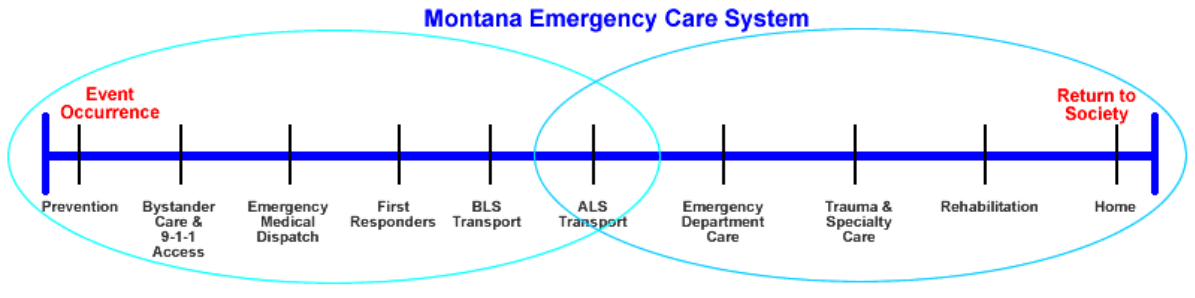
Montana

Emergency Medical Services

A Guide for Elected Officials



Emergency Medical Services & Trauma Systems Section
Montana Department of Public Health and Human Services

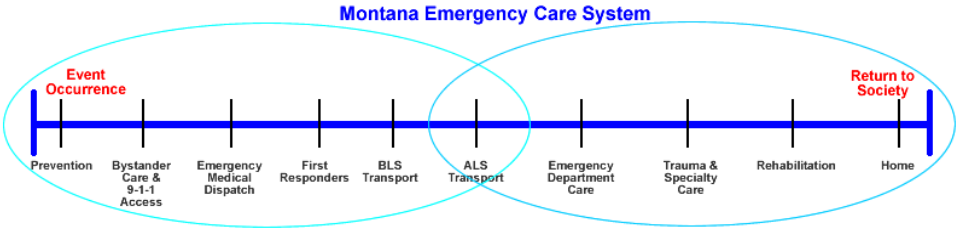
2007

Emergency Medical Services
An Essential Public Service

Introduction

The average Montana resident will need ambulance service at least twice in his or her lifetime and for some of these patients, delays in receiving emergency care will contribute to death or permanent injury. Montanans who live in rural areas face special problems in receiving emergency care. It is difficult to deliver emergency medical services (EMS) to widely dispersed populations quickly and in many small rural communities, there may be less than one emergency call a day. This relatively low volume of calls may mean that a rural ambulance service cannot support itself financially and that rural EMS providers have difficulty maintaining their specialized skills. Many of the problems rural EMS providers are having in delivering EMS care can be alleviated with additional resources and system-wide planning.

To make good decisions, public policy makers must be well-informed about Emergency Medical Service issues. More commonly known as EMS, you can easily recognize EMS when you see ambulances responding to incidents in your community. However, EMS is much more than emergency medical response and transport and is better characterized as an emergency care system which includes the continuum of patient care from the occurrence of an illness or injury to the return the of patient back home.



EMS is part of an intricate emergency care system which includes:

- response agencies and organizations – community, hospital and fire based as well as private;
- communications and transportation networks – for field response, facility and interfacility care;
- trauma systems - clinics, hospitals, trauma centers and rehabilitation facilities.

It is manned by highly trained professionals:

- volunteer and career prehospital personnel;
- physicians, nurses, therapists, administrators;
- government officials;
- an informed public that knows what to do in a medical emergency.

Each player in this emergency care system has an essential role to perform as part of a coordinated system of care.

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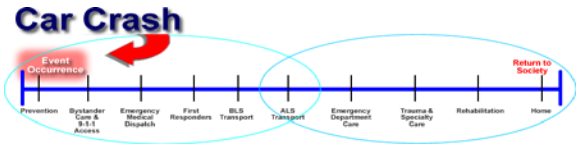
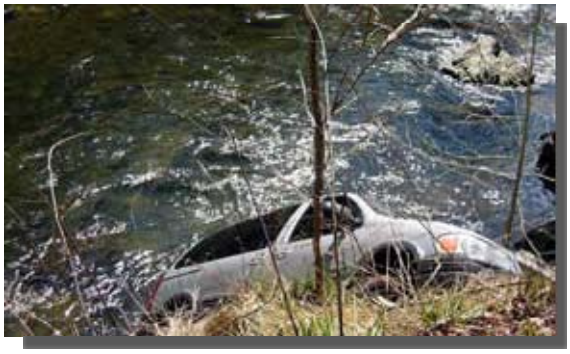
The following scenario highlights the complex interaction of the essential components of an emergency care system in managing a single, critical incident. The organizational structure of EMS, as well as who provides and finances the services, varies significantly from community to community. Prehospital services can be volunteer organizations, hospital based, or provided by commercial or public safety companies; but the components of an EMS system always remain the same.

