

**STATE OF KANSAS
AN ASSESSMENT
OF
EMERGENCY MEDICAL SERVICES**

April 12 - 14, 1994

National Highway Traffic
Safety Administration
Technical Assistance Team

Bob W. Bailey
Rick Buell
Kenneth E. Cole
Valerie A. Gompf
Ameen Ramzy, MD, FACS
Robert A. Swor, DO, FACEP

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BACKGROUND

Injury is the leading cause of death for persons in the age group 1 through 44. Each year nearly 50,000 people lose their lives on our nation's roads, and approximately 70 percent of those fatalities occur on rural highways. The National Highway Traffic Safety Administration (NHTSA) is charged with reducing accidental injury on the nation's highways. NHTSA has determined that it can best use its limited resources if its efforts are focused on assisting States with the development of integrated emergency medical services programs that include comprehensive systems of trauma care.

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

The Kansas Department of Health and Environment (KDHE), the Board of Emergency Medical Services, in concert with the Kansas Department of Transportation, Office of Traffic Safety requested the assistance of NHTSA. NHTSA agreed to utilize its technical assistance program to provide a technical evaluation of the Kansas statewide EMS Program. NHTSA developed a format whereby the Kansas Department of Health and Environment and the Board of Emergency Medical Services provided comprehensive briefings on the EMS system based on an outline developed by the Technical Assistance Team.

The Technical Assistance Team assembled in Topeka, Kansas on April 12, through April 14, 1994. For the first day and a half, over 30 presenters representing various components of the EMS system in the State of Kansas, provided in-depth briefings on emergency medical services and trauma care in Kansas. Topics for review and discussion included the following:

General Emergency Medical Services Overview
of System Components

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

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

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

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

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

Bob Bailey

Rick Buell

Kenneth E. Cole

Ameen Ramzy, MD, FACS

Robert A. Swor, DO, FACEP

ACKNOWLEDGMENTS

The Technical Assistance Team would like to acknowledge the Kansas Department of Transportation, Office of Traffic Safety, the Kansas Department of Health and Environment and the Kansas Board of Emergency Medical Services for their support in conducting this assessment.

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

Special recognition should be made regarding the efforts taken by Bob McDanel, Administrator for the Board of Emergency Medical Services and staff, and the briefing participants for their forthright presentations. In addition, the team appreciates the briefing packages sent to the team members in preparation for the assessment. A special thanks goes to Rosanne Rutkowski, Department of Health and Environment for all her hard work and efforts to arrange the assessment. Special thanks also to Rosalie Thornburgh, Kansas Office of Traffic Safety for providing assistance to the Technical Assistance Team.

INTRODUCTION

Kansas EMS has been characterized by evolution and growth, beginning with the Bureau of Emergency Medical Services being placed within the Department of Health and Environment. Later, legislation transferred EMS operations to the Kansas Highway Patrol and EMS training remained within the Kansas University Medical Center. In 1988 legislation was passed placing EMS operations and training under a board appointed by the Governor and the Legislature.

During these times, the focus of EMS has been primarily on prehospital care. Thousands of dedicated providers have been trained and equipped, and are regarded as providing high levels of care. Recent efforts have included expanding medical advisor responsibilities in quality assurance, and upgrading of communications through cooperation and linkage with other state agencies. There has been relatively little focus on measuring the outcome of all of these efforts, i.e., defining the impact the programs and services have had on the emergency care needs of Kansans.

The Board of EMS (BEMS) perceives its role as primarily regulatory and limited to training, certification, licensure and investigatory activities although it has statutory authority to develop a state EMS plan. The Board has done a good job of developing extensive regulations for certification and licensure of prehospital providers and ambulance services. It has not seen itself as responsible for development of a statewide trauma system, or other EMS system components. The composition of the Board combined with limited legislation, leaves a political structure, that may make it difficult for BEMS and its staff to provide innovation and leadership.

Kansas now needs to broaden its focus to encompass a comprehensive EMS system - from prevention and emergency access through acute care and rehabilitation. Planning, development and implementation of the Kansas EMS system will require a broadly focused EMS lead agency with the resources and vision to move Kansas to the next evolution in EMS systems development. This will require strong medical direction, quality assurance, and measurement of patient care outcomes. With the dedication and interest demonstrated to the TAT, it is evident that the outcome of these efforts will result in an EMS system with coordinated excellence in care that takes Kansas from this century into the next with a quality of life that Kansans expect and deserve.

