

**STATE OF MONTANA**

**AN ASSESSMENT**

**OF**

**EMERGENCY MEDICAL SERVICES**

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National Highway Traffic  
Safety Administration  
Technical Assistance Team

Matt Anderson  
Kathleen A. Cline, MD, FACEP  
Valerie A. Gompf  
Kevin K. McGinnis  
Joseph B. Phillips, Jr.  
William R. Schiller, MD, FACS

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## **BACKGROUND**

Injury is the leading cause of death for persons in the age group 1 through 44. Each year nearly 40,000 people lose their lives on our nation's roads, and approximately 70 percent of those fatalities occur on rural highways. The National Highway Traffic Safety Administration (NHTSA) is charged with reducing accidental injury on the nation's highways. NHTSA has determined that it can best use its limited resources if its efforts are focused on assisting States with the development of integrated emergency medical services programs that include comprehensive systems of trauma care.

To accomplish this goal, NHTSA has developed a Technical Assistance Team approach that permits States to utilize highway safety funds to support the technical evaluation of existing and proposed emergency medical services programs. NHTSA serves as a facilitator by assembling a team of technical experts who have demonstrated expertise in emergency medical services development and implementation. These experts have demonstrated leadership and expertise through involvement in national organizations committed to the improvement of emergency medical services throughout the country. Selection to the Technical Assistance Team (TAT) is also based on experience in special areas identified by the requesting state. Examples of specialized expertise include experience in the development of legislative proposals, data gathering systems, and trauma systems. Experience in similar geographic and demographic situations, such as rural, mountainous areas, coupled with knowledge in providing emergency medical services in urban populations is essential.

The Montana Highway Traffic Safety Division, in concert with the Montana Department of Health and Environmental Sciences, Health Services Division, Emergency Medical Services Bureau requested the assistance of NHTSA. NHTSA agreed to utilize its technical assistance program to provide a technical evaluation of the Montana statewide EMS Program. NHTSA developed a format whereby the Montana Emergency Medical Services Bureau provided comprehensive briefings on the EMS system based on an outline developed by the Technical Assistance Team.

The Technical Assistance Team assembled in Helena, Montana on June 25 through 27, 1991. For the first day and one half, over 35 presenters representing various components of the EMS system in the State of Montana, provided in-depth briefings on emergency medical services and trauma care in Montana. Topics for review and discussion included the following:

General Emergency Medical Services Overview  
of System Components

- Regulation and Policy
- Resource Management
- Human Resource and Training
- Transportation
- Facilities
- Communication
- Evaluation
- Public Information and Education
- Medical Direction
- Trauma Systems

The forum of presentation and discussion allowed the Technical Assistance Team the opportunity to ask questions regarding the emergency medical services system, clarify any issues identified in the briefing materials provided earlier, and develop a clear understanding of how emergency medical services function throughout Montana. The team spent considerable time with each presenter so that it could review the status for each topic.

Following the briefings by presenters from the Montana EMS Bureau, public and private sector providers, and members of the medical community, the Technical Assistance Team sequestered to evaluate the current EMS system as presented and to develop a set of recommendations for system improvements.

The statements made in this report are based on the input received. Pre-established standards and the combined experience of the team members were applied to the information gathered. All team members agree with the recommendations as presented.

When reviewing this report, please note the areas in ***bold italics*** represent priority areas identified by the Technical Assistance Team.

## **ACKNOWLEDGMENTS**

The Technical Assistance Team would like to acknowledge the Montana Department of Health And Environmental Sciences, Health Services Division, Emergency Medical Services Bureau and the Montana Highway Traffic Safety Division for their support in conducting this assessment.

The Team would like to thank all the presenters for being candid and open regarding the status of emergency medical services in Montana. Each presenter was responsive to the questions posed by the Technical Assistance Team which aided the reviewers in their evaluation.

Special recognition should be made regarding the extraordinary efforts taken by Drew Dawson, Chief, Emergency Medical Services Bureau, the EMS Bureau staff, and the briefing participants for their well prepared and forthright presentations. In addition, the team applauds the well-organized, comprehensive briefing packages sent to the team members in preparation for the assessment.

Lastly, our appreciation is extended to the service providers and concerned citizens who participated as observers in the review process. Their presence and support typifies the concern of all Montanans in improving emergency medical services statewide.

## INTRODUCTION

Montana is a frontier state with fewer than six persons per square mile and a variety of colorful terrain ranging from the vast prairies of the East to the mountains of the Continental Divide in the West. The land area is over 147,000 square miles. Great distances, geographic barriers, and climate create a challenge to the delivery of Emergency Medical Services for most of the State.

Most of the hospitals in Montana are very small and serve large geographic areas. Basic Life Support (BLS) service is found throughout most of the State, although response times and transport times are long. There are no Level I trauma centers or medical schools in the State. The larger facilities are all located in the western half of the State. Nevertheless, there is a functioning confederation of EMS providers and air-medical services that serve even the most remote areas of Montana.

The Technical Assistance Team enjoyed the hospitality of Montanans during its visit and was impressed with the candor and integrity of all those who provided testimony. Clearly, there is a strong commitment to quality EMS care, and the Team noted that the State is making vigorous efforts to provide quality care with the limited resources available.

This report is provided in the spirit that the citizens of Montana will persevere and carry their system into a new era of development and integration. With the enthusiasm and commitment evident during the site visit, the team is confident that positive changes can be accomplished in Montana's EMS system.

## Montana Emergency Medical Services (EMS)

The Technical Assistance Team reviewed ten essential components of an EMS system. For each component reviewed, the Technical Assistance Team identified key EMS issues or standards, assessed the status, and made recommendations for necessary changes.

### A. REGULATION AND POLICY

#### Standard

To provide a quality, effective system of emergency medical care for adults and children, each EMS system must have in place comprehensive enabling legislation with provision for a lead EMS agency, as well as a funding mechanism, regulations, and operational policies and procedures.

#### Status

Montana has legislation which provides for the certification of EMS personnel and the licensure of ambulance services. The Bureau of EMS is the state lead EMS agency. Two boards, the Board of Medical Examiners and the Board of Health, have separate responsibilities for EMS regulation and appeals.

This legislation, however, does not address or define a complete EMS system; therefore, comprehensive system planning and development has not been undertaken.

Funding for the EMS Bureau and system components is inadequate. The EMS Bureau cannot properly monitor the training process and has insufficient resources to adequately support training. Telecommunications planning has been on a piecemeal basis.

The EMS Bureau has no medical director nor is medical direction required for all components of the EMS system. Evaluation is not stipulated at most levels of the system, and data are not required for any evaluation or quality assurance purposes.

Montana does have an appropriate communicable disease law which provides protection to EMS providers. Comfort One, the living will/DNR law, is exemplary. The State's good samaritan law covers volunteer EMS personnel.