Every day across Montana, hundreds of people like the Coopers, experience a medical emergency. When they least expected it, this family found themselves in a desperate situation; but the EMS system was there when they needed it. This is their story.



So far the day could not have been more perfect, Wendy Cooper thought. She was enjoying a very nice, scenic drive to a nearby community to attend her son's soccer game. It was almost 4 pm on Friday, and if she maintained the same pace, she and her children would get there by 6:00 at the latest. Even 10-year-old Brian, in the back seat and excited about the game, had calmed down and was reading a comic book. Suddenly, a pickup truck emerged from an almost hidden intersection, moving toward the path of the Cooper's car. Wendy swerved to avoid the pick-up; drove off the road and over a steep embankment to a creek bed below. That was the last thing she remembered.



Jill was also driving this road and she saw the crash ahead of her. She pulled her car safely off the road, stopped and immediately called 9-1-1 on her cell phone. As she went down to the smashed car, she saw Wendy trying to get out and heard her daughter crying in the front seat. As she began to calm and reassure the two adults, she saw the young boy in the back seat; he did not have on his safety belt. He was not moving and did not appear to be breathing. Fortunately, Jill had recently completed a course in bystander care for the injured and was able to recognize that this was a life threatening situation. Jill reached into the car and safely changed Brian's position so that he could breathe again. This simple action very likely saved his life.

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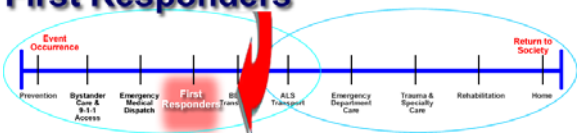
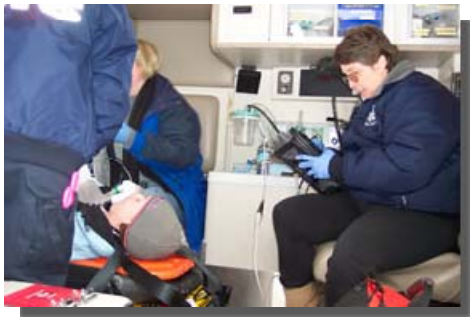
Emergency Medical Dispatch

Debra was on duty that Friday afternoon at the county 9-1-1 center. She is a trained, certified Emergency Medical Dispatcher. As Jill described the situation to Debra, she calmly and efficiently asked Jill questions so that she could send the appropriate units to the scene. After reviewing the dispatch procedures, Debra immediately dispatched a quick response unit and a fire department with rescue equipment from a community only one-half mile from the crash scene and a BLS ambulance that was 15 minutes from the scene. Recognizing that there was a potentially life-threatening situation, Debra also alerted the closest hospital and an Advanced Life Support (ALS) helicopter from its base at a hospital 30 minutes away. In the meantime, she gave Jill simple step-by-step instructions on what to do before help arrived.

First Responders



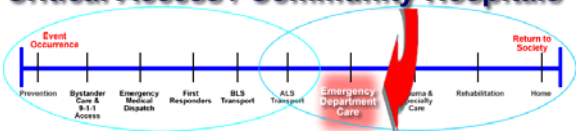
Within minutes, the nearest law enforcement unit arrives as well as the local quick response unit (QRU) and a fire truck with rescue equipment. While all responders of these units have received over 40 hours of formal training as EMT-First Responders, law enforcement makes the scene safe; the fire fighters stabilize the wrecked vehicle; and QRU members began assessing and treating the Cooper family. While Wendy Cooper and her daughter appear to only have minor injuries, the QRU responders immediately start to assess and treat Brian with oxygen.