KANSAS EMERGENCY MEDICAL SERVICES (EMS)

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

A. REGULATION AND POLICY

Standard

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

Status

Kansas Statute 65-6102 established the Board of Emergency Medical Services (BEMS). The thirteen member Board is comprised of nine members appointed by the Governor. The nine members include a physician, two county commissioners, an instructor/coordinator, a hospital administrator, a fire fighter that provides emergency medical services and three attendants representing at least two classifications and a volunteer organization. They serve for four year terms and may be reappointed. The remaining four members are legislators, one appointed by the president of the senate, one appointed by the speaker of the house of representatives, one appointed by the minority leader of the senate and one appointed by the minority leader of the house of representatives. Of the thirteen Board members, six are elected officials. There are thirteen staff members hired by the Board, including an Administrator, that serve as the EMS Office for Kansas. The BEMS staff are very dedicated and have accomplished a great deal with limited resources.

BEMS has stated that it has only regulatory responsibilities, including certification of attendants and instructor/coordinators, approval of training programs, approval of methods of examination of applicants for initial attendants' certificates, development of criteria for and approval of a course of instruction for instructor/coordinators, and licensure of services and vehicles. BEMS has appointed a medical consultant to serve on an as needed basis to the Board. BEMS has limited funding to carry out its mandates and information supplied to the TAT repeatedly indicated BEMS' inability to meet needs due to lack of funding. Funding has been reduced during the past few years. The latest reduction will result in the four regional EMS councils receiving no funding for fiscal year 1995.

BEMS only regulates transporting agencies which may result in potential problems as non transporting providers such as fire departments start moving to the ALS level of care.

The current legislation does not identify a single EMS lead agency that has comprehensive responsibility for EMS in Kansas. The existing EMS system is not integrated into the overall health care system in Kansas. There is no current State EMS Plan in place although the Board has developed a concept paper.

Recommendations

- ◆ ***Enact comprehensive EMS legislation to establish a single lead EMS agency with the authority to address all aspects of an EMS System including trauma.***
- ◆ ***A leadership role needs to be assumed for EMS Systems Development from system access, including prevention, acute care and continuing through rehabilitation.***
- ◆ Regulate all EMS providers including transporting, non-transporting, ground and air ambulances.
- ◆ Develop a comprehensive State EMS plan with specific timetables and responsibilities for implementation of its objectives. The EMS plan should include, but not be limited to:
 - 1) Statewide EMS standards;
 - 2) Statewide EMS protocols;
 - 3) Medical control;
 - 4) Transportation;
 - 5) Allocation of resources;
 - 6) Communications;
 - 7) Administration and enforcement;
 - 8) System evaluation;
 - 9) Quality assurance of EMS systems;
 - 10) Trauma systems;
 - 11) Facilities;
 - 12) Public information and education; and
- ◆ ***Seek additional EMS funding from state, federal and other sources (e.g., Emergency Medical Services for Children, Health Resources Services Administration Trauma Grants and Highway Safety funds) to adequately address EMS needs in Kansas.***

B. RESOURCE MANAGEMENT

Standard

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

Status

Kansas General Statute 65-6102 is the enabling legislation for EMS in Kansas and establishes the thirteen member Board of Emergency Medical Services (BEMS) appointed by the Governor and the legislature. BEMS members advised the TAT that it only has regulatory responsibilities.

Kansas has no single state lead agency in EMS with authority to coordinate all aspects of an EMS system. While BEMS is strong in regulatory activities they do not have the authority to regulate non-transporting services. There are 197 licensed EMS services, approximately 9,200 certified attendants, 130 hospitals, three BLS and four ALS fixed wing aircraft. There are five ALS helicopters, three of which are located in Missouri but licensed in Kansas. BEMS inspects about 175-180 of the 197 services annually. The services complete an annual survey for submission to BEMS. Currently there are four regional EMS councils, but budget reductions will result in no funding for the councils in fiscal year 1995.

Approximately 91% of the population is covered by 911 service. There are 53 counties which have D911 and 25 that have 911 enhanced service. The remaining counties may or may not have a single access number for EMS.