## Recommendations

***Enact legislation which gives the EMS Bureau comprehensive authority to plan and guide the State`s EMS system under the policy direction of either a state EMS Advisory Council or Authority Board staffed by the Bureau. These alternatives allow for an Advisory Council which provides recommendations to the EMS Bureau, the state EMS director and medical director, or an EMS Board which would promulgate EMS policy and regulations and serve as an appeals body.***

Remove the service and vehicle licensure and personnel certification responsibilities from the Boards of Health and Medical Examiners and relocate those functions within the EMS Bureau.

The state EMS law should define components of the system such as: training, evaluation, medical control, transportation, trauma care systems, communications, resource management, regulation and policy, facilities, and public information and education.

Implement a comprehensive data collection system with confidentiality and immunity from discovery guaranteed.

Require medical direction of all system components including the EMS Bureau.

***Establish a dedicated state funding source, such as a \$5.00 fee on vehicle registrations (the existing \$1.00 fee for abandoned vehicle removal points the way).***

Rewrite administrative rules to ensure completeness, clarity, and brevity. The definitions section should be separate and should not define policy.

## B. RESOURCE MANAGEMENT

### Standard

The provision of centralized coordination to identify and categorize the resources necessary for overall system implementation and operation is essential to an effective EMS system. This is required to maintain a coordinated response and appropriate resource utilization throughout the State. It is essential that adult and pediatric victims of medical or traumatic emergencies have equal access to basic emergency care, including the triage and transport of all victims by appropriately certified personnel (at a minimum, trained to the EMT-Basic level) in a licensed and equipped ambulance to a facility that is appropriately equipped and staffed, and ready to administer to the needs of the patient.

### Status

Montana is fortunate to be endowed with an abundance of prehospital and hospital EMS resources. This is characterized by 4,000 prehospital providers, 90% of whom are volunteers, and by hospital personnel who invest considerable quantities of time, expertise, and money in system guidance and patient care. A centralized system for the assessment, planning, development, deployment, and coordination of these resources is the primary deficiency noted by the TAT.

### Prehospital Resources

Access to EMS is afforded by 911 systems which serve 70% of the State's population. There is a reported lack of access in geographically isolated areas, notably along the vast majority of Montana's major roadways. Equal access is also a problem once a dispatcher is actually contacted. Communities vary greatly in their procedures for assigning a response to a call for emergency medical assistance. In some communities, a sheriff's car may respond and determine the need for EMS. In others, calls are rotated between services which have different capabilities, without regard for those capabilities, or receive a Basic Life Support (BLS) response regardless of the availability of Advanced Life Support (ALS). An exception to these types of responses exists when a caller causes a dispatcher to suspect that ALS is needed; then ALS is sent.

There are no standardized, statewide criteria for matching ALS response to ALS need in those communities having ALS available, nor for launching an air-medical ALS response for those communities without local ALS (or otherwise requiring air-medical transport). There is no Emergency Medical Dispatch training, although some dispatch training, yet undefined as to medical content, is planned.

Dispatchers are reported to have problems locating the geographic source of some calls because of a lack of standardized map-locator reference systems or addressing, thereby compromising a fast response. This may be complicated by a lack of well-defined service areas for specific EMS providers (ground and air, both). On the other hand, many air-medical services have pre-planned landing-zones and agreements with local providers to make patient pick-up more efficient.

EMS coverage is enhanced by police personnel in many communities and by the Highway Patrol, who are trained as First-Responders. Refresher training of these personnel is inconsistent. Basic EMT level care (110-120 hours of training), at a minimum, is not guaranteed in Montana. Patient care, from first response through delivery at the hospital, may be provided exclusively by personnel with 88 hours ("First-Responder-Ambulance"), 54 hours (Advanced First Aid), or no hours (Registered Nurses, unless other courses are taken) of prehospital training. Montana has geographic, manpower, and call volume constraints in rural/frontier areas which have inspired the use of first-responders and "EMT-Equivalents." The state EMS Bureau is attempting to assure that, by 1996, all patients are attended by at least one EMT.

Alternative advanced licensing levels are being informally suggested. The TAT was told that the standard ALS levels do not adequately satisfy the needs of rural areas.

Montana is well-served by fixed and rotor wing air-medical services which are licensed by the State to specific standards. Flight personnel have air-medical training though this is not standardized. Fixed base operators continue to fly patients requiring emergency medical care without EMS system oversight. Federal resources (National Park Service and Indian Health Service) appear generally well-integrated into the EMS system.

Prehospital personnel, services and vehicles are certified/licensed every two years by the state EMS Bureau under the authority of the Board of Medical Examiners, the Department of Health and Environmental Services, and the Board of Health. This fragmentation of responsibility for prehospital resource coordination, standard-setting, and enforcement has been compensated for by a current willingness to delegate extensively through the EMS Bureau. The Bureau has developed rules for the authority agencies which set specific standards for the certification/licensure of services, personnel, and vehicles. Vehicles are inspected every two years. While there has been a lapse in this activity, staff is now available to resume this responsibility.

Volunteer recruitment and retention has been a problem, with volunteers constituting 90% of EMS providers. This has been attributed to poor personnel management practices, low call volumes, stress burn-out, necessity for fund-raising and other non-EMS activities, and training/recertification requirements.

There are no coordinated Haz Mat or Mass Casualty Incident (MCI) plans in effect.

There is no managed, statewide EMS communications plan. The publication "Mutual Aid and Common Frequencies" does contain a section entitled "EMS Communications Plan," but this is more a historical and suggested, not authoritative, current-use guide than it is a planning document. There is no uniform numbering system for EMS vehicles. This creates confusion, particularly on the radio, when multiple vehicles with the same identifier are in the same vicinity.

### Hospital Resources

Despite geographic, demographic and topographic constraints, there appear to be sufficient medical resources for all varieties of emergency medical care. The use of Medical Assistance Facilities (MAFs) and the integration of Indian Health Service (IHS) hospitals and clinics in remote areas are commendable and resourceful solutions to a lack of traditional, but unaffordable hospital services.

There is no categorization or designation of hospital emergency/critical care services. This, accompanied by a lack of triage protocols and transfer agreements for prehospital or inter-facility use, results in a statewide situation in which only informal understandings and referral relationships are available to match patients with appropriate hospital resources.

Poison control resources are sufficiently provided by the EMS Bureau.

### System Resources

Montana EMS underwent an extensive information-gathering process which resulted in a state EMS plan. Today this plan guides the state EMS program. However, it has not been widely disseminated and is not well-understood at the provider level.