Basic Life Support Transport

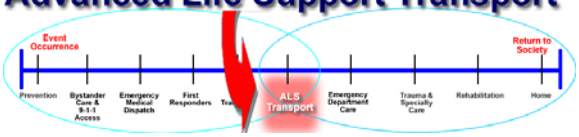
Tom and Valerie, EMT-Basics on the first ambulance to arrive, find that the QRU crew has arrived about 20 minutes before them. The EMT-First Responders have already immobilized Brian for possible head and neck injuries. Tom and Valerie are able to further stabilize Brian and continue monitoring him as they transport him to the rural critical access hospital (CAH) only a few miles from the crash scene. Because the ambulance report to the CAH alerts them that Brian's condition is critical, the CAH alerts the regional trauma center and an advanced life support helicopter is launched soon after and is enroute even as the patient is still being transported to the CAH.

Critical Access / Community Hospitals

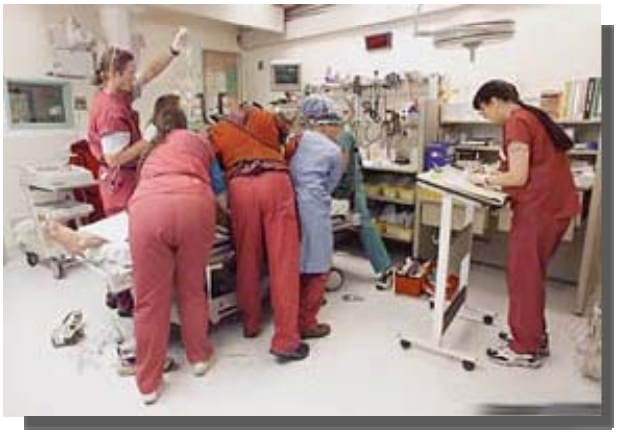


Even before Brian arrived, Dr. Murphy has talked to the ambulance crew by radio. She knows the severity of Brian's injuries and that he will probably need more optimal care at the regional trauma center, which has special equipment and a staff highly trained to treat trauma patients. When Brian arrives by ambulance at the critical access hospital, the CAH trauma team immediately assesses his condition and further stabilizes him. Dr. Murphy consults with the trauma surgeon at the trauma center, and because of the distance, it is decided to transfer Brian by the helicopter which is only a minutes away from landing at the CAH helipad.

Advanced Life Support Transport



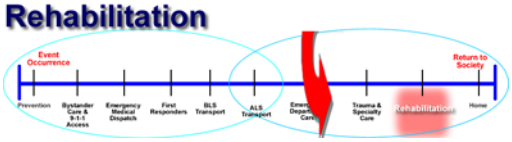
Fred and Lisa, the nurse and paramedic on the helicopter crew that will transport Brian to the trauma center, have additional training in the care of critically injured patients. Much of that training included the treatment of pediatric patients such as Brian. The helicopter is specially equipped, and Brian is in good hands as he is flown to the regional trauma center almost 80 miles away. Via radio, Fred talks frequently with the surgeons at the trauma center, updating them on Brian's condition.



Trauma & Specialty Care

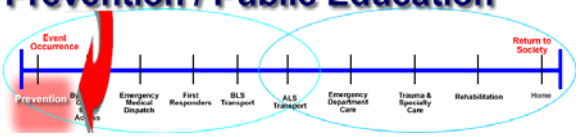
Upon arrival at the trauma center, Brian was met by the trauma team led by Dr. Thomas, a board-certified trauma surgeon. Protocols and training guides the team as it rapidly assesses and diagnoses Brian's condition. The trauma team works quickly, getting X-rays and CT scans and performing other diagnostic tests to determine his injuries and guide treatment. The trauma team treating Brian is optimistic about his prognosis.

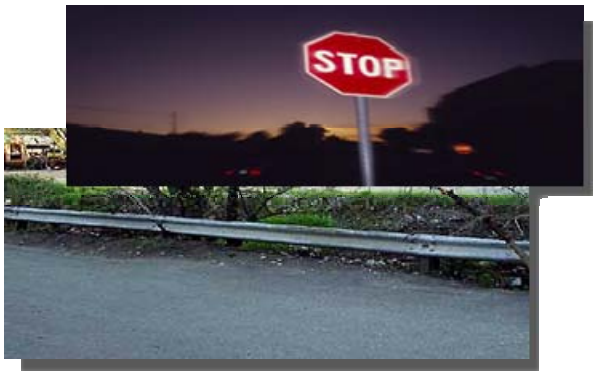
Rehabilitation



During his first few days at the trauma center, Brian was evaluated by Melissa, a physical therapist, as well as other specialists from speech therapy and social work. They were part of the trauma team and worked daily with Brian and his parents throughout his stay. The trauma team also consulted with his teachers to ensure Brian's safe return to school.

