STATE OF IDAHO

A REASSESSMENT OF EMERGENCY MEDICAL SERVICES

June 24 - 27, 2024

National Highway Traffic Safety Administration
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BACKGROUND

Unintentional injuries are the leading cause of death for persons aged 1 to 44 and the most common cause of non-fatal hospitalizations. According to a 2019 CDC Morbidity and Mortality Weekly Report, the cost of injuries in the U.S. soared to $4.2 trillion annually.

In January 2022, the U.S. Department of Transportation (US DOT) released the *National Roadway Safety Strategy* (NRSS). In Secretary Buttigieg's introductory letter, he reported that almost 95 percent of our Nation's transportation deaths occur on America's streets, roads, and highways, and they are on the rise. This spring, US DOT's National Highway Traffic Safety Administration (NHTSA) estimated that 40,990 people died in motor vehicle traffic crashes in 2023.

At the core of this strategy is the adoption of the Safe System Approach which focuses on five key objectives: **safer people, safer roads, safer vehicles, safer speeds, and post-crash care**. In the Safe System Approach, post-crash care is considered the last, best chance to prevent serious injuries or deaths.

NHTSA is charged with reducing death and injury on the nation's highways. NHTSA's Office of Emergency Medical Services (OEMS) promotes post-crash care and other patient care by providing leadership and coordination to the EMS community in assessing, planning, developing, and promoting comprehensive, evidence-based, emergency medical services (EMS) and 911 systems. OEMS uses its resources to assist States with the development of integrated EMS programs which include comprehensive systems of care.

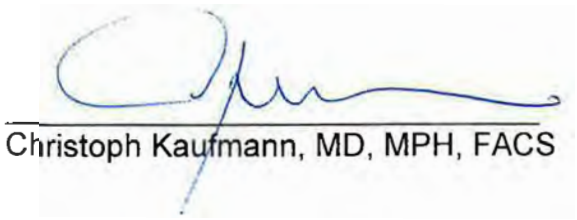
To accomplish these goals, NHTSA developed a Technical Assistance Program based on Highway Safety Program Guideline No. 11 Emergency Medical Services. These guidelines offer direction to States in formulating highway safety plans supported with section 402 and other grant funds. The guidelines provide a framework for developing a balanced highway safety program and serve as a tool with which States can assess the effectiveness of their own programs; Guideline No. 11 allows States to utilize highway safety funds to support a tool to use over time in assessing the effectiveness of their EMS programs. The Reassessment process allows a State to assess and evaluate current EMS system effectiveness in relation to a prior EMS assessment, subsequent EMS program modifications, and integration of new technology or nationally accepted standards.

The Reassessment process follows the same logistical process, and now includes areas of preparedness with updated standards. The Reassessment process now reflects current EMS practice and supports the development of a comprehensive and

integrated State health management system. NHTSA serves as a facilitator by assembling a team of technical experts who demonstrate expertise in EMS systems development and implementation. Selection of the TAT is based on the identified needs of the requesting State. Examples of specialized expertise include experience in the development of legislative proposals, data collection systems, and trauma systems. Experience in similar geographic and demographic situations, such as rural areas, coupled with knowledge in providing EMS in urban populations is essential.

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. AII team members agree with the recommendations as presented.

Dan Manz



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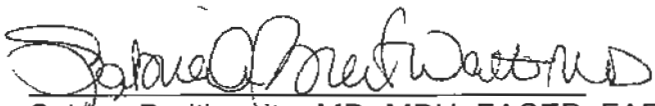

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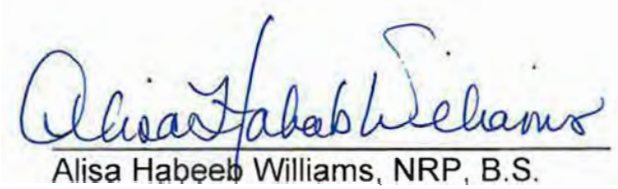

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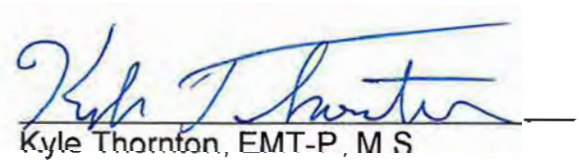

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ACKNOWLEDGMENTS

The Technical Assistance Team acknowledges the collaboration of the Idaho Transportation Department (ITD); Office of Highway Safety (OHS); Bureau of EMS & Preparedness (the Bureau); and NHTSA Region 10 for their support of the Idaho Statewide EMS Reassessment. The team particularly thanks Scott Stokes, Governor's Highway Safety Representative; Josephine Middleton, Highway Safety Manager; and Greg Fredericksen, NHTSA Regional Administrator - and their staff - for supporting the Reassessment.

Special recognition for the extraordinary efforts of Wayne Denny, Chief, Bureau of Emergency Medical Services & Preparedness, and his staff, for the well-organized briefings and comprehensive briefing packages sent to the team members in preparation for the assessment. We very much appreciate and thank Marta Tanikuni, Mayra Vazquez, and Kaycee Alvarado for their remarkable and efficient administrative support to the team both prior to the team's arrival and during the team's visit.

Finally, the team thanks all the presenters for being candid and open regarding the status of emergency medical services in Idaho.

INTRODUCTION

Idaho. The State derives its name from the Shoshone phrase meaning “gem of the mountains.” The State truly has many gems - an abundance of pristine water, gorgeous scenery, diverse wildlife, and rich natural resources. The State’s beautiful mountains were formed millions of years ago and define the topography of the State.

Idaho entered the Union in 1890 as the 43rd State. Little has stood still for the State since that time. Idaho’s constitution has been amended more than 100 times. In 1896, Idaho became one of the first States to extend women the right to vote. Idaho’s rural counties which were historically home to many of Idaho’s family farms and ranches are losing population to the larger towns and cities giving way to large corporate agricultural companies. Many Idahoans see less government as the best government. How to have agencies of State government play a useful leadership role in guiding and assuring the quality and consistency of the EMS system is a balancing act.

There are clear examples of excellence in the Idaho EMS system and tremendous progress has been made since the original 1993 Idaho Statewide EMS Assessment. The response to time sensitive emergencies is well thought out and continues to improve. The Idaho EMS Communications Center’s (StateComm) capabilities and its Preparedness program are envied by many States and have been serving Idaho well for many years.

Like some of the State’s long rural highways, Idaho EMS has reached something of a crossroads today. The legislature has completed two major studies of the EMS system that identified significant system needs. A recent analysis of EMS in each county provides a current snapshot of operations. These reports deserve public daylight and should serve as the foundation for a State strategic EMS plan. The term “sustainability” has been linked to Idaho’s EMS system in recent years. That word raises existential questions about the future of both daily local operations and State EMS system oversight. Ensuring Idahoans continue to be served by a system that is prompt, reliable, affordable, and medically sound is a challenge that will require changes across existing legislation, rule, policy, education, and finance elements. The subject matter of EMS systems is increasingly sophisticated and complex. Describing the choices to be made and implications of action or inaction in clear understandable language for the public and policy makers is a challenge.

