

STATE OF WYOMING



A REASSESSMENT OF EMERGENCY MEDICAL SERVICES

SEPTEMBER 11-13, 2012

**National Highway Traffic Safety Administration
Technical Assistance Team**

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BACKGROUND

Injury is the leading cause of death for persons in the age group one through 44 as well as the most common cause of hospitalizations for persons under the age of 40. The financial costs of injuries are staggering: injuries cost billions of dollars in health care and social support resources. In 1995, for example, the lifetime costs of all injuries were estimated at \$260 billion annually. These estimates do not include the emotional burden resulting from the loss of a child or loved one, or the toll of severe disability on the injured person and his or her family. Each year over 33,000 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 death and injury on the nation's highways. NHTSA has determined it can best use its limited EMS resources if its efforts are focused on assisting States with the development of integrated emergency medical services (EMS) programs which include comprehensive systems of trauma care.

To accomplish this goal, in 1988 NHTSA developed a Technical Assistance Team (TAT) approach which permitted states to utilize highway safety funds to support the technical evaluation of existing and proposed emergency medical services programs. Following the implementation of the Assessment Program, NHTSA developed a Reassessment Program to assist those states in measuring their progress since the original assessment. The Program remains a tool for States to use in evaluating their statewide EMS programs. The Reassessment Program follows the same logistical process, and now uses the same ten component areas plus the area of preparedness with updated standards. The standards now reflect current EMS philosophy and allow for the evolution into a comprehensive and integrated health management system, with regional accountable systems of care, as identified in the 2006 IOM Report on the Future of Emergency Care. NHTSA serves as a facilitator by assembling a team of technical experts who demonstrate expertise in emergency medical services development and implementation. These experts demonstrate leadership and expertise through involvement in national organizations committed to the improvement of emergency medical services throughout the country. Selection of the Technical Assistance Team 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 areas, coupled with knowledge in providing emergency medical services in urban populations is essential.

The Wyoming Department of Health, Public Health Division, Office of Emergency Medical Services requested the assistance of NHTSA. NHTSA agreed to utilize its technical assistance program to provide a technical reassessment of the Wyoming Statewide EMS program. NHTSA developed a format whereby the EMS staff coordinated comprehensive briefings on the EMS system.

The TAT assembled in Cheyenne, Wyoming on September 11-13, 2012. For the first day and a half, over 30 presenters from the State of Wyoming, provided in-depth briefings on EMS and trauma care, and reviewed the progress since the 1989 Assessment. Topics for review and discussion included the following:

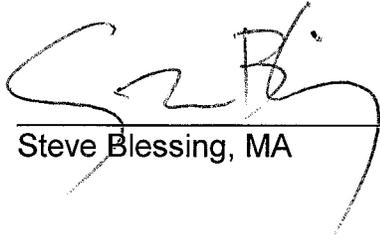
General Emergency Medical Services Overview of System Components

Regulation and Policy
Resource Management
Human Resources and Education
Transportation
Facilities
Communications
Trauma Systems
Public Information and Education
Medical Direction
Evaluation
Preparedness

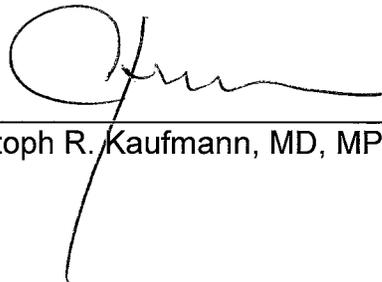
The forum of presentation and discussion allowed the TAT the opportunity to ask questions regarding the status of the EMS system, clarify any issues identified in the briefing materials provided earlier, measure progress, identify barriers to change, and develop a clear understanding of how emergency medical services function throughout Wyoming. The team spent considerable time with each presenter so they could review the status for each topic.

Following the briefings by presenters from the EMS Office, public and private sector providers, and members of the medical community, the TAT sequestered to evaluate the current EMS system as presented and to develop a set of recommendations for system improvements. When reviewing this report, please note the TAT focused on major areas for system improvement.

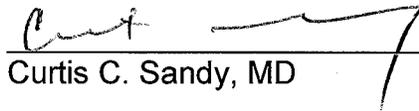
The statements made in this report are based on the input received. Pre-established standards and the combined experience of the team members were applied to the information gathered. All team members agree with the recommendations as presented.



Steve Blessing, MA



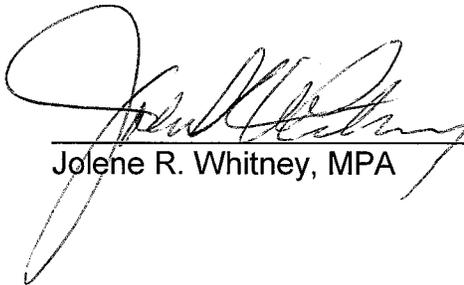
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ACKNOWLEDGMENTS

The Technical Assistance Team (TAT) would like to acknowledge the Wyoming Department of Health, Public Health Division, Office of Emergency Medical Services for their support in conducting this assessment and the State Highway Safety Office for supporting the assessment process.

The TAT would like to thank all of the presenters for being candid and open regarding the status of EMS in Wyoming. Each presenter was responsive to the questions posed by the TAT which aided the reviewers in their evaluation. Many of these individuals traveled considerable distance to participate.

Special recognition and thanks go to Andy Gienapp, EMS Director, Department of Health and his staff and all the briefing participants for their extraordinary efforts and well-prepared presentations.

INTRODUCTION

Our 44th state, Wyoming, was carved from the rugged terrain of the surrounding territories and brought to life in 1890. Its natural resources and beauty attracted those who sought the solitude of nature as well as those who sought fortune from its vast mineral and natural wealth. Rugged individuals, who worked in hard occupations as miners and ranchers and were willing to forego the comforts of everyday life for adventure, freedom and the lure of the mountains, came to this place and formed a great state that fuels a great nation. Wyoming is vast, and rural in its lifestyle. Its people are hard working and look out for each other in a place where nature can be very harsh. It is a place that has been described as “one big small town with a very long main street”.

The very things that attract people to Wyoming are the things that create some of the greatest challenges to providing EMS care. The mountains present a geographic challenge; the beautiful winters make transportation nearly impossible. The demanding nature of agricultural and mining work makes it more likely a person will be injured on the job. The vast wilderness can bring harm to those who do not use caution or respect its power. The freedom that comes from living in wide open space creates geographic distance that must be covered when providing care.

The EMS system in Wyoming is supported by a core of competent and dedicated professionals who willingly accept the tough challenges in order to take care of others. It was obvious throughout this assessment that all of the presenters work in EMS and emergency services because of a true love for the communities they serve. The Wyoming Office of EMS has an experienced and enthusiastic staff with vision and ability to lead the way in creating a comprehensive, clear, validated system that is clinically relevant and can adapt to changes as they arise.

Like every other EMS system, there are opportunities for improvement in Wyoming. Its communities have varying needs and there has historically been great variation in local EMS systems. This focus has served the system well over the years, but now the system is at a crossroads. Regionalized systems of care require the focus to shift to a statewide perspective. Regionalization is not consolidation. It is rather a cooperative approach to using effective force multipliers and synergy to create system achievements that cannot be accomplished alone. These achievements save lives and improve care for those who are sick or injured. This approach requires a change in thinking and demands the trust and commitment of all who are involved.

Building and maintaining excellence requires a significant commitment of resources and time. Wyoming is up for the challenge. Along with careful and complete system planning, Wyoming can develop statewide systems of care and empower its regional structure to refine and improve the delivery of EMS care. A financial commitment must be made to further develop dispatch, medical direction, trauma care and communications. Emergency Medical Services must be integrated more fully into the overall healthcare system of Wyoming and EMS must be recognized at all points in the continuum of care as a true health profession. The payoff will be exponentially measured in the number of lives saved and a corresponding savings in healthcare costs.

A. REGULATION AND POLICY

Standard

Each State should embody comprehensive enabling legislation, regulations, and operational policies and procedures to provide an effective statewide system of emergency medical and trauma care and should:

- Establish the EMS program and designate a lead agency;
- Outline the lead agency's basic responsibilities and authorities including licensure and certification including the designation of emergency medical services regions;
- Require comprehensive EMS system planning;
- Establish a sustainable source of funding for the EMS and trauma system;
- Require prehospital data collection which is compatible with local, State and national efforts such as the National EMS Information System (NEMSIS) and evaluation;
- Provide authority to establish minimum standards related to system elements such as personnel, services, specialty care facilities and regional systems and identify penalties for noncompliance;
- Provide for an injury/trauma prevention and public education program; and
- Integrate the special needs of children and other special populations throughout the EMS system;
- Integrate pediatric EMS needs into State statutes, rules and regulations.

All of these components, which are discussed in different sections of this guideline, are critical to the effectiveness of legislation, regulations or policies/procedures which are the legal foundation for a statewide EMS system.

