COMMONWEALTH OF KENTUCKY

A REASSESSMENT OF EMERGENCY MEDICAL SERVICES

November 19 - 21, 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. In April 2024, the US DOT's National Highway Traffic Safety Administration (NHTSA) estimated that 40,990 people will die 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 Technical Assistance Team (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.

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

INTRODUCTION

The Commonwealth of Kentucky is known as the “Bluegrass State” in reference to Kentucky bluegrass, a species of grass introduced by European settlers which has long supported the State’s thoroughbred horse industry. Kentucky is bordered by seven states and situated in the Upland South with a significant portion of eastern Kentucky being located in Appalachia. The Commonwealth has a varied climate and diverse topography which includes six distinct geographical regions and the greatest length of navigable waterways and streams in the contiguous United States. Culturally, it is famous for bourbon, horse racing, University of Kentucky basketball, Louisville Slugger baseball bats and Kentucky Fried Chicken.

The Commonwealth of Kentucky, a primarily rural state, is the 37th largest state in land area, encompassing 39,492 square miles with a population density of 114.1 persons per mile, and ranks 26th in the U.S. population. Census data 2020 shows a population of 4,505,836. Kentucky's socioeconomic status is challenging, with an average unemployment rate of four percent in 2023, a mean annual salary of $54,200 and a median annual salary of $43,300. It also has a 16 percent poverty rate and a six percent uninsured rate.

The geographic, demographic, and socioeconomic statistics highlight some of the challenges facing the State’s healthcare system and the need to enhance Kentucky's emergency medical services system; however, there are also many positive aspects.

Kentucky is home to the University of Kentucky in Lexington and the University of Louisville, two academic medical centers that provide a high level of medical education and healthcare in their respective regions.

While the EMS system is seemingly underfunded and understaffed in some key areas, Team Kentucky, including the Kentucky Board of EMS, the Kentucky Department for Public Health, the Kentucky Office of Highway Safety, and the Kentucky Office of Homeland Security are dedicated to building collaborative partnerships in order to improve the health and safety of people in Kentucky through prevention, protection, preparedness, response, and recovery.

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.

Progress on the 1991 Recommendations

A comprehensive plan has not been implemented.

Except for nurses and physicians who are part of specialty transport and air medical teams, the Board licenses all EMS providers and services, including non-transport agencies. Sometimes, an entire EMS crew may comprise non-board licensed staff. For example, in 2023, the Board elected to allow registered nurses to be the sole providers of an air medical response. Registered nurses may also be the sole providers in specific specialty care units, such as neonatal transports.

Due to the time since the last evaluation, numerous personnel changes, and changes in overall agency location, it is unknown if a total EMS evaluation of the entire system has ever been completed. The current staff does not know of any documents or processes from the past that would indicate any formal action on this system-wide assessment.

Currently, each EMS agency with the State must undergo a yearly evaluation of all equipment, policy, and adherence to EMS regulations and must be found to be in substantial compliance as a condition of renewal.

All personnel licensing and certification is now a function of the Board. The Board determines the Commonwealth's scope of practice, which utilizes the National EMS Scope of Practice Model as guidance. The Board is required through statute to contract with a board-certified physician in emergency medicine. Additionally, one seat on the Board is filled by a physician who routinely functions as a medical director for agencies, and a second seat is filled by a physician who routinely cares for the emergent pediatric population.

- KRS 311A.015 and KRS 311A.020 give the Board authority to develop and enforce EMS regulations. The only function that remains with another agency is investigating complaints at the EMS agency level, which is delegated to the
- Office of Inspector General within the Cabinet for Health and Family Services.
- Statewide EMS Standards - The Board regulates all agencies.
- Statewide EMS protocols - The Kentucky State Medical Protocols have been established for adoption through the work of the State medical director. The
- protocols address protocols for the EMT, EMT-A and EMT-P. Additionally, the Board has approved the Southwest Ohio Northern Kentucky protocols that
- agencies may adopt. Agencies may still submit autonomous protocols. However, autonomous protocols must be reviewed by the medical director and approved by the Board individually.
- Medical Control - 202 KAR 7:555 Section 2(1) (e) requires a written plan for providers to consult with online adult and pediatric medical direction. The plan
- requires 24 hours a day access and must include action if communication can't be established.
- Transportation - The Board provides destination recommendations but does not mandate transport to identified facilities.
- Allocation of Resources - 202 KAR 7:555 requires agencies to attempt to obtain mutual aid agreements. Agencies providing 911 services are prevented from expiring their resources on non-emergency or mutual aid responses.
- Communications - 202 KAR 7:510 and 7:555 require all agencies to have access to licensed communications systems. All agencies must be capable of accessing designated VHF frequencies to be utilized during disasters or other circumstances where common communications are needed. The regulation provides a standard for call intake and acceptable dispatching time maximums.
- Administration and Enforcement - 202 KAR 7:501 requires each licensed agency

to undergo and pass a yearly inspection before license renewal. The inspection reviews equipment, supplies, required policies, and records.
- System Evaluation - 202 KAR 7:501 requires each licensed agency to undergo an inspection/evaluation and be found in substantial compliance before licensure renewal.
- Quality Assurance of EMS Systems - 202 KAR 7:510 and 7:555 require each agency to have a quality assurance plan.
- Trauma Systems - The Board does not host the trauma systems. It provides data and support as requested.

The Certificate of Need remains a requirement for most classes of licensure. In 2022, legislation was passed that allowed county and city governments to hold public hearings to establish a service without a CON. However, the license is limited to providing emergency runs that terminate at the emergency room and some restricted emergency interfacility transports. Additionally, the legislation permits hospitals to establish a service to transport patients from their facility to other locations without a CON.

Regulations are applied uniformly to the appropriate classes of ambulance licensure. Agencies out of substantial compliance face punitive action up to and including the loss of licensure.

The Board does not coordinate with third-party reimbursors to ensure that reimbursement for services is made only to those services conforming to licensing standards but finds the current process to be regulated by the reimbursors. The Board works at the State and federal levels to increase reimbursement but finds the task difficult. There is promising discussion occurring at the State level, though substantial increases in Medicaid would be required to reimburse agencies adequately for the services rendered.

Status

Kentucky has statutes describing the State's authority to develop and regulate an EMS system. The statutes include system oversight and monitoring provisions through the Kentucky Board of EMS (the Board). This 13-member group is comprised of members from the more populated areas of the Commonwealth. These members bring value to the Board. However, the lack of geographical diversity among the membership does not balance the interests and needs of EMS services, clinicians, and the public in underrepresented areas.

Secondary to the statutes, the State has created EMS system regulations that describe the relevant operational standards of the system. Kentucky's Trauma System program is part of the Kentucky Hospital Association (KHA) and funded through a short-term preparedness grant by the Department for Public Health. A funding mechanism is also described in KRS 211.496, which permits the use of federal funds, or to the extent funds are available, for the trauma system. These funds are not guaranteed.

It is reported that nearly all comprehensive emergency medical services system planning occurs locally by elected officials and their staff. Besides KRS 311A, which requires the Board to develop a statewide plan for implementing an emergency medical services system, there is no requirement or mechanism to conduct state-level comprehensive EMS system planning within the Commonwealth.

Kentucky has made a commendable effort in the provision of State funding to support the statewide EMS system. Unfortunately, the system is not funded to the level needed. The Board operates on a biennium budget approved by State legislature. The fiscal year 2025 budget comprises $2,600,000 in general funds and $650,000 in annual licensure fees. Federally, the Board receives $174,300 for the EMS for Children program (EMSC).

Under the regulation, the Board requires data submission to the Kentucky State Ambulance Reporting System (KStARS). In June 2024, KStARS began accepting National Emergency Medical Services Information System (NEMSIS) 3.5 data and set October 31, 2024, as a deadline for Kentucky's complete transition to NEMSIS 3.5. This is a notable and worthy achievement.

The Board is not authorized to designate specialty care facilities or regional facilities. Despite this, the Board should be commended for supporting the relationship with the designation authorities by developing committees and subcommittees that make destination recommendations regarding specialty care facilities. These recommendations drive the Board's Medical State Protocols available for voluntary adoption. However, there is currently no financial support for EMS planning, data collection or operations in regard to time sensitive emergencies. For instance, the Cardia Arrest Registry for Enhanced Survival (CARES) initiative is in its early stages and coordination and funding will be needed to ensure its success.