Prevention / Public Education





Tom, the lead paramedic who responded to the Coopers' crash, was concerned that the Cooper's accident was the fourth crash in a year to which his crew had responded at the same location. After discussing their concerns and visiting the intersection, Tom and members of his ambulance crew thought that a partially obscured stop sign might be the cause of these crashes. They contacted staff from the State Highway Safety Office to get more visible road signs erected and a guardrail was installed.

The Coopers were concerned that their son had unbuckled his safety belt. After talking with Brian, they decided to try to do something positive. They contacted several public safety and EMS organizations to see what they could do to emphasize the importance of wearing safety belts at all times. Brian appeared in several public service announcements, and his parents were asked to speak to groups about buckling up. Because of the Coopers, the message about wearing safety belts is now being taken seriously by many more people.

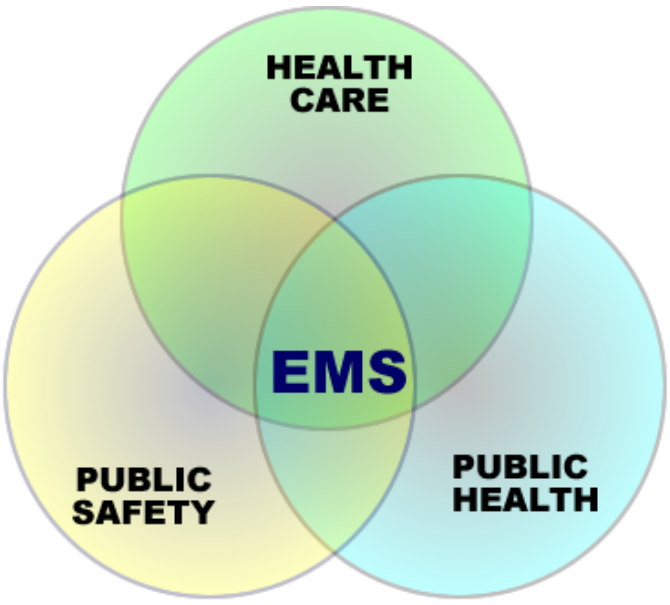
Local EMS Systems

Responding to sudden illness or injury is ultimately the responsibility of local emergency medical services systems across the state. Local EMS systems represent an effort among many different organizations and communities to deliver the best possible medical care to patients.

Local communities design their own EMS systems, using local resources to fill local needs. For instance, prehospital emergency medical care and transport, one component of an emergency care system, may be provided by a volunteer squad, a hospital-based ambulance service, a fire department, a commercial ambulance company or others. The level of prehospital emergency medical care also varies greatly from community to community across Montana. It can range from Basic Life Support (BLS) provided by EMT-First Responders or EMT-Basics to Advanced Life Support (ALS) provided by a EMT-Intermediates, EMT-Paramedics or nurses.

There are numerous challenges to providing quality EMS in a rural setting. There are resource limitations on both personnel and equipment. Finances can be challenging. The experience level of EMS providers is low. Response times can be extended well beyond what is considered the 'golden hour'. Nonetheless, the public expects that the EMS system will provide a health care safety net for their medical emergencies when they occur.

EMS represents the intersection of public safety, public health, and health care systems. The public safety response of EMS services to 9-1-1 emergency patients represents a major part of the safety net for the healthcare system. EMS providers may be the provider of last resort for Montana citizens and visitors. Nonetheless, EMS services are also an integral part of the public health system and they work closely with medical and public health experts to help alleviate unnecessary burdens on already overburdened hospital, medical and public health systems.