Status

The Office of EMS is established by code within the Wyoming Department of Health. However, the code does not specifically assign responsibilities or provide direct authority to the Office for the implementation and management of a comprehensive EMS system. The code only provides for licensing of EMS providers and services. At the time that this code was written, that was the generally accepted function of the typical state EMS office. However, over time the needs and responsibilities of state

EMS offices have grown immensely, and until recently it appears that Wyoming has not adapted to this change very well. Trauma legislation that was enacted gives the office additional authority, but a review of current statute and regulations makes it clear that Wyoming does not have an EMS office that is properly empowered to ensure that there is a cohesive statewide system of emergency medical care. State laws and regulations must be updated to create a system that protects and serves its citizens across the entire continuum of modern EMS service, and empowers the state EMS office to coordinate and oversee the entire system.

Among its strengths, Wyoming has invested in a patient care reporting system (WATRS) that is noteworthy, and can provide a backbone for enhancing EMS care and ensuring quality care in the future. Reporting is uniform and required throughout the system that is currently under the purview of the EMS office. The Office has the authority to audit and review patient care reports, and is proficient at using this information to develop and improve training. Wyoming EMS has recently revised its practitioner scope of practice, developed an education advisory committee, included the state's community colleges in its EMS educational system, and is developing a process for online credentialing. The EMS office plans to develop a compliance program for its ambulance licensing and is working with the American Heart Association (AHA) on its Mission Lifeline project, which is a major step toward more evidence-guided EMS care.

To move forward, the state must take the information gleaned from WATRS and invest time and fiscal resources to improve EMS care. A comprehensive plan for EMS must be developed. More funding for EMS projects and additional personnel in the state office are needed to implement an effective, cohesive, evidence-guided system of EMS care. The EMS statute and relevant rules must be significantly updated in order to modernize the current system. In some cases, such as with aeromedical services, new rules must be developed. The laws and rules must integrate provisions for the care of pediatric patients and special needs patients, and a more robust injury prevention program should be developed. These are shared responsibilities that should be made a priority by the Department of Health, as well as the Governor-appointed Advisory Committee on EMS.

Chief among the more outdated practices noted in the Wyoming EMS system is the use of "attendant" and "non-attendant" designations in the certification process and the fact that nurses are able to ride on EMS vehicles without proper credentials. The Board of Medicine oversees and approves the EMS scope of practice with minimal involvement or insight into the daily operations of the EMS system. Additionally, there is no graduated scale of penalty for individuals or agencies that do not provide proper care or follow state law and regulation, and there is no provision for challenging adverse actions when they are taken against a provider or agency. The practice of allowing statutory and regulatory "exceptions" is particularly troubling. This practice creates an environment conducive to substandard care because there is no continuity of that care with the rest of the EMS system, and no oversight or authority over those given exceptions.

It is a great disservice to the people of Wyoming to not have all EMS provider personnel and agencies under the authority of the same law and rules, overseen and coordinated by the state EMS office. Wyoming relies on a system where providers are tied to a "physician sponsor", which is also a liability in its efforts to provide consistent quality care to its citizens.

Recommendations

- **The OEMS should work with the Advisory Committee on EMS and the Department of Health to pursue an update of EMS statute and provide authority to coordinate and oversee all aspects of providing quality emergency medical care.**
- **The OEMS should work with the Advisory Committee on EMS and the Department of Health to develop a comprehensive EMS plan for Wyoming.**
- The Advisory Committee on EMS should be expanded to include representation from Wyoming Ambulance and EMS Association, a specialist in pediatric care, a consumer, and a designated member from the Governor's staff.
- The OEMS should revise and modernize all current regulations, as well as develop regulations concerning the provision of Aeromedical EMS care and other areas as needed. Pediatric care, prevention, specialty care and appropriate care for those with special healthcare needs should be taken into consideration. Oversight of the EMS Scope of Practice should be transitioned from the Board of Medicine to the Department of Health.
- **The OEMS should work with the Advisory Committee on EMS and the Department of Health to eliminate exceptions from EMS statute and rule.**

B. RESOURCE MANAGEMENT

Standard

Each State EMS lead agency should identify, categorize, and coordinate resources necessary for establishment and operation of regionalized, accountable EMS and trauma systems. The lead agency should:

- Maintain a coordinated response to day-to-day emergencies as well as mass casualty incidents or disasters and ensure that resources are used appropriately throughout the State;
- Have policies and regulations in place to assure equal access to basic emergency care for all victims of medical or traumatic emergencies;
- Provide adequate triage, including trauma field triage, and transport of all patients by appropriately certified personnel (at a minimum, trained to the emergency medical technician [EMT] level) in properly licensed, equipped, and maintained ambulances;
- Provide transport to a facility that is appropriately equipped, staffed and ready to administer to the needs of the patient including specialty care hospitals (section 4: Transportation);
- Appoint an advisory council, including pediatric EMS representation, to provide broad-based input and guidance to the state EMS system and to provide a forum for cooperative action and for assuring maximum use of resources; and
- Coordinate with State Highway Safety Agency and other State Agencies in the development of the Strategic Highway Safety Plan to ensure that EMS system information is used to evaluate highway safety problems and to improve post-crash care and survivability.

Status

The Wyoming OEMS has undergone significant changes in the past two years. This includes the addition of a new director and new trauma coordinator, departures of staff, national changes in EMS education and other aspects of EMS, and challenges to funding. Despite this, there is a palpable energy and desire to improve the EMS and trauma systems.

OEMS is understaffed and there is evidence of inability to fully monitor, oversee and enforce EMS and trauma regulations across the state. Updating the trauma designation status, inspections of ambulances, and other infrastructure oversight suffers, not due to

a lack of recognition on the part of staff, but rather a lack of available time to complete these duties.

There is rule that requires those who call upon EMS for assistance receive care from at least one certified EMT. On a day-to-day basis, it is apparent that the dedicated individuals and agencies that make up the state EMS system assure that there is a response to requests for EMS assistance. The type of this response, volunteer or career, varies dependent on the location of the call, as is expected in a very large rural state. The response times are often long, but this is a function of the geography and environment.

A concerning lack of consistency in the EMS response exists at the onset of EMS requests for service, with the lack of a comprehensive emergency medical dispatch program statewide.

There is not a consistent method for the development of a fee for ambulance transport that is billed to the patient or third party payers. This has the potential for overbilling and, just as concerning, under billing in a resource-constrained environment.

Wyoming does not have the provision of EMS as a statutory responsibility of counties or municipalities, nor does there appear to be a consistent structure of mutual aid agreements between these counties or municipalities. Some areas had very clear-cut and defined agreements with neighboring communities. However, agreements are not required in order to be a licensed ambulance service. Additionally, should a major incident arise that becomes a statewide emergency, there is not a clear designation of what authority the OEMS director would have to direct or request EMS resources.

There is a confusing list of exemptions to the ambulance license rule that allows for the exemption from oversight of a large variety of potential ambulance providers, to include city or county-based agencies. There is no provision for the oversight of non-transport agencies (such as fire-based first response or industry services), although there is rule for the oversight of the certified personnel of these and other non-transport agencies.

There is a state EMS Advisory Committee appointed by the Governor. The representation on this group would benefit from a pediatric physician, and this request has been made to the Governor. There is also the Physician Task Force, which has advisory responsibility primarily with clinical and scope of practice issues. The EMS Advisory Committee may benefit from the addition of representatives from non-physician EMS related associations, groups, or licensure levels.

The relationship between OEMS and other state agencies is improving, with a reported strong relationship with the Office of Highway Safety, and an improving relationship with Homeland Security. The continued development of relationships between OEMS and other state entities will strengthen and broaden the impact of OEMS.

Funding is always a challenge for state EMS and other offices. As with many states, there is a lack of interest and understanding of the needs and financial requirements of an EMS and trauma system. The creation of a dedicated and sustainable EMS fund should be undertaken by the Wyoming Legislature, potentially identifying funding sources such as additional fines added to law enforcement citations, license registration fees, insurance premiums, or other options.

Recommendations

- **The Department of Health and the State Legislature should take steps to create dedicated and sustainable funding sources for the OEMS.**
- The OEMS and EMS stakeholders should investigate financial sustainability strategies for ambulance agencies, such as development of consistent billing structure for all licensed ambulance agencies.
- **The Department of Health should review the need for additional personnel in the OEMS.**
- The Legislature should consider action to establish county and/or municipality responsibility for the assurance of EMS response within given jurisdictional borders.
- The OEMS should require mutual aid agreements for ambulance licensure.
- **The OEMS should create a rule that establishes the authority to develop and regulate a statewide emergency medical dispatch system.**
- The Department of Health should clarify with Homeland Security the role of EMS in directing and requesting EMS resources during a statewide emergency.