No statute or regulation requires the Board to provide public information and prevention programs. However, the Board does provide NEMSIS data to partnering entities to support such programs. These entities include the Kentucky Trauma Data Bank, the Kentucky Injury Prevention and Research Center (KIPRC), the Kluger Transportation Research Group, Heart Disease and Stroke Prevention Task Force, the National Highway Traffic Safety Administration (NHTSA), and others. In addition, the Kentucky Department for Public Health also offers such programs.

The Board has a dedicated coordinator for the EMSC who is active in establishing the regulations and policies established by the Board regarding out-of-hospital pediatric emergency medical service care. Additionally, the EMSC coordinator is actively engaged in the National Pediatric Readiness Project with emergency departments and EMS agencies around the Commonwealth to assure readiness and continuity of care for the pediatric population. While it is not a current requirement by statute or regulation that

agencies or facilities participate in the program, participation is generally high.

A notable gap in Kentucky's EMS legislation is the lack of ability to license and regulate non-transporting EMS organizations. While all EMS clinicians at the EMT level or higher must function under physician medical direction and be affiliated with an ambulance service, the effect of the current law is that EMS personnel working in non-transporting fire departments are only able to provide basic first aid at an emergency scene, regardless of their level of licensure.

Additionally, the statewide EMS data system does not have uniform connectivity throughout the State, making collection, transmission, and submission difficult. There is also no legislation designating EMS as an essential service.

Recommendations

The General Assembly should:

- **Change the composition of the Board to improve geographic diversity and representation.**

- Change statute to allow for authority to license and regulate non-transporting, first response EMS agencies and personnel.

- Assign investigation of complaints at the EMS agency level, currently delegated to the Office of the Inspector General within the Cabinet for Health and Family Services, to the Board.

- Define EMS as an essential service with sustainable funding mechanisms.

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.

Progress on the 1991 Recommendations

April 6, 2000, House Bill 405, codified in Kentucky Acts Chapter 343, the Kentucky General Assembly made significant strides in EMS oversight within the Commonwealth. This statutory modification established the Board as an independent body and transitioned all EMS regulatory oversight of ground and air EMS agencies, EMS training centers and education standards, First Responders, Emergency Medical Technicians, and Paramedics to the newly formed Board. This statute change brought EMS under a single lead agency with the authority to "exercise all of the administrative functions of the State in the regulation of the emergency medical services system and the practice of first responders, emergency medical technicians, paramedics, ambulance services, and training institutions."

Inspection and licensure of EMS ambulances under the State-led EMS agency were completed under Kentucky Acts Chapter 343 on April 6, 2000, by establishing the Board. The Board promulgated necessary administrative regulations in 202 KAR Chapter 7.

Due to lost historical data and multiple agency reorganizations and realignments, it is unknown if previous boards completed any actions on the recommendation to conduct a State assessment to determine EMS resources in Kentucky.

Due to lost historical data and multiple agency reorganizations and realignments, the number of ALS agencies licensed to provide care within the Commonwealth during the original 1991 assessment is unknown. However, as of 2024, 190 class 1 ground agencies provide ALS care to 119 of the 120 counties within Kentucky.

It is unknown when the Board hired an EMS communications consultant, as they have had this position in years past. However, through the most recent reorganization in 2022, the Board does not have a current person in this role, nor is there a budgeted position in the current biennial budget to hire such a person. Despite not having a dedicated communications position, Board office staff conducts monthly meetings to increase information sharing.

No dedicated funding programs were ever implemented or exist under State legislation to provide flexibility in the current funding programs.

Currently, local EMS agencies rely on local tax revenue, reimbursement for services from insurance providers, or a fee-for-service model to meet operational costs. While the Board disburses grant funding to fiscal courts in the amount of $10,000 annually, the funds are not guaranteed annually or administered to every fiscal court. The Commonwealth of Kentucky provides no other direct grant funding opportunities for EMS operations.

Regulations enacted following the creation of the Board in 2000 did establish minimum ambulance agency licensing requirements found in 202 KAR Chapter 7:501, 202 KAR Chapter 7:545, 202 KAR Chapter 7:550, 202 KAR Chapter 7:510, and 202 KAR Chapter 7:555. These regulations laid the foundation for the licensing, inspection, and regulation of the Commonwealth's ambulance providers and medical first response agencies. These regulations also establish the various classifications of agency licensure, required equipment, and vehicle standards for every EMS agency in the Commonwealth. While these regulations have seen several modifications over the years, most, if not all, EMS regulations will receive a review and necessary updates in 2024 through 2026.

As to third-party reimbursement, the Board must license all EMS agencies operating within the Commonwealth under these regulations. No EMS agencies are

operating within the Commonwealth that are not licensed by the Board.

Status

Presently, local ground ambulance agencies are required by regulation to maintain certain states of readiness, including the provision of EMS on a twenty-four (24) hour per day, seven (7) days a week basis and the scheduled availability of at least one staffed ambulance in Class I services within its designated service area. EMS agencies also shall compose a written plan to ensure prompt response, to include being dispatched within a two-minute timeframe of the receipt of the call for assistance, promptly responding when a staffed unit is available in the geographic area, and maintaining mutual agreements with contiguous counties.

However, ground EMS agencies are specifically prohibited from responding to non-emergent or mutual aid calls if such a response would leave their response area without a transporting ambulance. A consequence of this provision is often a significant delay in responding to calls for service for interfacility or non-emergent transportation.

Emergency medical services has not been codified in State statute as an essential service in the Commonwealth of Kentucky, however, the large majority of local jurisdictions do provide EMS, but the level of care and timeliness of response varies.

To provide EMS, an agency must be licensed accordingly by the Board, as defined in State regulations. As such, several written plans and policies are required to be maintained to include personnel training mandates (e.g., hazardous materials response, terrorist threats and criminal incidents) mass casualty response and triage, and patient safety and decontamination. The minimum level of EMS clinician to provide care and transport on a licensed ground ambulance is an EMT, while an EMR clinician may be utilized as a driver. State established destination guidelines for stroke and trauma patients, and victims of sexual assault, are considered non-mandatory and impractical due to geographical constraints. Also, regulations are in place that define equipment and supplies to be carried on ambulances, and when confirmatory inspections will be conducted by the Board.

Kentucky Emergency Medical Services is regulated by a 13 member board that administers the majority of EMS-related functions, with a few exceptions. The Board consists of an emergency medicine physician that serves as a local medical director, a physician involved in pediatric emergency care, local government representatives of city/county governments, an EMS educator, a hospital administrator, a member of the general public, the Kentucky Cabinet for Health and Family Services secretary and four EMS clinicians from the Kentucky Ambulance Providers Association, the Kentucky Professional Fire Fighters, the Kentucky Association of Fire Chiefs, and the Kentucky Association of Air Medical Services.

Committees augment the work of the Board and provide valuable advice and insight from subject matter experts. Standing committees include executive, education, medical oversight, data, and EMS for Children, with sub-committees addressing cardiac and

stroke emergency care, as well as mobile integrated health and community paramedicine.

Finally, the Board has collaborated with KOHS to develop Kentucky's Strategic Highway Safety Plan and provide data.

Recommendations

The General Assembly should:

- **Statutorily codify EMS as an essential service in the Commonwealth of Kentucky, with provisions to enhance funding to local EMS agencies to provide timely and consistent emergency medical care and transportation.**

- Consider adding a trauma surgeon representative as an additional member of the Board.

The Board should:

- **Develop and implement a plan to improve interfacility and non-emergent transportation by:**

    - **Reducing wait times by collaborating with the State labor agency and educational facilities to increase the available EMS workforce.**

    - **Implementing mobile integrated health and community paramedicine programs in rural counties to reduce the need for time-consuming non-emergent transportation.**

- Collaborate with local hospitals and health systems, the State trauma system, the stroke task force, cardiac care, and sexual violence advocates to increase the amount of hospitals that will provide these specialty types of care.

- Allow EMS agencies specifically engaged in interfacility and non-emergent transportation to operate without satisfying the current 24 hour/7 days a week requirement, to allow movement of patients during peak (daytime) hours.

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 clinicians (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.

Progress on the 1991 Recommendations

Currently, 119 of the 120 counties have ALS coverage. While these counties have licensed agencies providing coverage, there are some counties experiencing significant delays in response and paramedic staffing shortages. These result in agencies operating at the BLS level in some instances.

AEMT was implemented by the Board December 5, 2008, with 202 KAR 7:330 the Advanced Emergency Medical Technician regulation.

The Board does not administer certification exams.