Volunteerism in Idaho EMS represents a particular conundrum worth mentioning. On one hand, volunteers are giving dedicated service to their communities at costs which have historically made EMS delivery possible in some of the State’s most rural areas. On the other hand, changing demographics, an aging population, and community response expectations are making it harder for volunteers to continue meeting their needs. The challenge of declining volunteerism is not unique to Idaho and needs to be viewed as a natural evolution.

Like the rugged Idaho mountains, the State's EMS system is built to endure. Over time, there will need to be natural changes in response to the evolving culture and healthcare needs of the State. Idaho has been able to build the system it has today with good leadership and strong public support. Those same attributes will guide Idaho's EMS system into the future.

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 and 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).
- 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.
- Integrate the special needs of children and other special populations into State statutes, rules, and regulations and throughout the EMS system.

All 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 Idaho Legislature has provided Idaho Code, “to recognize the importance of the delivery of emergency medical services and the regulation of the same” (Code 56-10-11) and designated the Idaho Department of Health and Welfare’s Bureau of EMS and Preparedness as the lead State agency for the development, coordination, implementation, and monitoring of EMS and time sensitive emergencies. This is the most appropriate home for the oversight of the emergency medical care systems and EMS healthcare professionals. The Technical Assistance Team (TAT) applauds the Idaho Legislature’s foresight in establishing the Bureau within the Department of Health

and Welfare. Wherever the future home of EMS in Idaho government is, a tight linkage with public health is essential.

The Bureau is advised by two groups. The Idaho EMS Physician Commission (EMSPC) was established in Idaho Code, “as a State level independent rulemaking authority that determines EMS clinical standards, medical protocols, EMS personnel scope of practice and responsibilities, patient care standards, and medical direction requirements.” The second group is the Emergency Medical Services Advisory Committee (EMSAC), which was established in, and then removed from, administrative rule. The Committee continues its mission, but without any statutory authority to provide advice or guidance to the Bureau.

There is no formally designated Idaho State EMS Medical Director. This was a gap identified in the original 1993 NHTSA assessment, which has been echoed in multiple documents and remains valid today. While there seems to be no plan to change the current arrangement, the TAT believes this is an opportunity missed.

The Bureau has an annual budget of approximately $3.65 million - $4.15 million dedicated specifically to EMS functions. The EMSPC is funded through Advanced Emergency Medical Technician (AEMT) and Paramedic licensure fees. The Time Sensitive Emergency (TSE) program receives EMS funding as well as having some dedicated funding from designation fees paid to the Bureau by hospitals. There did not seem to be a threat to these funds.

Idaho is seeing significant population growth, with a shift to an older demographic and migration from more rural counties into the population centers. From 2010–2022, the population increased each year by an average of 1.8%. The Bureau will no doubt continue to work diligently to assure availability and effectiveness of the EMS system, but more specific planning for this population increase with waning volunteerism and other workforce challenges must be a priority. The Bureau has commissioned the completion of a plethora of reports on subjects such as volunteer EMS, system governance, and workforce concerns. The number and volume of these reports are impressive. The Bureau states they have seen benefit from these reports, such as guiding the work of a sustainability task force and the development of legislation.

The TSE and Pediatric EMS programs, including the Children with Special Needs efforts, are a particular strength of the Bureau. The breadth and depth of the data being collected on trauma, stroke, and heart attacks offer an opportunity for both clinical and public education that is not seen in many states. The TSE program’s success in growing the number of designated hospitals illustrates not only the commitment of the Bureau to these programs, but the commitment of the State’s hospitals as well. The Pediatric EMS efforts have been effective in establishing pediatric care education and readiness as a priority for both the prehospital and hospital environments.

Recommendations

- **Work with the advisory councils and committee to utilize the EMS information the Bureau has gathered as a foundation to develop a statewide strategic EMS plan.**

- Certify Emergency Medical Dispatchers to ensure consistent statewide prearrival medical care.

- Continue or increase the support and funding for the TSE and EMS for Children programs to capitalize on their current successes and create new opportunities.

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 events 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 victims 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, a forum for cooperative action, and assuring maximum use of resources.
- 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 improve post-crash care and survivability.

Status

The oversight of the EMS and specialty systems of care is provided by the Bureau which is housed in the Idaho Department of Health and Welfare. The Bureau consists of four sections: Public Health Preparedness and Response (PHPR); State Communications Center (StateComm); Strategy, Quality, and Innovation (SQI), and Systems of Care (SOC - EMS, TSE and EMSC). PHPR, SQI, and SOC are in Boise. StateComm is collocated with the Idaho State Police Dispatch Center in Meridian.

Additionally, there is a State EMS Advisory Committee (EMSAC) that advises the Department on matters essential to system operation as well as advocating for system development and improvement. The EMSAC is reported to be well established but is

not listed as a mandate in statute or rule. There is no authority for the Bureau to create an Advisory Committee, or to define its membership and terms for the purpose of advising and making recommendations to the Bureau.

There are no defined emergency medical services regions in Idaho. There are, however, three Regional Healthcare Coalitions (RHCCs), six TSE regions, seven Public Health Districts, and five Idaho Office of Emergency Management Area Field Officer regions all with similar borders. Staff reports licensed EMS agencies participate in all regions.

There is evidence of coordination of EMS and trauma assets at the State level. EMS, trauma, and crash data are aggregated by the Idaho Hospital Association through a contractual agreement with the Bureau. This arrangement creates an opportunity for future information products and quality improvement activities. Transport guidelines have been developed that encourage the direction of stroke, trauma, and heart attack patients to designated facilities. Progress to date is commendable and a positive trajectory for future work is in place.

The Idaho legislature needs to understand that EMS sustainability begins at the Bureau. Given the current authority and responsibility of the Bureau, the staffing and budget levels are insufficient to accomplish all statutory, regulatory, and organizational mandates. Bureau personnel resources are critical to fully realize EMS resource management activities including data analysis, statewide technical assistance, recruitment and retention, and medical direction. Specifically, there are gaps in personnel to support programs including EMS training and education, licensure of personnel and agencies, EMS and trauma compliance, EMS administration, specialty systems of care coordination, and medical oversight.

Two dedicated State funds generate approximately $2.3 million to $2.7 million for EMS Bureau activities. The EMS Physician Commission operations are financially supported by personnel licensure fees which are currently set by rules. These fees have not been reviewed in many years. Idaho should consider reviewing and revising these fees to assist with funding for critical or required projects.