C. HUMAN RESOURCES AND EDUCATION

Standard

Each State should ensure that its EMS system has essential trained and certified/licensed persons to perform required tasks. These personnel include: first responders (e.g., police and fire), prehospital providers (e.g., emergency medical technicians and paramedics), communications specialists, physicians, nurses, hospital administrators, and planners. Each State should provide a comprehensive statewide plan for assuring a stable EMS workforce including consistent EMS training and recruitment/retention programs with effective local and regional support. The State agency should:

- Ensure sufficient availability of adequately trained and appropriately licensed EMS personnel to support the EMS system configuration;
- Assure an ongoing state EMS personnel needs assessment that identifies areas of personnel shortage, tracks statewide trends in personnel utilization and which establishes, in coordination with local agencies, a recruiting and retention plan/program;
- Establish EMT as the state minimum level of licensure for all transporting EMS personnel;
- Routinely monitor training programs to ensure uniformity, quality control and medical direction;
- Use standardized education standards throughout the State that are consistent with the National EMS Education Standards;
- Ensure availability of continuing education programs, including requirements for pediatric emergency education;
- Require instructors to meet State requirements;
- Assure statutory authority, rules and regulations to support a system of EMS personnel licensure that meets or exceeds the national EMS Scope of Practice Model, new National EMS Education Standards, as they are available, and other aspects of the EMS Education Agenda for the Future; and
- Monitor and ensure the health and safety of all EMS personnel.

Status

The most important component of the EMS system that serves the approximately 570,000 Wyoming residents, as well as the millions of tourist visitors, is the cadre of certified caregivers. These caregivers must receive adequate training to effectively provide emergency and non-emergency patient care and transportation throughout Wyoming and the bordering states.

The Wyoming OEMS currently certifies approximately 2,942 caregivers, of which over half (1,762) are certified at the EMT-Basic level. Those certified at the EMT-Intermediate level make up 830 caregivers, and 350 are certified at the Paramedic level. These caregivers respond to at least 66,000 annual requests for EMS.

There is no assessment system in place at this time to tell OEMS if they have the correct number of caregivers to meet the needs of the volunteer and career agencies in responding to the requests for service. In Wyoming, EMS initial training courses are offered based on the requests of communities. These requests offer at least some anecdotal evidence of perceived community need.

During testimony, there was mention of difficulty in getting an adequate number of volunteers to cover calls in some areas. Like most states that rely heavily on volunteers, Wyoming is facing difficulty in maintaining the volunteer EMS caregiver population. Volunteerism is decreasing across the United States for many reasons, and is a difficult problem to solve. While Wyoming has an innovative EMS Volunteer Pension, it simply isn't enough. The OEMS must partner with stakeholders to continue to develop recruitment and retention strategies for volunteers, as well as career personnel, throughout the state.

One area of caregiver certification in Wyoming is significantly lacking – the emergency medical dispatcher (EMD). The EMD has become an essential caregiver of EMS, many times being the true “first responding” caregiver, and should receive professional recognition in Wyoming. Additionally, rule or policy should be developed that sets standards for pre-arrival instruction, continuing education, and medical direction of these vital EMS caregivers.

Wyoming has in rule that ground ambulances shall be staffed with a driver and at least one certified EMT. The rule also allows for other levels of healthcare providers to act as an attendant. Certainly, the healthcare providers mentioned in the rule should be viewed as valuable resources. However, the language of the rule should be strengthened to state that a certified EMT should be with the patient at all times during transport. Additionally, consideration should be given to requiring a base level of EMS training and certification for any healthcare provider that will act as a patient attendant. It should be clarified in rule that an air ambulance, both rotor and fixed, must have a

licensed paramedic on the aircraft, accompanied by at least one additional appropriate caregiver. This may include a second paramedic, or one of the additional healthcare professionals currently listed in rule.

The EMS educational system in Wyoming is steeped in tradition, and exists because of the dedication, time and energy the OEMS trainers give to approving course requests, arranging schedules and instructors, travelling to the courses, and administering the exams. This process, while understandably ensconced in the history of the development of Wyoming EMS, is in need of change.

The OEMS is commended for establishing the Committee on Education. In addition to EMS instructor/stakeholder representation, all of the secondary institutions, to include the seven community/junior colleges and perhaps the University of Wyoming, should have a representative on this group.

The Committee on Education should continue with their redesign of the current system, beginning with instructor standards and certification, and incorporating the use of higher education institutions that can then better address the educational preparation and continuing education that EMS instructors and providers need. Distance education opportunities should be explored and integrated into initial and continuing education courses.

The current method of course approval and administration is simply not sustainable. The OEMS-assigned FTEs for this task can be used more effectively in other areas of system development. Certainly, this change will involve a process that may take years, but it is a process that almost assuredly must be undertaken.

Meeting the National Education Standards is a challenge for many states, and Wyoming will be no exception. However, the standards offer an opportunity to improve the already very good education being offered in the state. The OEMS and the participating educational entities are commended for attaining CoAEMSP accreditation for the Paramedic level education programs. This same level of attention now should be focused on reaching the same standard for the Intermediate and Basic, and perhaps even the First Responder, levels of education.

The individual certification process that OEMS administers also needs to be streamlined. In fact, the term "certification" should be abandoned in lieu of the term "licensure". Additionally, the "attendant" versus "non-attendant" designation should be dropped in favor of simply licensing all caregivers. The issue of whether a caregiver is an attendant or non-attendant is really one of trying to assure medical direction. This can be dealt with by requiring medical direction for all licensed EMT caregivers before they can perform any of the designated skills within the scope of practice. This will assure that legally, anyone performing EMT level skills must have medical direction, wherever they are working.

The OEMS is correct to work with the Committee to reduce the multiple "sub-levels" allowed within the EMT-Intermediate level. We also believe that a single EMT-I level that meets the most needs should be developed. While this may be the National Registry of EMT's (NREMT) AEMT, it doesn't have to exactly match. The NREMT has said their designated levels of certification are "floors" not "ceilings".

Establishing rule for the licensure and reciprocity process for individuals from out of state seeking Wyoming licensure needs to be addressed, with a rule that offers opportunity for mobility while still protecting the residents of Wyoming. Also, avenues of credentialing and providing temporary licensure for resources, such as EMS support personnel for wild land firefighting operations, should be developed.

A systematic application and review process for those desiring to teach continuing education (CE) needs development and propagation. Individuals desiring to teach a course should submit the course syllabus, date of offering, etc., for approval. Many of the well-known certification courses, such as PALS or PHTLS can be pre-approved.

Also, the number of CE's required for renewal appears inordinately high. Perhaps this is an area that can be relaxed for licensed individuals. However, a minimum number of pediatric-related CE's should be required for recertification.

Recommendations

The OEMS should:

- Establish in rule a licensure level for EMD. Additionally, set a standard for pre-arrival instruction programs and medical direction for EMD.
- **Begin the process of shifting oversight of the educational programs, curriculum, and instructor cadre to the educational entities. However, OEMS shall maintain approval authority of the educational entities that are allowed to teach EMS courses.**
- **Establish in rule standards for certification of EMS instructors.**
- Develop alternatives to the current method of licensing examination administration.
- Strengthen language in rule assuring that an EMT must attend all patients being transported in an ambulance.
- Establish in rule minimum medical standards for airmedical agencies requiring a minimum of ALS services.

- **Drop the “attendant” versus “non-attendant” language in favor of simply licensing all levels, and require medical direction for all EMT levels.**
- Continue the process of eliminating the multiple levels of EMT-Intermediate currently allowed.
- Develop rule for unusual licensing situations, such as temporary, seasonal, or out of state applicants.
- Review and amend CE approval policy, and consider revising the CE requirement for relicensure.

D. TRANSPORTATION

Standard

Each State should require safe, reliable EMS transportation. States should:

- Develop statewide EMS transportation plans, including the identification of specific EMS service areas and integration with regionalized, accountable systems of emergency care;
- Implement regulations that establish regionalized, accountable systems of emergency care and which provide for the systematic delivery of patients to the most appropriate specialty care facilities, including use of the most recent Trauma Field Triage Criteria of the American College of Surgeons/Committee on Trauma;
- Develop routine, standardized methods for inspection and licensing of all emergency medical transport services and vehicles, including assuring essential pediatric equipment and supplies;
- Establish a minimum number of personnel at the desired level of licensure on each response and delineate other system configuration requirements if appropriate;
- Assure coordination all emergency transports within the EMS system, including public, private, or specialty (air and ground) transport and including center(s) for regional or statewide EMS transportation coordination and medical direction if appropriate; and
- Develop regulations to ensure ambulance drivers are properly trained and licensed.