There exists no centralized EMS system planning structure endowed with the authority to make rules and policy which would effectively implement the results of a planning effort. Nor are there local or regional EMS planning/coordinating structures endowed with statutory authority to carry out their roles with formal representation in state level decision-making. Some county councils do exist. Professional organizations are only informally involved in the state planning processes.

There exist no statewide EMS data or QA/QI systems with which to provide information for planning purposes.

## Recommendations

### Prehospital Resources

***Improve citizen access, response efficiency and appropriateness considering, but not limited to the following:***

- 1) Complete a statewide E911 citizen access system. Carry out an addressing process, consistent with Automatic Location Identifier capability development, which includes mapping.
- 2) Evaluate the need for and feasibility of a roadway emergency call-box system.
- 3) Establish Emergency Medical Dispatch training and system, with protocols to match the level of patient care required with an appropriate ground or air service, and to effect a timely dispatch.
- 4) Establish a system to define EMS service areas, both ground and air, to assure that there are no areas of underlap and to manage problems (e.g. caller confusion) in areas of overlap.

Address personnel recruitment/retention issues, considering but not limited to the following:

- 1) Establish training programs in Critical Incident Stress Debriefing (CISD) and Volunteer Ambulance Service Management (e.g. New England EMS Council program), and structure a statewide CISD support system to aid in personnel retention.
- 2) Conduct Public Information and Education activities aimed at volunteer/career recruitment and retention (see PI&E section).
- 3) Conduct surveys to determine what motivates Montana EMS volunteers to enter and exit the system and use the results for recruitment/retention planning.
- 4) Develop dedicated revenue sources to support state subsidization of training courses, local recruitment/retention projects, and equipment purchase grants, especially to assist volunteer services.
- 5) Evaluate the role of the low volume, volunteer ambulance services. Use of these volunteers as first responders with more regionalized ground and air transport services may be indicated.

***Address certain EMS personnel capability issues, considering but not limited to the following:***

- 1) Encourage First Responder trained police officers to recertify.
- 2) A patient should be attended by a Basic EMT or higher en route to an emergency facility.
- 3) A state standardized nurse-to-EMT bridge course should be implemented to assure that all nurses who are considered as EMT or advanced EMT equivalents actually have those skills and knowledge commensurate with their level of certification.
- 4) Statewide, standardized requirements for air-medical personnel at all levels should be implemented.
- 5) Implement statewide, standardized training for ground EMS personnel which acquaints them with air-medical launch criteria and interface/patient transfer procedures (e.g. safety measures).
- 6) Conduct a retrospective study to determine the need for alternative ALS licensing levels, or changes in the scope of practice for existing levels. Stay with existing national standard levels unless scientifically convincing evidence to the contrary results.
- 7) Prohibit certified EMS personnel from routinely providing care for patients on aircraft not licensed by Montana EMS as air ambulances.
- 8) Standardize Mass Casualty Incident and Haz Mat management plan and training for EMS personnel. Define the role and interactions of all agencies involved in such responses.

Develop and manage a comprehensive EMS communications system plan including, but not limited to the following:

- 1) Uniform, statewide EMS vehicle numbering/identifier system; and
- 2) Dedicated air/ground medical frequencies not used for ground/ground purposes.

Through symposia or other methods, the EMS Bureau should assist providers in establishing a reasonable schedule of fees and systems of billing which address at least the following issues: (See Appendix A)

- 1) Charges which are tied to actual costs; and
- 2) Millage utilization.

### Hospital Resources

Categorize/designate facilities as to their patient care capabilities. This information should be reflected in prehospital and inter-facility triage and transport protocols which are disseminated to all affected personnel.

Develop hospital mechanisms for patient-outcome feedback to prehospital services.

### System Resources

In conjunction with the recommendations made in the "Regulation and Policy" section, create a single state EMS structure in which all EMS **system** planning, rule-making, policy-setting, and coordinating responsibilities are incorporated.

Whether planning responsibilities are given to an authority board (which the Bureau staffs) or to the Bureau (advised by a state EMS council), the authority board or advisory committee should have a subcommittee structure to address functional sub-components of the EMS system (e.g. air-medical, trauma, education) which has geographic and multi-disciplinary representation. The authority board or advisory council should, itself, be similarly representative.

Establish local or regional EMS planning bodies (e.g. councils). Empower these bodies to coordinate the local or regional EMS system and to channel input to and review work of the centralized EMS authority/system planning agency which is adopted.

Consider ASTM standard F1086-87 on structures and responsibilities for local, regional, and state EMS organizations in creating the structures reflected in the above recommendations.

Fund and implement statewide EMS data and QA/QI systems.

Revise, complete and disseminate the existing state EMS plan.

## C. HUMAN RESOURCE AND TRAINING

### Standard

EMS personnel can perform their mission only if adequately trained and available in sufficient numbers throughout the State. Each prehospital training program should use a standardized curriculum for each level of EMT personnel. In an effective EMS system, training programs are routinely monitored, instructors must meet certain requirements, and the curriculum is standardized throughout the State. In addition, the state agency must provide a comprehensive plan for stable and consistent EMS training programs with effective local and regional support.

### Status

Training of prehospital emergency medical personnel is clearly a priority in Montana. Two staff positions within the Montana EMS Bureau support the training and certification efforts.

Level of Training	<u>Hours of Training</u>	Number Certified
First Responder	44	1485
First Responder - Ambulance	88	78
EMT-Basic	110	1813
EMT-Intermediate	116 above EMT-Basic	65
EMT-Paramedic	600	34
EMT-Defibrillator	16 above EMT-Basic	400
EMT-D Medical Director	2	88
EMS Training Coordinator	8	164
Practical Skills Inst.	16	168

National standard curricula are used for First Responder, EMT-Basic, EMT-Intermediate, and EMT-Paramedic training programs. All courses must be approved by the Montana EMS Bureau. The EMT-A, EMT-I, and EMT-P examinations developed by the National Registry of Emergency Medical Technicians are used for certification at the relevant levels. The First Responder, First Responder-Ambulance, and EMT-Defibrillator levels use examination instruments developed by the Bureau.

Bridge courses exist which will take the First Responder to First Responder-Ambulance (44 hours), the First Responder to EMT-Basic (68 hours), and First Responder-Ambulance to EMT-Basic (35 hours).

It is important to note that, although licensing of ground and air ambulance services is performed by the Bureau, certification of individuals at the First Responder, First Responder Ambulance, EMT-Basic, EMT-Defibrillation, EMT-Intermediate, and EMT-Paramedic levels is performed by the Montana Board of Medical Examiners in accordance with state statute.