The TAT is pleased to find the Bureau has been partnering with the OHS on highway safety plans and projects, including this assessment. The OHS office seems willing and able to take on a role in EMS. This represents an opportunity for system improvement, support and integration that needs aggressive exploration.

The mental health of EMS clinicians and other first responders is of national concern, as the tragic scope of the problem has become clear in recent years. The Bureau should explore the development of evidence based critical incident stress management, to include the development of State coordinated teams, agency-based peer support teams, and other methods of addressing this need.

Recommendations

- **Authorize and define the functions of the EMS Advisory Committee.**
- **Ensure adequate resources are available to accomplish all statutory, regulatory, and organizational mandates.**
- Review current fee schedules to ensure appropriate revenue generation to cover expenses incurred by the Bureau.
- Establish evidence-based stress management and peer support programs to educate EMS clinicians about mental health issues, as well as develop a response mechanism for EMS clinicians and other first responders seeking assistance.
- The Bureau and OHS should strengthen their relationship to benefit roadway crash victims.

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 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, the National Education Standards, and other aspects of the National EMS Education Agenda for the Future.
- Monitor and ensure the health and safety of all EMS personnel.

Status

The Bureau currently licenses approximately 5,000 practitioners, of which it is

estimated 60% are licensed at the EMT level. Forty percent of the licensees are volunteers, who cover nearly 70% of the geography of Idaho.

Media attention has highlighted shortages of EMS providers and wage issues in some areas of Idaho. Presenters from the Bureau confirmed these issues and have made strides in identifying the problems. Town hall meetings, a Sustainability Task Force, and data tracking are all efforts the Bureau has initiated. Additionally, contract planners were brought into Idaho to visit the EMS regions, conducting interviews, and observing the status of EMS in each county. An 845-page report detailed these observations through individual county reports.

Idaho is a member of the EMS Compact, which allows for the privilege to practice for EMTs from other Compact States. It is unknown if this has had a positive effect on EMS workforce or availability.

There are three Commission on Accreditation of Allied Health Education Programs (CoAEMSP) accredited paramedic programs in Idaho. The Bureau did not voice concerns about opportunities for paramedic education. The Emergency Medical Responder (EMR), Emergency Medical Technician (EMT) and Advanced Emergency Medical Technician (AEMT) courses can be conducted by approved, certified EMS instructors in the community through governmental entities, EMS agencies, or private or public educational entities. The model strives to make EMS education of all levels available to as many persons in Idaho as possible. The number of programs and their broad distribution appear to meet current demands for education.

EMT or an EMR with an ambulance certification is the minimum standard for ambulance staffing.

The Bureau has administrative rule listing the standards and requirements for EMS instructors and programs. The rule strives to assure the competence and quality of educators and entities. Disciplinary situations due to unprofessional instructor behavior are described in rule. It is not clear what can be done if a school or instructor has poor outcomes and/or poor pass rates.

The Bureau's requirement of initial approval for educational programs is clear in rule (16.01.05). This rule has no re-approval or renewal process for educational programs at any level, although accreditation is required for paramedic programs.

Administrative rule requires a psychomotor exam be administered for licensure at all levels. If National Registry exams are used for this requirement, the state will need to reconcile its requirements with the new NREMT practices.

The Bureau has a website containing large amounts of information for initial licensure, continuing education (CE) requirements, and many other subjects. It is a very good resource for Idaho's EMS licensees.

Initiatives such as the EMS instructor workshops, the leadership academy, and pediatric education are excellent strategies for supporting EMS clinicians. The efforts to monitor and improve first responder mental health is particularly timely and crucial to the profession.

Recommendations

- Continue to improve quality assurance of EMS education programs.
- Expand opportunities for the utilization of the Idaho Community Health Emergency Medical Services (CHEMS) Resources.
- Continue the on-going EMS sustainability work to bring resources into the local communities that will help ensure adequate numbers of EMS clinicians.

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 of 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.
- Develop regulations to ensure ambulance drivers are properly trained and licensed.

Status

EMS transportation in Idaho is provided by a network of State licensed ground, rotor-wing, and fixed wing aircraft. Most EMS transporters are county-based ambulance services but there is a mix of fire-based, private, municipal, and other provider configurations. The TAT received assurance that an ambulance would respond to all portions of the State for a 911 emergency call, although there are not established response time standards.

Ambulance vehicles are inspected on an annual basis by the Bureau using contracted inspectors. These inspections focus on assuring the preparedness of the vehicles and the equipment they carry for patient care and transportation. For vehicles and equipment purchased through State grant funds, the inspections also assure those

vehicles and equipment are in use for their originally intended purposes. All new ground ambulances in Idaho must meet one of the State approved ground ambulance standards.

Ambulance services are required to staff to the level of their State license with at least one person licensed at that level. The minimum staffing requirement for BLS ambulances is one EMT or an EMR with ambulance certification and an Idaho licensed driver. ALS ambulances that are building paramedic level staffing are also able to receive some sort of variance to enable start up before full paramedic staffing has been achieved.

There is no requirement for specialty training for operators of ambulances. Emergency Vehicle Operator Course (EVOC) training is occasionally offered, and the State has a curriculum which agencies can use voluntarily. There is no real time monitoring of ambulance crashes by the Bureau, but agencies are required to report crashes as part of their annual license renewal application. It was reported that relatively few agencies are using automated driver monitoring technologies. The State protocols do contain guidance on the use of lights and siren during transports.

Idaho has done some excellent work on addressing the time-sensitive emergency conditions of trauma, STEMI, and stroke. The capability of hospitals for managing these conditions is well defined for EMS personnel so that patients can be delivered to an appropriate facility. While in much of rural Idaho there is only one realistic choice for the receiving hospital, bypass can and does occur, when appropriate, under medical director guidance. For trauma patients, Idaho has trauma field triage criteria based on national guidance.

Given the vast land area of the State, there are challenges in performing interfacility transfers. Often patients are moved by air to specialty centers. Weather is sometimes a limiting factor for use of air. While some areas have capability for use of critical care transfer qualified personnel, often the original transporting ground unit may provide the interfacility transfer. In rural areas where EMS resources are already strained, an interfacility transfer can pull the primary ambulance and crew out of their service area for an extended period of time. Transfers of mental health patients have presented challenges and are sometimes handled by law enforcement.

Recently planning has begun for how the Idaho EMS system should prepare for the transportation of patients with highly infectious diseases. The nearest specialty center to receive these patients is in Spokane, WA. The necessary training, equipment, and cost of establishing this capability is beyond most local systems. While encountering a highly infectious disease patient is relatively unlikely, Idaho EMS is to be commended for at least beginning the thinking process for what the system response should look like.

Recommendations

- Establish some form of EVOC training as a requirement for all emergency vehicle operators.