Counties in Kansas have the ability to levy up to 3 mil for support of EMS. There are thousands of dedicated EMS professionals, both paid and volunteer providing EMS throughout Kansas. There is no current State EMS plan but BEMS has developed a concept paper. No current statewide EMS communications plan exists, nor is there a statewide tool to conduct EMS system evaluations.

Recommendations

- ◆ *Enact legislation to establish a lead state EMS agency to provide, among other things, state leadership, central coordination of the EMS system and a statewide needs assessment.*
- ◆ *Develop a comprehensive State EMS plan.*
- ◆ Establish a state EMS evaluation system.
- ◆ Encourage completion of the statewide 911 enhanced system.
- ◆ Develop and implement a statewide EMS Communications plan.

C. HUMAN RESOURCES AND TRAINING

Standard

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

Status

There are approximately 9,200 certified ambulance attendants: 1,500 First Responders; 6,500 EMT's; 700 EMT-I's; 93 EMT-D's; and 844 Mobile Intensive Care Technician (MICT's) (Kansas term for Paramedic). Ambulance attendants complete initial education and training which meets or exceeds DOT established curriculum. All ambulance attendants in the state of Kansas are certified by the Kansas BEMS. Information provided to the Technical Assessment Team indicated adequate availability of initial training courses throughout Kansas. Availability of provider continuing medical education also appears adequate. Kansas administrative regulations place strong emphasis on Instructor/Coordinator qualifications. BEMS is to be commended for establishing clear standards for Instructor/Coordinators of ambulance attendant courses.

No statewide plan exists for assessing the adequacy of personnel training and distribution. Information received indicated critical manpower shortages in rural areas of Kansas, especially during the day time hours.

No minimum statewide standard exists for clinical experience and demonstration of skills competency. It is possible for an MICT in the rural setting to complete clinical training without ever performing an intubation on a "live" patient.

EMT ambulance attendant training includes instruction in the use of the esophageal obturator airway (EOA). Information received by the TAT indicates the pharyngeal tracheal lumen (PTL), endotracheal tube, and combitube have been discussed as replacements for the EOA.

Concern was expressed to TAT members over the possible loss of BEMS's responsibility for monitoring initial practical examinations for ambulance attendants.

BEMS no longer approves or certifies the Kansas Highway Patrol First Responder Training Program, however, the Highway Patrol continues to provide in-house first responder training.

Except for minor revisions, there have been no new EMT, EMT-D, EMT-I, and MICT written examinations generated during the past 8 years. Revisions to the EMT written was delayed pending adoption of the new EMT-Basic curriculum.

ACLS, PALS, and PHTLS or trauma equivalent is not required for ambulance attendant renewal. Selection of continuing medical education topics is determined by individual ambulance services. Availability of CISM training for ambulance attendants is limited.

Ambulance attendants are certified for one year. BEMS staff believe program efficiency would improve with lengthened certification periods.

There is limited medical advisory involvement with rural initial training and continuing medical education. Medical advisors are required for each ambulance service, however information received by TAT members indicated limited medical advisor participation in instruction or quality assurance.

ATLS courses are generally available to urban-based physicians but are not easily accessible to rural physicians.

TAT members were told that there is a need to establish residency programs in emergency medicine.

There are no statewide Emergency Medical Dispatch training standards for dispatchers, but training does occur in some urban areas.

Recommendations

- ◆ ***Develop a plan to assess statewide education and training needs. The plan should consider community needs for EMS personnel based on current and projected call volume.***
- ◆ ***Change recertification period from one year to either two or three years.***
- ◆ ***Due to the current controversy surrounding the use of the EOA, if the EOA, PTL, or Combitube are used at basic or Intermediate level there must be medical advisor evaluation and quality assurance review. There should be additional appropriate training for these airway adjuncts.***
- ◆ ***Assure active medical direction statewide in training courses to include instruction and quality assurance.***

- ◆ Assure competency based skills training with actual patient contact and skills demonstration, rather than clock hour based clinicals alone.
- ◆ Practical exams for initial training should continue at all levels and be monitored by the state lead EMS agency.
- ◆ Establish statewide minimum EMD training standards.
- ◆ Encourage continued First Responder training and certification as a minimum for the Kansas Highway Patrol.
- ◆ Encourage the use of ACLS, PALS, CISD, PHTLS, and BTLS training (or trauma equivalent) for ambulance attendants.
- ◆ Seek methods for assuring the availability of ATLS training for rural physicians.
- ◆ Continue to offer service director workshops.
- ◆ Support the development of an emergency medicine residency training program in Kansas.

