age  $> 55$

## ERTAC PI indicators

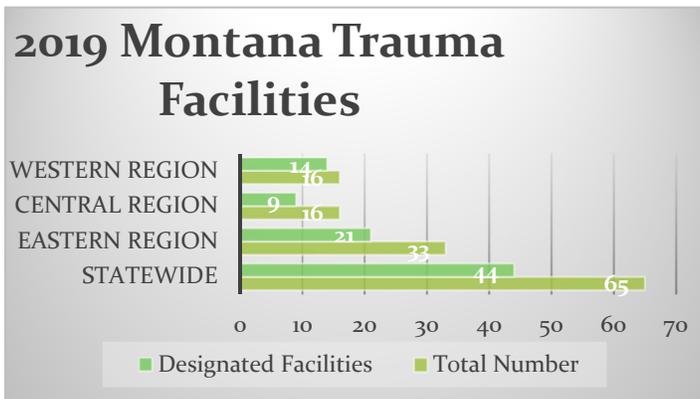
- GCS  $\leq$  8 without advanced airway and greater than 2 attempts
- Admit prior to transfer and transfer time > 3 hrs
- No TTA but me physiological criteria
- Air Medical trauma transfers dismissed from the ED
- Use of tourniquet

**Administrative Rules Update** - In July, new Administrative Rules pertaining to a 2019 Montana Trauma System Plan were adopted which includes updated Trauma Facility Designation Criteria. This plan provides is a work-in-progress and contains planned next steps in the continued development of an inclusive statewide trauma system, including:

- A list of strategic priorities supporting organizational planning and decision-making across the major components of the Montana Trauma System
- Support for the development and maintenance of a statewide network of designated trauma centers in Montana with the goal of at least 80% of all facilities becoming designated trauma centers
- Support statewide trauma registry data consistent with national standards for facilitating: statewide and regional injury prevention efforts and trauma system performance improvement



**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, nurse consultants and trauma surgeons perform designation visits for 4 levels of trauma designation: Regional Trauma Centers (RTC); Area Trauma Hospital (ATH); Community Trauma Facility (CTF); Trauma Receiving Facility (TRF).



In 2019 two new facilities were added to the list of designated facilities (Holy Rosary Healthcare in Miles City and Frances Mahon Deaconess in Glasgow). Thirteen full-team designation visits were held (Big Timber, Lewistown, Missoula CMC, Superior, Hamilton, Miles City, Chester, Scobey, Glasgow, Cut Bank, Helena, Roundup and Harlowton). Two full designation visits, in conjunction with American College of Surgeons were held at Missoula St. Patrick’s and Billings Clinic. Four on-site Focus Reviews were conducted (Deer Lodge, Dillon, Whitefish and Ronan).

To assist in the number of reviews required each year, a major focus continues to be to develop a strong surgeon and nurse reviewer pool to conduct facility designations. There are currently seven (7) surgeons and seven (7) nurse reviewers oriented to performing designation visits.

**Montana Department of Transportation / Highway Traffic Safety Collaboration** - EMSTS continued a strong collaboration with the MDT / Highway Traffic Safety Program. This includes participation with the MDT advisory committee with a focus on occupant protection, impaired

driving, and roadway departure. In 2019, MDT hosted a table at the annual Rocky Mountain Rural Trauma Symposium, providing statewide crash data maps and networking with trauma staff from across the state. Numerous EMSTS staff attend the annual MDT Comprehensive Highway Traffic Safety Plan meeting.

MDT continues to fund TEAM course in the RTACS. This Montana specific course helps a hospital assess their preparedness as a trauma facility and their role in the trauma system. Five (5) TEAM courses were held during the 2019 grant cycle - three in the Western Region (Butte, Hamilton, and Ronan); and two in the Eastern Region (Miles City and Lewistown). A TEAM Instructor meeting was also held to update the TEAM course format so that the information being taught across the state is consistent in each region and reflects current clinical trauma care.

**Stop the Bleed** - Montana's 'Stop the Bleed' campaign continued strong this year. An interactive map is available on the EMSTS website which facilitates locating a local instructor. An email listserv allows for dissemination of information and communication between instructors across the state. This national initiative is the most common injury prevention program implemented in communities across the state. Montana branded Bleeding Control Kits are available for purchase by citizens and course participants. EMSTS staff has been instrumental in providing this course to Helena law enforcement, local children and various State of Montana employees.

<p style="text-align: center;"><b>Montana Stop the Bleed</b></p> <ul style="list-style-type: none"><li>• <b>Severe bleeding can lead to death in 5 minutes.</b> In Montana, the average time from a 9-1-1 call until EMS arrives on the scene is 14 minutes.</li><li>• Bystanders are often the first to step in and help; everyone should be trained on how to <i>Stop the Bleed</i>.</li><li>• Montana ranks in the <b>top 10 nationally</b> for the percent of <i>Stop the Bleed</i> instructors per capita. <b>Missoula and the surrounding area</b> have been the trendsetters offering 40 classes and training over 1,000 Montanans.</li></ul>
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**Montana Trauma Coordinator Webinar** - This annual four-hour webinar was held in early spring for all Montana trauma coordinators, trauma registrars and trauma medical directors. This year educational topics included an update on how to use different resources for data abstraction, trauma activation confusion, providing feedback for performance improvement and system updates. Participant evaluations continue to demonstrate this is a beneficial and convenient educational event.

**Advanced Trauma Life Support (ATLS)** - The ATLS program teaches a systematic, concise approach to the care of a trauma patient. This year, a new 10<sup>th</sup> edition was introduced. In total, 63 providers participated in one of four ATLS courses held in 2019. Reflecting our rural state and critical access hospital system, almost 60% of Montana's students were advanced practice providers.

**Rocky Mountain Rural Trauma Symposium (RMRTS)** - Each year trauma staff coordinate 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 trauma education offerings for physicians, advanced practice clinicians, nurses and prehospital personnel. The 2019 symposium held in Helena in September included 292 attendees. The conference sessions covered a wide variety of trauma-related topics from both in-state and out-of-state speakers.