Status

Wyoming faces many challenges in providing a coordinated and integrated system to transport emergency patients. The state has a vast expanse of rural and frontier territory encompassing 97,914 square miles and is laced by 33,000 miles of public roads. The state is divided into 23 counties with half of the land mass belonging to the federal government. Because of rugged mountainous stretches, the ground ambulances are often faced with 3-5 hour round trip transport times. During the winter, the ambulance services may be faced with treacherous or closed roads and weather conditions that hinder their ability to transport at all.

The OEMS has 72 licensed ambulance providers with 203 permitted vehicles to cover the entire state. The majority of the ambulance services provide either Intermediate or Paramedic ALS care. There are only 13 Basic EMS services and four non-transporting

fire protective services. Additionally, there are also 7 licensed air ambulance providers with fixed wing and rotor vehicles.

Many of the ambulance services transport patients across state lines for definitive care. There are only two agreements with other states that provide for reciprocity agreements for licensed providers to transport patients into surrounding states. These agreements are outdated and additional agreements need to be established with all contiguous states.

The regulatory standards require ambulances to be staffed with at least one EMT on every call. There are no standards or requirements in place for ambulance drivers. Staffing ambulances is a challenge, especially in remote rural areas of the state. Approximately 74% of the services utilize volunteers to staff the ambulances.

Through the Hospital Preparedness Program, mutual aid agreements now exist between many EMS services. These agreements will not only help with day to day operations but may be utilized to enhance much needed resources in the event of a disaster. However, this has been a voluntary effort and may not be consistent and thoroughly tested. There is no requirement for ambulance services to have mutual aid agreements in place in order to obtain an ambulance license. In addition, ambulance services may declare their service areas in order to be licensed but it is unclear if every area of the state is covered by a licensed EMS agency.

The OEMS does not have a regular inspection program to ensure the ambulance vehicles are fully operational and equipped to manage and transport emergency patients. However, the OEMS plans to launch a program in the near future. A major concern in launching this operation is the lack of OEMS staff and the long distances needed to travel to local communities to complete the inspections. This function will continue to be problematic until sustainability for the program is established with dedicated funding and staff resources.

The OEMS may have an opportunity to create regionalized systems of care for emergency medical services by integrating EMS providers, medical direction and dispatch centers into the regional trauma system structure. These regions are based on patient flow patterns and geography and provide a natural structure and forum for discussing EMS and trauma system development including treatment, triage and transport guidelines, performance improvement, equipment and training needs, communications issues, and strategic planning, including disaster response.

The OEMS is commended for seizing the opportunity to modify the EMS Act in the 2013 legislative session to clarify assignment of authority and responsibility for ambulance licensure issues. The "exceptions" have created much ambiguity and confusion and lack of consistency in care provided.

The OEMS appears to have sufficient statutory authority for ambulance licensing and to

require a minimum of at least one EMT on every transport. However, the statutory authority does not allow for the provision of a standardized vehicle inspection program, creation of regionalized and accountable systems of care, ambulance driver requirements, and standardized field triage guidelines. The lack of clear and sufficient regulatory language to address the components listed above will further erode the patient care transportation system.

Another threat to the transportation system is the influx of additional air ambulance resources. These resources are being thrust upon dispatch centers, hospitals and EMS providers with little understanding of their capabilities and location of vehicles. There is no regulation of response times and there is no knowledge by dispatch centers as to whether the service is even licensed within the state of Wyoming.

Recommendations

- **The OEMS should require driver training (such as EVOG) for ambulance drivers as part of agency licensure requirement.**
- **The OEMS should establish standardized air ambulance activation guidelines.**
- The OEMS should integrate EMS agencies and dispatch centers into the five trauma regions and utilize these regions to assess transportation needs to be incorporated into the state plan.
- The Department of Health should support the creation of additional employee positions to adequately administer the ambulance inspection program, conduct complaint investigations, and provide EMS system technical assistance to EMS agencies, hospitals, dispatch centers, and policymakers within the five trauma/EMS regions.
- The OEMS should seek funding resources through PHEP or HPP program to develop GIS mapping for ground and air ambulance service areas and vehicle locations.
- **The OEMS should establish regulatory air ambulance licensing categories that adequately reflect the ALS capabilities of the air ambulance services licensed in Wyoming.**
- The OEMS should investigate the possibility of adding air ambulance certification programs into rule (such as CAMTS) to ease the burden of state staff performing inspection functions.

E. FACILITIES

Standard

It is imperative that the seriously injured (or ill) patient be delivered in a timely manner to the closest appropriate facility. Each State should ensure that:

- Both stabilization and definitive care needs of the patient are considered;
- There is a statewide and medically accountable regional system, including protocols and medical direction, for the transport of patients to state-designated specialty care centers;
- There is state designation of specialty medical facilities (e.g. trauma, burns, pediatric, cardiac) and that the designation is free of non-medical considerations and the designations of the facilities are clearly understood by medical direction and prehospital personnel;
- Hospital resource capabilities (facility designation), including ability to stabilize and manage pediatric emergencies, are known in advance, so that appropriate primary and secondary transport decisions can be made by the EMS providers and medical direction;
- Agreements are made between facilities to ensure that patients, including pediatric patients, receive treatment at the closest, most appropriate facility, including facilities in other states or counties;
- Hospital diversion policies are developed and utilized to match system resources with patient needs – standards are clearly identified for placing a facility on bypass or diverting an ambulance to appropriate facilities.

Status

There are 28 acute care facilities in Wyoming of which 16 are critical access hospitals. Hospital licensing is tied to trauma hospital designation in this inclusive system. The 27 designated trauma-receiving facilities have transfer agreements in place, both with in-state resource hospitals as well as with tertiary facilities in neighboring states. There is no designated pediatric or burn center within Wyoming. Although there is some spine surgery capability in Wyoming, most patients with spinal cord injuries are transferred to Denver or Salt Lake City.

The community commitment to striving for excellence in trauma care for the Wyoming populace is palpable. When the representative of a community trauma hospital (Level IV) was asked why his facility planned to apply for designation as an area trauma hospital (Level III), the answer was: "so we can provide better care for our community."

This level of hospital commitment is not prevalent across all states, especially when there is no possibility of changing referral patterns or remuneration. Uncompensated care funds for trauma hospitals have not existed in Wyoming since 2010; 52% of the population has either Medicare, Medicaid, or is self-pay.

The border between Wyoming and its six surrounding states is bidirectional regarding patients with time critical diagnoses. Although many locations in Wyoming transport patients to hospitals in adjacent states, so too do Wyoming hospitals provide care for patients from neighboring states. The AHA has initiated the Mission Lifeline program in Wyoming and the OEMS is working to support its full implementation.

It is common in Wyoming, especially during the winter, for patients to be cared for at hospitals that would not typically provide more than short-term emergent care for their injuries or serious medical conditions. The combination of weather and road closure results in added stresses for the care providers at these facilities. One facility has trained all its nurses for neonatal care, trauma, and cardiac, just in case they are unable to transfer a special-needs patient in a timely manner.

Now that the statewide trauma registry is collecting its first full year (2012) of data, including data submission by all hospitals, the potential for publication of hospital data comparing patient outcomes exists. These could be blinded reports organized by trauma center level, provided to each trauma coordinator and/or trauma medical director and/or CEO. These data would be especially helpful for the low performing facilities. As there are only two Level II (regional trauma centers), their data cannot be made public as it would be a simple matter to identify the hospital based on patient volume or other well-known facts.

There is no state requirement for trauma centers to provide recurring trauma team training to staff, nor is there a requirement for the Level II trauma centers to provide trauma education to other trauma hospitals in the state. A win-win opportunity for all would be for the Level II trauma centers to each provide quarterly Rural Trauma Team Development Courses. In this way, each smaller hospital would receive important team training (RTTDC) approximately every three years.

Trauma hospitals in Wyoming rarely divert patients. When they do, it is usually for a specific patient population (e.g. the neurosurgeon is out of town). There is no diversion guideline or standard at the state level.

Recommendations

- The OEMS should publish the capabilities of each hospital in the state and provide updates on a regular basis.
- **The OEMS should work towards categorization and verification of hospital emergency capabilities and improvement in hospital ability to provide optimal care for all time critical diagnoses.**
- The OEMS should use 2012 trauma registry data to provide blinded comparative reports that include outcomes to each trauma hospital.
- The OEMS should assist the Level II trauma centers (regional trauma centers) with provision of regular outreach medical education courses (such as RTTDC) to all other hospitals on a recurring basis.
- The OEMS should work with hospitals to develop diversion policies consistent with their capabilities and limitations; diversion times and reasons for diversion should be tracked.