On November 19, 2003, the Board adopted the National Registry of EMT's as the certification exam for all provider levels in regulations 202 KAR 7:201 EMR, 202 KAR 7:301 EMT, 202 KAR 7:330 AEMT, and 202 KAR 7:401 Paramedics. On February 16, 2024, the Board adopted the International Board of Specialty Certification as the certification exam for certifications for advanced practice licensure in Community and Wilderness Paramedicine in 202 KAR 7:410 the Advanced Practice Paramedic regulation.

On November 19, 2003, the Board implemented evaluation and quality assurance measures within 202 KAR 7:601 Training, education, and continuing education regulations.

There is no Emergency Medical Dispatcher program in regulation. While there is no current program, the Board the "Telephone-Cardiopulmonary Resuscitation (T-CPR)" program for telecommunicators in 2018 to fulfill the requirements described in Senate Bill 142 (2018). This course is for telecommunicators (dispatchers) that need to comply with training requirements mandated by KRS 15.550 and KRS 15.530 to 15.590. https://www.train.org/ky/course/1079021/details

With the implementation of 202 KAR 7:601 Training, education, and continuing education regulations on November 19, 2003, the Board created CE training centers for the delivery of specialized and CE courses throughout the commonwealth.

The Board also placed required specialized and CE on-line for free using the Kentucky Department for Public Health TRAIN LMS platform.
https://kbems.ky.gov/Education/Pages/default.aspx

There is no formal medical director education implemented at this time.

This has been accomplished with the implementation of the training and education regulation 202 KAR 7:601 on November 19, 2003. Since adoption, all technology platforms have been encouraged and permitted. The Board accept 100% of CE from any CAPCE approved training program and board-certified education institutes are using this technology regularly during their education courses.

Kentucky currently has no volunteer services in operation. While fire service volunteer responders do respond under their first response programs, these programs are not under the direct authority of the Board.

Kentucky has not formalized training program for registered nurses practicing in the prehospital setting other than our normal EMS education opportunities.

On November 19, 2003, the Board adopted provider regulations that address the CE requirements for all provider levels in the following regulations 202 KAR 7:201 EMR, 202 KAR 7:301 EMT, 202 KAR 7:330 AEMT, and 202 KAR 7:401 Paramedics. These requirements were readdressed and modified in 2019 when all provider level and education regulations were revised to adopt the NREMT NCCP CE model to improve provider CE in the commonwealth. https://kbems.ky.gov/Certification-And-Licensure/Documents/2024_CE_Renewal_Requirements_2024-01-08.pdf

Status

Like many other States, the Commonwealth is experiencing a substantial workforce shortage at the paramedic level. Twenty-one authorized and accredited paramedic education programs produce, on average, 130 new paramedics annually. With nearly one-third of these new clinicians staying in metro areas, the rural areas of Kentucky are not producing or hiring enough paramedics. The Board is addressing the existing paramedic staffing shortages through a recently established workforce committee that evaluates the extent of the impact and develops an action plan to alleviate the shortages.

This committee is actively addressing statewide staffing issues through various strategies. One such recruitment strategy stems from the needs assessment and feedback from local agencies and providers. Key initiatives include creating a centralized, statewide website to provide comprehensive information on EMS career options and educational requirements, developing professional development opportunities, and producing a marketing video to showcase the EMS profession.

Board members and office staff collaborate with local EMS and fire service stakeholders to assess staffing needs through standing and special committees. Meeting at least quarterly, these committees work to identify and investigate areas of personnel shortage to assist in tracking statewide attrition rates.

The Board is a regulatory and compliance organization and does not provide education opportunities directly. The Board does not receive funding to offer education, retention, or incentives. However, current programs exist to develop the skilled technical workforce, including emergency medical personnel. One notable program administered by the Kentucky Higher Education Assistance Authority is Kentucky Work Ready. This is a one-time scholarship to assist students with EMT, Advanced EMT or Paramedic education. Additionally, the Kentucky General Assembly enacted a new EMS training

grant program during the 2024 regular session. It remains an unfunded project.

One accomplishment of note is the Board's establishment of minimum qualifications for instructors of all training programs leading to EMS certification.

While the Commonwealth struggles and lags in some areas of blueprint models, the Board has embraced and developed a new Advanced Practice Paramedic (APP) licensure level. This initiative is focused on expanding the EMS clinician's role in the community through an expanded scope of practice in specialized areas of Wilderness and Community Paramedicine. Additional specialized critical care, flight, and tactical paramedicine areas are under development for APP licensing.

In 2016, the Board identified health and safety issues involving EMS personnel in crashes resulting in injury or death. The Board partnered with the Kentucky Department of Transportation and NHTSA to host Traffic Incident Management instructor trainer courses for emergency service providers in the tri-state area. The Board also recommended that all EMS clinicians complete the Traffic Incident Management Responder Training (TIM) by December 31, 2017. The Board is commended for its continued dedication and successful implementation of this initiative.

Recommendations

The Board should:

- **Continue to support paramedic training within accredited programs.**
- **License non-transporting EMS agencies.**
- Continue to conduct a statewide training needs assessment at least every three years.
- Monitor workforce and geographic distribution trends for all levels of EMS clinicians in the State.

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.

Progress on the 1991 Recommendations

Requiring all services to comply with the minimum licensing requirements is complete. KRS 311A.030 and 202 KAR 7:501, 202 KAR 7:510, 202 KAR 7:545, 202 KAR 7:550, and 202 KAR 7:555.

Requiring all Advanced Life Support (Paramedic) services to be licensed by the State lead EMS agency is complete. KRS 311A.030 and 202 KAR 7:501, 202 KAR 7:510, and 202 KAR 7:545.

The State lead EMS agency licenses and inspects all services. KRS 311A.030 and 202 KAR 7:501 and 202 KAR 7:510.

No record of completion of an inventory to determine the need for and availability of water rescue services on the major waterways. Water rescue service is not under regulatory oversight of the Board.

Ambulance fees schedules are developed at the local level and outside the purview of State regulation. 202 KAR 7:575 does fee schedule disclosures, posting, and reporting requirements.

No formal report has been produced. All services are delivered on a local level, based solely on certificate of need determination under the Cabinet for Health Services and subsequent licensure by the Board.

Status

The Board has not developed EMS transportation plans that establish specific local or regionalized service areas, but rather, service areas are created at the local level primarily based on county boundaries. As mentioned in other sections, Kentucky's EMS agencies are considered non-essential. Due to the rural nature of Kentucky, limited transport destinations, workforce shortages, and, most importantly, travel distances, developing a comprehensive and inclusive transportation plan is not easily attainable but should remain a strategic priority.

While Kentucky may lack an official EMS transportation plan, it does have State-developed transportation destination guidelines for trauma, stroke, and STEMI and generalized guidance to transport to the closest, most appropriate facility; however, these are only guidelines, and the ultimate transport policies and destinations are the responsibility of the individual agency's policies and protocols.

Kentucky has no specific regulations establishing regionalized, accountable systems of care for delivering patients to the most appropriate facility. While Kentucky hospitals with specialty facility designations require agreements for the transfer and acceptance of patients, many hospitals do not have specialty designations and therefore lack these formal agreements. Patient transfers are also negatively impacted by limited EMS resources available to perform interfacility transports without abandoning their 911 service area. Additionally, there is a lack of EMS regulations requiring licensed ambulance agencies to provide interfacility transport services.

Kentucky has robust licensing and inspection regulations that establish the various agency licensure levels, equipment requirements, vehicle standards, and required initial and annual inspection processes.

Kentucky regulates minimum staffing requirements for the current license classifications which are currently under revision, and this will result in changes in the current desired minimum staffing regulations. Kentucky recognizes the emergency medical responder (EMR) as the minimum staff requirement for vehicle operators within this regulation.

EMRs are not authorized to function as a primary attendant within any transport license class.

Recommendations

The General Assembly should:

- Define EMS as an essential service with sustainable funding mechanisms.

The Board should:

- Finalize the revisions to the overall agency license classifications.
- Monitor the timeliness of interfacility transfers to designated specialty care centers and identify opportunities for improvement.
- Implement regulations that establish and define regionalized and accountable systems of emergency care.
- Develop an EMS transportation plan based on a statewide regionalized system of care to include 911 and interfacility transfers.

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.

Progress on the 1991 Recommendations

Trauma centers (ACS and State), Stroke centers (JCAHO), and Cardiac Centers (PCI), as well as Pediatric and Obstetric centers are designated by the State of Kentucky. Current designation status of Kentucky hospitals is shared through the KBEMS website and agency medical directors and operations directors are aware of the hospital's capabilities within their transport range. Agencies develop internal policies regarding patient destinations based on the proximity of available facilities, patient condition and acuity, and availability of specialty transport options such as air medical.