**Montana Trauma Systems Conference** - Held the day before RMRTS, this one-day conference specifically for trauma registrars, trauma coordinators and trauma medical directors is conducted by trauma system staff to cover Montana specific trauma system and performance improvement goals. This year, the agenda for the 69 attendees included presentations by Biospatial and Pulsara, state updates on MT-VDRS and Injury Prevention and facility-level breakouts.

**Trauma Protocol & Guideline Development** - Two guidelines were developed and distributed statewide. Protocols for early recognition of trauma in the elderly and rapid anticoagulation reversal are associated with improved outcomes in injured patients.

## 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**

## ANTI-COAGULATION AND TRAUMA (ACT) ALERT PROTOCOL

### A. TRIAGE PARAMETERS

#### ACT ALERT TRIAGE PARAMETERS

1. Anticoagulation agents
2. Head trauma within past 24 hours

### B. RESPONSE PROTOCOL

#### ACT ALERT RESPONSE PROTOCOL

1. Response team of ED provider, nurse and lab to see patient within 15 minutes of ACT.
2. Coagulation lab tests and INR test completed with 20 min of ACT.
3. STAT priority head CT completed within 30 min of ACT.
4. Immediately upon receiving notification of the above diagnostic information, if required, initiate reversal protocol per facility capabilities and policies.
5. **MAINTAIN A HIGH INDEX OF SUSPICION FOR INJURY AND PROMPTLY CONSIDER THE NEED TO TRANSFER TO A HIGHER LEVEL OF CARE.**

# Trauma Data System

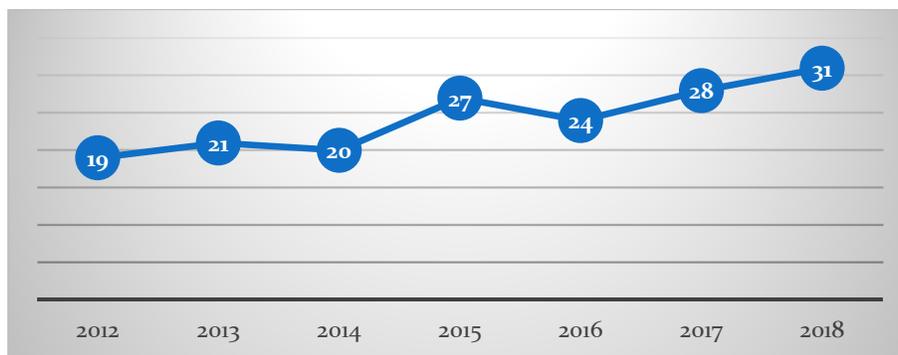
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A critical element of a trauma system is the collection of data to support evaluation of the system and ongoing performance improvement at the local, regional and state levels. EMSTS maintains a central trauma registry that is a repository of data 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 performance improvement on their local data servers. The remaining facilities utilize a web-based system that enables them to enter their data electronically.

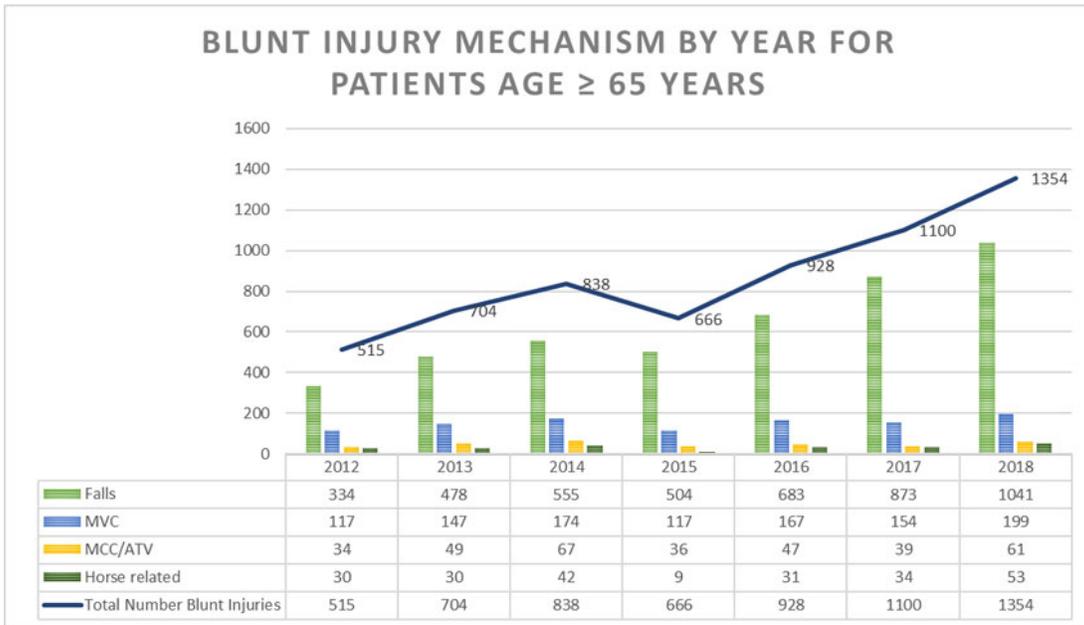
**Trauma Registry Support** - Implementing an evidence-based trauma system cannot be accomplished without data. Therefore, collecting data is a significant investment in time and resources at all levels. EMSTS dedicates considerable resources to assure data collected is accurate, complete and timely. Advancements with coding, data functionality and data mapping have continued this year. Historical records from a previous version were migrated for the software users into their current trauma registry. Training, statewide and locally, has been a high priority. As facility trauma registrar/coordinator vacancies have been filled, we provide onsite and web-based training. The State trauma nurse coordinator assists hospitals with education and technical assistance with the trauma registry, statistical reports and performance improvement for their trauma patients. In conjunction with the EMSTS epidemiologist, facilities are provided quarterly reviews of the trauma cases they have focused 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 evaluate whether statewide trauma system efforts are making a difference and to identify trends and opportunities for improvement.