F. COMMUNICATIONS

Standard

An effective communications system is essential to EMS operations and provides the means by which emergency resources can be accessed, mobilized, managed, and coordinated. Each State should assure a comprehensive communication system to:

- Begin with the universal system access number 911;
- Strive for quick implementation of both wire line and wireless enhanced 911 services which make possible, among other features, the automatic identification of the caller's number and physical location;
- Strive to auto-populate prehospital patient care report (NEMSIS compliant) with all relevant times from the public safety answering point (PSAP);
- Provide for emergency medical dispatch training and certification for all 911 call takers and EMS dispatcher.
- Provide for priority medical dispatch;
- Provide for an interoperable system that enables communications from dispatch to ambulance, ambulance to ambulance, ambulance to hospital, hospital to hospital and ambulance to public safety communications.
- Provide for prioritized dispatch of EMS and other public safety resources.
- Ensure that the receiving facility is ready and able to accept the patient; and
- Provide for dispatcher training and certification standards.
- The statewide communications plan includes effective, reliable interoperable communications systems among EMS, 911, emergency management, public safety, public health and health care agencies.
- Each State should develop a statewide communications plan that defines State government roles in EMS system communications.

Status

An integrated and coordinated communications system is essential for the provision of EMS on a routine basis, as well as a mass casualty response in the event of a disaster. Wyoming appears to have the basic services available for public access to the system through 911 and has 90% of the state covered with enhanced 911. However, other

basic aspects of the communications system have yet to be established consistently within Wyoming.

There are 44 communications centers located throughout the 23 counties in Wyoming. Of the 44 centers, 22 are PSAPs and often provide not only dispatch services for EMS, but also for fire and law enforcement calls. Some of the centers, but not all, have computer aided dispatch consoles and provide a pre-established set of interrogation questions and pre-arrival instructions. There are no regulations in place to ensure that when the public calls 911, they receive pre-arrival instructions by trained and certified emergency medical dispatch personnel. The capability to ask appropriate medical interrogation questions and provide pre-arrival instructions to 911 callers has proven to save lives. In addition, there are no regulations in place to ensure that each communications center has medical direction oversight available to review dispatch protocols and to provide performance improvement for medical calls.

Fortunately, the OEMS has the statutory authority to institute a licensure program for EMD and are actively drafting regulatory language to support the program. In addition, the training program is readily available through the Wyoming Law Enforcement Academy.

It is clear in the regulatory standards that a receiving facility must be ready and able to accept patients from EMS and to provide on-line medical direction within the ALS systems. However, this same assurance is not provided for Basic Life Support services.

Strengths of the Wyoming communications system include the addition of new radios and the interoperable WyoLink communications system. Thanks to the Hospital Preparedness Program, base stations and hand held radios have been provided to all hospitals, and radios for all ambulance services. This effort is a great benefit to the EMS system allowing for redundancy in communication capabilities. It was reported that most ambulance services utilize the cell phone for on-line medical direction but may need to use the radios if cell coverage is unavailable. It was also noted that Wyoming has completed narrow-band licensing for all radios.

WyoLink is a comprehensive digital trunked radio system that uses VHF frequencies connected through a microwave backbone. The system is administered through the Public Safety Communications System and WYDOT, and provides mobile radio coverage for 95% of the state excluding Yellowstone National Park. The system provides local/state/federal interoperable communications capabilities.

Approximately, one third of the counties have EMS agencies utilizing WyoLink. Hospitals, EMS agencies, police, fire and dispatch centers have access to WyoLink. They have created 124 interoperable talk groups, including talk groups for the five trauma regions. Use of the system comes at no cost to the provider except for the purchase of the radio equipment.

The system is robust and currently manages one and a half million calls per month with approximately 2300 radios being tracked on the dashboard at one time. There is also a mutual aid system available that provides VHF communications capabilities for air ambulances. However, not all air ambulance services are using the WyoLink because they reside in surrounding states and have not purchased the equipment.

Even though there is no formal communications plan or staffing support within the OEMS to assess the system, OEMS staff serve on the Public Safety Communications Commission and are engaged in the Broadband systems study and work closely with the WYDOT communications coordinator.

It was also stated that the OEMS has been included in the communications planning associated with the PHEP grant but perhaps additional opportunities exist and the relationship could be strengthened.

Recommendations

- **The OEMS should establish minimum standards for any communications center taking 911 calls and dispatching emergency medical services resources. This should include standards for dispatch center personnel, the availability of caller interrogation questions and pre-arrival instruction systems, quality improvement and the availability of medical direction oversight.**
- **The OEMS should utilize the services of the National 911 Resource Center.**
- The OEMS should form a broad based committee to address statewide and regional communications needs and regularly convene the committee to establish regulations and guidelines for an EMD certification program, establish dispatch center minimum requirements, identify medical direction responsibilities for dispatch centers and EMDs, and address statewide communication needs and issues.

- The OEMS should utilize the communications committee and five trauma regions to develop a strategic communications plan, as part of the state EMS plan, which is integrated with Broadband systems planning efforts.
- The OEMS should actively explore the call center concept to consolidate the state's medical dispatching capabilities into regionalized call centers in order to reduce costs for the implementation of EMD certification and dispatch center operational standards. This should include the availability of pre-arrival instructions with medical priority dispatch systems, where appropriate, facilitating inter-facility transfers, initiating air ambulance transports, and coordinating transportation resources in the event of a disaster.
- The OEMS should consider the addition of satellite telephone technology for complete coverage.
- The OEMS should encourage further adoption of the WyoLink system for all EMS agencies, hospitals, dispatch centers, and state response agencies.

G. PUBLIC INFORMATION AND EDUCATION

Standard

Public awareness and education about the EMS system are essential to a high quality system. Each State should implement a public information and education (PI&E) plan to address:

- The components and capabilities of an EMS system;
- The public's role in the system;
- The public's ability to access the system;
- What to do in an emergency (e.g., bystander care training);
- Education on prevention issues (e.g., alcohol or other drugs, occupant protection, speeding, motorcycle and bicycle safety);
- The EMS providers' role in injury prevention and control; and
- The need for dedicated staff and resources for PI&E.

Status

The OEMS has been engaged in numerous injury prevention and public education programs through the EMS for Children program and trauma systems program. EMSC supports local bike rodeos, health fairs and provides poster materials and give-aways. They participate in the Wyoming State Fair and provide information on the EMS system, as well as injury prevention information for kids.

Although the OEMS has no specific plan for public information and education, they have developed substantial partnerships with the Office of Highway Safety, Wyoming Seatbelt Coalition, Wyoming Safe Kids Coalition, and the Governor's Council for Impaired Driving. They also participated in Highway Safety strategic planning efforts.

The Safe Kids program is very active and has a Buckle Up Kids training grant and coordinators across the state. They train passenger safety technicians and have 213 certified in the state. They actively conduct renewal classes as well.

The trauma nurse coordinators throughout the state support local injury prevention activities that meet the needs of their respective communities. Upon request, the trauma program also provides data to support these injury prevention efforts.

Wyoming EMS also reports to the Fatality Analysis Reporting System (FARS) through the Wyoming Department of Transportation. With the trauma registry, WATRS, FARS and hospital discharge data, the OEMS and Department of Health have an opportunity to mine the data and target efforts for injury prevention. Availability of an epidemiologist would greatly enhance this data rich opportunity.

The OEMS maintains a website with EMS links, a web based message board, and links to child safety networks. Unfortunately, Department policy does not allow them to utilize the resources of social media to expand messaging and notification capabilities to the public.

The Hospital Preparedness Program (HPP) is active in prevention activities and supports emergency preparedness and planning, as well as efforts for patient safety and environmental care. Special efforts also include funding for the "Unable to Self Evacuate" program and First Receiver training.

The OEMS has participated in EMS week by seeking the Governor's proclamation each year. However, they have not capitalized on the opportunity to develop an EMS awards program for special recognition or provide focused messages regarding the EMS system, the public's role and ability to access the system. However, the OEMS has been able to sponsor public service announcements that target high injury times of the year like New Years and the Fourth of July.

The Department of Health had an injury prevention grant with the CDC ten years ago but has since lost the funding. This is a missed opportunity for the state to provide a coordinated effort for injury prevention that could greatly impact the citizens of the state and reduce morbidity and mortality as a result of injury. This grant would provide the Department with an opportunity to utilize the EMS and trauma data and other Department data to coordinate and support injury prevention activities throughout the state.

There is also an opportunity to work on provider and patient safety with the national efforts being led by the National Highway Traffic Safety Administration. Recent events in the Wyoming news have sparked interest in workplace safety that resulted in hiring a workplace safety champion, with a mission to reduce industrial-related motor vehicle accidents. In Wyoming, 50% of industrial deaths are from motor vehicle crashes.