- Encourage the use of automated driver monitoring technologies as a step towards improving operator accountability and patient and crew safety.

- Monitor the timeliness of interfacility transfers to designated specialty care centers as part of the TSE program to identify areas where limited EMS resources may be having a negative effect on the ability to provide prompt transfers or ensure appropriate staffing.

- Routinely monitor and ensure medical appropriateness of air ambulance transports.

E. FACILITIES

Standard

It is imperative that the seriously injured or ill patient be delivered in a timely manner to the closest appropriate facility. The lead agency should ensure:

- 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, etc.) 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 personnel and medical direction.
- Agreements are made between facilities to ensure patients of all ages 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 and standards are clearly identified for placing a facility on bypass or diverting an ambulance to appropriate facilities.

Status

Idaho is a rural and frontier state with 44 counties incorporating 45 facilities including two rural clinics. These 45 statewide facilities include 27 critical access hospitals (CAHs); 16 of the CAHs have achieved trauma designation. There are no Level 1 trauma centers in Idaho. Patients requiring a higher level of care than is available in Idaho are transported to Salt Lake City, Seattle, Spokane, or Billings.

All hospitals are licensed by the State and are required to provide stabilization of patients. Patients who require a higher level of care are reportedly transferred to the most appropriate facility.

The State has a TSE program that designates facilities as trauma, pediatric trauma, stroke, or STEMI centers. The TSE program has six regional committees that work with the hospitals, EMS agencies, dispatch, and public health.

The trauma designation process is voluntary and uses both the ACS criteria and State criteria, depending on the designation level selected by the hospital. This process not only applies to trauma, but also to stroke (Level I-III) and STEMI (I-II) State designation. Idaho only has one ACS Level II pediatric trauma center which is also designated for stroke and STEMI at the highest level (I).

Each hospital may be designated for trauma and/or stroke and/or STEMI depending on capability. Transfer agreements are required for all TSE designations. Idaho hospitals complete the Pediatric Readiness Assessment and may voluntarily apply for the Pediatric Readiness Recognition Program which recognizes facilities as Pediatric Capable, Pediatric Advanced, or Pediatric Expert. The reporting requirements associated with designation facilitates the collection of ongoing quality improvement data.

Recommendations

- Require EMS agencies to have destination protocols that direct EMS personnel to transport patients to the most appropriate facility.
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- Encourage all eligible facilities to seek appropriate TSE designation.

- Trauma-designated facilities should be verified using a single set of criteria.

F. COMMUNICATIONS

Standard

An effective communications system is essential to EMS operations and provides how 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 and other public safety resources.
- 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.
- Ensure that the receiving facility is ready and able to accept the patient.
- Develop a statewide communications plan that defines State government roles in EMS system communications and includes effective, reliable, interoperable communications among EMS, 911, emergency management, public safety, public health, and health care agencies.

Status

Emergency medical communications in Idaho is established by local authorities through various operational approaches. The State of Idaho's current enhanced 911 (E911) network is comprised of many telephone company networks designed and installed more than 40 years ago and remains largely unchanged today. Most of the State's 48 public safety answering points (PSAPs), are directly connected to a telephone company central switch that routes calls to the appropriate PSAP.

Idaho dispatch centers are enabled with E911 services which will provide PSAPs with the telephone number of the originator of a wireless 911 call and the location of the cell site or base station transmitting the call. It was reported that primary PSAPs can receive

text to 911 and are moving forward with Next Generation-911 (NG911), an Internet Protocol-based system that will allow 911 to easily transfer calls to other call centers, re-route calls if ECC's experiences call overload and eventually receive photos and videos of caller events.

Each PSAP operates its own EMS channel. Most are on the VHF spectrum. In some areas, agencies are using the 700 MHz system of talk groups, which allows for greater interoperability. Since the last NHTSA assessment, StateComm has increased coverage with 41 mountaintop radio base-stations throughout the State. The Bureau reported that these resources allow coverage to most of the remote sections of Idaho that are unreachable by VHF or 700 MHz systems. There are two dedicated channels that can be patched to corresponding F1 and F2 channels on the statewide 700 MHz radio system. This allows for agencies who do not normally operate, or do not have the equipment on the 700 MHz system, to communicate directly with each other.

EMS communications needs are adequately addressed but gaps may still exist for dispatch to ambulance, hospital to hospital, and ambulance to other public safety partners.

Though Idaho is making great strides to improve access to EMS care to the public through the 911 system, there are no requirements for Idaho to utilize certified Emergency Medical Dispatch (EMD) in PSAPs. There does exist a statutory requirement for all Emergency Communications Officers to be Peace Officer Standards and Training certified.

There are no requirements for dispatch centers accepting medical emergency calls to have medical priority dispatch systems, where lifesaving instructions can be provided to the public in response to specific questions asked of the caller. There are no required EMD training or certification standards. Medical director involvement with EMD systems is not a requirement.

The Bureau has rules mandating EMS agencies to have two-way communications systems in vehicles that provide ambulance to hospital communications.

Idaho is to be commended for StateComm as a valuable resource. There is a process in place where EMS at the scene of a Mass Casualty Incident (MCI) can contact StateComm to determine where patients can be transported and how many patients receiving facilities can accommodate.

StateComm can receive Automatic Number Identification and Automatic Location Identification transferred 911 calls from PSAP's. StateComm currently does not have this capability with in-house developed Idaho Communications Emergency Resource Deployment (ICERD) software. For EMS units StateComm dispatches, this information is entered manually into the software and a copy of the incident form is emailed to the EMS agency at the end of the response.

Recommendations

- **Require the use of emergency medical dispatch (based on national standards) in all PSAPs that dispatch EMS.**

- Integrate call-taking and dispatch activities into the local EMS quality assurance program with peer review protection.

- Facilitate and encourage real time, automated data transfer from emergency dispatch systems statewide into the EMS electronic patient care report (ePCR) system.

- Conduct a gap analysis to identify any deficiencies in interoperability or data transfer.

G. 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.

Status

Idaho implemented trauma legislation to develop a trauma care system in 2014 when the TSE System Program Legislation was passed. In 2015, the TSE Council and regional committees were established and rules governing the system and criteria for designation were created. The Governor-appointed TSE Council has rulemaking and designation authority. There are eleven appointed seats and six regional chairs.

The first TSE center was designated in 2016. Facilities may use State-developed criteria or the American College of Surgeons (ACS) for designation. There are 29 trauma-designated facilities (of 45 eligible) in Idaho. These include 70% of all full-service hospitals and 64% of all facilities. There are four Level II adult trauma centers, one pediatric Level II, five Level III trauma centers, and 19 Level IV trauma centers. All Level II trauma centers are ACS verified. The Level III trauma centers are State verified. There are no Level I trauma centers in Idaho. Patients requiring a higher level of care than is available in Idaho are transported to Salt Lake City, Seattle, Spokane, or Billings. Approximately 84% of Idahoans live within a 30-minute drive time of a trauma center. Air transport resources cover the entire State population.