**Traumatic Injury in the Elderly Population in Montana** - The elderly account for the most rapidly growing segment of the U.S. population as well as Montana. Nationally, as of 2000, the number of individuals age 65 or older had reached 35 million and it is anticipated that by 2030, individuals age 65 or older will reach 70.3 million or 20% of the total U.S. population. In 2000, Montana's elderly patient population accounted for approximately 15% of our state population. In 2030, it is projected that the elderly population will increase to 26% of our state population. This trend is reflected in the percentage of patients ≥65 years of age in the Montana Trauma Registry (MTR) from 2012-2018.



Correlating directly with the increasing age of Montana patients is an increase in the number of falls and an associated increase in morbidity and mortality in the trauma system. Falls continue to be the leading cause of injury for patients age 65 years and older.



# Montana Violent Death Reporting System (MT-VDRS)

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**How does it work?** MT-VDRS combines data from death certificates, medical examiner, police and coroner reports to develop a comprehensive picture of the circumstances surrounding violent deaths in Montana. In January 2019, the Montana VDRS began gathering this data into a central web-based registry. Reports from this effort will help policy makers and the public better understand the circumstances of violent deaths, including homicides, suicides, undetermined deaths, and unintentional firearm deaths.

**Medical Examiner & Coroner Reporting** - Work began in early summer 2018 on a project to bring medical examiner and coroner reporting onto a universal electronic platform to streamline processes across the state. This new "Death Case Management System" (DCMS) will also assist in aiding with data abstraction for the new Montana Violent Death Reporting System. In December of 2019, DCMS was able to complete its final step of populating death certificates in Vital Statistics and went live for the first time. The next step will be to integrate toxicology results from the State Crime Lab into DCMS.

**MT-VDRS Advisory Board** - An advisory board has been established to facilitate implementation of the MT-VDRS. Meeting quarterly, the board includes representatives from DPHHS (EMS & Trauma, Vital Statistics, Epidemiology and Scientific Support, Suicide Coordinator, Fetal Infant and Child Mortality Review), Department of Justice and DCI, Board of Crime Control, Department of Corrections, Domestic Violence Review Board, Crime Lab, Coroner's Association and BIA Office of Justice Services.

**Training for Data providers** - The MT-VDRS program manager, Buck Herron, has attended multiple Montana law enforcement/Coroner trainings to educate and train data providers on MT-VDRS and DCMS. Presentations were provided at the Montana Association for Chiefs of Police, Montana Sheriffs and Peace Officers Association, Montana Violent Crime Investigators Association, and the Montana Coroners Association. MT-VDRS brought in a Psychological Autopsies educator to train coroners and law enforcement in September 2019.

**Governor's Executive Order** - The governor signed an executive order allowing MT-VDRS access to confidential criminal justice information by designating MT-VDRS as a criminal justice agency. The order relieved concerns from various law enforcement agencies across the state about releasing confidential criminal justice information. This has significantly increased the amount of law enforcement reports received in MT-VDRS.

# Injury Prevention

In Montana, there are approximately 900 deaths from injury each year, two-thirds of which are unintentional. In 2018, there were 933 deaths due to injury; 600 were unintentional. The statewide age-adjusted mortality rate due to unintentional injury was 51.1 per 100,000 population in 2018, making unintentional injury the leading cause of death for Montanans aged 1-49 years. Among American Indians/Alaska Natives, the mortality rate due to unintentional injuries was 118.7 per 100,000 in 2018.

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. The Injury Prevention program focuses primarily on three common mechanisms: motor vehicle crashes, falls, and poisonings.

Leading Causes of Unintentional Injury Morbidity and Mortality, Montana 2018 Data

Rank	Deaths (N=626) <sup>1</sup>	Hospitalizations (N=3,488) <sup>2</sup>	ED Visits (N=51,249) <sup>3</sup>
1	Motor Vehicle-Traffic (N=187, 30%)	Falls (N=2,100, 60%)	Falls (N=19,457, 38%)
2	Falls (N=166, 27%)	Motor Vehicle-Traffic (N=391, 11%)	Struck by/against (N=6,558, 13%)
3	Poisoning (N=102, 16%)	Poisoning (N=323, 9%)	Unspecified (N=4,686, 9%)
4	Unspecified (N=43, 7%)	Other Land Transport (N=156, 4%)	Cut/Pierce (N=4,408, 9%)
5	Suffocation (N=31, 5%)	Motor Vehicle- Nontraffic (N=102, 3%)	Motor Vehicle-Traffic (N=3,847, 8%)

**Motor Vehicle Crash Prevention** - 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.

In 2018, 64% of the 182 crash-related fatalities on Montana highways involved an impaired driver. Among 139 fatalities to occupants of vehicles with seatbelts available, 63% were unrestrained.<sup>4</sup>

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

EMSTS continues to partner with the Montana Department of Transportation and others with initiatives to promote use of seat belts and child safety seats, educate teen drivers on safety, and decrease distracted and impaired driving.

**Fall Prevention** - Falls are the second leading cause of unintentional injury death statewide, accounting for 28.5% of all fatalities due to unintentional injury in Montana in 2018. This trend is largely driven by falls among older adults, hence, the burden from falls is likely to increase as the

<sup>1</sup> CDC WISQARS

<sup>2</sup> MHDD Hospital Discharge Data

<sup>3</sup> MHDD Hospital Discharge Data

<sup>4</sup> FARS

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.

Falling can be prevented by making a few simple changes to everyday life for older adults. Since 2010, the Injury Prevention program has implemented an evidence-based fall prevention program called Stepping On for individuals aged 60 years or older who are independently mobile (including using a cane or walker), but who have had a fall in the past year or have a fear of falling. 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.