The Board and staff work collaboratively with the Kentucky Injury Prevention and Research Center (KIPRC), the Kentucky Hospital Association, the Kentucky

Trauma Advisory Committee, the Department for Public Health, the DPH Preparedness Branch and regional Healthcare Coalitions, and other partners to continually evaluate the emergency care needs of the citizens of Kentucky and opportunities to increase access to care, decrease inequities, and improve outcomes.

At the State level, there is no formal process to evaluate patient transport times or length of time to definitive care.

Status

With guidance from the State Medical Advisor and the Medical Oversight Committee, the Board maintains statewide treatment protocols. Licensed ambulance agencies may adopt the Kentucky Board of EMS Patient Care Guidelines, Standing Orders, and Protocols wholly, with omissions and additions, or create agency-specific protocols which require Board approval. Regardless of the selected protocols, agencies must ensure proper education and training for all staff members utilizing the protocols. The curriculum needs to be developed locally by the agency training department and the agency's medical director. Proper documentation of initial training and education, as well as ongoing training and education, should be maintained by the agency training department.

Kentucky EMS agencies develop internal guidance on patient destinations based on the agency's geographic location, available facility types and proximity, and patient condition. State EMS Protocols include trauma triage guidance based upon the “ACS National Guideline for the Field Triage of Injured Patients” algorithm and the map of verified Kentucky trauma centers.

Kentucky has 100 hospitals with emergency departments (EDs), 29 are critical access hospitals (CAHs), and one (1) rural emergency hospital. The Kentucky General Assembly passed the Kentucky Trauma Care Law in 2008, but the system remains unfunded. The legislation also established the Trauma Advisory Committee (TAC). The trauma system is voluntary. Out of the 100 hospitals, 24 are trauma centers. Levels I, II, and III require American College of Surgeons verification. Criteria for Level IV trauma centers are also addressed in legislation and verified by the State TAC. Fourteen of the fifteen centers currently in development are along the State's southern border, and efforts to recruit facilities in the far western counties will continue.

Trauma Centers outside Kentucky are sometimes the optimal destination for patients near State borders. Frequent destinations include an adult Level I trauma center in Cincinnati, OH; an adult Level II trauma center in Huntington, WV; a pediatric Level I trauma center in Nashville, TN; and an adult Level II trauma center in Evansville, IN.

Of note, only two hospitals in the State have pediatric-specific trauma designation, and further designation of pediatric trauma centers is unlikely. This increases the importance of

the Kentucky EMS for Children Program's statewide recognition of emergency departments that meet or exceed national standards for pediatric readiness.

Kentucky has one verified burn center, the University of Louisville Hospital located in Louisville, with a 16-bed unit. Kentucky burn patients may also be transported across State lines to any of these hospitals when suffering from severe burns:

- Vanderbilt Burn Center, Nashville, TN
- Cabell Huntington Burn Center, Huntington, WV
- UC Health Burn Center, Cincinnati, OH
- Shriner's Children's Hospital (inside Dayton Children's Hospital), Dayton, OH

There are two children's hospitals in Kentucky, the University of Kentucky Children's Hospital in Lexington and Norton Children's Hospital in Louisville; both are Level I Pediatric Trauma Centers. The Kentucky EMS for Children (KYEMSC) Program is a statewide program that recognizes hospital emergency departments that meet national pediatric readiness criteria. Thirteen Kentucky EDs are recognized as Pediatric Ready Emergency Departments and site visits have been scheduled for three additional facilities. Cincinnati Children's Hospital Medical Center in Cincinnati, OH, and Monroe Carell Jr. Children's Hospital at Vanderbilt in Nashville, TN, are also appropriate destinations for sick or injured children.

The Kentucky Heart Disease and Stroke Prevention (KHDSP) Program reports on the number and types of recognized cardiac care levels in Kentucky:

- 2 Level I: Comprehensive Cardiac Centers
- 7 Level II: Primary Heart Attack Centers
- 1 Level III: Acute Heart Attack Ready Centers
- 6 PCI Centers (governed by the Certificate of Need process)
- 3 Open-heart Surgery Centers

The most recent data on stroke care lists the following number and types of designated stroke centers in Kentucky:

- 16 Acute Stroke Ready Hospitals
- 19 Primary Stroke Centers
- 1 Thrombectomy-Capable Stroke Center
- 4 Comprehensive Stroke Centers

Despite State destination guidelines, EMS agencies still typically transport patients to the closest hospital due to geographic barriers and distance to specialty care centers. This practice results in significant delay in patient transfer to specialty care centers.

Diversion in rural Kentucky is locally driven and cannot be easily implemented

effectively due to travel distances to other hospitals. Diversion is more likely to occur in large metro areas with multiple emergency care facilities available. In those cases, individual hospital policies determine the circumstances for initiating a diversion and alerting EMS and other facilities. In times of patient surge impacting multiple facilities, board staff collaborates with the Department for Public Health's Preparedness Branch to track bed availability, facilitate patient movement, optimize resources, and recruit additional resources when needed.

Recommendations

The General Assembly should:

- **Identify a consistent funding source for the Kentucky Trauma Program passed by the General Assembly in 2008.**

The Board should:

- **In collaboration with partners, identify and encourage Kentucky hospitals with the capability and capacity to become specialty centers (e.g., cardiac, trauma, stroke).**
- **Develop a comprehensive quality improvement plan monitoring destination transport metrics.**
- In collaboration with partners, assure transfer agreements for specialty care are in place for all Kentucky hospitals.

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.

Progress on the 1991 Recommendations

SCIP created January 2017 with most recent review in July 2024.

Adoption of national interoperability frequencies – VHF, UHF, 700mHz, and 800mHz.

All counties facilitate 911 services.

Currently, the Board does not have an EMS communications consultant or position within its staff. Due to various reorganizations, it is unclear if the Board ever had a dedicated EMS communications consultant.

Mutual Aid system defined in SCIP and KYFOG documents and 202 KAR 7:555.

No know such statutory or regulatory requirement exists to institute a standard Emergency Medical Dispatcher program.

Addressing is the responsibility of local governments to control within their respective geographical areas. It is unclear if any requirements beyond local authorities address or require any such coordination.

Kentucky Office of Homeland Security has funded numerous communications equipment grants for EMS service providers and continues to do so through competitive grants annually.

The Board block annual block grant funding can be utilized for communications equipment; however, there is no mandated requirement to do so. Furthermore, the annual block grant has not been adjusted in its annual amount since its inception and only provides a limited amount of funds.

Status

All Kentucky counties are presently served by 911, utilizing 117 public safety answering points (PSAPs), including seven that are multi-jurisdictional. While all 911 calls enter a PSAP, some calls are transferred to secondary PSAPs for the purpose of dispatching.

Kentucky supports statewide next generation 911 (NG911) technology, including tactical mapping with GIS data, to provide accurate call location. Soon, the Commonwealth will provide IP connectivity and geospatial call routing to all Kentucky PSAPs, which will improve response times by reducing the need for call transfers.

The State's 911 Services Board provides funding from telephone service fees to PSAPs for equipment and new technologies, such as NG911 support. The 2020 version of the NG911 Road Map provides information regarding statewide NG911 implementation, which allows for more accurate call location and receipt of texts, images and videos by 911 telecommunicators.

Nearly every PSAP in Kentucky employs computer-aided dispatching (CAD) that can automatically populate relevant timestamps and data into an electronic patient care report. However, automated CAD interfaces have not been implemented, nor required by regulation or statute. The lack of auto-populated incident times can result in inaccurate data within the patient care report.

The Board obtained statutory authority to certify PSAPs/emergency medical dispatch centers and their dispatchers in 2018. However, regulations have not been promulgated for either. Separate statutes require law enforcement dispatch centers to provide telecommunicator CPR (T-CPR). While this is a component of EMD, it should not be

accepted as a full EMD program.

Prioritized medical dispatching is used in some systems and allows a more efficient use of resources, however, it is not the standard practice. The lack of priority medical dispatching results inefficient use of resources and possible delays in care.