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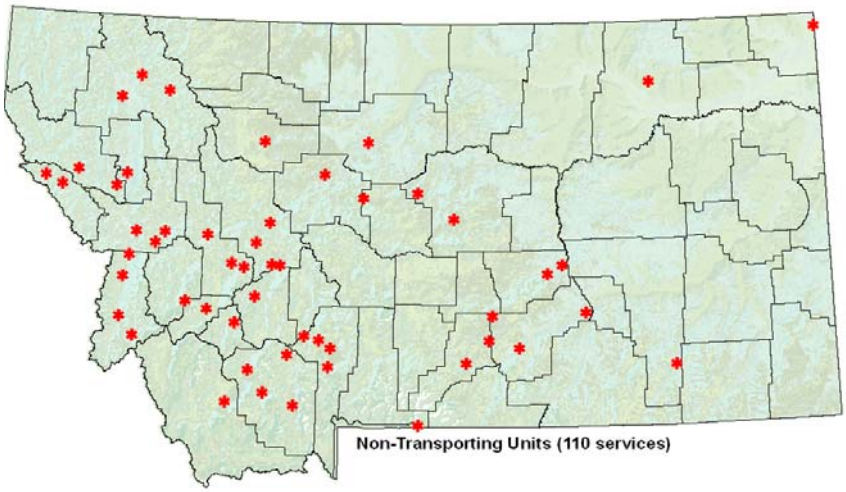
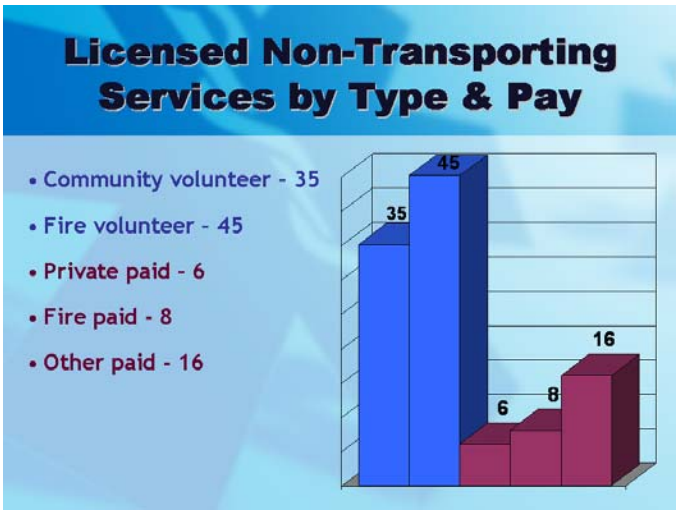
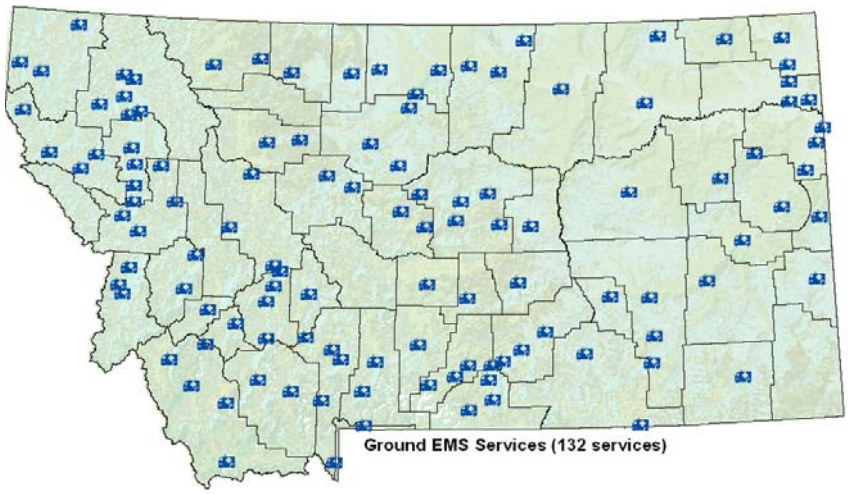
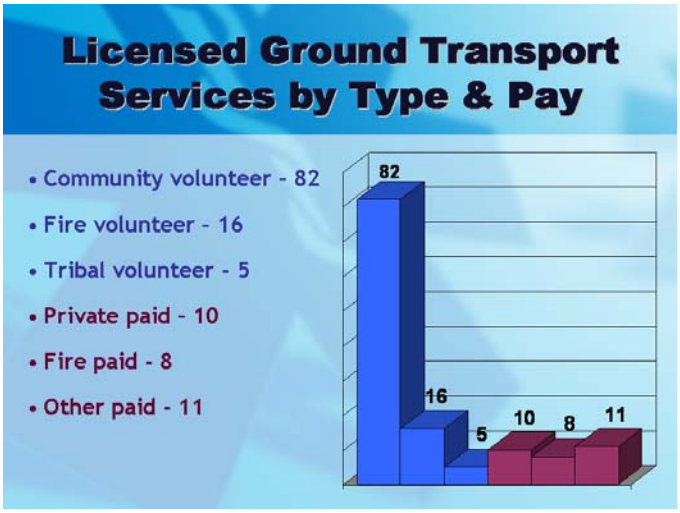
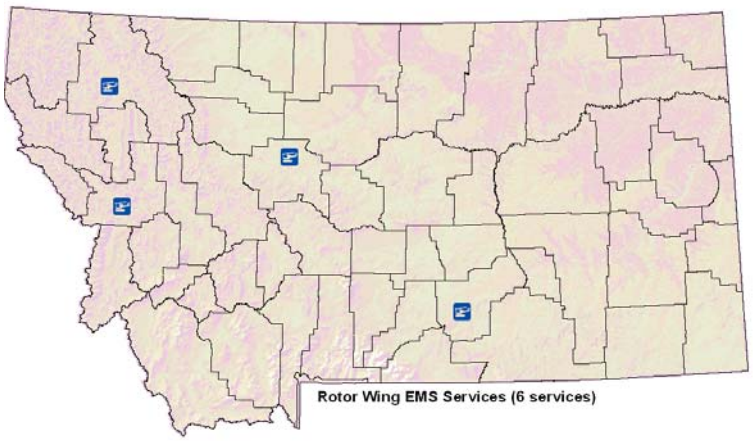
Montana EMS Services by the Numbers