Montana boasts a strong cadre of EMT Training Coordinators capable of providing EMT-Basic training in their communities. However, there is no standardized method for training and certifying instructors at any level. This, combined with the lack of instructor monitoring by the Bureau, results in the examination results being the only method of class course evaluation, and has the potential to allow significant instructional problems to remain hidden from the Bureau. Since no standardized evaluation of knowledge and psychomotor skills takes place prior to recertification, it is possible that patient care deficiencies may not be recognized and corrected in a timely manner. Lack of course monitoring and closed courses being tested by neighboring EMS personnel can also result in delays in problem identification and correction.

At the EMT-Intermediate and EMT-Paramedic levels, this is less of a problem because of off-line medical direction (currently not mandated by the Bureau) and the requirement that the physician endorse the individual's recertification based on skill assessments.

Physician medical directors are responsible for EMT-Intermediate and EMT-Paramedic training programs and must consent to an individual's request that he or she be admitted to an EMT-Basic training program.

There is one active paramedic training program in the State, graduating one class of approximately twelve people each year. The program also serves as a site for EMT-Intermediate training. EMT-Intermediate training includes the skills of oral tracheal intubation and defibrillation.

EMT-Intermediate training is relatively new to Montana, and it is too early to judge whether it will become widespread. However, it is apparent from trends in basic training that it will take considerable time to reach most of frontier Montana. Medical directors expressed concern that there are currently no provisions for allowing local medical directors to add skills or medications to the EMT-I standing orders.

Despite the large number of individuals certified, the great distances and expense of many training programs preclude training and certification for many. There is no state funding for training programs.

Recertification rates for EMT-Basic providers is very high, largely due to the tenacity of the individual providers and the requirement that they be affiliated with an EMS service.

Registered nurses are considered EMT equivalents. Beginning on January 1, 1993, nurses will be required to provide evidence from their medical director that they have met all of the objectives in the EMT-Basic program.

Currently, there is no training program for medical directors in Montana other than a 2 hour program for directors of services using EMT-Ds. EMS specific training programs for nurses, mid-level practitioners, and physicians are infrequent.

Of particular note, however, is the commitment made by the Indian Health Service (IHS) to the Advanced Trauma Life Support Training Program (ATLS). IHS mandates that all of its physicians complete the ATLS class within one year. In addition, IHS has made frequent use of the Pediatric Advanced Life Support (PALS), Advanced Cardiac Life Support (ACLS) courses, and "Nurse Companion" program in which nurses attend the ATLS class with the physician with whom he will be working.

IHS requires that its prehospital emergency medical services and providers meet Montana licensing and certification requirements.

Montana Highway Patrol mandates First Responder training and recertification for all of its enforcement personnel.

The need for air-medical and emergency medical dispatch (EMD) training programs is evident. The former is currently being developed but the EMD program is lacking in almost all parts of the State. The absence of available EMD training compounds resource allocation problems and callers waiting for distant ambulance services may not be given important emergency care instructions by telephone.

The Montana EMS Bureau continues to pursue innovative approaches to instruction, such as interactive videodisc, computers, television, and video. The bureau appears to have accomplished a great deal in the area of personnel and training given the limited financial resources. **The single greatest impediment to training in Montana is funding.**

### Recommendations

***Develop a comprehensive and standardized certification program for instructors which should include the tenets of adult education and methods of instruction. The program should ideally include the U.S. DOT EMS Instructor Training Program.***

***Review the plan for evaluating knowledge and psychomotor skills as a prerequisite to recertification. The evaluation should be performed using standardized and valid testing instruments.***

Encourage and financially support the upgrading of grandfathered Advanced First Aid and First Responder personnel to the EMT-Basic level.

Develop and implement a quality assurance program for EMS Instructors. The program should include instructor monitoring during training programs.

Training programs should address state, regional, and local peculiarities, such as increasing frequencies of geriatric emergencies, wilderness emergencies, triage and transfer protocols.

The Montana Emergency Nursing Education course should be updated and re-implemented to increase emergency nursing skills throughout the State.

Consider using existing statewide educational resources, such as high schools, community colleges, and universities etc., to ensure that EMS training programs are accessible as possible.

The State of Montana should subsidize, in whole, or in part, the education of volunteer emergency medical personnel.

Amend the administrative rules regarding reciprocity to allow individuals certified by the National Registry of EMTs to participate in advanced training programs within Montana.

Continue to work with the Indian Health Service to promote high quality EMS training and patient care.

Increase the availability of Critical Incident Stress Debriefing training and retraining.

Increase the availability of EMS management and leadership training.

Develop a clearly understood mechanism for determining whether nurses have completed the behavioral objectives contained in the U.S. DOT EMT-Basic curriculum.

Ensure that examination and educational processes adhere to adopted educational standards.

## D. TRANSPORTATION

### Standard

Safe, reliable ambulance transportation is a critical component of an effective EMS system. Most patients can be effectively transported in a ground ambulance staffed by qualified emergency medical personnel. Other patients with more serious injuries or illnesses, particularly in remote areas, require rapid transportation provided by rotor wing or fixed wing air medical services. Routine, standardized methods for inspection and licensing of all emergency medical transport services is essential to maintain a constant state of readiness throughout the State.

### Status

Montana has over 175 emergency medical services distributed throughout its 147,000 square mile area. Services are categorized by type into ground ambulance services, non-transporting units, and air-medical services. Ground services (both transporting and non transporting) are further subdivided according to the level of care they provide.

Ground Ambulance Services	
Basic Life Support	91
Defibrillation	17
Intermediate	6
Advanced Life Support	5
Air Ambulance	
Fixed Wing	5
Rotor Wing	5
Non-Transporting Units	
Basic Life Support	41
Defibrillation	6
Intermediate	1
Advanced Life Support	1

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"Advanced life support" means emergency medical services staffed by paramedics.

Ground ambulance services use vehicles ranging in age from several months to nearly 30 years old. The average age of the vehicles is 10.9 years. In contrast, the Indian Health Service replaces vehicles regularly as part of its equipment management program. Because IHS is able to acquire vehicles purchased as part of a large contract, the unit cost is relatively low. IHS requires that its vehicles be licensed in accordance with Montana statutes and administrative rules. This is to be commended.

Ground and air-medical services in Montana are licensed by the Bureau in accordance with state statute and administrative rule. Ground ambulances **must** be licensed in order to be used to transport patients. The non-transporting units provide a means of strategically placing personnel to ensure rapid response and early intervention while awaiting a more distant transporting unit.

Air-medical services must also be licensed. The licensing requirements for air-medical services specifically exclude "air transportation services, such as charter or fixed base operators, regulated by the Federal Aviation Administration, that offer no special medical services or provide only transportation to patients or persons at the direction or under the supervision of an independent physician."

Of particular importance to frontier Montana is the "medical assistance facility" (MAF), which is capable of short-term inpatient care for one or two patients and is a receiving site for local ambulance services. While care must be taken to utilize this type of facility appropriately, it is capable of providing many essential services prior to transfer to a hospital.