PSAPs are responsible for providing a radio system or channel to the EMS agencies operating within their service area. While these systems are adequate for local operational needs for many agencies, interoperability is challenging when agencies need to enter surrounding jurisdictions or one of the seven bordering states. Of the 117 PSAPs, almost all EMS communications systems operate on different bands and frequencies, some of which are not compliant with Federal and State guidelines or standards. Interoperability is achieved through the use of specified UHF, VHF, 700 MHz and 800 MHz channels, as listed in the Kentucky Field Operations Guide (KYFOG) and as defined in Kentucky's Statewide Communication Interoperability Plan (SCIP), which guides interdepartmental communications across the Commonwealth. Kentucky is also currently constructing the Kentucky Statewide Emergency Responder Voice System (KY SERVS), a statewide trunked radio system for first responders and public safety officials and it will establish county and statewide talk groups specifically allocated to the EMS system.

Another challenge facing the State's EMS system is pre-arrival notification to hospital facilities. EMS agencies should provide a report by two-way radio or cellular phone prior to arrival at the destination facility. Due to geographic terrain and technological limitations this is not practical in many areas.

Recommendations

The General Assembly should:

- Require the use of emergency medical dispatch (based on national standards) and implement prioritized dispatching protocols in all PSAPs that dispatch EMS.

The Board should:

- **Create and implement a process to certify or license emergency medical dispatchers, emergency medical dispatch instructors, emergency medical dispatch instructor trainers, as well as emergency medical dispatch centers or public safety answering points, as provided in statute.**

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

- Conduct a gap analysis of cellular and land mobile radio (LMR) coverage statewide and use the data obtained to develop a statewide protocol for pre-arrival notification to destinations.

- Conduct a gap analysis to identify any deficiencies in radio communication interoperability and continue to collaborate with the KY State Police on the KY SERVS project.

- Collaborate with partners to consider the regionalization of PSAPs.

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.

Progress on the 1991 Recommendations

There is significant variation in trauma-related mortality across counties in Kentucky. The precise mechanisms of death and, therefore, process improvement opportunities across the trauma system are not apparent because the trauma system data are so limited and fragmented.

Kentucky has a statewide trauma data bank, and all trauma centers use trauma registries that comply with the NTDB standard. The University of Kentucky's Injury Prevention Research Center (KIPRC) has contracts with the State and Kentucky Transportation Cabinet to handle hospital admissions and discharge data collected by the Kentucky Hospital Association and crash data collected by the Kentucky Highway Safety Program. KIPRC routinely completes reports and studies on injury data, found on the KIPRC website in their Resources section. As noted above, copy of the latest Kentucky Trauma Data Bank Annual Report for 2022 is located on the KIPRC website.

The trauma community leaders are engaged and motivated to provide clinical expertise, education, critical peer review, and process improvement. These individuals serve the State's hospitals and EMS agencies, and many of them serve on the Kentucky Trauma Advisory Committee. Unfortunately, these volunteers and the trauma system's leadership lack the time and authority to implement change.

As mentioned above, there is no formalized system-wide performance improvement or peer review outside of individual EMS agencies and hospitals. Each trauma center has a PI/Quality Assurance process and committee and an M&M Committee when needed. As noted elsewhere, most trauma centers will invite the pre-hospital providers to

participate with them in their meetings as part of "loop closure" related to patients delivered by a pre-hospital provider, but some services participate, and some do not.

Kentucky's Office of the State Medical Examiner is not often forthcoming with autopsy reports from the perspective of the trauma centers. Due to patient privacy and protected health information rules, the Kentucky Trauma Data Bank (KTDB) contains no patient identifiers, so no autopsy reports or findings on the KTDB exist. Ultimately, while many of the trauma center's Process Improvement committees may reach out to the local coroner to request a copy of their report for a trauma-related death, most are often not forthcoming with autopsy reports.

Kentucky does not have a community-wide, system-based quality assurance program under the Board. While the Kentucky Hospital Association has a Quality and Process Improvement focus area that hospitals can participate in, educational webinars and programs on quality assurance programs, and quality conferences, they all fall significantly short of qualifying as a community-wide, system-based quality assurance program as EMS agency often do not participate.

Status

As of August 2024, there are 24 designated trauma centers in the Commonwealth of Kentucky:

- 2 - Level I Adult Trauma Centers
- 2 - Level I Pediatric Trauma Centers
- 1 - Level II Trauma Center
- 3 - Level III Trauma Centers
- 15 - Level IV Trauma Centers

ACS verification is utilized for designation of Level I, Level II and Level III trauma centers. A defined State process is used for the designation of Level IV trauma centers. As of this writing, 14 additional hospitals in the State are working toward trauma center designation.

Verified trauma centers must have written transfer protocols and agreements. Most hospitals in Kentucky are not trauma centers, and such transfer agreements do not consistently exist. In addition to trauma centers located within the State, Kentucky also relies on trauma centers located in neighboring states. There is currently no financial support for hospitals serving as or seeking trauma center designation.

The statewide trauma system is overseen by the Kentucky Trauma Advisory Committee which consists of 19 volunteer members representing stakeholder groups within the trauma community. Day-to-day activities are overseen by a State Trauma Director, although this position is funded through a grant from a different agency. Advisory committee members are engaged and motivated to provide clinical expertise, education,

critical peer review, and process improvement. Unfortunately, these volunteers and the trauma system's leadership lack the authority to implement change.

Kentucky has a statewide trauma data bank, and all trauma centers use trauma registries that comply with the NTDB standard. The University of Kentucky's Injury Prevention and Research Center (KIPRC) has contracts with the State and Kentucky Transportation Cabinet to handle hospital admissions and discharge data collected by the Kentucky Hospital Association and crash data collected by the Kentucky Highway Safety Program. KIPRC routinely completes reports and studies on injury data, found on the KIPRC website in their *Resources* section.

Kentucky has embraced the 2021 “National Field Trauma Triage Guidelines for EMS” to help identify patients that require transport to a trauma center. Transfer agreements and protocols are required for designated hospitals but appear to be fragmented, with compliance difficult to track. The State does not have the authority to set destination guidelines for EMS as that is the responsibility of each EMS agency medical director.

The Kentucky trauma system has improved, but is not yet fully functional. Basic concepts and structure exist in regulation, but there is no consistent funding source to support ongoing efforts. The State trauma system has one staff member, the State Trauma Director, who is funded indirectly through a short-term preparedness grant by the Department for Public Health. There is also no funding for additional staff to support the State trauma registry, data analytics, or any system-wide performance improvement. Because of trauma registry limitations and the lack of trauma system staffing, there is no routine monitoring of trauma transfers, performance improvement or quality assurance on a system-wide basis. The Kentucky Trauma System’s motto is “right patient, right care, right time,” but there is little data to verify that this is actually happening.

Mortality caused by injury in Kentucky is far higher than in other states. Opportunities for improvement, given the current situation, are non-existent beyond a few isolated injury types as staffing and data resources are insufficient to drive meaningful change.

Recommendations

The General Assembly should:

- **Provide a continuous funding stream for the State trauma system. This should include funding for a State Trauma Director and sufficient staff to oversee the day-to-day operation of the State trauma system.**

The Trauma Program should:

- **Facilitate collection and analysis of State trauma data on a regular basis to drive statewide performance improvement efforts.**

- Encourage Kentucky hospitals, with the capability and capacity, to become designated trauma centers.

- In coordination with the Board, encourage non-trauma centers in Kentucky to have standardized criteria in place for the recognition and immediate transfer of injured patients that require trauma center care. Transfer agreements should be in place and available to the State trauma system.

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.

Progress on the 1991 Recommendations

Since 2014, the Board has hosted three EMS Leaders In Kentucky Summits in collaboration with the Kentucky Office of Rural Health. These are one- and two-day educational offerings for EMS leaders and aspiring leaders alike. Topics have included "Dealing with the Difficult Employee," "Team Building," "Recruitment & Retention," and "Servant Leadership."

As of 2024, the Board appointed a workforce committee to evaluate the extent of the shortages and develop an action plan to alleviate them. This committee is still in its infancy but is slated to develop information and education material focusing on personnel recruitment and retention.

While Board staff has focused some effort on providing information on the current State of EMS and building public support for it, no well-designed programs are currently in operation that target support beyond the local legislative levels.

The Highway Safety Office provides educational programs for occupational protection, impaired driving, distracted driving, pedestrian/bicycle safety, and motorcycle safety. These educational programs are provided throughout the State and on a year-round basis.

Participation in years past is unknown; however, active involvement is not currently being done due to staffing shortages and other implications from the recent reorganization of the State EMS office.

The Kentucky 911 Services Board is responsible for promoting the development of 911 communications infrastructure in the Commonwealth. The Board does not provide direct oversight for 911use education programs.

Since its inception, the Board has seen several EMS logo changes, the most recent occurring in 2022 with the Board's realignment back into State government. No other statewide EMS logo exists.