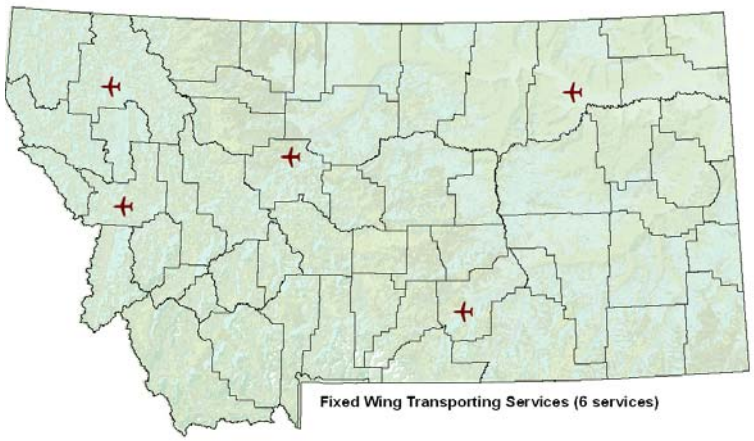












EMS & Trauma Systems Section, DPHHS

It is our 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.

It is our VISION that the development of comprehensive emergency medical, trauma and prevention programs is imperative to the well-being, health and safety of Montana citizens.

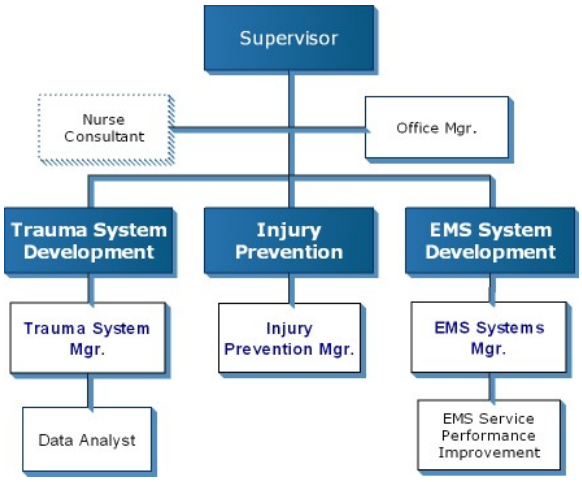
If an emergency care system is to carry out all of its responsibilities, there must be a 'lead' agency which provides for central focus and coordination of all components of the system. The EMS and Trauma Systems Section, Montana Department of Public Health and Human Services is Montana's lead EMS agency. Through several authorizing statutes, DPHHS has been given authority and responsibility to meet its regulatory, leadership and facilitator roles.