Multiple designated trauma centers within close proximity of a Level II trauma center are duplicative. The TSE Council should consider whether any additional specific hospital will improve access to timeliness or quality of trauma care before adding that facility to the system. Use trauma registry data to optimize trauma care system performance.

Trauma triage guidelines have been established for EMS agencies and updated periodically to meet national recommendations. Transfer agreements and protocols are

required for designated hospitals. The State does not have the authority to set destination guidelines for EMS as that is the responsibility of each EMS agency medical director.

A trauma registry is in place and every facility, regardless of designation status is required to report data. The registry uses a standard data set based on the National Trauma Data Bank (NTDB) that has been agreed on by the TSE Council. The data is reviewed for quality and is evaluated by an epidemiologist. Reports are generated for the facilities and the State. Designation fees are utilized to pay for the registry.

The trauma registry data is underutilized. These data will prove helpful to inform optimal trauma system function including refining the two-tier trauma triage guidelines. The data are also useful for determining the efficacy of the system through analysis of triage accuracy (over triage and under triage). Finally, the data should be used to educate Idahoans about the trauma problem and the successes of the system.

Recommendations

- **Perform a needs assessment to determine the optimal trauma system configuration to appropriately allocate resources.**

- Create, analyze, and codify statewide trauma triage guidelines to be used in all regions.

- Use Registry data to analyze quality outcomes within each of the six regions as well as statewide, including focus on special populations such as pediatrics and geriatrics.

H. PUBLIC INFORMATION, EDUCATION AND PREVENTION

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 clinicians' role in injury prevention and control.
- The need for dedicated staff and resources for PI&E.

Status

The success of an effective statewide EMS system depends heavily on the public understanding of that system. An EMS public information and education (PI&E) program competes with the bombardment of information that confronts the public daily from many sources about many different subjects.

Idaho does not have a PI&E plan for EMS. The Bureau may wish to consider creating such a plan in the future for a few reasons. As the EMS data system matures and it becomes easier to identify the emergency conditions causing illness and injury to Idahoans, a PI&E plan could focus messaging on the most relevant problems. The plan could also identify the most appropriate mechanisms for message delivery (i.e., social media, traditional print, radio/television, in-person, etc.).

Other IDHW programs outside the Bureau have established campaigns on fall prevention, diabetes, tobacco use reduction and drug overdoses. These programs represent force multipliers for messages the EMS system wants the public to receive. Collaboration and cooperation between stakeholder programs could be described and institutionalized in a PI&E plan.

Beyond the Idaho Department of Health and Welfare (IDHW) there are other partners with a commitment to prevention and PI&E activities. The Idaho Highway Safety Office maintains a focus on all forms of roadway related injuries.

The State's designated Trauma, STEMI and stroke centers are all mandated to participate in outreach, prevention, and education programs. These facilities bring resources that can help delivery of messages at the local level. Designated TSE centers might welcome an EMS PI&E plan that could help them to deliver consistent messages.

The fire service in the United States has been highly successful in reducing life and property loss through fire prevention initiatives. They have taken a multi-pronged approach through use of technologies such as smoke and CO detectors, establishing and enforcing building codes that improve fire safety, and by providing simple consistent public messaging. The movement of EMS beyond its current focus of excellent acute care and into injury prevention and health promotion represents a culture change for all EMS agencies and their personnel. An EMS PI&E plan and education for EMS agencies can be tools to begin making that shift.

Recommendations

- **Ensure integration of a statewide EMS PI&E plan into the statewide strategic EMS plan. Monitor progress toward objectives on an annual basis.**

- Encourage all TSE regions to assign a PI&E lead.

- Implement Public Information Education and Relations training for EMS agency personnel.

- Continue and expand the strategy of collaboration and cooperation between programs addressing illnesses and injuries commonly encountered by the EMS system.

- Build evaluation into all PI&E messaging and programs.

I. 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, EMS quality improvement programs, scope of practice decisions, and medical aspects of EMS clinician licensing/disciplinary actions.

- On-line and off-line medical direction for the provision of all emergency care including pediatric medical direction, when needed, and the authority to prevent an EMS clinician from functioning based on patient care considerations.

- Audit and evaluation of patient care as it relates to patient outcome, appropriateness of training programs and quality improvement.

Status

In modern EMS, the role of medical oversight is critical to helping assure quality patient care and system integration and should both direct clinical activities as well as provide input into specific operational aspects of EMS. The National Association of EMS Physicians (NAEMSP) has noted, “The EMS service has an obligation to provide the EMS medical director with the resources, authority, insurance, and compensation commensurate with [their] responsibilities.”

Medical direction is arguably the strongest pillar of the EMS system in Idaho, in significant degree due to the longstanding vigorous engagement of the Chair of the EMS Physician Commission. The value of strong clinical leadership cannot be underestimated in providing evidence-based patient care guidance and empowerment of EMS clinicians to practice to their level of licensure to the benefit of the citizens and guests of the State of Idaho.

The EMS Physician Commission (EMSPC), chartered with specific stakeholder and citizen representation, carries the statutory authority under Idaho Code 56-1013A (1) to establish standards for scope of practice and medical supervision for licensed personnel, air medical, ambulance, and non-transport agencies licensed by the Bureau. Idaho Code directs the EMSPC to define EMS clinician scope of practice by licensure

level, the acts and duties which can be performed by licensed EMS clinicians, and the required level of supervision by a licensed physician. In addition, the EMSPC is charged with making recommendations to the Bureau on disciplinary actions against licensed personnel and is a critical and authoritative component of the peer review process.

Over the last two decades, a robust clinical foundation has been created and maintained alignment with current best practices. This includes items such as scope of practice, evidence-based model State protocols (which have been adopted by the majority of BLS and ILS agencies), model procedures, among others. Using entirely volunteer resources, this body of work is exemplary.

The prior recommendation for creation of a State medical director position should be of the highest priority. Because clinical leadership is central to driving quality EMS care, the State medical director should be incorporated into the leadership in the Bureau's organizational chart. While the Chair of the EMSPC is considered the de facto State medical director by the Bureau, there is significant value in investing a specific individual with the title and authority of that position. Specified roles and responsibilities provide clarity in expectations for the State medical director, lends credence in the eyes of both internal and external stakeholders, and provides funding for this essential function reflects understanding that EMS is at its core healthcare and thus cannot credibly exist without medical oversight. It is expected that the roles and responsibilities and time needed to meet them will evolve over time. Assuring adequate representation of regional medical directors to provide clinical guidance in partnership with regional administrators' operational leadership should be integrated into the EMS system as an essential service initiative.