D. TRANSPORTATION

Standard

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

Status

The citizens of Kansas have access to air and ground ambulance transportation. Ambulance transportation is provided by a combination of public, private, and volunteer systems. There are approximately 200 licensed ambulance services. During 1993 there were nearly 200,000 ambulance responses statewide. Statewide minimum staffing levels have been established by BEMS.

Licensed ambulance services, both ground and air are inspected annually. During 1993 there were approximately 180 inspections conducted by BEMS. Information provided to the team indicated that non-transport services are not licensed or inspected.

In some urban areas of Kansas private services distribute ambulance units through a system status management plan. Information provided improved response times for those services using system status management. Some rural areas have difficulty staffing ambulances during the day time.

Based on the information provided to the TAT, no statewide transportation plan exists.

An Emergency Vehicle Operators Course has been developed and made available. Although, it is not a statewide requirement that ambulance attendants participate in an EVOC course, some local services provide EVOC training for their personnel.

Recommendations

- ◆ *Develop a statewide transportation plan.*
- ◆ *License and inspect non-transporting services.*
- ◆ Promote rural recruitment activities for rural ambulance services.
- ◆ Continue annual inspections of transporting services.
- ◆ Assess need for EVOC or equivalent training statewide.

E. FACILITIES

Standard

It is imperative that the seriously ill patient be delivered in a timely manner to the closest appropriate facility. This determination needs to consider both stabilization and definitive care. This determination should be free of political considerations and requires that the capabilities of the facilities are clearly understood by prehospital personnel. Hospital resource capabilities must be known in advance so that appropriate primary and secondary transport decisions can be made.

Status

Of the 105 counties in Kansas, nine have no hospital. There are approximately 130 hospitals in the state; the number with 24-hour emergency departments was not readily available. The TAT was told that 20 hospitals have closed in the past five years. Concern was expressed that if additional hospitals close, there would be increased prehospital emergency transport times.

There are three American College of Surgeons (ACS) verified trauma centers in Kansas. Reference was made during the briefings to two burn centers and two poison centers, but these centers are not state designated. There is no process in place for state designation of facilities.

No organization collects and disseminates information about facility capabilities throughout the state. Kansas Hospital Association officials were not present at the briefings, but the TAT was told that the Association surveys its members annually, but that this information is not disseminated. No information was presented to the TAT regarding hospitals' roles in EMS system development.

Recommendations

- ◆ Provide updated information about hospital capabilities to all ambulance services and hospitals to promptly facilitate emergency prehospital and interhospital transport in all areas of the state.
- ◆ *Verify and designate trauma centers and specialty referral centers (e.g., burn and poison centers), as needed, depending on demographics and transport times. Because of geography, serious consideration should be given to verifying and designating trauma centers throughout the state using a classification scheme such as ACS level 1-4.*
- ◆ Assess the need for additional types of specialty centers, e.g., spine, hand, pediatric.

- ◆ Ensure the development and implementation of statewide triage and transfer protocols.
- ◆ Encourage involvement of hospitals and the Kansas Hospital Association in EMS system development.

F. COMMUNICATIONS

Standard

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

Status

There is not a current statewide communications plan. However all ambulances and receiving hospitals have radios. When the ambulances are on long runs, the communication capabilities between the ambulance and receiving hospital may not be possible due to equipment incompatibility. Some EMS services use cellular phones to alleviate this problem.

The Kansas Department of Transportation (KDOT) is in the process of implementing an 800 MHz statewide radio system. BEMS is working with KDOT to assure EMS is part of the 800 MHz statewide system. Some local EMS providers are already utilizing an 800 MHz system.

There is no statewide emergency medical dispatcher (EMD) training standards. The availability of centralized dispatch varies throughout the state.

Even though 91% of the population is covered by 911, it is not a statewide system. In areas where 911 is not available, counties may not have a single access number for EMS. Kansas law allows \$.75/per month surcharge on local telephone services to develop 911 capabilities. Discussion occurred regarding problems with cellular phone 911 calls being directed to answering points distant from the site of that call.

Recommendations

- ◆ *Develop and implement a statewide communications plan.*
- ◆ Publish a comprehensive listing of ambulance services and hospital radio frequencies and subtones.
- ◆ Encourage telephone companies to resolve cellular phone 911 issues.
- ◆ Establish minimum standards for EMD training.