Before the structural reorganization of the Board, Board staff produced an annual report that was available in both print & digital formats on the Board's website. This report highlighted each year's Board, committee, and Board office accomplishments and provided statistical analysis of the robust data available from EMS agencies in Kentucky. This publication was another opportunity to recognize high-performing agencies in areas such as pediatric emergency care and cardiac care through the American Heart Association's Mission: Lifeline Program. However, with the loss of the Board's marking specialist in 2021, this task is not currently being fulfilled due to staffing restraints.

While the Board does not currently produce a newsletter, Board staff does conduct a monthly EMS Administrators call and quarterly training and education institution administrators calls to provide a platform for information sharing. Board staff does plan to reimplement a newsletter, however, time for implementation has not been identified. Board staff does plan to reimplement the publishing of the Annual report in 2024.

Active participation with other agencies has yet to be clearly noted and is not currently being done beyond the Kentucky EMS for Children Program (KYEMSC) due to staffing shortages and other implications from the recent reorganization of the State EMS office.

The Kentucky EMS for Children Program (KYEMSC) has been active since 1996. Since its inception, our program has focused on developing and sustaining the Kentucky EMSC initiative within the hospital and EMS systems by working toward the fulfillment of the Performance Measures (PM) established by the federal EMSC program under the Health Resources Services Administration (HRSA) and the Maternal and Child Health Bureau (MCHB). The KYEMSC Program actively collaborates with many partner organizations involved in injury prevention, child advocacy, and preparedness activities, including State and county Safe Kids Coalitions, the Kentucky Safety, Prevention & Alignment Network (KSPAN), State Child Fatality Review Board, the State Sudden Unexplained Infant Death team, and the DPH Hospital Preparedness Program and Healthcare Coalitions.

While participation has been noted in years past, active involvement is not currently

being done due to staffing shortages and other implications from the recent reorganization of the State EMS office.

Status

While the Board does not directly provide public information and education programs, it does support the Office of Highway Safety in providing educational programs for occupational protection, impaired driving, distracted driving, pedestrian/bicycle safety, and motorcycle safety. These educational programs are provided throughout the State and on a year-round basis. The Highway Safety Office also participated with law enforcement in national driver safety awareness campaigns such as “Drive Sober or Get Pulled Over” and “Click It or Ticket.”

The Kentucky EMS for Children Program (KYEMSC) has been active since 1996 and has focused on developing and sustaining the Kentucky EMSC initiative within the hospital and EMS systems. The KYEMSC Program actively collaborates with many partner organizations involved in injury prevention, child advocacy, and preparedness activities, including State and county Safe Kids Coalitions, Pediatric Readiness Program, Pediatric Pandemic Network, the Kentucky Safety, Prevention & Alignment Network (KSPAN), State Child Fatality Review Board, the State Sudden Unexplained Infant Death team, and the DPH Hospital Preparedness Program and Healthcare Coalitions.

Recommendations

The Board should:

- Continue to provide pre-hospital EMS data to KOHS.
- Encourage EMS agencies to participate in local public information and education activities such as “Stop the Bleed” and “Citizen CPR.”
- Continue to collaborate with the KOHS on programs such as distracted driving, impaired driving, occupant protection, and traffic safety awareness.

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 clinicians 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.

Progress on the 1991 Recommendations

A State chapter of the National Association of EMS Physicians was developed in 2023 with around 20 members. The group is not affiliated with or supported by the Board or any other State agencies. The Kentucky Chapter of the American College of Emergency Physicians (ACEP) also has an EMS section.

Currently, a proposed revision to the medical director regulation includes the establishment of a Board-sponsored Regional Medical Director Council, but at the time of this report, this initiative has not been adopted as a formal recommendation or received formal action by its host committee.

In addition to possessing an unrestricted medical license, Kentucky medical directors must be either Board certified in Emergency Medicine through the American Board of Medical Specialties or the American Association of Physician Specialists or obtain ATLS (or BTLS or PHTLS for BLS service medical directors), ACLS, and PALS or PEPP.

A proposed revision of the Medical Director regulation (202 KAR 7:801) would require EMS medical directors to undergo additional specific training depending on the physician's certification or specialty training and include a yearly EMS education requirement for all medical directors.

EMS medical directors are responsible under current regulations for "Developing, implementing and maintaining a quality improvement program for continuous system and patient care improvement." All training and education institutes (TEI's), which are the authorized providers of EMS education in Kentucky, must have a physician medical director. Unfortunately, like in other areas, there is currently no mechanism for ensuring or monitoring the involvement of a local medical director in developing a QA system or in the education of EMS clinicians.

No published information or handbook exists for medical directors in Kentucky. The Board's website links to the 2012 FEMA Handbook for EMS Medical Directors, and a "Legal" section contains links to EMS statutes and regulations, among them the medical director regulation. The licensure and education requirements for becoming a medical director are listed on the application form. No formal guidelines or education are available statewide for medical directors.

EMS medical director support is highly variable. In many cases, the medical director performs EMS medical director's tasks at little or no charge. No standard exists for EMS medical director compensation in Kentucky. Kentucky's largest EMS services compensate the medical director at a rate of under 0.3 physician FTE based on average US EM physician compensation. Data support and clerical support are generally minimal. Medical directors often, but not universally, have access to their service's electronic medical record. Medical director accessibility to data tools such as monitor case review software is a tiny minority (under 10% based on conversation).

Status

In Kentucky, medical direction serves as a cornerstone for ensuring high-quality pre-hospital care across the State. While there is no State EMS Medical Director, the Board contracts with a physician medical advisor whose duties include protocol oversight and approval and participation in select Board activities including the Medical Oversight Committee. However, this role lacks the needed capacity and authority to comprehensively address statewide clinical coordination, lead QI initiatives, and serve as the clinical lead for development of statewide systems of care.

Medical directors at the agency level have broad authority and responsibility for the delivery of quality care. Medical directors are responsible for protocol development and adoption, EMS clinician education and credentialing, and development and oversight of an agency QI program. Medical directors have few requirements to serve in the position and there is great variability across the State in medical director activity and engagement.

While protocol adoption is the purview of the agency medical director, the State provides a set of statewide protocols that can be adopted for use. Despite the availability of these protocols, less than half of agencies have adopted them. Testimony

highlighted the lack of timely update of the protocols as a possible contributor to such low adoption. These protocols have recently undergone comprehensive updating and will require continued maintenance to remain current clinically.

The statewide protocols contain triage destination criteria for time-sensitive emergencies (e.g., trauma, STEMI, stroke) and sexual assault. However, due to the State's rural nature, diverse geographic conditions and hospital capabilities, utilizing this destination protocol is challenging. Transport destination decisions would be best addressed at the regional level to ensure appropriate utilization of scarce resources.

The Medical Oversight Committee under the Board serves in an advisory role for topics regarding scope of practice and other clinical issues. The Committee has EMS clinician and physician members, however, there does not appear to be broad representation from either the diverse geographic or general medical director community. Some recent work of the Committee included the development of expanded scopes of practice and licensure of the Advance Practice Paramedic in wilderness, tactical, and community paramedicine.

Online medical control (OLMC) has traditionally been a mainstay of EMS systems but continues to be a challenge in some areas. There was testimony noted that challenges to OLMC include geography precluding use of cellular or radio networks, ER physicians not having an adequate understanding of the role of OLMC, and EMS clinician lack of orientation to OLMC resources and processes.

Physician assistants and nurse practitioners cannot replace the role of a physician medical director but may be an additional resource to enhance medical director activities. This may be pertinent in both small rural and large urban EMS systems. However, current regulations are silent on the role of non-physician participation in medical direction.

Controlled substance oversight is not outlined in Board rules and agencies follow the Federal Drug Enforcement Administration (DEA) registration and regulation requirements. There seems to be some discrepancy across the State with some agencies registering as an agency license while others registering under the medical director practitioner license for the agency. Anticipated updates to the Federal DEA rules will need to be monitored and necessary rules promulgated to help with any new compliance requirements.

Recommendations

The General Assembly should:

- **Expand role, authority, and funding for the Board Medical Advisor to oversee statewide QI initiatives, interface with agency medical directors, and oversee general systems of care development.**

The Board should:

- **Develop and require State specific medical director education including continuing education requirements for all physicians not maintaining board certification in EMS.**

- **Investigate benefit to regionalized approach to medical direction through regional medical direction councils and regional protocols, including destination protocols.**

- Continuously update statewide protocols and reinforce the benefit of agency adoption.