Recommendations

- The OEMS should expand EMS week activities to capitalize on free advertising materials to educate the public and policymakers about the EMS/trauma system.
- The Department of Health should prepare and apply for the CDC Violence and Injury Prevention grant and resurrect the injury prevention coordinating committee through community organization support.
- The Department of Health should provide guidelines and approval to utilize social media for public messaging of health and medical information.
- The OEMS should seek opportunities to collaborate with an epidemiologist for data analysis and reporting to support injury prevention activities.
- The OEMS should consider implementing a public education program that provides information on what to do until the ambulance arrives.
- **The OEMS should collaborate with the Wyoming Highway Safety Office and other partners, to secure resources for the development of a media campaign to “tell the story” about the EMS/Trauma system to the public which includes the components and capabilities of the system, as well as the public’s role in the system.**
- **Through regional advisory council meetings, the OEMS should actively engage EMS providers and hospitals in injury prevention activities and regularly highlight the efforts on the OEMS website.**
- The OEMS should utilize the EMS and trauma registry data to develop fact sheets to educate the public about the location and cause of injury, as well as other topics relevant to public health policy.
- The OEMS should explore opportunities to collaborate on projects to improve workplace safety, including EMS workforce and patient safety.

H. MEDICAL DIRECTION

Standard

Physician involvement in all aspects of the patient care system is critical for effective EMS operations. EMS is a medical care system in which physicians oversee non-physician providers who manage patient care outside the traditional confines of the office or hospital. States should require physicians to be involved in all aspects of the patient care system, including:

- A state EMS Medical Director who is involved with statewide EMS planning, overseeing the development and modification of prehospital treatment protocols, statewide EMS quality improvement programs, scope of practice and medical aspects of EMS provider licensing/disciplinary actions;
- Online and off-line medical direction for the provision of all emergency care including pediatric medical direction, when needed and the authority to prevent and EMS provider from functioning based on patient care considerations; and
- Audit and evaluation of patient care as it relates to patient outcome, appropriateness of training programs and quality improvement.

Status

All ambulance agencies and licensed EMTs must have a physician medical director (PMD) or "sponsoring physician". This physician is responsible for protocol development, case reviews and verifying continuing education training and skills maintenance. This use of a "sponsoring physician" outside of a licensed ambulance service allows great flexibility for industrial medicine but anecdotally has lead to "freelance" EMTs and physician "shopping".

As with most rural states, medical direction of most EMS agencies is provided by volunteer physicians that may have little or no experience or training in EMS. A stipend to compensate the medical directors was recently not renewed in the budget. Actual involvement of the physician medical directors is hard to quantify and some agencies have had lapses in medical direction requiring the OEMS to help facilitate medical direction for these agencies.

A PMD is only required to have a Wyoming Medical License. No other education is required. There is annual medical director education provided at the Trauma Conference though attendance at this conference by physician medical directors has been sporadic. Additional regional education programs have been performed and may be more successful.

Despite having a state medical director previously, the state currently does not have a State Medical Director or State Trauma Medical Director.

There is minimal liability protection available for physician medical directors unless they are capable of being employed by a governmental agency. Obtaining private liability coverage is possible but adds to the overhead cost of the agency or medical director. This cost was previously offset by the state stipend.

PMDs have the ability to restrict an EMT's privileges. There is concern that the rule does not provide the EMT due process when this occurs.

Recommendations

- **The Department of Health should hire a State EMS Medical Director.**
- The Department of Health should introduce legislation granting medical and administrative liability protection for Physician Medical Directors.
- The OEMS should increase medical director EMS education requirements and opportunities.
- **The OEMS should expand the role of the Physician Task Force to include oversight of medical direction and scope of practice.**
- The OEMS should explore the appointment of regional EMS Medical Directors.

I. TRAUMA SYSTEMS

Standard

Each State should maintain a fully functional trauma system to provide a high quality, effective patient care system. States should implement legislation requiring the development of a trauma system, including:

- Trauma center designation, using American College of Surgeons Committee on Trauma guidelines as a minimum;
- Trauma field triage and transfer standards for trauma patients;
- Data collection and trauma registry definitions for quality assurance, using American College of Surgeons Committee on Trauma National Trauma Data Standards, as soon as practicable;
- Systems management and quality assurance; and
- Statewide Trauma System Plan, consistent with the Health Resources and Services Administration Model Trauma System Planning & Evaluation Document.

Status

Trauma mortality for a given severe injury or combination of injuries in rural and frontier areas of the U.S. is twice as high as it is in urban areas – this is related to both time and distance. These challenges of time and distance for “golden hour” trauma patient care among the 48 contiguous states are most severe for the citizens of Wyoming.

Historically, there was a concerted effort among physician leaders in the state to write a trauma system plan and build a trauma system for the citizens of Wyoming, culminating in trauma legislation and a statewide trauma system plan in 1994. Since that time, progress has been slow over many years for multiple reasons including limited funding and significant turnover in the state trauma coordinator position. The trauma system plan is now outdated and obsolete.

Wyoming has an inclusive trauma care system with 27 of 28 acute care facilities participating; one hospital is seeking an exemption through Health Care Licensing and Surveys. Much of the infrastructure is present for building a model trauma care system. Trauma legislation, trauma rules, a designation process, regional trauma advisory councils, and a statewide trauma registry are all in place. Although EMS agencies closely follow the CDC guidelines, a statewide trauma field triage and transport guideline has not been developed for Wyoming.

Level II trauma centers, "Regional Trauma Centers", are verified by the American College of Surgeons. Level III, "Area Trauma Hospitals", Level IV, "Community Trauma Centers", and Level V, "Trauma Receiving Facilities", are designated based on Wyoming-specific criteria. Currently, there are two Level IIs, six Level IIIs, ten Level IVs, and nine Level Vs. As the American College of Surgeons continues to update trauma center verification criteria, existing standards fall out of date. State-specific designation criteria should be updated at regular intervals.

Recently, there has been resurgence in trauma system development interest. This has been largely due to new leadership in the OEMS and a new state trauma coordinator. Over the past 18 months, 17 trauma hospitals have been re-designated by the State.

One potential shortcoming of the current Wyoming designation process is that hospitals choose to be reviewed and designated at a certain level. This could potentially result in hospitals not providing care for all trauma patients that would benefit from their capabilities. For example, hospitals capable of Level III designation should not be permitted to request designation as a Level V facility - so that they will not be bypassed in the future with a critically injured patient. This will become especially important as statewide trauma triage guidelines are implemented.

A new statewide trauma registry has been selected, purchased and distributed to all trauma hospitals; 2012 marks the first year that all facilities will report data to the State. In turn, the State submits trauma patient data to the National Trauma Data Bank. Trauma registry data can now also be linked with EMS prehospital data. Collection of one or more years of trauma patient care data and tracking patients through the system will permit, for the first time, an understanding of the trauma problem in Wyoming, analysis of prehospital trauma care, triage and transport decisions, and trauma facility care. There is currently very limited staff support in the OEMS to make use of these valuable data.

The trauma system is divided into five regions with Regional Advisory Councils (RACs) based on both geography and historic hospital referral patterns. These councils do not have a defined structure and purpose, funding, consistent participation from appropriate stakeholders, nor a method to report their recommendations or performance improvement findings to the State or other trauma regions. Creation of a State Trauma Advisory Council, including representation from each RAC, would improve dissemination of regional trauma performance improvement lessons and assist with development and implementation of the trauma system plan.

The trauma regions are currently used only for trauma system and hospital preparedness purposes. Although the OEMS plans to also use these regions for overall EMS organization, the regions are apparently not currently considered adequate for Wyoming disaster response purposes as an entirely different set of seven Homeland Security regions have been developed for these purposes. As over 95% of disasters in the U.S. involve mechanical trauma, the five trauma regions are, in fact, also ideal for

disaster planning and response.

The OEMS staff, along with a few medical champions who understand the benefits of trauma systems, are extremely dedicated to improving care of the trauma patient and completing development of the trauma system. It does not appear that comprehension of the magnitude of the problem of preventable trauma mortality exists outside these few individuals. This currently limits the potential success of trauma system development efforts in Wyoming. The OEMS should educate citizens and residents in the state about the trauma system and its benefits to each resident. Through this mechanism, OEMS will gain the financial and legislative support needed to complete the development of the Wyoming trauma system. Indeed, this effort will be important to many across the U.S. as Wyoming will then be able to set the standard for quality rural and frontier trauma care.

Recommendations

- **The OEMS should work with stakeholders and the regional advisory councils (RACs) to update the statewide trauma system plan to be consistent with the HRSA Model Trauma System Planning and Evaluation document.**
- The OEMS, in conjunction with the RACs, should update trauma administrative rules to be consistent with current standards, including the most recent American College of Surgeons Optimal Resources document.
- The OEMS should develop a mechanism to ensure that each hospital is designated at a level commensurate with its actual capabilities.
- **The OEMS should create a State Trauma Advisory Council to assist with implementation of performance improvement initiatives and support further maturation of the trauma system.**
- **The OEMS should secure additional required FTE support and permanent funding for trauma care system function and maturation, including hospital verification and system performance improvement/quality assurance.**
- The OEMS should work with the RACs to develop and implement statewide trauma triage and transport guidelines.
- The OEMS should perform and publish a state trauma preventable mortality study using statewide EMS and trauma center data, to better define the magnitude of the Wyoming trauma crisis, guide system development priorities, and obtain additional legislative and financial support.