Ground ambulance services are inspected by the Bureau every two years. The Bureau has one staff member dedicated to this task who will be able to meet system needs once the backlog of inspections is no longer present.

Of those providing care on ground ambulance services, approximately 750 are American Red Cross Advanced First Aid trained, 940 are certified at the EMT-Basic level, 230 are certified as EMT-Ds, 60 are certified at the EMT-Intermediate level, 25 are certified at the EMT-Paramedic level, 35 are certified at the first responder ambulance level, and 165 are registered nurses.

Dedicated Montanans and organizations keep economically unfeasible, but medically effective services operational in strategic locations throughout the State. It is clear that the majority of services are doing the citizens of the State a great service without the benefit of adequate funding.

However, the lack of billing by some services may decrease the resources available because much needed revenue for training, equipment, and maintenance is not recouped (See Appendix A).

Other challenges to the system include the lack of widely available emergency medical dispatcher training, the lack of clearly defined EMS service areas, and the lack of a comprehensive ambulance placement strategy.

Some services with high call volume are evaluating the need for additional vehicles. One such service found that nearly 25% of its calls were being handled by a back-up ambulance. This type of local evaluation process should be encouraged.

### Recommendations

Develop and implement a statewide system for inter-facility transports.

Develop and implement a formal procedure for investigating and resolving complaints regarding ground and air-medical services, as well as EMS personnel.

Fixed base operators, who plan to or do routinely transport emergency medical patients, should become licensed as an air-medical service at the appropriate level.

Inspect all ambulances with overdue inspections and adopt an inspection schedule .

Assign unique radio designator to ground ambulances to avoid possible confusion.

***Develop and implement a plan for contract purchasing of ambulances to ensure that vehicles are replaced in a timely manner with ones meeting state licensing standards.***

Provide training opportunities to ensure that medical assistance facilities are capable of providing the scope of service which equals or exceeds the scope for an advanced level prehospital care system.

Develop or encourage the development of criteria for dispatch and cancellation of air-medical units and compare utilization with the criteria to determine whether air-medical use is appropriate.

Assist interested emergency medical services with identifying, evaluating, and implementing billing systems (See Appendix A).

Increase the availability of ambulance vehicle operations courses (AVOC).

Ensure that incident command system training is provided to all levels of EMS ground and air-medical personnel.

Training in landing zone safety should be available to all emergency medical services within the operational zone of an air-medical service utilizing rotor wing aircraft.

Develop a dedicated funding mechanism to establish a matching grant program for capital equipment, such as vehicles.

## E. FACILITIES

### Standard

It is imperative that the seriously ill patient be delivered in a timely manner to the closest appropriate facility. This determination needs to consider both stabilization and definitive care.

This determination should be free of political considerations and requires that the capabilities of the facilities are clearly understood by prehospital personnel. Hospital resource capabilities must be known in advance so that appropriate primary and secondary transport decisions can be made.

### Status

There are 59 accredited hospitals in Montana, 47 of which have fewer than 50 beds. These institutions function in a state which is very sparsely populated with many miles between hospitals. They, however, exist autonomously with no relationship to the EMS system. Patients are delivered by the prehospital caregivers to the nearest facility in most cases. Triage and transport protocols are not in place anywhere in the State. Referrals generally are made to other institutions based on established referral patterns. Agreements designed to provide a higher level of care by transferring patients to other institutions are non-existent. Compliance with COBRA regulations in these situations is problematic. Patient referral transfer activity has political overtones which are described as resistant to change. A poison control center is available. A burn unit and a hyperbaric facility have been established in a central location in the State. There is no current categorization document for evaluating patient care capabilities of institutions. Neither has there ever been a survey to evaluate outcomes resulting from the existing triage and transport practices in the State. Outcome information would include timeliness of care, length of stay, mortality, incidence of complications and response to rehabilitative programs. Provision of interval medical care in extremely isolated areas is accomplished by medical assistance facilities (MAF) with some success.

### Recommendations

***The medical facility needs throughout the State can best be evaluated by a categorization program which tabulates capability of all functional medical facilities. This should be done within the context of a ranking for all hospitals so that they may be included within the care system. When complete, it should be used as part of the evaluation of quality of care provided throughout Montana. Capability and categorization information study should be distributed to prehospital providers on a regular basis, possibly at the time of recertification.***

A useful system should be devised to accumulate outcome data so that quality of care can be assessed. This type of information to document inadequacies is essential to improving the system.

Triage and transport protocols should be developed on a statewide basis if patients must go to the nearest facility in rural areas so that timely transfers may occur when necessary.

Written transfer agreements for movement of patients between facilities are needed.

Development of the MAF as an interval care provider in remote areas is encouraged and should be further developed and documented.

The Montana EMS resource document provided for the TAT states that:

Hospitals should provide patient care and medical control consistent with their resources and capabilities.

It further states:

The hospital should be easily accessible with its routes well-marked in every community and have designated ambulance routes.

The document indicates that neither of these goals have been acted upon although they are consistent with the standards. They are included, therefore, as recommendations by the Technical Assistance Team.

## F. COMMUNICATION

### Standard

An effective communications subsystem is an essential component of an overall EMS system. Beginning with a universal system access number, such as 911, the communications network should provide for prioritized dispatch, dispatch to ambulance communication, ambulance to ambulance, ambulance to hospital, and hospital to hospital communications to ensure adequate EMS system response and coordination.

### Status

Legislation for 911 has been enacted which authorizes a \$.25 fee per telephone for basic 911. Most counties are expected to implement basic systems within three years.

The publication "Mutual Aid and Common Frequencies" describes the existing VHF public safety radio system, but there is no comprehensive EMS telecommunications plan. Other components, such as 800 Mhz utilization, are being addressed in a separate planning process. VHF frequency congestion has occurred with aircraft and multiple EMS vehicles with the same call signs.

No telecommunications engineering assistance is currently available to the EMS Bureau or elsewhere in the system. The Dual Tone Multi-Frequency (DTMF) encoding system meets current needs.

Emergency Medical Dispatch training is not required for EMS dispatchers. There is no requirement for the recording or reviewing of dispatch and ambulance to hospital transmissions.

Some services use crew paging systems with no scheduled personnel for each shift, which may contribute to longer response time.

### Recommendations

***A comprehensive EMS communications plan is needed. It should include frequency allocation of all eligible parts of the spectrum, linkages with the state "backbone" telecommunication system, engineering assistance, requirements for emergency medical dispatch training (perhaps as a component of the new State requirement for dispatcher training), and the addition of Enhanced 911 systems.***

Reference National Association of State EMS Directors (NASEMSD) EMS communication planning guidelines and FCC rulemaking proposals for a national Emergency Medical Radio Service (EMRS).