- Outline role of Physician Assistant/Nurse Practitioner in medical direction.

- Recognize the American Board of Osteopathic Emergency Medicine (ABOEM) board-certification as a qualifying medical director credential.

- Develop training for physicians providing Online Medical Control (OLMC) or centralize OLMC to regional centers.

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.

Progress on the 1991 Recommendations

Preparedness was not assessed in 1991. No recommendations were provided.

Status

Since 2002, the Kentucky Department for Public Health (KDPH) has served as the lead agency for Emergency Support Function (ESF) #8 – Public Health and Medical Services for the Commonwealth of Kentucky. The KDPH Emergency Preparedness and Response Branch (EPRB) is responsible for supporting the health and medical preparedness, response, and recovery in the Commonwealth.

The mission of the Kentucky Health Care Coalitions (HCCs) is to enhance disaster preparedness, response, and recovery of the Commonwealth's healthcare and

emergency response system. Kentucky's Healthcare Preparedness Program (HPP) and HCCs have adopted a community-based approach to emergency and disaster preparedness, response, and recovery. HCCs serve as multiagency coordinating groups that support and integrate with ESF #8 activities in jurisdictional incident command systems (ICS).

At the State ESF #8 and EPRB programmatic level, the Board has been a stakeholder partner supporting preparedness, response, and recovery activities and is listed as a primary agency in Kentucky's ESF #8 annex to the Commonwealth's Emergency Operations Plan.

HPP is in the planning phase of establishing a more formalized Medical Operations Coordination Center (MOCC) within ESF #8 and the State Emergency Operations Center to assist hospitals with bed placement and load-balancing. The Board and local EMS agencies will be involved in this planning as Kentucky moves forward. In a State-level disaster event, the Board will be needed as an integral part of the MOCC as it relates to EMS and patient movement.

Other MOCC initiatives include the Pediatric Pandemic Network (PPN), hosted by Norton Children's Hospital at the University of Louisville. The PPN is working to establish a Pediatric MOCC (PMOCC) and coordinate efforts with HPP and HHCs to increase pediatric readiness within Kentucky as well as the seven other Region IV states.

KDPH and all stakeholder agencies, including the Board, have a multitude of emergency response plans. KDPH has long adopted an all-hazards approach to planning for disasters and maintains the Kentucky ESF #8 Public Health and Medical Services Annex to the Commonwealth's Emergency Operation Plan. This plan was recently updated with advice and guidance from all stakeholders. In addition, KDPH maintains numerous specialty plans for disease outbreaks, high consequence infections, and CBRNE response as well as medical, burn, infectious disease and pediatric surge. In addition to these plans, the Board has board-approved protocols for EMS assessment, triage, and transport of patients during a disaster, but these must be formally adopted at the local agency for implementation.

Under the leadership of the KDPH EPRB, the Commonwealth of Kentucky has established a robust, comprehensive healthcare disaster response system and has emerged as a leader in Region IV through its collaborations with the Region IV Unified Planning Committee, the Southern Regional Disaster Response System based at Emory University School of Medicine, and the two Regional Emerging Special Pathogens Treatment Centers, based at Emory University in Atlanta, Georgia and University of North Carolina Medical Center in Chapel Hill, North Carolina.

Recommendations

The Board should:

- Collaborate with KDPH to establish a vision and strategy for enhancing the preparedness of the Kentucky EMS system.

- Formally support statewide adoption of the ReadyOp initiative and encourage all EMS agencies to utilize ReadyOp to improve patient tracking.

- Work cooperatively with KDPH to address load management issues during surge events and jointly participate in a statewide exercise.

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.

Progress on the 1991 Recommendations

KRS 311A.190(8), contains some protections for data or records regarding evaluation of medical care, however, it is unclear how far the protection goes beyond the Board or its contactors.

Kentucky Administrative Regulation 202 KAR 7:555 and 202 KAR 7:510 requires ALS, BLS, Air Ambulance agencies to adopt a written plan for the quality assessment of patient care and provider quality improvement, including a monthly review of patient care reports and evaluation of staff performance related to patient care. This plan shall address as a minimum:

1. Employee health and safety;
2. Compliance with protocols and operating procedures;
3. Assessment of dispatch protocols;
4. Vehicle operations and vehicle safety;
5. Additional training necessary for the patient care clinician or clinicians;
6. Equipment preventive maintenance programs; and
7. A process for the resolution of customer complaints.

There are no current QA requirements for dispatch centers under the Board.

As noted in the Trauma section, data collection and trauma registry definitions and requirements are established in 902 KAR 28:040. The Kentucky Trauma Data Bank (KTDB) was established under Kentucky Regulation 902 KAR 28:040. Data gathered complies with the National Trauma Data Bank (NTDB) standards. However, as noted, we believe the Commonwealth falls short of ensuring all seriously ill or injured trauma patients are input into this system.

QA activities are required at the local level and not directly performed by the Board or Board staff. As these activities occur local, all QA related continuing education is not currently regulated by the Board and left for the local agency administration to perform.

Initial training and continuing education for clinicians required for State certification and licensure is driven primarily by national standards, recommendations, State statue, and regulation. The specific Kentucky required courses are one (1) hour courses in human immunodeficiency virus and acquired immunodeficiency syndrome, pediatric abusive head trauma, and awareness of sexual violence.

All EMS agencies licensed in Kentucky are submitting NEMSIS-compliant data into the Kentucky State Ambulance Reporting System (KStARS) either by direct- entry or via webservice from their chosen ePCR software.

Obtaining hospital eOutcomes data for backfilling PCRs in State EMS repositories has been notoriously difficult nationwide. Instead, the Board shares EMS data with the Kentucky Injury Prevention and Research Center (KIPRC), and the Kluger

Transportation Research Group housed at the University of Louisville, and those entities are more successful at linking and combining the individual data portions together.

The Board has created a robust set of new Validation Rules specifically for the transition to the v3.5 DataSet, based upon the shortcomings discovered when analyzing the quality and inconsistency of v3.4 data collected in Kentucky. The v3.5 Schematron based upon those rules, and associated, relevant, Kentucky Administrative Regulations, are the foundation of an improved EMS data quality initiative in Kentucky.

Status

The Board oversees the Kentucky State Ambulance Reporting System (KStARS) to collect NEMSIS-compliant EMS data with all licensed EMS agencies contributing to the NEMSIS v3.5 dataset. This ensures Kentucky maintains a comprehensive repository of pre-hospital care information. The Trauma Registry is maintained by the Kentucky Hospital Association and is funded mostly by grant funding and donations. There are also stroke and STEMI data repositories held throughout public health. Despite robust data collection, the Board, however, has yet to fully leverage this data to enhance statewide protocol updates or drive systematic quality improvement (QI) initiatives.

Kentucky is a CARES (Cardiac Arrest Registry to Enhance Survival) State providing essential insights into cardiac arrest outcomes and EMS performance. CARES participation allows for the monitoring of key metrics such as return of spontaneous circulation (ROSC), survival to hospital admission, and survival to hospital discharge. It also reports pre-hospital interventions like bystander CPR and AED use highlighting benefit of dispatch provided CPR and public AED availability. Lastly, it benchmarks performance at local, State, and national levels, helping EMS agencies identify opportunities for improvement. This initiative is in its early stages and coordination and funding will be needed going forward to ensure its success.

Additional data analysis and linkage occurs with partnerships between the Kentucky Hospital Association, the Board and the Kentucky Injury Prevention and Research Center (KIPRC) as well as the Kluger Transportation Research Group where the NEMSIS dataset, trauma registry and CRASH datasets are integrated and analyzed. While these integrations hold promise for comprehensive system evaluations, their application in guiding statewide policy or operational decisions remains underdeveloped.

Key Board committees play a role in system development and clinical oversight. The Cardiac and Stroke Care Subcommittee focuses on improving outcomes in time-sensitive emergencies like cardiac arrest, STEMI and stroke and serve as an advisory role to the Medical Oversight Committee. The Emergency Medical Services for Children (EMSC) Advisory Committee ensures pediatric patient care aligns with best practices. These committees contribute to targeted improvements but face limitations in achieving system-wide impact due to the absence of a centralized framework for data analysis and QI.

The Board has representation on the Heart Disease and Stroke Prevention Task Force under the Department for Public Health. This taskforce has developed a strategic plan for the next 4 years and oversees the Stroke Encounter Quality Improvement Project (SEQIP). This project has identified the lack of NEMSIS dataset linkage to the Get With The Guidelines - Stroke (GWTG-S) registry. Coverdale grant funding has been used to work on this linkage with promising success. Further integration of this data needs to be pursued and then utilized to guide destination and treatment protocols.