- The OEMS should work with statewide, regional, and community organizations to develop strong grassroots support for the trauma system and should work closely with trauma system champions in the state legislature.
- **The OEMS should develop organizational structure, bylaws and funding support for Regional Advisory Councils.**

J. EVALUATION

Standard

Each State should implement a comprehensive evaluation program to assess effectively and to improve a statewide EMS system. State and local EMS system managers should:

- Evaluate the effectiveness of services provided to victims of medical or trauma-related emergencies;
- Define the impact of the system on patient care and identify opportunities for system improvement;
- Evaluate resource utilization, scope of service, patient outcome, and effectiveness of operational policies, procedures, and protocols;
- Evaluate the operation of regional, accountable emergency care systems including whether the right patients are taken to the right hospital;
- Evaluate the effectiveness of prehospital treatment protocols, destination protocols and 911 protocols including opportunities for improvement;
- Require EMS operating organizations to collect NEMSIS compliant data to evaluate emergency care in terms of the frequency, category, and severity of conditions treated and the appropriateness of care provided; Assure protection from discoverability of EMS and trauma peer review data;
- Ensure data-gathering mechanism and system policies that provides for the linkage of data from different data sources through the use of common data elements;
- Ensure compatibility and interoperability of data among local, State and national data efforts including the National EMS Information System and participation in the National EMS Database;
- Evaluate both process and impact measures of injury prevention, and public information and education programs; and
- Participate in the State Traffic Records Coordinating Committee (TRCC) – a policy-level group that oversees the State’s traffic records system, to develop and update a Statewide Traffic Records System Strategic Plan that ensures coordination of efforts and sharing of data among various State safety data systems, including EMS and Trauma Registry data.

Status

The Wyoming Ambulance Trip Reporting System (WATRS), a NEMSIS compliant system, is the required EMS patient care reporting program. Use of the WATRS is mandated in rule for all patient encounters and provides the data necessary for evaluation of care provided. Reports are generated for individual agencies upon request and use of the WATRS PI capabilities is encouraged. Standardized and routine analysis of this data by the OEMS is not performed. Hospitals indicated they are not receiving EMS patient care reports in a timely fashion.

The OEMS has provided additional software and tablet PCs to ambulance agencies to streamline data entry. The Office has a Data Manager who is clearly dedicated to providing great service to the Office and EMS providers.

The Wyoming Trauma Registry has been established and software recently upgraded to improve input and data analysis. There is no dedicated trauma registrar however, and linkage to WATRS data is done manually as there is no unique patient identifier utilized. Information from WATRS and the trauma registry are submitted respectively, to the NEMSIS and NTDB national databases.

Wyoming statute provides protection for quality assurance activities and Physician Medical Directors are required to perform case reviews monthly with Intermediate and Paramedic level services.

There are no statewide protocols or treatment guidelines and the individual PMD is responsible for the development of individual agency protocols. The OEMS does not routinely review or evaluate these protocols for evidence-guided practice or compliance with defined scope of practice.

The established trauma system and future development of cardiac and stroke systems of care will build the framework for a regionalized approach to patient care.

Trauma Regional Advisory Councils (RACs) meet periodically but do not perform formalized QA activities. The RACs are ad hoc committees without a structured membership.

There is no statewide quality improvement program for evaluation of patient treatment, outcome or appropriateness of patient destination.

The OEMS has representation on the state Traffic Records Coordinating Committee and is linking WATRS and crash record data.

Recommendations

- **The OEMS should develop a statewide quality improvement program to evaluate appropriateness of patient destination, utilization of air medical resources, patient treatment, and EMD performance.**
- The Department of Health should fund and hire a full-time state Trauma Registrar.
- The OEMS should link WATRS and Trauma Registry data using a unique patient identifier to more efficiently and consistently follow patient flow through the system.
- The OEMS should formalize the membership and expand the role of the Trauma RACs to include all time-critical diagnoses and formalize quality assurance responsibilities.
- **The OEMS should create and mandate use of regional destination protocols for time-critical diagnoses.**
- The OEMS should require EMS agencies to leave a PCR with a facility at the time of transfer of patient care.

K. PREPAREDNESS

Standard

EMS is a critical component in the systematic response to day-to-day emergencies as well as disasters. Building upon the day-to-day capabilities of the EMS system each State should ensure that EMS resources are effectively and appropriately dispatched and provide prehospital triage, treatment, transport, tracking of patients and documentation of care appropriate for the incident, while maintaining the capabilities of the EMS system for continued operations, including:

- Clearly defining the role of the State Office of EMS in preparedness planning and response including their relationship with the State's emergency management, public health and homeland security agencies;
- Establishing and exercising a means to allow EMS resources to be used across jurisdictions, both intrastate and interstate, using the Emergency Management Assistance Compact and the National Incident Management System;
- Identifying strategies to protect the EMS workforce and their families during a disaster;
- Written protocols, approved by medical control, for EMS assessment, triage, transport and tracking of patients during a disaster;
- A current statewide EMS pandemic influenza plan; and
- Clearly defining the role of emergency medical services in public health surveillance and response.

Status

Wyoming OEMS is actively involved in preparedness activities and the EMS system should successfully meet the challenges of all hazards multi-agency response. Mutual aid agreements, ability to participate in Emergency Management Assistance Compact and use of National Incident Management System is evident. There are considerations for EMS in the pandemic influenza plans for the state, and the OEMS has recently worked to improve dialog with the state Homeland Security agency and increase its involvement in the future development of emergency management agency plans and response. The OEMS has also successfully collaborated with the Public Health Preparedness Program to develop the "Unable to Self Evacuate" program, which

facilitates the identification of persons with special healthcare needs in the event of an evacuation.

Perhaps the greatest strength for EMS preparedness in Wyoming is the fact that the Hospital Preparedness Program (HPP) Grant is managed by the OEMS. This combination reflects a growing trend in other states and creates a unique opportunity to benefit from the synergy created by housing the trauma system and HPP grants in the same office. The hospital connections created by the trauma system greatly compliments the capabilities to be developed through the HPP grant. Surge capacity/ capability should mirror patient flow and referral patterns, and the trauma system is already designed to do this on a regional basis throughout the state. Additionally, funding from the HPP grant can be used to further the needs of the trauma system in those areas where there are common goals. Wyoming has already benefitted from this by using HPP funds to provide Advanced Burn Life Support to trauma system providers.

Given the age of the pandemic flu plan and other preparedness and emergency response plans, the OEMS should work closely with Public Health Preparedness and Homeland Security to ensure proper planning for EMS workforce protection and EMS deployment during adverse events. There is also concern that smaller agencies may not be adequately prepared when it comes to personal protective equipment and preparedness training, to include Incident Command System training. Another area of concern lies in the fact that there is not a statewide written protocol for EMS assessment, triage, transport and tracking during a disaster.

Despite the great benefit of having the HPP grant managed by OEMS, it is tragic that there are not additional staff hired using grant funds to adequately support grant activities. The recent departure of the HPP Coordinator leaves the state totally exposed if an adverse event were to occur requiring the coordination of hospital surge or evacuation capability, and risks loss or reduction of relevant and critical federal funding due to the potential inability to meet the growing reporting and performance requirements demanded of grantees.

Current conditions indicate that there is not continuous and effective interaction between EMS, Public Health Preparedness and the Department of Health. This is leading to the potential for several missed opportunities. Primary among these is that the Department of Health is not taking advantage of the WATRS system to expand its surveillance capability. There should be interaction and collaboration between epidemiology and EMS on this as well as several other areas besides preparedness. It is evident that the role of EMS in a public health emergency is unclear, as is the detail on how OEMS will be utilized in the event that a health operations center is activated.

The lack of participation in this assessment by the Department of Health and the Public Health Preparedness Program was noticed by the assessment team.

Recommendations

- The OEMS should identify and close preparedness gaps that may exist with smaller response agencies, specifically in the areas of PPE stockpile, preparedness training and planning, and exercises.
- **The Department of Health should be more involved in the collaboration between OEMS and the Public Health Preparedness programs and work to leverage developed capabilities. The role of EMS in the health operations center in the event of an emergency should be more clearly defined, trained and exercised.**
- **The Department of Health should hire additional positions on the HPP grant to ensure preparedness. Continue to house the grant in the OEMS.**
- The OEMS should work with Public Health Preparedness and Homeland Security to review existing plans and ensure proper planning for EMS workforce protection and deployment of EMS resources during an emergency event.
- The OEMS should work with stakeholders to develop a written statewide protocol for EMS assessment, triage, transport and tracking of patients during a disaster.