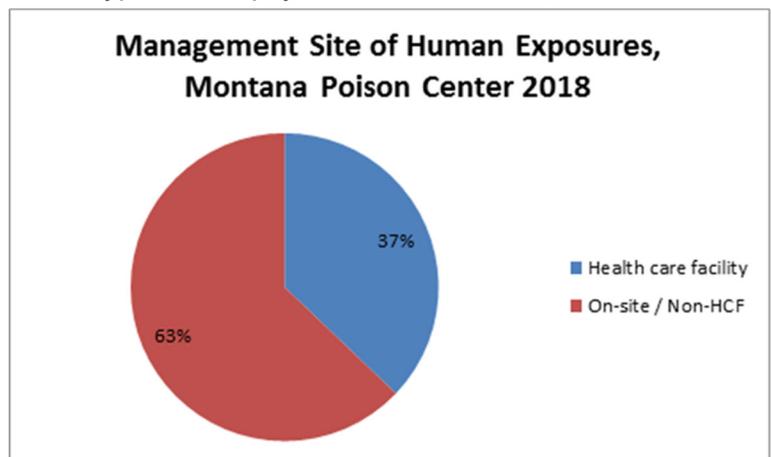
**Poisoning Prevention** - Poisonings can occur by ingestion, absorption, injection or inhalation of drugs, medications, or other toxic substances. Unintentional poisonings accounted for 18% of all unintentional injury deaths in Montana in 2018, ranking third behind MVCs and falls. The age-adjusted mortality rate for unintentional poisoning was 10.9/100,000 in 2017, with the majority (N=92, 83%) due to drugs as opposed to other non-drug substances. Intentional poisonings are also highly prevalent in Montana. In 2018, intentional (self-harm) poisonings accounted for 59% of all poisoning related hospitalizations and 38% of poisoning related ED encounters.



The Injury Prevention program promotes prompt recognition of when a poisoning has occurred, as well as learning how to prevent poisonings for both children and adults. Using both federal block grant and general funds, DPHHS has contracted with the Rocky Mountain Poison Control Center since 1983 to provide lifesaving medical advice and poison information to Montanans through a confidential toll-free hotline. Montana citizens can call this number to identify potentially poisonous substances and receive instructions if immediate measures are necessary.

In 2018, over 8,000 Montanans called the Poison Center. The most common substances involved were analgesics (both RX and OTC), sedative/hypnotic/antipsychotic medications, household cleaning substances, cosmetics and personal care items, cardiovascular drugs, antihistamines, dietary supplements/herbals, alcohols, pesticides, and foreign bodies/toys.

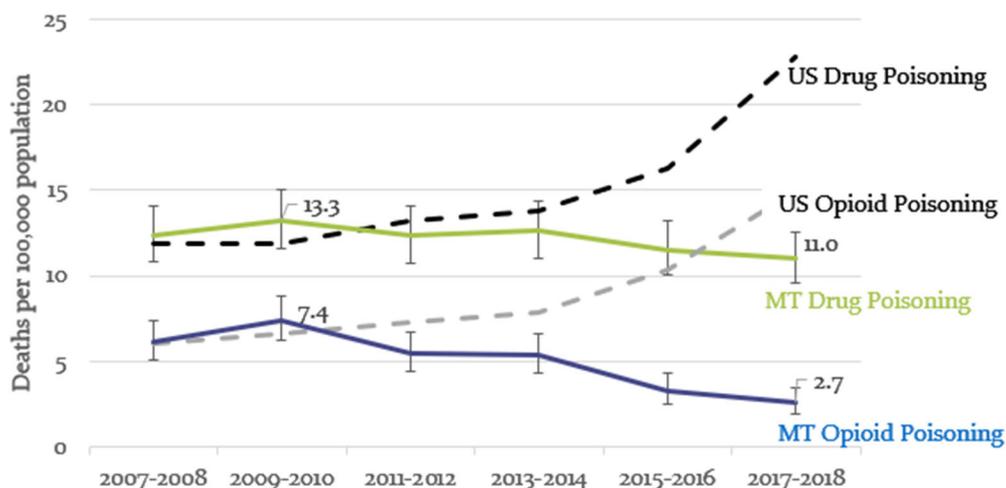
If a poisoning event can be managed by the Montana Poison Center at the exposure site, it saves the time and expense of an emergency department visit. In 2018, 63% of all human exposure calls were managed over the phone. This equates to approximately \$2.3 million dollars in health care savings by preventing unnecessary ED visits.



## Substance Use Disorder – Opioid Overdose

Drug poisonings are the fourth leading cause of injury deaths in Montana, accounting for 1,437 deaths between 2007-2018, after suicides, motor vehicle crashes, and falls. Drug poisoning deaths have been on the rise across the country, driven in large part to opioids. Montana, however, has seen a statistically significant decline in deaths due to opioids since 2009, bucking national trends. Though opioid-related deaths have been reduced in Montana, the overall drug overdose death rate has remained steady as other non-opioid drug overdoses have increased to offset declines in opioid deaths.

US and Montana Drug and Prescription Opioid Poisoning Age-adjusted Death Rates 2007-2018



### Continuation of Projects Under New Grant - 2019 saw the completion of the 3-year \$900,000

CDC grant, Data-Driven Prevention Initiative which allowed for increased program capacity through the hiring of a health education specialist, an epidemiologist, and a quarter-time evaluator. To continue the state's work on substance use prevention, the department applied for, and received, a three-year \$2.41 million CDC grant - Overdose Data to Action (OD2A). Receipt of this grant allows for the hiring of a program specialist for opioids and another part-time epidemiologist to assist with surveillance, as well as additional support staff for the CONNECT Referral Program to assist in state-wide linkage to care. The goals of this large grant include:

- Collecting and disseminating emergency department data on suspected drug, opioid, heroin, and stimulant overdoses;
- Collecting and disseminating descriptions of drug overdose death circumstances using death certificates and medical examiner/coroner data;
- Implementing innovative surveillance to support interventions;
- Supporting integration of the Prescription Drug Monitoring Program and universal use by all providers in Montana;
- Integration of state and local prevention and response efforts;
- Establishing linkages to care;
- Supporting providers and health support systems;
- Creating partnerships with public safety and first responders; and
- Empowering individuals to make safer choices.

**Substance Use Disorder Strategic Plan** - The Substance Use Strategic Task Force that was created under the last grant continues to meet, though the scope has increased beyond the purview of opioids and now looks to address other substances of importance to Montana, such as alcohol and methamphetamine. The task force continues to have strong attendance by 60-80 constituents around the state every quarter, and over 200 listserv participants. Plans to update the original “Addressing Substance Use Disorder in Montana” Strategic Plan are underway with a new version of the plan intended to be published in Spring 2020.