However, in order to realize its mission, coordination with numerous public and private partners is essential to achieving goals and strategies including:

- **State Trauma Care Committee** – created by statute and appointed by the Governor, this committee advises the Department on trauma system development issues
- **Regional Trauma Care Committees** (East, Central and West) – created by statute, these regional committees provide regional coordination of trauma system development strategies
- **EMS System Task Force** – appointed by the Department, the task force assists the Department in development of an EMS System Plan and strategies for improvement
- **Board of Medical Examiners**, Dept of Labor and Industry – coordination with EMT training and licensing
- **Montana Hospital Association** – advice and coordination with EMS, trauma system, disaster response and data collection strategies
- **Highway Traffic Safety**, Dept of Transportation – numerous projects related to traffic safety, data collection and prevention
- **Disaster and Emergency Services**, Dept of Military – coordination with homeland security and medical response to disaster initiatives
- **Public Safety Services Bureau,** Dept of Administration – radio communications and 9-1-1 strategies
- **Montana Office of Rural Health Policy** – rural EMS, trauma and human resources challenges

EMS and Trauma System Section Organization and Roles

In order to better achieve its mission, the Section has been actively 'retooling' its approach to facilitating improvements across the breadth of the emergency care system. While continuing to meets its regulatory responsibility to protect public health, the Section continues to stretch into activities important to the development of local, regional and statewide emergency care systems including:



- Lead agency for development of the **Montana Trauma Care System** including facility, regional and statewide system development; trauma facility designation; system evaluation and quality improvement;
- Leadership role in the coordination a program which analyses information from multiple data sources and **designs injury prevention and control strategies**;
- Leadership role in **information technology** including collecting data from local EMS agencies, hospitals and trauma centers and monitoring system performance and outcome;
- Coordinating development of a **statewide communications system** that connects EMS providers in the field with hospitals as well as trauma and specialty centers;
- Coordinating the **distribution of federal grants** for EMS, trauma and prevention;
- Planning for and coordinating the **medical response to disasters** and mass casualty incidents;
- **Licensing and enforcement of EMS services;**
- Oversite of a statewide **Public Access Automatic External Defibrillator (AED) program**
- Regulatory responsibility for **Comfort One®** prehospital do-not-resuscitate program;
- Administration of rules which allow physicians to report information about certain diseases to emergency responders who may have sustained an **Unprotected Exposure;**
- Providing for the **Montana Poison Control System** which provided assistance to over 14,000 poison call emergencies in 2006;
- **Technical assistance** to EMS services, EMTs, medical directors, trauma coordinators, hospitals and others;
- **Provides and supports education** through a variety of strategies.

DPHHS Statute Authorizations

Title 50, Chapter 6, Montana Code Annotated

Part 1 – requires DPHHS to establish and administer an emergency medical services program and further authorizes DPHHS to confer and cooperate with any other persons, organizations and governmental agencies

Part 3 – provides DPHHS with general authority to supervise and regulate emergency medical services in Montana

Part 4 – requires DPHHS to plan, coordinate, implement and administer a statewide trauma care system that involves all health care facilities and emergency medical services within the State of Montana

Part 5 – requires DPHHS to adopt rules allowing entities to use automatic external defibrillators.

50-16-7 MCA – DPHHS responsibility and rulemaking authority for what constitutes an exposure to infectious disease and reporting and recordkeeping requirements

50-9-9 and 50-9-10 MCA – (Rights of Terminally Ill and Comfort One) – Department responsibility and rulemaking authority for Comfort One

Board of Medical Examiners, Department of Labor and Industry

Title 50, Chapter 6, Part 2 – requires the Board of Medical Examiners to adopt rules including, but not limited to, training and certification of emergency medical technicians.

Components of an Emergency Care System

Development of effective emergency care systems is crucial to the health of Montanans. Studies have demonstrated that comprehensive, effective systems save lives. The *EMS Agenda for the Future* describes a system based on 14 components. Key recommendations of this agenda currently being studied and implemented include:

Regulation and Policy - To provide a quality, effective system of emergency medical care, there must be comprehensive enabling legislation with provision for a lead EMS agency. There must be a consistent, established funding source and other essential resources to adequately support the activities of the lead agency as well as local EMS systems.

Medical Oversight and Direction- Physicians should be consistently involved and provide leadership at all levels of system development, especially relative to performance improvement of system programs (local, regional, statewide).

Human Resources and Training – Emergency care personnel, volunteer and career, can perform their role only if adequately trained and available in sufficient numbers throughout the State.

Transportation and Facilities - Safe, reliable ambulance transportation is a critical component of an effective EMS system. It is imperative that the seriously ill patient be delivered in a timely manner to the closest appropriate facility. Provide for a quality, effective system of specialty care, especially trauma, cardiac and pediatric care.