Significant institutional memory, leadership experience, and statewide and nationwide networks are centered in the current Chair of the EMSPC. It is critical that a continuity of operations plan be created and implemented for this position, as well as the State medical director. Ideally, this would be contained within the State strategic EMS plan.

Evaluation and monitoring of clinical and operational metrics should be implemented as soon as possible so design, structure, or modification of TSE systems of care, operational, and clinical protocols can occur in a planned fashion. Meaningful clinical and operational metrics already standardized through multiple national organizations, and existing Biospatial dashboards could be implemented for State level reports until guidance and reports could be provided for agency and regional use.

The quality assurance, monitoring of care provided, and patient safety components of the EMSPC work are critical to loop closure and public accountability for the clinical care of patients within the system and should be prioritized for support. Use of data to provide surveillance of pilot programs and post-licensure skills and report their outcomes on individual patients and populations through structured reporting to EMSPC is a critical quality component. It does not appear there is currently any routine reporting to the EMSPC on utilization of medications, identification of outlier

protocols/practices/medications, quality measures, patient destination, air medical utilization, or other specific clinical or operational items that warrant close oversight. (See evaluation section for amplification of this area).

Recommendations

- **Create and staff a State EMS medical director position with specifically enumerated authority, duties, compensation, and liability protection. Incorporate position into the Bureau hierarchy/organizational chart.**

- Integrate continuity of operations plan for EMSPC leadership and State EMS medical director position into the statewide strategic EMS plan.

- Provide timely, detailed, consistent, and transparent availability of documentation of EMSPC public deliberations and actions. Create an ongoing tracking mechanism for advisory recommendations of EMSPC and their status.

- Assure that EMSPC appointments are kept current and filled.

- **Create State-level guidance and reporting of clinical and operational metrics.**

- Prioritize implementation of clinical and operational reporting utilizing existing tools such as Biospatial and ImageTrend reports to provide insight on system function.

J. 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 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.
- Clearly defining the role of emergency medical services in public health surveillance.

Status

Idaho has taken significant steps to build strong preparedness into its health care system and has integrated EMS widely. There is an Idaho Emergency Operations Plan that supports Emergency Support Function #8 (ESF-8). ESF-8 covers responsibilities for Public Health, Behavioral and Medical Care, Patient Movement, Medical Supply Chain and Fatality Management. There is also a specific Incident Annex #6 that addresses preparedness for a pandemic response. During major incidents, the ESF-8 functions physically occur through on-site colocation at the State Emergency Operations Center.

The organizational unit that manages the public health preparedness components of planning, training, response, and recovery is located structurally within the Bureau. This

is a logical structure that integrates the Idaho EMS system with the State's efforts to be prepared for disasters with health impacts.

The Bureau is supported in this work by the CDC's Public Health Emergency Preparedness Program (PHEP) and the Administration for Strategic Preparedness and Response (ASPR) Healthcare Preparedness Program. Like most other states, the Federal resources these programs provide have led to robust health system capabilities.

Much of Idaho's public health preparedness work is regionalized through three regional healthcare coalitions. There is an expanding array of hospital preparedness program plans that address the spectrum of incident elements from readiness through recovery.

The five Native American tribes in Idaho are actively included in public health preparedness, three of them with contracts.

A total of 10 hospital and EMS CHEMPAC caches have been deployed at host sites around the perimeter of the State.

Idaho is involved with FEMA Region X in planning for the safe movement of highly infectious disease cases to the Regional Emerging Specialty Pathogens Treatment Center in Spokane, WA.

In the final analysis, what makes all the planning and preparedness efforts come to life are exercises and real events. Idaho is gaining experience with both. In the past seven years there have been six major events requiring activations including the multi-year COVID pandemic response. The ongoing exercise program has included a 2023 full scale exercise in conjunction with the military to test large scale patient movements and tracking.

Recommendations

- **Ensure the Idaho EMS program remains fully integrated with health preparedness.**

- Continue to evaluate exercises and actual events to build upon and improve the existing preparedness capabilities.

K. EVALUATION

Standard

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

- Evaluate the effectiveness of services provided to 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.
- Participate in the 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

Data-informed decisions, resource allocation, and modification of clinical and operational approaches are central to the concept of evaluation. Leadership for evaluation rests at the State level. This responsibility should not be divested to the regional level that has no significant infrastructure or resources and likely very limited expertise to perform even basic reporting and quality monitoring. For individual small rural and volunteer EMS agencies, it is unlikely that local resources will allow this analysis. However, particularly in these areas, objective data could be even more critical in making decisions on deployment or allocation of scarce response resources than for larger well-resourced agencies.

Statewide EMS patient care data can promote meaningful insight into EMS care at the agency, region, and State level. The Bureau is poised to provide salient and timely reporting on patient outcomes and system efficacy, not only internally to evaluate and impact EMS patient care and to inform and grow the TSE systems of care, but also to inform public health initiatives (including traffic safety). Statewide reports on clinical and operational metrics and analysis outside the current specialty systems of care work must become standard. Agencies and regions should assess the frequency, category, and severity of conditions treated and the appropriateness of care provided, as well as provider-level metrics.

Evaluation is most robust within the TSE program. Since TSE has already shown ability to partner with the hospital association to provide hospitals individual and aggregate feedback, the future offers opportunity for more advanced assessment by linkage of Idaho Gateway for EMS Patient Care Report (IGEMS-PCR) and TSE database outcomes to evaluate timeliness and appropriate destination choice, ground vs. air utilization and outcomes, and other higher-level analytics.

Evaluation cannot occur in a timely manner without timely data submission. While the Bureau experience has been that most agencies submit within a week, regulatory language must be updated to reflect the importance of prompt submission, ideally within 24 hours. To be most efficacious in identifying trends and providing actionable information, ImageTrend data should be uploaded daily to both NEMSIS and Biospatial and critical triggers monitored closely. Capitalizing on EMS data use for public health emergencies and traffic-related incidents and using this data to partner with internal and external stakeholders is an opportunity.

From the clinical perspective, EMSPC could be asked to prioritize the QI indicator guidance already incorporated within the State protocols for monitoring. Guidance on core metrics that significantly impact patient outcomes (i.e., time to 12-lead EKG for possible acute coronary syndrome) that could be followed, and guidance on how to obtain that information at the agency and regional levels would be appropriate for the State to make available, while routinely reporting at least State-level information to EMSPC.

The Bureau should seize the opportunity to initiate system-level analysis that can provide insight on both individual and aggregate clinical care as well as the functionality system's operational components (i.e., EMS and hospital resource utilization, interfacility transfer timeliness, proper patient destination, and air medical utilization). Positive evaluation results demonstrating the value EMS provides (including the success of the TSE program) should be widely and routinely shared with stakeholders, the public, and governmental leadership.