- ◆ Actively participate with the KDOT to implement 800 MHz statewide communications system.
- ◆ *Seek funding to complete 800 MHz project.*
- ◆ Develop model statewide protocols for EMD.
- ◆ Encourage completion of the statewide 911 enhanced system.

G. PUBLIC INFORMATION AND EDUCATION

Standard

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

Status

The BEMS produces a state newsletter to ambulance service directors and instructor/coordinators every other month. A Kansas EMS Journal jointly prepared by the Kansas Emergency Medical Technicians Association, Kansas Association of Emergency Medical Services Administrators, Kansas Association of Paramedics and the Kansas Instructor/Coordinators Society is sent out quarterly. This publication is sent to numerous EMS organizations and providers.

At the present time there is no state Public Information and Education Plan. However, there is a trained National Highway Traffic Safety Administration (NHTSA) Public Information and Education Relations (PIER) instructor in Kansas. The BEMS does not provide statewide leadership or coordination in PI&E projects. BEMS does distribute ACEP EMS Week packets to the services.

There are considerable public information and education activities in several areas of the state. It appears local PI&E programs are not supported by data defining a health/EMS problem to be addressed in a given area. Examples of local PI&E programs include Community CPR Training, 911 Stickers, Safety Belts/Child Seats, Bicycle Safety, Prudent Heart Living/CPR, Drunk Driver Awareness and SAFE KIDS.

An injury prevention program has been established in the Kansas Department of Health & Environment, Office of Chronic Disease and Health Promotion. This Office has received a federal grant to institute a voluntary head and spinal cord registry. The head and spinal cord registry may serve as a foundation for future injury surveillance activities.

Recommendations

- ◆ Expanding BEMS newsletter to inform and educate the EMS community on a broad array of EMS related issues. This newsletter should be widely distributed to EMS services, providers, instructor/coordinators, medical advisors, hospitals, communication personnel, law enforcement, fire services and first responders on broad EMS issues.
- ◆ Coordinate statewide PI&E programs using objective data.
- ◆ Actively participate with other appropriate agencies in the ongoing development of injury prevention programs.
- ◆ Consider using the NHTSA PIER program.
- ◆ Develop a statewide plan in public information, education and prevention.

H. MEDICAL DIRECTION

Standard

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

Specific areas of involvement include the following:

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

Status

EMS at all levels of care in Kansas requires the input of physicians. BEMS contracts with a physician consultant to provide advice on EMS protocols and incident investigations. Unfortunately, this physician was not available to meet with the TAT and provide information regarding his role in Kansas EMS.

All transporting EMS services are required to have a medical advisor (MA), and medical protocols must be approved by local medical societies. This requirement for a MA provides for the opportunity for medical input into EMS activities. In addition to approval of medical protocols, a new regulation (effective 1/1/94) required medical advisor participation in quarterly QA activities of ambulance services. Model protocols are also developed by BEMS and are distributed to ambulance services. These can be used or modified by local ambulance services.

However, information was given to the TAT that, with the exception of some urban areas, MA involvement and leadership of EMS activities is limited. The sole requirement for the MA is that he/she be a licensed physician. It was noted that there is a shortage of full-time emergency physicians across the state, and this limits the ability of services to recruit MAs primarily involved in emergency care. While some urban areas benefited from the involvement of MAs in initial provider training, protocol development, continuing education and quality activities, these were identified as exceptional cases. Similarly, physician on-line medical direction appeared to be readily available in urban areas, but not as available in rural areas.

In addition, duties of physicians that act as MAs were not well defined. No formal training or job description exists for MAs. There is no communication between the MAs and BEMS regarding responsibilities of the MA, information regarding Kansas EMS, and activities of BEMS. Few physicians receive financial or administrative support for their activities on behalf of ambulance services. Although it appeared that these physicians are representatives of local medical societies, those medical societies, not the MAs, are ultimately responsible for approving medical protocols. It is unclear whether physicians provide prospective medical leadership to local ambulance services or have input into EMS system issues. Physician input into EMS system issues, also appeared to be very limited.