Statewide QI efforts in Kentucky remain fragmented. Individual EMS agencies perform most QI activities locally, leading to inconsistent tracking of critical performance metrics, hospital destination compliance, adherence to clinical protocols, and limited coordination of QI initiatives across regions, particularly in rural areas with resource constraints.

Partnerships with organizations like KIPRC, Kluger Transportation Research Group, and the Kentucky Department for Public Health enable the Board to support public safety campaigns informed by EMS data. These initiatives focus on injury prevention and community awareness but rely heavily on external resources. Strengthening the Board's internal capacity for data analysis and public engagement could enhance these efforts significantly.

Data submission to State registries is only required by designated facilities and the full impact and occurrence of time sensitive conditions may not be captured. In addition, patients transported directly to out-of-state specialty care centers are lost to data analysis.

Recommendations

The General Assembly should:

- **Ensure funding and adequate staff for continued CARES participation.**
- **Require all hospitals, regardless of designation status, to submit patient data to trauma, STEMI, stroke, and CARES registries.**

The Board should:

- **Develop a statewide QI Framework utilizing agency and statewide datasets to evaluate the effectiveness of current treatment protocols and destination protocols.**
- Increase use of integrated data analysis from KIPRC, Kluger Transportation Research Group, and SEQUIP to drive protocol development and further QI initiatives.
- Leverage CARES data more extensively to inform statewide QI efforts focused

on cardiac arrest management, bystander CPR rates, survival outcomes and trends for targeted interventions.

- Implement data analysis program such as Biospatial for NEMSIS data analysis and dashboard development. Distribute agency level dashboard data to respective agencies.
- Establish regional QI processes to address disparities in care delivery and transport decisions.
- Provide training and technical assistance to EMS agencies on analyzing and acting on CARES, Biospatial, and other performance data.
- Develop public-facing dashboards highlighting key EMS metrics, including CARES, trauma, STEMI and stroke outcomes, to foster transparency and engage communities in improvement efforts.

L. CURRICULA VITAE

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State EMS Director (ret.)
Georgia Office of EMS and Trauma
(2010- 2019)
(1990-1996)

Executive Director
Minnesota EMS Regulatory Board
(1996-1998)

ORGANIZATIONS/APPOINTMENTS/AWARDS

Past president, National Association of State EMS Officials- 2016-2010
NREMT EMS Physician Fellowship Course Faculty - 2012 – Present
Federation of Association of Regulatory Boards- Member- 2014-2019
National EMS Museum- Board of Directors- 2018-2020
Interstate Commission for EMS Personnel Practice- Member- 2016- 2019
Joint National EMS Leadership Forum- Chair- 2016- 2019
Governor's Public Safety Award for Outstanding Contributions – 2013
Dr. John B. O'Neal, Ill Pioneer Award – 2007
Georgia Association of EMS Chairman's Award – 2008
USDOT, NHTSA, EMS Assessment and Reassessment Program, Technical Assistance Team Member, States of Tennessee, South Carolina, Ohio, Indiana, South Carolina (reassessment), New Hampshire and Hawaii.

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Idaho EMS Physician Commission
Idaho Bureau of EMS and Preparedness
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ORGANIZATIONS/APPOINTMENTS

American College of Emergency Physicians (ACEP), Fellow
President, Idaho Chapter 2004-2009
American Board of Emergency Medicine, Diplomate,
EMS Sub-specialty
National Association of EMS Physicians (NAEMSP)
Fellow, Academy of EMS
National Association of State EMS Officials (NASEMSO)-Medical Director Council
Air Medical Physician Association
National EMS Management Association
Chair, Idaho Time-Sensitive Emergencies Southeast Region Committee
Idaho Time-Sensitive Emergencies Council, Southeast Region Representative
Lead EMS Instructor, College of Southern Idaho EMS Program, Twin Falls, ID
Medical Director for several 911, air medical, tactical and wildland fire agencies.
Medical Director, College of Southern Idaho EMS program, Twin Falls, ID
Medical Director, Idaho State University College of Technology, Pocatello, ID
Tactical Physician, Bannock County Sheriff, Southeast Idaho STAR,
Affiliate Clinical Faculty, Idaho State University, Pocatello, ID
Clinical Faculty, University of Washington School of Medicine
Associate Medical Director, NMETC, West Bridgewater, MA
Consultant, SafeTech Solutions, LLP –

- Principal Author – A Guide to Medical Direction in North Dakota
- Principal Author – A Guide to Medical Direction in South Dakota

PALS Training Center Development, Tblisi, Republic of Georgia, 2014
Georgia Rural Focus Trauma System Consultation, ACD COT
USDOT, NHTSA, EMS Reassessment Program, Technical Assistance Team Member, States of Oklahoma, Missouri, Ohio, Wyoming, Alaska, Iowa, Indiana, South Carolina, Georgia, and Hawaii.

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ORGANIZATIONS/APPOINTMENTS/AWARDS

National EMS Advisory Council (NEMSAC- NHTSA/DOT)
Member: November 2021- present
American College of Surgeons, Committee on Trauma (ACS-COT)
National Committee member: March 2017- March 2023
Chair- Stop the Bleed Steering Committee: March 2018- March 2022
Chair- EMS/Prehospital Committee: October 2015 - March 2020
American Association for the Surgery of Trauma (AAST)
Chair- Disaster Committee: September 2020 – September 2023
New York State Committee on Trauma, (ACS-COT)
Chair: 2011- 2017
Vice Chair: 2006 - 2011
New York State Trauma Advisory Committee (STAC)
USDOT, NHTSA, EMS Assessment and Reassessment Program
Technical Assistance Team Member - New Hampshire
2023 Surgeons' Award for Service to Safety - National Safety Council
2020 Federal Bureau of Investigation Director's Community Leadership Award
2012 New York State Trauma Physician of Distinction

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ORGANIZATIONS/APPOINTMENTS

Deputy Director of Human Resources, Mississippi Department of Health
Past President, National Association of State EMS Officials
Former Program Director, Mississippi Department of Health
Former Member, Mississippi State Traffic Records Coordinating Executive Committee
Former Operations Chief, Health Responses Team, Mississippi Department of Health70
Former Commissioner, Interstate Commission for EMS Personnel Practice
Former Board Member, International Board of Specialty Certifications
Former Board Member, National Registry of EMT's Board of Directors
Former Council Member, Mississippi ESF 8 Healthcare Coalition
Former State Program Director, Mississippi Department of Health
Former Board Member, National Association of State EMS Officials
Staff, Mississippi Medical Direction, Training and Quality Assurance Committee
Staff, Mississippi Emergency Medical Services Advisory Council
Member, Mississippi Public Health Association

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Division of Healthcare Quality and Safety
Rhode Island Department of Health

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ORGANIZATIONS/APPOINTMENTS

Rhode Island Department of Health Chief, Center for Emergency Medical Services, *2010-present*
National Association of State EMS Officials, President-Elect, *2023-present*
National Association of State EMS Officials, Secretary, *2021-2023*
National Association of State EMS Officials, Executive Committee and Board of Directors, *2020-present*
National Association of State EMS Officials, East Region chair and Board of Directors, *2016-2021*
National Association of State EMS Officials, Program Committee, *2017-present*
National Association of State EMS Officials, By-Laws Committee chair, *2023*
National Association of State EMS Officials, New State EMS Officials Orientation co-chair, *2022-present*
FirstNet Public Safety Advisory Committee member, *2022-present*
FirstNet Health and Wellness Coalition member, *2022-present*
Department of Health Tactical Communications Coordinator, *2018-present*
Department of Health, Health and Safety Committee co-chair, *2019-present*
Department of Health, Building Emergency Safety Team leader, *2019-present*
Rhode Island Governor's Overdose Prevention and Intervention Task Force member, *2015-present*
Rhode Island Ambulance Service Coordinating Advisory Board, *2016-2019*
Rhode Island Trauma System Advisory Committee co-chair, *2022-present*
Rhode Island E-911 Uniform Emergency Telephone System Advisory Commission member, *2011-present*
Rhode Island Interoperable Communications Committee, *2018-present*
Rhode Island Special Senate Committee on Emergency Room Diversion, *2012-2013*
Rhode Island Stroke Task Force member, *2010-present*, co-chair, *2024*
Rhode Island EMS for Children principal investigator, *2019-2023*
Rhode Island Heart Disease and Stroke Prevention steering committee member, *2011-present*