Idaho has an opportunity to leverage built-in reporting tools within Biospatial and ImageTrend to shed light on priority areas. While it would be optimal to customize reporting, initiating existing reports at regular intervals is preferable to awaiting perfection. This will allow the QI cycle to be grounded in objective data.

Operationally, the Bureau should continue assessing frequency of skills and medication utilization and provider experience should inform future protocols, education, and support available for providers who do not use their skills frequently.

In numerous sections of this assessment, State level expectations have clearly been provided. However, those expectations must be consistently partnered with a mechanism for implementation as well as evaluation of effectiveness and loop closure for reassessment and quality improvement measures guided by objective data.

Multiple large urban agencies already participate in Cardiac Arrest Registry to Enhance Survival (CARES) to monitor and report cardiac arrest outcomes. Several of the larger agencies also utilize ESO PCR software which provides access to patient outcomes and higher-level ability to understand the patient- and population-level impacts of out-of-hospital interventions.

There is asymmetry of resources in the populated versus rural areas. Additional State level support should continue to assess and respond to identified patterns or gaps in care in rural areas.

Recommendations

- **Modify electronic reporting requirements to be nearly concurrent to allow surveillance and more rapid awareness of and response to local, regional, and statewide crisis situations.**

- **Implement routine ongoing regional and State level reporting of specific clinical and operational metrics and incorporate this reporting into quality improvement processes.**

- Continue to assure adequate and appropriate protection of data analyses and peer review data, and privacy protection compliance in data sharing and linkage.

- Pursue IDHW resources for epidemiology support and data analysis.

- Leverage Health Information Exchange (HIE) resources to allow the ability to follow a single patient from 911 call to discharge, including outcomes.

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ORGANIZATIONS/APPOINTMENTS

Vermont EMS Office, Retired Director
National Association of State EMS Officials
- Past Program Manager
- Past President
- Past Treasurer

New England Council for EMS
- Past President
- Executive Committee

Vermont Ambulance Association, Past Vice-President
Vermont Public Safety Broadband Network Commission, EMS Representative
National EMS Compact, Facilitator for original legislation drafting and retired national EMS educator
EMS Agenda for the Future, Original Co-Chair
EMS Education Agenda for the Future, National Implementation Team, Chair
FLEX Program, National Resource Center, Board Member
EMS Agenda for the Future Implementation Guide Committee member
National Registry of EMTs, Former Board Member
Essex Rescue, Retired Executive Director and AEMT Captain
Health Care Finance Administration Negotiated Rule Making, NASEMSO, Committee Member
National EMS Scope of Practice Model Project – Original Principal Investigator and Project Champion for the 2018 update
American College of Surgeons- Trauma System Assessment Team Member
EMSC Grant Review Team Member
USDOT, NHTSA EMS Assessment/Reassessment Program, Technical Assistance Team, Member, States of Delaware, Texas, and North Dakota, Colorado, Alaska, Ohio, Connecticut, Delaware, Mississippi, Oregon, Michigan, Kansas, North Dakota, American Samoa, Nevada, Oklahoma, and Hawaii.
USDOT, NHTSA Pedestrian and Bicycle Safety Assessment Program, Technical Assistance Team, Member, States of Michigan, Washington, Tennessee, Florida, Maryland, Alabama, New Hampshire, Washington DC

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Dr. Christoph Kaufmann was the Program Director, General Surgery Residency Program at Grand Strand Medical Center, Myrtle Beach SC from 2017 through 2022. Prior to that, Dr. Kaufmann was the Trauma Medical Director at Forbes Hospital and Vice Chair, Department of Surgery, Allegheny Health Network in Pittsburgh. He is Professor of Surgery at the Uniformed Services University of the Health Sciences (USUHS). He served as the Trauma Medical Director of the Level 1 trauma center in Johnson City, TN and Associate Trauma Medical Director at Legacy Emanuel Hospital in Portland, OR. He attended medical school at USUHS, completed his general surgery residency at Tripler Army Medical Center, Honolulu, and then completed his Trauma/Critical Care Fellowship at UW/Harborview Medical Center in Seattle, earning a Master of Public Health. He is board certified in general surgery and surgical critical care.

Dr. Kaufmann was deployed with the 47th Combat Support Hospital to Saudi Arabia and Iraq in 1990 and was awarded the Bronze Star for casualty planning. In 1993, he was assigned as trauma consultant to the U.S. Public Health Service and served as Director, Division of Trauma and Emergency Medical Systems, Health Resources and Services Administration, administering the Federal grant program developing trauma care systems across the U.S. He also helped write the Model Trauma Care System Plan (1992). He returned to USUHS in 1996 as Chief, Division of Trauma and Combat Surgery and served as COT Region Chief, Military Committee on Trauma. Colonel Kaufmann was the Surgical Director of the National Capital Area Medical Simulation Center at the time of his retirement from the U.S. Army in 2002. He served as Chair, Advanced Trauma Life Support (ATLS) for the American College of Surgeons Committee on Trauma (ACS COT) from 2003-2006 and then as International Chair of ATLS.

Dr. Kaufmann is an author of the 2006 HRSA Model Trauma System Planning and Evaluation document. He has given over 200 presentations in 20 different countries. He is or has been a member of numerous local, state, national and international organizations, both military and civilian, relating to Trauma Systems, trauma care and emergency medical services, including:

- Chair, Systems Committee and Board Member, Trauma Center Association of America

- Member/Team Leader, Trauma Systems Consultation Committee, ACS COT (10 system reviews including Hawaii; team leader for 7 of these, including Denmark and Qatar)
- Site Surveyor, NHTSA State EMS Assessment Team (10 states)
- Lead Reviewer and Editor, Verification Review Committee, ACS COT
- Member, Pacific Region Emergency Medical Response Team (Johnston Atoll & Christmas Island)
- State Trauma Center Site Surveyor for VA, PA, IL, WA, and OR
- Institute of Medicine Committee: “Safe Passage: Astronaut Care for Exploration Missions”
- Level 1 Representative, Oregon State Trauma Advisory Board
- Reviewer for Injury, Journal of Trauma, and Critical Ultrasound Journal
- President, Ambroise Paré International Military Surgical Forum of ISS-SIC
- Editorial Board, NATO Emergency War Surgery Handbook, 3rd U.S. Revision
- Examiner, Society of Apothecaries of London, Diploma in the Medical Care of Catastrophes
- Member, Standards Committee, Pennsylvania Trauma Systems Foundation