Telecommunications engineering assistance needs to be available to the EMS Bureau, and other parts of the system for both planning and system implementation.

Evaluate the use of call box systems for public access in rural and wilderness areas.

Require medical direction and oversight of the emergency medical dispatch function.

## G. EVALUATION

### Standard

A comprehensive evaluation program is needed to effectively plan and implement a statewide EMS system. Each EMS system must be responsible for evaluating the effectiveness of services provided adult and pediatric victims of medical or trauma related emergencies. The statewide EMS system should be able to state definitively what impact has been made on the patients served by the system. EMS system managers must be able to evaluate resource utilization, scope of service, patient outcome, and the effectiveness of operational policies, procedures, and protocols. An effective EMS system evaluates itself against pre-established standards and objectives so that improvements in service, particularly direct patient care, can occur. These requirements are part of an ongoing quality assurance (QA) system to review system performance. The evaluation process should be educational and ongoing. QA reviews should occur at all phases of EMS system management so that needed policy changes or treatment protocol revisions can be made.

### Status

There is no comprehensive evaluation program that assesses the EMS system from a state level, nor is there a system of local quality assurance programs to assess effectiveness of health care delivery on individual patients. Montana has a state run report which could be a means of uniform data collection; however, many squads use other forms instead. There is no mandate that the reports be submitted for analysis. Although a copy of the run report should be part of a patient's hospital record, reports are often misplaced during transfer and may never find the hospital chart.

Few Basic Life Support services conduct quality assurance programs. With the notable exception of Defibrillation programs, services with Medical Directors are not required to have a quality assurance program. The Defibrillation program appears to be effective. Medical directors have found the audio tape audit to be particularly useful.

The Trauma Registry will provide some data. Since it is not mandatory, it excludes a majority of trauma transports and lacks much of the prehospital data. The Critical Illness and Trauma Foundation is conducting specific research projects which are not part of a comprehensive QA program.

A three-year plan for a comprehensive EMS evaluation system has been submitted to Highway Traffic Safety.

## Recommendations

***Develop a comprehensive, statewide EMS evaluation system using the components contained in this report. Dedicate specific Bureau staff and administrative support to this end.***

Mandate a standard state reporting form for data collection.

***Require submission of specific data to the State.***

Analyze state data to evaluate resource allocation.

***Each service should evaluate their delivery of care in relation to patient outcome to determine effectiveness. Such evaluations should be fed back to the providers and reported to the State.***

Use evaluations to identify areas of training deficiency.

All EMS quality assurance evaluations must be immune from legal discovery.

Evaluation results should be used to educate legislators, physicians, and providers.

## H. PUBLIC INFORMATION AND EDUCATION

### Standard

Public awareness and education about the EMS system is essential to a quality system and is often neglected. Public information and education efforts must serve to enhance the public's role in the system, its ability to access the system, and the prevention of injuries. In many areas, EMS personnel provide system access information and present injury prevention programs which ultimately lead to better utilization of EMS resources and improved patient outcome.

### Status

The EMS Bureau has a Public information and Education (PI&E) plan which was written in 1984. Contained in that plan are goals which have been partially completed. Of note is the development of an EMS system logo and graphics manual in which the EMS Bureau and system can take pride. Since 1984, the EMS Bureau has developed occasional public service announcements (PSAs) and has supported newsletter efforts to fulfill other goals of the plan.

The EMS Bureau has also participated in National EMS Week activities by distributing promotional and informational materials to services in order that they might carry out local PI&E efforts. Through the CIT Foundation, safety belt and DUI PI&E programs have been accomplished with NHTSA funding assistance. The Indian Health Service has developed a number of injury prevention programs (e.g. safety seat, smoke detector, traffic hazard identification) which it offers as a model to the EMS Bureau for statewide use.

Currently, the EMS Bureau is unable to create and disseminate a system newsletter because of monetary constraints and has no access to PI&E support services in state government.

### Recommendations

***Fund and implement a one FTE position within the EMS Bureau to conduct EMS system, injury prevention, citizen access, recruitment and retention, and related PI&E programming. With this position, support related state government efforts in public health, public safety, and emergency management.***

***Fund and disseminate a frequent and regular system newsletter to system participants. Consider consolidating the communications needs of all EMS related organizations in Montana (e.g. NAEMSP, Committee on Trauma, MMA/EMS Committee, MEMSA, ENA Chapter). Consider advertising as a funding source.***

The EMS Bureau should take a higher profile in the projects and programs which it sponsors or in which it participates to establish its lead agency role and recognition.

***Review, refine, and completely implement the 1984 PI&E plan.***

The EMS Bureau should be as active as possible in networking with other health and safety related organizations on PI&E projects and programs, particularly those involving legislative lobbying in which the Bureau, itself, may not directly participate.

Organize workshops for EMS personnel on opportunities and methods for conducting local PI&E programs (e.g. seat belt and DUI, recruitment and retention, legislative advocacy for EMS system development).

Develop an EMS system "fact sheet" describing the system and such attributes as number of services and personnel, hours contributed by volunteers, and money returned to the economy/tax base through morbidity/mortality reductions.

Conduct an aggressive and continued campaign of PSAs and other media mechanisms to create an image, around the logo, of a competent, professional system which citizens can be proud to support, and to which providers can be proud to belong. Use these to promote volunteer and career recruitment/retention, system access, injury prevention and other messages.

## I. MEDICAL DIRECTION

### Standard

EMS is a medical care system that includes medical practice as delegated by physicians to non-physician providers who manage patient care outside the traditional confines of office or hospital. As befits this delegation of authority, it is the physician's obligation to be involved in all aspects of the patient care system.

Specific areas of involvement include the following:

- " planning and protocols
- " on-line medical direction and consultation
- " audit and evaluation of patient care

### Status

Montana has several dedicated and enthusiastic physicians who are actively involved in EMS programs. Four physician committees are currently involved in an advisory role to the Bureau of EMS: the EMT-D Committee, the Montana American College of Surgeons Committee on Trauma, the EMS committee of the Montana Medical Society, and the Medical Directors' Task Force. These groups have been responsible for the development of statewide protocols, which are not yet in uniform use.

Current law does not mandate that all EMS services have a Medical Director. Intermediate and Paramedic programs have been required to designate a Medical Director, although the duties have not been well defined. The Medical Director is not required to systematically review the delivery of medical care. The Defibrillation level, however, is required to have a Medical Director who is required to take a EMT-D Medical Director training program, conduct ongoing quality assurance which includes monitoring audio recordings of calls and reporting to the Bureau. Medical Directors have the authority to suspend a provider in their system, which is followed by formal due process at the state level. Basic services operate with little medical supervision, minimal quality assurance, and poorly defined accountability.