Recommendations

- ◆ *Institute medical leadership of EMS in Kansas*
- ◆ *Redefine the Medical Consultant position as the State EMS Medical Director for the Kansas Board of EMS (BEMS). Roles and Responsibilities for the Medical Director should be developed, including medical input into protocols and all issues related to the care of EMS patients. The medical director should serve as a medical resource and provide leadership to local EMS medical directors.*
- ◆ *Rename local medical advisors as EMS medical directors (EMSMD), with defined roles and responsibilities which include protocol development, quality assurance and improvement, continuing education, and other medical oversight activities.*
- ◆ Establish a relationship between local EMSMDs and the State Medical Director as well as the lead EMS agency.
- ◆ Establish formal training including roles and responsibilities for new and established EMSMDs.
- ◆ Require all BLS and ALS agencies to have an EMSMD regardless of transporting status.
- ◆ Whenever possible, EMSMDs should be skilled and knowledgeable in emergency care and EMS, and routinely care for acutely ill and injured patients. At a minimum EMSMDs should be trained in ACLS and ATLS.

I. TRAUMA SYSTEMS

Standard

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

Status

There is no comprehensive trauma legislation. BEMS states that it does not view trauma as within its legislative mandate. The Kansas Department of Health and Environment believes it has legislative authority to designate trauma centers. Existing EMS legislation mandates development of a state plan for the delivery of emergency medical services. BEMS has developed a concept paper, but no current state plan exists. There are no state-designated trauma centers, nor is there a process in place for this. Three of the four acute care hospitals in Wichita have been verified (by the American College of Surgeons) as trauma centers, two as Level One, and one as a Level Two. The Kansas University Medical Center in Kansas City, Kansas, is sometimes referred to as a Level One. However, it has not been verified or designated.

Trauma triage guidelines are utilized in certain metropolitan areas, such as Sedgwick and Johnson counties. There are no statewide transfer guidelines.

There is no statewide trauma registry although the three verified trauma centers in Wichita have trauma registries. Autopsies are not mandated in the state.

There is no trauma system management per se, on a statewide basis, nor is there quality assurance of the system's effects on patients. The TAT was told that rehabilitation facilities are available in the state, but there was a question as to access to these resources.

The Division of Chronic Disease and Health Promotion in the Kansas Department of Health and Environment recently began a project to collect and analyze information on patients with head and spinal injuries. KDOT collects information on motor vehicle crash injuries and fatalities.

Recommendations

- ◆ ***Enact comprehensive trauma legislation to include system assessment and planning, specialty center verification and designation, rehabilitation care, system management, quality assurance, and evaluation.***
- ◆ Utilize population-based methods to obtain statewide trauma registry data, to include prehospital runsheets, hospital discharge data, coroner's data, and other appropriate sources.
- ◆ ***Until comprehensive trauma legislation is enacted, utilize the legislative mandate to develop a state plan for the delivery of EMS, to begin trauma system development, as this is a critical subset of an EMS system.***
- ◆ Consider using the NHTSA Development of Trauma Systems Program in Kansas.

J. EVALUATION

Standard

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

Status

Kansas EMS has taken fundamental steps to support the assessment and facilitate the improvement of EMS care. Statutory amendments have recently provided legal protection from discovery for quality assurance activities performed by ambulance services and attendants. BEMS staff has initiated efforts to educate ambulance services regarding QA methods as part of annual service director workshops. EMS records have been evaluated as part of ambulance inspections, with followup assessments and documentation of areas for improvement as necessary. Services are now mandated to perform QA and require the involvement of the medical advisor on a quarterly basis. This change was initiated in January of 1994, and is in evolution.

Evaluation of trauma death is variable. Trauma registries are in use in Sedgwick County, and one hospital in Topeka also maintains a registry. Assessment of trauma death using autopsy is frequently performed in Sedgwick County. However, information was heard that autopsies were rarely performed in rural areas.

BEMS has developed regulations that require uniform data elements be included on all EMS records. This will facilitate the uniform collection of data. A pilot project has been developed to initiate EMS data collection from multiple services. This program utilized a customized software program with data entered by each agency (14 in the pilot) with submission of data to BEMS. Summary data has not yet been compiled and funding has not been procured to continue this project.

Although uniform data elements have been provided, this data does not necessarily get to emergency care providers. The TAT was informed that EMS patient records are not required to be left at receiving facilities at the time of patient delivery.