**Legislative Session** - During the 2019 Legislative Session, several bills regarding substances were introduced. SB61 passed, which revised the Montana Prescription Drug Registry. Among other things, this made registration to the registry mandatory for all prescribers. A second bill addressing the general revision of prescription drug laws, HB86, also passed which put into law provisions that opioid-naïve patients could not receive a prescription for more than a 7-day supply of opioids, requires identification for pharmacies to fill a prescription of a controlled substance, and also mandates use of the prescription drug registry by providers. A third bill, SB289, was passed providing pregnant women seeking assistance with a substance use disorder with safe harbor from prosecution.

**Naloxone Training for Emergency Responders** - The EMSTS section contracted with Best Practice Medicine in Bozeman to provide naloxone administration Master Trainer courses to law enforcement, fire departments, school nurses, EMS and others authorized to administer Naloxone. Master Trainers who complete this blended web-based / skill training course can then teach other responders. Those who complete the training are eligible to receive a free dose of naloxone, courtesy of a grant our partners in the Addictive and Mental Disorders Division has received. Since initiation of the program through November 2019, 1104 law enforcement, 80 detention officers, 45 firefighters, 34 school nurses, 231 EMS and 283 ‘other’ sectors have taken the training. Interested parties can go to <http://www.bestpracticemedicine.com/narcanmastertrn> for further information about the training.

**Opioid Media Campaign Evaluation** - In 2019, DPHHS partnered with ASHER Media to create a provider support media campaign, as well as a multi-part provider education series on opioids. The media campaign ran in Summer 2019 and demonstrated effectiveness with Montanans. The education series went live on the Montana Medical Association’s education website and free CME will be offered for providers taking the course for the next three years. These efforts are intended to reduce the stigma around asking for help from providers, especially family clinicians, and to reduce stigma of opioid use disorders and controversial topics such as Medication Assisted Treatment (MAT) within the provider community.

**Data Linkages** - During 2018, data use agreements among DPHHS and the Board of Pharmacy made possible an overview of opioid prescribing practices across the state from 2012 through 2017. The final report was published in 2019 and had a press release with the Governor.

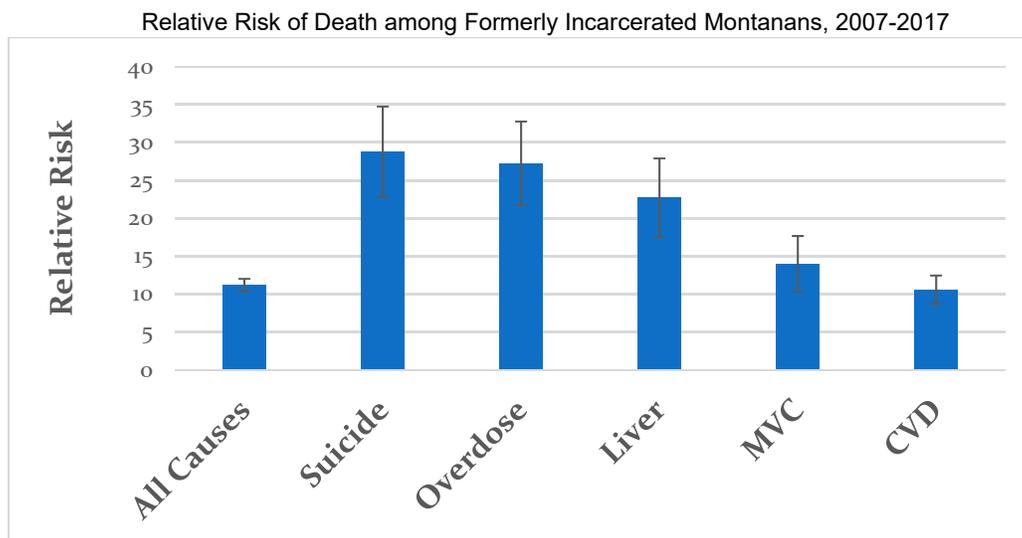
Some other study findings included:

- On average, women were prescribed more opioids than men;
- On average, men were prescribed higher dosages than women;

- Older age groups were prescribed more opioids at higher dosages than younger age groups overall;
- The average rate of prescribing and average daily dosages declined overall from 2012-2017; and
- Buprenorphine prescriptions saw a major increase in 2017 following the push for increased numbers of prescribers becoming waived to provide Medication Assisted Treatment.

Data agreements with the Department of Corrections allowed for an initial analysis on the top causes of death among people recently released from a DOC facility. Among all causes of death, formerly incarcerated Montanans had an 11.2 times higher risk of death than among the general population.

The highest risk of death from suicide, overdose, or liver disease among formerly incarcerated Montanans, showing that preventable mortality is a major concern for this population.



**State Epidemiologic Outcomes Workgroup** - In order to provide a more unified front to the public regarding public reports on substance use in the state, data analysts and epidemiologists from several departments joined together to create the State Epidemiologic Outcomes Workgroup (SEOW). This group shares information on what their departments were working on regarding substance abuse to reduce duplication of projects and promote collaboration. They have also produced one-page informative documents covering the burden of substance abuse in Montana for opioids, heroin, methamphetamines, and alcohol. These one-pagers are intended to provide guidance for policy makers and help them to identify where to focus interventions.

## EMS for Children – Pediatric Ready

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The goal of the Emergency Medical Services for Children (EMS-C)/Child Ready MT 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 care 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 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 for several years. The SPROC grant has provided the state with additional opportunities and resources to make improvements in pediatric care as well as Cultural Humility and Family Centered Care.

In the fall of 2018 Montana EMSC/Child Ready MT also received a HRSA EMSC Pediatric Emergency Care Coordinator (PECC) Learning Collaborative Grant. The objective of this funding was to increase the number of EMS Agencies that have a PECC on staff. This is a staff member who asks, “What about the Kids?” regarding training, assessments, education, policies, and community events.

Prior surveys showed 22% of EMS agencies had a PECC on staff. The MT EMS-C program successfully recruited 88 new PECCs, increasing the percentage to approximately 35%. Recruitment for new PECCs continues.