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ACADEMIC APPOINTMENT

Professor of Clinical Emergency Medicine, University of Nevada-Reno School of Medicine, Reno, Nevada (2022-present)
Professor of Emergency Medicine, Washington University, Saint Louis, Missouri (2022)
Associate Professor of Emergency Medicine, EMS Fellowship Director, Washington University, Saint Louis, Missouri (2016-2022)
Clinical Associate Professor, Department of Emergency Medicine, University of Kansas Medical Center, Kansas City, Kansas (2011)
Associate Professor, Department of Emergency Medicine, University of Virginia, Charlottesville, Virginia (2008-2010)
Assistant Professor, Piedmont Virginia Community College, Charlottesville, Virginia (2004-2009)
Assistant Professor of Emergency Medicine, Department of Emergency Medicine, University of Virginia, Charlottesville, Virginia (2001-2008)
Assistant Professor of Clinical Emergency Medicine, Department of Emergency Medicine, University of Virginia, Charlottesville, Virginia (1998-2001)

LICENSURE & CERTIFICATION

Licensure

Virginia Board of Medicine, Department of Health Professions, Current Inactive Medicine & Surgery, 1992-present
Texas Board of Medicine, Physician Full Permit, 2008-present
Kansas State Board of Healing Arts, Physician License, 2010-present
Oklahoma State Board of Medical Licensure and Supervision, 2014-present
Missouri Board of Healing Arts, 2016-present
Arkansas State Medical Board, 2016-present
Illinois State Division of Professional Regulation, Temporary Practice Permit pursuant to declared disaster, March 27, 2020-September 30, 2020
Nevada State Board of Medical Examiners, January 8, 2022
Medical Board of California, January 31, 2024
New Jersey Temporary License, April 15, 2020-Oct 15, 2020, Temporary Emergency License

Selected Certifications:
Diplomate, American Board of Emergency Medicine
Diplomate, Nationals Board of Medical Examiners
Certified in Public Health, National Board of Public Health Examiners
Board Certified in Emergency Medicine (1996), Emergency Medical Services (2013) American Board of Emergency Medicine
Paramedic, National Registry of Emergency Medical Technicians
Firefighter I, Fairfax County Fire and Rescue Academy, Virginia

SELECTED EMS MEDICAL OVERSIGHT EXPERIENCE

EMS System Medical Director, Wichita-Sedgwick County EMS System, Kansas.
Associate Medical Director, Medical Control Board, EMS System for Metropolitan Oklahoma City and Tulsa
Medical Director, Northeast Ambulance and Fire District, St Louis
Missouri State EMS Medical Director; Medical Director, Missouri Disaster Medical Assistance Team (DMAT)
Medical Director, AirEvac Lifeteam, Missouri and Arkansas

SELECTED NATIONAL AFFILIATIONS / LEADERSHIP

American College of Emergency Physicians: EMS Section member, AAWEP Section member, Air Medical Section member, EMS Committee member, Education Committee member.
National Association of EMS Physicians: Air Medical Ad Hoc Task Force, Education Committee, Quality and Safety Committee, Council of EMS Fellowship Directors, Women in EMS Committee, Board of Directors, At Large Physician Member; liaison to Public Health, Air Medical; Secretary-Treasurer
Air Medical Physicians Association
Committee on Accreditation of Educational Programs for the EMS Professions Board, NAEMSP representative
National EMS Advisory Council, Emergency Physician representative, appointed by Secretary of Transportation Foxx, Vice Chair
Prehospital Care Research Forum Board of Directors
Nevada Chapter, American College of Emergency Physicians, Board of Directors, Councilor

SELECTED PROJECTS

American College of Emergency Physicians, EMS Committee. Policy work: ACEP Position Statement on Appropriate and Safe Utilization of Helicopter Emergency Medical Services: A Joint Position Statement; EMS Management of Patients with Potential Spinal Injury.
American College of Emergency Physicians representative to National Highway Transportation Safety Administration EMS Education Standards Committee. Provide stakeholder input into national Education Standards.
National Association of EMS Physicians representative to Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions.

NASEMSO Model State Guidelines Project, ACEP Representative.
Chair, EMS Culture of Safety Strategy project. Cooperative agreement with NHTSA / HRSA / ACEP.
Invited Subject Matter Expert, National Center for Disaster Medicine and Public Health, for creation of Addendum to the Instructional Guidelines of the National EMS Education Standards for the Model Uniform Core Criteria (MUCC) for mass casualty triage.
American College of Emergency Physicians Representative, Committee on Accreditation of Ambulance Services Ground Vehicle Safety Standards project.
EMS Subject Matter Expert and NAEMSP representative to Patient Management During Infectious Disease Outbreaks and Disaster, development of and input to joint educational program.
Member, Data and Safety Monitoring Board for the Prehospital Analgesia INtervention Trial (PAIN). Responsible for safeguarding the interests of study participants, assessing the safety and efficacy of study procedures, ensuring data quality, and for monitoring the overall conduct of the DOD-funded 4-year national multi-site study with principal investigators at the University of Pittsburgh.
Veterans Administration, National Emergency Ambulance Service. EMS Subject matter expert assisting in development of national directives, guidelines, protocols and industry stakeholders.

SELECTED PUBLICATIONS

Peer Reviewed

Braithwaite S, Stephens C, Remick K, Barrett W, Guyette F, Levy M, Colwell C. Prehospital Trauma Airway Management: An NAEMSP Position Statement and Resource Document. Prehosp Emerg Care. 2022 26(sup1): 64-71.
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Lindbeck G, Shah MI, **Braithwaite S**, Powell JR, Panchal AR, Browne LR, Lang ES, Burton B, Coughenour J, Crowe RP, Degn H, Hedges M, Gasper J, Guild K, Mattera C, Nasca S, Taillac P, Warth M. Evidence-Based Guidelines for Prehospital Pain Management: Recommendations. Prehosp Emerg Care. 2021 Dec 20:1-17.
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Lyng JW, **Braithwaite S**, Abraham H, Brent CM, Meurer DA, Torres A, Bui PV, Floccare DJ, Hogan AN, Fairless J, et al. Appropriate Air Medical Services Utilization and Recommendations for Integration of Air Medical Services Resources into the EMS System of Care: A Joint Position Statement and Resource Document of NAEMSP, ACEP, and AMPA. Prehospital Emergency Care 2021:1-20.
Joiner A, Kumar L, Barhorst B, **Braithwaite S**. The Role of Emergency Medical Services in the Opioid Epidemic. Prehospital Emergency Care 2020:1-4.

Newberger R, **Braithwaite S**. EMS, Prioritization of Response. StatPearls [Internet] Publishing, Treasure Island (FL). June 21, 2020. PMID 32644720. https://www.ncbi.nlm.nih.gov/books/NBK559294/

Kane E, **Braithwaite S**. Spinal Motion Restriction. StatPearls [Internet] Publishing, Treasure Island (FL). May 15, 2020. PMID 32491646. https://www.ncbi.nlm.nih.gov/books/NBK557714/

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Member, New Mexico Trauma System Fund Authority
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