There are no training program or orientation materials to define the role of a Medical Director. This may be detrimental to those physicians who do not have emergency medicine residency training or previous EMS experience.

On-line medical direction is provided by physicians or nurses who are approved by the Medical Director. It is not clear whether nurses are currently providing medical direction to paramedic units; paramedic units should be receiving medical direction only from physicians. Liberal provisions for standing orders allow local practice to become nearly independent of on-line medical direction, using the radio for advice as needed, and for informing the facility of the transport. There does not appear to be any means for monitoring the quality and appropriateness of care delivered on standing orders.

Run reports are not routinely reviewed except for the Defibrillation programs, and reports do not consistently become integrated into the receiving hospital records.

There seems to be a shortage of Medical Directors. Most Medical Directors are volunteer or minimally compensated. The statute providing immunity from liability is a worthwhile development which may well encourage more participation from the medical community.

The Bureau has actively sought physician involvement in EMS activities at the state level. Although they do not yet have a designated state Medical Director, plans are underway to create a part-time position.

In cities with more than one hospital and/or more than one upper-level EMS service, there is no requirement for collaboration of medical direction, protocol consistency, or coordination of hospital policies.

### Recommendations

***All licensed EMS services should have a designated Medical Director who is approved by the Bureau and has been appropriately oriented to Montana EMS.***

Clearly define the Medical Director's responsibilities to include a system of accountability to the service and to the Bureau. Responsibilities should include, at a minimum, the following areas (and ideally those as defined by ASTM F1149-88): protocol development and approval; monitoring of EMT competency; supervision of on-line medical direction and ongoing monitoring of the delivery of care through quality assurance review, with regular reports to the service and Bureau.

Medical Directors should receive administrative support from the local EMS service or health care facility.

***The Bureau should have a full-time state Medical Director who oversees the activities of local medical directors, acts as a consultant to them, and is their advocate. The state Medical Director should be experienced in Montana EMS and should explore the recruitment and retention of medical directors, examine liability issues, and identify means of improving the extent of physician involvement in the EMS system.***

There should be a permanent Medical Director Advisory Committee which addresses EMS issues at the state level and makes recommendations to the state EMS Medical Director.

## J. TRAUMA SYSTEMS

### Standard

To provide a quality, effective system of trauma care, each State must have a fully functional EMS system in place. Enabling legislation should exist for the development of the trauma system component of the EMS system. This should include trauma center designation (using ACS-COT guidelines as a minimum), triage and transfer guidelines for trauma patients, data collection and trauma registry definitions and mechanisms, mandatory autopsies, system management, and quality assurance of the system's effect on trauma patients. Rehabilitation is an essential component of any statewide trauma system.

### Status

The Montana state plan states that:

There should be an organized and systematic approach to the management of trauma in Montana.

There is no trauma system in Montana, and no legislation exists for trauma center designation or system development. There is no mandatory autopsy law for trauma deaths. However, efforts to accomplish system development include plans for a "Development of Trauma Systems" course September 26, 1991. This will attempt to orient health and political policymakers in the State to the trauma situation in Montana. Financial assistance by Montana Highway Traffic Safety provides for development of a statewide trauma register. This includes acquisition of register software and plans for a one-day training program for hospitals using the register.

The EMS Bureau has sponsored a course for trauma training for emergency medical personnel entitled Critical Trauma Care Course. In addition, the ATLS course for physicians is co-sponsored with the Montana American College of Surgeons Committee on Trauma. This includes a nurse-companion program which has met with some success in Montana. Montana Highway Traffic Safety also provided funding for Montana EMS Association to equip and operate a mobile trauma training system. This course offered the opportunity to present prehospital care modules to primarily basic level EMS providers in their home environment. In addition, the CIT Foundation has obtained NHTSA 402/403 Funds for the purpose of performing a research project to document preventable deaths in Montana. It is anticipated that this project will allow for further advocacy for development of a trauma care system in the State.

## Recommendations

***Continue efforts to educate legislators and other health policy individuals in Montana so that enabling legislation for development of a trauma system, including trauma center designation can be passed. The functions of each categorized level of hospital care providers should be outlined to define participation of each institution in the system. There should be an all inclusive policy established so that the State can make maximal use of its provider assets throughout the State, especially the more sparsely populated areas. Triage and transfer protocols should be mandated on a statewide basis as part of the legislation. Trauma center designation should include requirements for trauma team availability, and the legislation should include a timetable for implementation of a mandatory autopsy law.***

Continue development of a statewide trauma registry.

Devise systems for outcome assessment and quality improvement using the peer review process.

Continue educational efforts for trauma care providers at all levels.

Develop statewide prevention programs based on needs apparent from the registry data. Include in these programs a means for measurement of effectiveness.

## K. CURRICULUM VITAE

Matt Anderson, NREMT-P  
Alaska Department of Health and Social Services  
P.O. Box H  
Juneau, AK 99811-0616  
(907)465-3141

Training Coordinator

### **ORGANIZATIONS/APPOINTMENTS**

National Council of State EMS Training Coordinators  
State Emergency Response Committee  
Training Committee  
Governor's Advisory Council on Emergency Medical Services  
Training Committee  
Planning Committee,  
Chamber Supervisor, Hyperbaric Chamber, Bartlett Memorial Hospital  
System Operator, Health Alaska Computer Bulletin Board  
Alaska Serious Injury and Fatality Review Team  
Juneau Dive Rescue Advisory Board

Kathleen A. Cline, MD, FACEP

305 Nantucket Court  
Winterville, NC 28590  
(919) 321-2277

Emergency Physician  
Wayne Memorial Hospital, Goldsboro, NC  
Pitt County Memorial Hospital, Greenville, NC

Clinical Assistant Professor  
Department of Emergency Medicine  
East Carolina University School of Medicine  
Greenville, NC

### **ORGANIZATIONS/APPOINTMENTS**

Southern Medical Association  
National Association of EMS Physicians  
American Trauma Society  
American Medical Women's Association  
Pitt County Medical Society  
Wayne County Medical Society  
American Medical Association  
North Carolina Medical Society  
Former Delegate for Section of Emergency Medicine  
Former Alternate Delegate for Section of Emergency Medicine  
Former Chairman for Section of Emergency Medicine  
Delegate for Pitt County Medical Society  
Emergency Medical Section Representative to the NC Medical Society Steering  
Committee on Medical Liability  
American College of Emergency Physicians  
North Carolina Chapter to American Collage of Emergency Physicians  
Councillor  
Secretary/Treasurer  
Member, Board of Directors  
EMS Physicians' Forum of Eastern NC  
President  
Eastern NC Chapter of American Medical Women's Association  
Former Secretary