Two national presentations about the Montana PECC Project included a Poster Session at the National 2019 EMSC Meeting in Arlington, VA and at the 2019 National Disaster Preparedness Conference in December in Houston, Texas. An abstract has also been submitted for consideration at the next EMS World Conference as a breakout session.

**Pediatric Readiness Assessment** - A Pediatric Readiness Assessment will begin in the summer of 2020. The goal of this is to have at least a 10-point increase in scores across Montana from the 2013 assessment in which Montana received 58% out of 100%. The EMS-C program developed the Criteria for Formal Pediatric Facility Recognition as a result of this score and we look forward to showing continued success in EMS services becoming Pediatric Ready.

**Education** for hospital and EMS personnel is an important focus. 2019 activities included:

- Funding 95 nurses taking part in Emergency Nurse Pediatric (ENPC) courses
- ENPC Instructor courses certifying 10 new ENPC Instructors
- 75 EMS personnel participating in the Emergency Pediatric (EPC) course at no cost
- Each of the three trauma regions provided with funding to support pediatric education opportunities
- Pediatric education and breakout sessions at Spring Fling, Rimrock Conference, Spring Fever, Rocky Mountain Trauma System Symposium, Big Sky EMS Conference and the MEMSA Conference.

**Pediatric Readiness for Prehospital Services** - Montana developed EMS Prehospital Recognition Criteria. The criteria include four levels with an additional Safety Plus Endorsement. **Level I-Bronze** criterion includes having pediatric equipment/supplies and participation in surveys; **Level II-Silver** includes Pediatric education (at least 4 hrs. annually for staff) and a Pediatric Emergency Care Coordinator (PECC) on staff; **Level III-Platinum** includes Community Outreach

Events for the health and welfare of children; and **Level IV Gold** includes a Child Passenger Safety Technician on staff. The levels build upon one another and to reach Level IV, the EMS Service must comply with each preceding level. The **Safety Plus Endorsement** is a step above and beyond in which an EMS Service conducts Child Safety Background checks on staff.

In 2019, Montana EMS-C formally recognized 15 services as Pediatric Ready. With the help of Jason Mahoney, the Pediatric Liaison contractor, the EMSC/Child Ready program plans to meet a goal of 50% of services being recognized by March 2020.

**EMS-C/Pediatric Ready Connection Newsletters** - The program distributes 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 EMS-C advisory committee was to develop standards for hospitals to enable them to assess their pediatric readiness and provide goals for improvement. Hospitals are 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 Prepared – larger hospitals with more resources and the ability to receive and treat most children
- 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

Nineteen Montana hospitals have been assessed and formally recognized as pediatric ready:

<u>Pediatric Prepared</u>	<u>City</u>
St. Vincent Health Care	Billings (renewal)
Northern Montana Hospital	Havre (renewal)
North Valley Hospital	Whitefish (renewal)
Beartooth Billings Clinic	Red Lodge
St. James Healthcare	Butte
Kalispell Regional Healthcare	Kalispell
St. Patrick/Providence Hospital	Missoula
Benefis Health Care	Great Falls
Bozeman Health	Bozeman
Community Medical Center	Missoula

<u>Pediatric-Capable</u>	<u>City</u>
Stillwater Billings Clinic	Columbus (renewal)
Phillips County Hospital	Malta (renewal)
Central Montana Medical Center	Lewistown
St. Joseph Hospital	Polson
Pondera Medical Center	Conrad
Community Hospital of Anaconda	Anaconda
Big Horn County Memorial Hospital	Hardin

Five other hospitals are currently working on their pediatric facility recognition criteria.

**A Prehospital Pediatric Care Toolkit** was developed. This resource assists prehospital agencies with enhanced pediatric care information and helps them give the right care, at the right time, with the right resources. Distribution will begin in 2020.

**Pediatric Regionalization of Care** - Jason Mahoney, Pediatric Liaison for the program, continues to work across the continuums of care to help increase Montana's pediatric readiness. The Pediatric Liaison has conducted over 120 Pediatric educational opportunities across Montana including but not limited to: "It's Your Choice" (distracted/DUI drill with local schools), Child Passenger Safety Seat Trainings/Checks, pediatric Mock Codes with hospital staff and EMS, Boy Scouts CPR classes, PALS, JumpStart, Safe Transport of pediatric patients, Pediatric Disaster Drills, and Active Shooter drills.

**Pediatric Cultural Liaison** - John Wallace with Benefis Healthcare in Great Falls continues to work with other local Cultural Liaisons. The *Cultural of Care Toolkit* was being finalized in December 2019. The toolkit is an educational resource for hospitals, prehospital services, and community-based organizations to improve cultural humility work. Discussion is underway for a collaboration to develop online modules with continuing education credits for this toolkit.

John Wallace continues the important work of Cultural Awareness/Humility with healthcare providers and to help increase Montana's cultural humility for pediatric readiness. The Cultural Humility Assessment, a requirement for all Pediatric Facility Recognition renewals, was developed as an online tool. A Cultural Humility breakout session was conducted at the 2019 Big Sky EMS Educational Conference in Billings in November.

**Pediatric Disaster** - In collaboration with the Montana Healthcare Preparedness Program, a Pediatric Disaster Proposal for Tabletop Exercises for hospital staff and prehospital staff was developed and implemented in the Spring of 2019.