Communications - A reliable communications system is an essential component of an overall EMS system. This includes effective public access and dispatch systems as well comprehensive radio communications.

Public Information, Education and Prevention - To effectively serve the public, each State must develop and implement an EMS public information and education (PI&E) program. This program should be based on a needs assessment of the population to be served and an identification of actual or potential problem areas. Such programs should enhance the public's knowledge of the EMS system, support appropriate EMS system access, demonstrate essential self-help and appropriate bystander care actions, and encourage injury prevention.

Evaluation - A comprehensive evaluation program is needed to effectively plan, implement and monitor a statewide emergency care system.

Emergency Care System Challenges

This is a unique time for the public and government; private and public health care; and volunteer and career medical providers to become engaged with the development of a comprehensive, effective emergency care system. Much of Montana's EMS system is fragmented and unorganized. In much the same way that the trauma system was similarly characterized in 1990, patients suffer – not because of bad care – but because of good people trying to function in an ineffective system. Through surveys, meetings and discussions with many stakeholders interested in this problem, four key challenges rise to the top of any list:

Emergency Care System Development

As stated above, the trauma system was once characterized as the EMS system is now. However, with a long-term effort to bring leadership, funding and other resources to bear on the essential components of an trauma system, many improvements have been accomplished and the trauma system today is much better prepared and capable of affecting the outcome of trauma patients.

While similar efforts have begun with the development of a comprehensive emergency care system, much is yet to be done and a long-term commitment to this problem has barely begun. Leadership from alls levels – state and local – will be necessary and limited resources will need to be prioritized and dedicated to the most pressing issues.

Recruitment and Retention

While much of patient care in Montana's 'urban' communities is delivered by paid, career personnel, most of Montana's rural communities are served by volunteer staff. These communities are sparsely populated and call volumes are low, therefore operation of paid services is not cost effective. Paid services are also faced with recruitment and retention challenges as they become the backup for outlying volunteer services with decreased availability.

Education and Training

Increased training and continuing education requirements are reasons often cited as barriers to volunteerism in EMS. Being an EMT, volunteer and paid, requires a continuing commitment to competence. Today, it requires at least 110 hours to become an EMT-Basic and 500 to a 1000 hours to become a Paramedic. Additionally, such training is no longer available in many rural communities and many prospective EMTs travel long distances for months at a time in order to qualify for testing and licensing requirements.

Funding

Most citizens and politicians would agree that the provision of out-of-hospital emergency care is like police and fire protection; an essential service that must be provided to their community. However, many communities have resorted to bake sales and donations to be able to purchase basic education and training, supplies, equipment, ambulances and radios. Future emergency care systems, whether they be volunteer, paid or some combination thereof, will need stable and adequate funding to assure their viability.

Strategies and Solutions

What can government, elected officials and other stakeholders do to improve and support Montana's emergency care system? Work has been ongoing on answering that question and numerous strategies are being considered and implemented. Y*ou cannot suggest strategies and solutions without collecting information about the problem.* As such, elected officials should collect data and information - talk to EMS services, EMTs, and other healthcare providers - and become involved with studying the challenges of Montana's emergency care system in order to affect solutions which can make the system viable and strong.

Some strategies in each of the four key challenges described in the previous page include:

Emergency Care System Development

- Support the comprehensive development of an emergency care system which includes strategies to care and protect the patient from the point of injury to return back home
- Support continued meetings and deliberations of an EMS System Task Force
- Support development and education of service medical directors and medical oversite for patient care, an emergency care system and performance improvement of each component of the system

Recruitment and Retention

- 'Volunteer incentive' programs such as:
  - Tax breaks
  - Retirement program
  - Tuition for education – local and college
  - Employer incentive and recognition programs
- Service manager education about managing EMS operations, personnel, budgets and recruitment and retention
- Public information and education programs which help citizens understand how to support system development

Education and Training

- Support strategies which enable multiple communities to work together on initial and ongoing courses
- Support distance learning strategies; telemed, web-based, CD-ROM, etc.
- Provide for better trained instructors and local training caches and materials
- Provide for mobile training vans which can bring quality training to local communities

Funding

- Provide for at least basic funding for EMS service operations and local system operations, education, medical direction and data collection
- Provide for overall, consistent funding for evaluation and development of a comprehensive emergency care system
- Become engaged in external factors which affect viability of EMS services; Medicare and Medical reimbursement, federal funding