Pitt County Memorial Hospital  
Disaster Planning Committee  
Child Protection Team  
Pitt County EMS Continuing Education  
A.L.S. Audit and Review Committee  
Former Chairman  
Physician Representative on Trauma Team Role Committee  
EastCare Air Ambulance Protocol Committee  
Department of Emergency Medicine Quality Assurance Committee  
Former Chairman  
Medical Ethics Committee  
EastCare Audit and Review Committee  
Former Chairman  
East Carolina University School of Medicine  
Student Affairs Advisory Committee  
Admissions Committee  
East Carolina University  
Committee on the Status of Women  
U. S. Department of Transportation  
EMS Technical Assistance Team to the State of Montana

Valerie A. Gompf

DOT/NHTSA  
EMS Division, NTS-42  
400 Seventh Street, SW  
Washington, DC 20590  
(202) 366-5440

Highway Safety Specialist  
National Highway Traffic Safety Administration

### **ORGANIZATIONS/APPOINTMENTS**

ASTM F.30 Committee on Emergency Medical Services  
Subcommittee F30.03 Public Information and Education  
EMS Public Information and Educational National Conference  
Project Director  
Development of Trauma Systems: A State and Community Guide  
Project Manager  
Mobile Trauma Training Unit Model Program  
Project Director  
A Statewide Injury Prevention Program by EMS Providers  
Project Director  
Lifesavers/National Conference on Highway Safety Priorities  
EMT-A, Maryland

Kevin K. McGinnis, MPS, EMT-Critical Care

Maine Emergency Medical Services  
353 Water Street  
Augusta, ME 04301  
(207) 289-3953

Director

### **ORGANIZATIONS/APPOINTMENTS**

National Association of State EMS Directors  
Executive Committee  
Management Team  
Finance Committee  
ASTM Committee F.30 on Emergency Medical Services  
Chairman  
National Association of EMS Physicians  
Associate Member  
American Public Health Association  
Sloan Association  
New England EMS Council  
Board  
Maine Health Information Center  
Board  
Treasurer  
Maine State Emergency Response Commission  
Maine State E-911 Advisory Committee  
Maine Fire Chiefs Association  
PHTLS, ACLS Faculty  
Winthrop Ambulance Service, EMT-Critical Care, Crew Chief  
Ashland Ambulance Service, EMT-Critical Care, Crew Chief  
U.S. Department of Transportation, NHTSA  
EMS Technical Assistance Team to the State of Arkansas  
EMS Technical Assistance Team to the State of Alabama  
EMS Technical Assistance Team to the State of Montana

Joseph B. Phillips, Jr.

State of Tennessee  
Department of Health and Environment  
Bureau of Manpower and Facilities  
Division of Emergency Medical Services  
283 Plus Park Blvd.  
Nashville, TN 37219

Director, Division of Emergency Medical Services

### **ORGANIZATIONS/APPOINTMENTS**

#### TIKI-MAST

Former Member, Board of Directors  
Tennessee Perinatal Advisory Committee  
Subcommittee on Perinatal Transportation  
National Association of State EMS Directors  
President  
Treasurer, Chairman; Finance Committee  
Executive Committee  
Former Chairman, Federal Death Benefits Committee  
Former Chairman, EMS Clearinghouse Management Team  
Former Vice President  
Tennessee Board for Licensing Health Care Facilities  
Task Force on Trauma Centers  
Task Force on Pediatric Trauma Centers  
Tennessee Public Health Association  
Section of Emergency Health Care  
Founder and Chairman

#### ASTM

Chairman, Task Group .03.05 on EMS Financing  
Vice President, Committee F-30  
Tennessee Division, American Trauma Society  
Board of Directors  
Tennessee Emergency Services Advisory Committee  
Tennessee Critical Incident Stress Management, Inc.  
Member of the Board and Treasurer  
Volunteer State Community College  
Affiliate Faculty Member  
Former Member, Allied Health Advisory Committee  
U.S. Department of Transportation, NHTSA  
EMS Technical Assistance Team for the State of Louisiana  
EMS Technical Assistance Team for the State of Montana

William R. Schiller, MD, FACS

Maricopa Medical Center  
2601 East Roosevelt  
P.O. Box 5099  
Phoenix, AZ 85010  
(602) 267-5637

Clinical Professor of Surgery, University of Arizona  
Director, Burn and Trauma Center, Maricopa Medical Center

### **ORGANIZATIONS/APPOINTMENTS**

Association for Academic Surgery  
American Federation for Clinical Research  
American College of Surgeons  
Society for Surgery of the Alimentary Tract  
Central Surgical Association  
American Society for Parenteral and Enteral Nutrition  
American Burn Association  
American Association for Surgery of Trauma  
Southwestern Surgical Congress  
Society for Critical Care Medicine  
International Society of Surgery  
American Institute of Nutrition  
Arizona ACS Committee on Trauma  
Chairman  
Arizona Chapter American College of Surgeons  
Vice-President  
Arizona Coalition for Seat Belt Use  
Member, Executive Committee  
Maricopa Foundation for Burns and Trauma  
Board of Directors  
American Trauma Society  
Board of Directors  
Arizona Emergency Medical Services  
Chairman, Board of Directors  
U.S. Department of Transportation, NHTSA  
EMS Technical Assistance Team to the State of New Hampshire  
EMS Technical Assistance Team to the State of Kentucky  
EMS Technical Assistance Team to the State of Montana

## APPENDIX A

### Financing

Many volunteer ambulance services have not taken advantage of Medicare and Medicaid reimbursement. Some services do not bill patients at all; others charge a fraction of the actual costs of providing service. In these situations, significant revenue is lost. Appropriate billing policies could produce badly needed revenue for all services. Failure to collect third party payments essentially forces local taxpayers and donors to subsidize the health care payment system.

It must be emphasized that while an appropriate bill must be sent to each customer, there need be no policy to collect more than eligible third party payers would reimburse.

Ambulance service costs include fuel, maintenance, insurance, housing for vehicle and crew, utilities, vehicle depreciation, and supplies, in addition to the significant value of volunteers' time. All of these cost components should be calculated in order to determine an accurate charge for services.

Medicare and Medicaid billing requires some technical expertise which may be better provided by other agencies such as hospitals, private billing services, or other ambulance services. The EMS Bureau could hold seminars in various regions of the State in order to inform providers about billing and collecting from third party health care payers.

After third party payment is maximized, additional service financing could be acquired by the two mill levy recently authorized by the Montana Legislature. Potential future funding sources such as the \$5.00 vehicle registration fee recommended in this report could further supplement the financial resources of ambulance services in the State.

Option A

EMS Bureau Director

State EMS Advisory Council

EMS Staff

Committees  
EMS Medical  
Director

Medical Director  
Advisory Committee

Option B

State EMS Board

Committees

EMS Bureau Director

EMS Medical Director

EMS Staff

Medical Director  
Advisory Committee