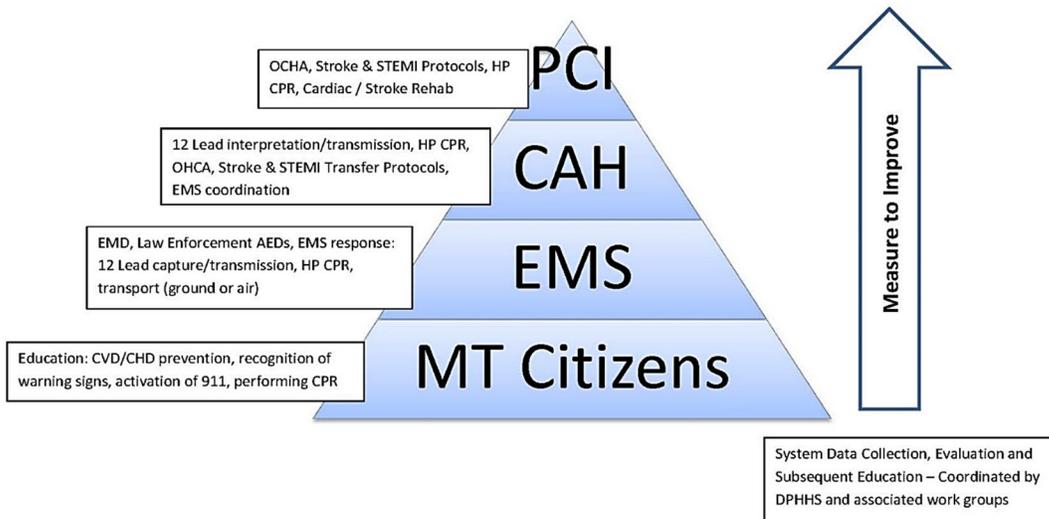
In collaboration with the Central Region Trauma Advisory Committee, a Pediatric Disaster and Emergency Preparedness training presented by TEEX/FEMA was held in Great Falls in August.

# Cardiac Ready Communities

In 2015, EMSTS received a three-year Leona M. and Harry B. Helmsley Charitable Trust grant aimed at improving cardiac arrest survival rates in Montana. This included the creation of a Cardiac System of Care for the state as well as distributing Lucas 2 Mechanical Chest Compression Devices to EMS and hospitals. This started work to develop a Cardiac Care System for the state.



## The Montana Cardiac System of Care



**Cardiac Ready Communities** - A primary strategy of the program is to develop Cardiac Ready Communities. For any community to have a high cardiac emergency survival rate, all links of the Cardiac Chain of Survival must be developed and connected. A key aspect of the program has been assisting communities to meet standards identified by a gap analysis tool and to work towards formal recognition as Cardiac Ready Communities. In 2017, Glasgow / Valley County became the first community to successfully receive recognition as a Cardiac Ready Community. This recognition was the culmination of two years of work toward this goal. The Cardiac Ready Communities Program and Glasgow were recognized for this effort by the Resuscitation Academy in Seattle, WA during their alumni meeting in December 2019.

The CRC Program received a \$20,000 grant from the HeartRescue Foundation to assist Rosebud County in attaining Cardiac Ready Community recognition. Rosebud County was selected because of its characteristics of being frontier, having three diverse community centers, and having a native-American Indian reservation. Planning meetings have been held with each community. The Rosebud County Health Department has agreed to be the champion for this project. They will continue to work with stakeholders to move toward Cardiac Ready Community Recognition for the entire county rather than individual communities. Their goal is to receive recognition in early 2021.

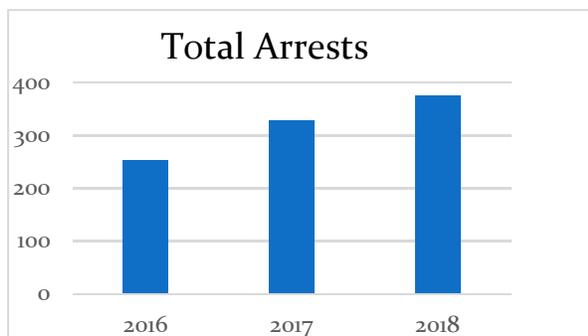
**Dispatch-Aided CPR** - In communities where Emergency Medical Dispatch has not yet been implemented for various reasons, the Cardiac Ready Communities program has developed a tool kit to assist them in creating a program. The process of having dispatchers guide callers through basic CPR on a patient until EMS arrives is a crucial element in the cardiac chain of survival. Providing this service is considered the standard of care within the profession and no medical emergency is more time dependent for intervention than a cardiac arrest.

**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). Over the next few years, Gallatin Heart Rescue grew with a mission to 'increase the rate of survival from sudden cardiac arrest within Montana by increasing the rates of bystander CPR.' Now coordinated as Montana Heart Rescue by the Cardiac Ready Communities program, communities wishing to become part of Montana Heart Rescue can find resources and instructors at: <http://dphhs.mt.gov/publichealth/EMSTS/cardiaready/MontanaHeartRescueCPRTraining>.

**AED Registration** - Any entity that wishes to use or allow the use of an automated external defibrillator (AED) must register their organization with DPHHS EMSTS (MCA 50-6-502). Entities registering in Montana provide required information through the Section's web-based, electronic OPHI-AED system. This platform was updated and enhanced in 2019 to provide better customer service as well as better means of collecting data.

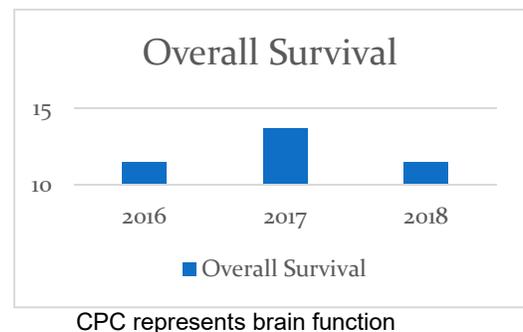
**Cardiac Arrest Registry for Enhanced Survival (CARES)** - EMSTS began participation in CARES in 2016. CARES is a tool to increase out-of-hospital cardiac arrest survival (OHCA) rates through system performance improvement. CARES provides a seamless web-based platform for tracking OHCA from bystander CPR through hospital discharge. CARES provides EMS services with data to assess the entire cardiac event, and outcomes so performance improvement can be evidence based.

Several agencies have been added in 2018 and 2019. Approximately 85% of the state's population will be represented in the 2019 report to be published in April 2020. Beginning in 2020, smaller agencies without frequent OHCA's will be combined into one data point, bringing coverage of the data system to close to 100% of all out-of-hospital arrests in MT.



The trend of more OHCA's continues to rise – primarily because more services are providing data. The number is approaching a predicted value of 500 OHCA's per year for a state population of approximately 1 million people. (In the meantime, aggregate reports will need to acknowledge this.)