L. CURRICULUM VITAE

STEVEN BLESSING, MA

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ORGANIZATIONS/APPOINTMENTS

Past President, National Association of State Emergency Medical Services Officials (NASEMSO)

Former East Region Representative, NASEMSO

Former Domestic Preparedness Committee Chair, NASEMSO

Member, ASTHO Directors of Public Health Preparedness

Appointee, Delaware Emergency Medical Services Oversight Council

Appointee, Delaware Statewide Interoperability Executive Council

Principal Investigator, Delaware Public Health Preparedness Grant

Principal Investigator, Delaware Hospital Preparedness Grant

Member, Delaware Traffic Records Coordinating Council

Member, Delaware Homeland Security Grant Program Steering Committee

Member, Delaware Highway Safety Planning Council

Member, Delaware Trauma Systems Committee

Member, Atlantic EMS Council

Past member, Committee on Accreditation of Educational Programs for the EMS Professions

USDOT, Technical Assistance Team, Traffic Records Program, Member, State of Minnesota.

USDOT, Technical Assistance Team, EMS Reassessment Program, Member, State of Oklahoma, Missouri, and Wisconsin.

CHRISTOPH R. KAUFMANN, MD, MPH, FACS

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Professor of Surgery, Temple University

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ORGANIZATIONS/APPOINTMENTS

American College of Surgeons Committee on Trauma,
Past Chair, ATLS Subcommittee 2003-2006, International Chair 2006-2009, Consultant
Trauma Systems Consultation Committee (Team leader AZ, TN, IN, TX, reviewer NC, CT, HI)
Member and Lead Reviewer, Trauma Center Verification & Review Committee (VRC)
Region Chief, Military Region 1999-2002
State Trauma Center Site Surveyor (Virginia, Pennsylvania, Illinois, Washington, Oregon)
Institute of Medicine, Committee on a Vision for Space Medicine Beyond Earth Orbit
NATO Emergency War Surgery Handbook, 3rd US Revision, Editorial Board
Ambrose Pare Military Surgical Forum of ISS-SIC, Past President
Society of Apothecaries of London, Diploma in the Medical Care of Catastrophes,
Diplomate and Examiner
Madigan Army Medical Center, Tacoma, Washington, Staff Surgeon,
Surgical Chief, ICU
47th Combat Support Hospital, Saudi Arabia and Iraq, Chief, Trauma Surgery
Inova Fairfax Hospital, Falls Church, Virginia, Vice Chief, Trauma Services
Emanuel Hospital, Associate Medical Director, Trauma Services, 2002-2009
Trauma Medical Director, Johnson City Medical Center 2009-2011
U.S. Public Health Service, Division of Trauma and Emergency Medical Systems,
BHRD, HRSA, Director 1994-1995
Uniformed Services University of the Health Sciences
Professor of Surgery 2002- present
National Capital Area Medical Simulation Center, Surgical Simulation Laboratory, Director
Oregon Health Sciences University, Clinical Professor of Surgery, 2004-2009
East Tennessee State University, Professor of Surgery, 2009-2011
Journal of Trauma, Senior Reviewer
HRSA Ad Hoc Committee to write Model Trauma Care System Plan/MTSPE, 1992/2003
Member, Resources Revision Committee, ACS COT and Contributing Author (Green Book)
Member, Pro Tem, ACS Health Policy Steering Committee
Member, Oregon State Trauma Advisory Board, 2004-2009
Member, Tennessee Trauma Care Advisory Council 2011
Member, Standards Committee, Pennsylvania Trauma Systems Foundation 2012
USDOT, NHTSA, EMS Reassessment Program, Technical Assistance Team, Member,
States of Mississippi, Montana, North Dakota, Missouri, Ohio and Wisconsin.

SUSAN D. McHENRY, MS

EMS Specialist

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National Highway Traffic Safety Administration
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EMS Specialist
DOT, National Highway Traffic Safety Administration
(March 1996 - to Present)

Director, OEMS
Virginia Department of Health
(1976 to March 1996)

ORGANIZATIONS/APPOINTMENTS

National Association of State EMS Directors (1979-1996)
Past President
Past Chairman, Government Affairs Committee
National Association of EMS Physicians, Member
American Trauma Society
Founding Member, Past Speaker House of Delegates
ASTM, Former Member, Committee F.30 on Emergency Medical Services
Institute of Medicine/National Research Council
Pediatric EMS Study Committee, Member
Committee Studying Use of Heimlich Maneuver on Near Drowning Victims, Member
World Association on Disaster and Emergency Medicine
Executive Committee, Former Member
Editorial Reviewer for *A Prehospital and Disaster Medicine*, (former).

CURTIS C. SANDY, MD, EMT-T, FACEP

EMS Medical Director
Pocatello, ID 83201

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ORGANIZATIONS/APPOINTMENTS

American College of Emergency Physicians (ACEP), Fellow
Immediate Past President, Idaho Chapter, 2009-2011
President Idaho Chapter 2004-2009
President Elect – Idaho Chapter 2003-2004
Councilor - Idaho Chapter 2004-2005
Academic Affairs Committee 2001-2003
Alternate Councilor, Representative Council, Oct 2002
American Board of Emergency Medicine, Diplomate
National Association of EMS Physicians (NAEMSP)
Air Medical Physician Association (AMPA)
Idaho EMS Physician Commission, Board of Medicine Representative, 2006-pres
Idaho EMS Code Task Force – 2007- pres
Idaho Cardiac Level One Steering Committee 2009 – pres
Medical Director, Bannock County Ambulance/Pocatello Fire, Pocatello, ID 2007- pres
Medical Director, Ft. Hall Fire and EMS, Fort Hall, ID 2007- pres
Medical Director, Bannock County Search and Rescue 2007- pres
Medical Director, Portneuf, Life Flight, Pocatello, ID 2004-2010
Medical Director, BYU-Idaho Paramedic Program, Rexburg, ID 2008- pres
Tactical Physician, Bannock County Sheriff Southeast Idaho STAR, 2008-pres
Assistant Associate Clinical Medical Director, College of Southern Idaho Paramedic
Program, Twin Falls, ID 2004-pres
Idaho State EMS Bureau Air Medical Utilization Task Force 2005
Medical Direction Subcommittee, Idaho EMS Advisory Committee 2005-2006
Affiliate Clinical Faculty: Idaho State University, Department of Family Medicine,
Pocatello, ID, 2003-present.
Consultant, SafeTech Solutions, LLP
USDOT, NHTSA, EMS Reassessment Program, Technical Assistance Team, Member,
States of Oklahoma, Missouri and Ohio.
Associate Medical Director, Life Flight Network, 2010-present
Medical Director, Bureau of Land Management, Idaho, 2010-pesent
Medical Director, Boise National Forest, USFS, 2012-present

KYLE THORNTON, EMT-P; B.U.S

Bureau Chief
New Mexico Department of Health EMS Bureau

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ORGANIZATIONS/APPOINTMENTS

Bureau Chief, New Mexico Department of Health EMS Bureau
Member, New Mexico Joint Organization on Education
Member, New Mexico Public Regulation Commission Ambulance Advisory
Co-Chair, West Region Council, NASEMSO
Preventive Block Grant Coordinator, New Mexico Department of Health
Former Deputy Chief, Sandoval County (New Mexico) Fire Department
Former BLS/ILS Director, University of New Mexico, School of Medicine EMS Academy
Former member – New Mexico Instructor Association
USDOT, NHTSA, EMS Reassessment Program
Technical Assistance Team, Member

JOLENE R. WHITNEY, MPA

Deputy Director
State of Utah Department of Health
Bureau of Emergency Medical Services & Preparedness

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Salt Lake City, UT 84114-2004

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ORGANIZATIONS/APPOINTMENTS

Utah Bureau of EMS and Preparedness, Deputy Director
Past Chair National Council of State Trauma
Systems Managers
NASEMSO liaison for the ACS Trauma System
Planning and Evaluation Executive Committee
NHTSA EMT Refresher Course Curriculum Development
HRSA Rural Trauma Grant Reviewer
Utah Public Health Association, Member
American Trauma Society, Member
Task Force Chair for Utah Trauma System Development
Air Ambulance Rules Task Force, Chair
Appointed to Governor's Council on Blood Services
Previous member of State EMS Training Coordinators Council
CLEAR Certified Inspector
Utah Emergency Managers Association, Member
Certified EMT-I, 1983.
ACS, State Trauma System Assessment, Team Member, States of Alaska, Minnesota,
Colorado and Louisiana, Texas.
USDOT, NHTSA, EMS Reassessment Program, Technical Assistance Team, Member,
States of Michigan, Oklahoma, Delaware, Missouri, Ohio, and Wisconsin.
IOM Crisis Standards of Care Committee, Member
Planning Committee's member for IOM Rural EMS Workshop and Panel Discussion
Chair.