Survival rates between 2017 and 2018 additional agencies (mostly rural) reporting data. Smaller agencies with longer transport times have poorer outcomes which is reflected in the decrease in survival rates. Several communities in Montana have survival rates double the national average.



**Mission Lifeline** - The Montana Chapter of the American Heart Association received a grant from the Helmsley Charitable Trust to implement the AHA's Mission:Lifeline program. This program is designed to decrease disability and improve survival from a deadly form of heart attack known as a STEMI. This project funded 12-lead EKG monitors to EMS agencies across the state as well as the

technology for hospitals to receive readings from the monitor while the patient is still in the field. The early recognition of a STEMI due to early transmission allows the hospital time to notify the cardiologist and intervention team to prepare for the patient before arrival. This decreases the time between recognition and definitive treatment, improving survival and decreasing heart tissue damage. At the end of the grant period in March 2018, the AHA granted the remaining funds and responsibility for ongoing program development to the Cardiac Ready Communities Program.

Combining these two programs allows the CRC Program to blend recognition, emergency treatment and transportation of all cardiovascular emergencies into one system of care. Data collected through a program called Get With The Guidelines-CAD allows EMS systems and hospitals to evaluate their response times and treatments for improvements in care. Additionally, outreach education to critical access hospitals and EMS agencies is coordinated with the state's 9 PCI (heart intervention capable) hospitals and the CRC Program to ensure consistent and adequate training across the state. The Mission Lifeline grant also provided funding to Best Practice Medicine to develop opportunities for STEMI education for EMTs, nurses and other providers.

One of the responsibilities of the CRC Program for Mission Lifeline is to host an annual STEMI conference. The conference provides the latest information about STEMI treatment to EMS providers, nurses, advanced-practice providers and physicians. The 2019 conference was held in conjunction with the Montana Stroke conference in Whitefish in May. There were over 150 people in attendance to hear from both state and national speakers. Continuing education credits for EMTs and nurses were provided.

**First Responder AED Grant** - In November of 2019, the Leona M. and Harry B. Helmsley Charitable Trust awarded the Cardiac Ready Communities Program another generous grant to improve cardiac arrest survival. Beginning in early 2020, every law enforcement agency will be eligible to receive an automatic external defibrillator (AED) for every vehicle in their fleet. This grant will distribute over 2,200 AEDs to local, county, state, tribal, campus and federal agencies across Montana. Research has demonstrated that communities with a law enforcement AED program can improve survival from cardiac arrest by 10-30%. Outcomes for the project will be measured through the CARES registry and tracked for further interventions and training.

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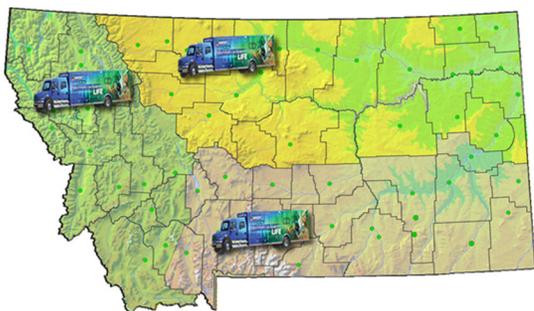
Ever wonder if the work you do matters?  
Check out this video about some of the Helmsley work

**One Piece of the Puzzle  
The Difference Between Life and Death**  
<https://www.youtube.com/watch?v=oYGcZwgEhiM&feature=youtu.be>

# Simulation in Motion Montana

<https://www.mobilesimmontana.org/>

Facebook: Simulation in Motion-Montana



In January 2016, the Leona M. and Harry B. Helmsley Charitable Trust awarded DPHHS a three-year \$4.2 million-dollar grant to purchase three mobile simulation labs.

The primary goal of SIM-MT is to provide education and training to rural EMS services and hospitals. As part of a plan to assure sustainability, services are also provided to a broad base of other stakeholders such as universities, colleges and others. In this past year simulation education expanded out-of-state to Idaho and to the Wyoming National Guard and Wyoming EMS & Trauma conference.

**Simulation in Motion Montana, Inc.** - A primary goal of this project was to form a public/private partnership with Simulation in Motion Montana, Inc. a nonprofit 501(c)3 and to manage ong-term governance and sustainability planning through its board. This past year, the SIM-MT board has been transitioning from an initial program development and implementation role to a business-oriented role. The board is adding new members with business and entrepreneur skills sets and will be focusing more energies on business and strategic planning.

Business planning for SIM-MT sustainability centers around three sources of funding:

- 1) Revenue from events for hospitals, EMS, colleges, universities and other customers;
- 2) Initiatives such as simulation-based sepsis training for the Montana Hospital Association and Neonatal Withdrawal and Naloxone education for DPHHS's Opioid project;
- 3) Philanthropy and donations.

Grant funding to DPHHS for Helmsley ended last November. In anticipation of this, SIM-MT has been transitioning from grant-funded operations to funding from the above sources. Full wheels-on-the-ground operations have only been ongoing for two years. While SIM-MT continues to see increased funding, it is not yet a fully sustainable model. Again, due to generous Helmsley support for this project, additional transition funding support has been award to Simulation in Motion Montana.

Part of this funding is being used to support hiring an Executive Director for the board. This person will support the board's transition and planning and be the 'face' of SIM-MT at many junctures. Partly because SIM-MT has not yet been meeting philanthropy goals, a Project Manager is also being hired. This work takes a lot of time and relationship building and the project manager will have a primary role in marketing SIM-MT and seek such finding in support of the project.

**Project Management Entity** - Best Practice Medicine is contracted by SIM-MT as a key partner of SIM-MT. BPM manages the day-to-day operations such as staffing and education, scheduling, maintenance of equipment and evaluation. Simulation team leaders and simulation specialists man each of the labs in Kalispell, Bozeman and Havre.



BPM's commitment to providing a high level of clinical and educational expertise includes supporting staff recognition as Certified Healthcare Simulation Educators.

Additionally, SIM-MT received recognition this year through the Society for Simulation in Healthcare as the country's first (and only) accredited mobile simulation program.