The Kansas Department of Transportation (KDOT) collects data on fatal crashes, as well as accidents with significant property damage. It does not currently identify ambulance crash data in data coding.

Outcome data is not uniformly available to assess EMS system efficacy. Some hospitals provide outcome data to EMS providers as part of the services QA activities. However, there is no requirement to submit hospital outcome data to EMS services. Similarly there is no outcome data submitted to BEMS.

EMS research produces the thoughtful evaluation of EMS care and serves as an impetus for change. In many states, EMS research is performed by academic institutions with the support of the EMS community. Little EMS research is currently being performed in Kansas.

Recommendations

- ◆ ***Require ambulance attendants to complete a patient care record and leave it at the receiving facility at the completion of a call.***
- ◆ Continue training sessions with EMS service directors regarding QA and introduce quality improvement concepts and methods. Medical advisors should be included in these workshops.
- ◆ Encourage hospitals to provide outcome data to EMS services to facilitate evaluation.
- ◆ Mandate submission of EMS runsheets or run data to lead agency for program evaluation and planning.
- ◆ ***Obtain funding for statewide EMS data system implementation.***
- ◆ Encourage and support EMS research in Kansas
- ◆ Develop methods to link existing databases with EMS data to evaluate outcomes on both a system-wide and statewide basis.
- ◆ Define physician role in QA process
- ◆ Request KDOT to computerize ambulance accident data currently collected on the traffic accident investigation report.

K. CURRICULUM VITAE

Bob Bailey

Office of Emergency Medical Services
Department of Human Resources
P.O. Box 29530
Raleigh, NC 27626-0530
(919) 733-2285

Chief, Emergency Medical Services

ORGANIZATIONS/APPOINTMENTS

National Association of State EMS Directors (NASEMSD)

President

Executive Committee, various committee chairs, NASEMSD

National Association of Governor's Highway Safety Representatives

Liaison

National Association of EMS Physicians, Liaison

Management Team, EMS Clearinghouse, NASEMSD

National Association of State EMS Training Coordinators

Past Member Board of Directors

North Carolina Division, American Trauma Society

Board of Directors

Governor's Task Force on Injury Prevention and Control

North Carolina Medical Society Disaster and EMS Committee

North Carolina Medical Society Bioethics Subcommittee

Advisor

ASTM F.30 Committee on Emergency Medical Services

NHTSA Emergency Medical Services,

Technical Assistance Team, Member,

States of Louisiana, Arizona, Kentucky, Virginia, West Virginia, Idaho and Florida

Rick Buell

Washington State Department of Health
Office of EMS & Trauma Systems
2725 Harrison Ave. NW, Suite 500
Olympia, WA 98504-7853
(206) 705-6716

Section Manager, Education Training & Regional Support
Washington State Department of Health
Office of EMS & Trauma Systems

ORGANIZATIONS/APPOINTMENTS

National Council of State EMS Training Coordinators,
Executive Council Member
Prehospital Technical Advisory Committee, Washington State Trauma Steering
Committee
Idaho Emergency Medical Services
Basic Life Support Test Team
Idaho Emergency Medical Services
Air-Medical Task Force
Tacoma-Pierce County Emergency Management Organization
Member
Prehospital Trauma Life Support
Instructor
American Heart Association
ACLS Instructor
Washington State West Region Emergency Medical Services Council
Member
Washington State Death Investigation Council, Sudden Infant Death
Task Force member
Idaho Intensive Care Paramedic
Paramedic Instructor-Coordinator
Idaho State Communication & Poison Control Specialist
Shepard-LifeFleet Quality Improvement Coordinator
Washington State EMT

Kenneth E. Cole, Jr.
Bureau of EMS
Missouri Department of Health
P.O. Box 570
Jefferson City, MO 65102
(919) 733-2285

Director, Bureau of EMS

Former Director of EMS, State of Wyoming

ORGANIZATIONS/APPOINTMENTS

Member, National Association of State EMS Directors
Former President, Mid America States Rural EMS Council
Fellow, American Academy of Forensic Sciences
Faculty, University of Colorado School of Medicine, 1969-1975
Member, Colorado Emergency Medical Services Council, 1969-1971
Deputy Coroner, Jefferson County Colorado, 1969-1975

Valerie A. Gompf

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

Highway Safety Specialist
National Highway Traffic Safety Administration

ORGANIZATIONS/APPOINTMENTS

Make the Right Call National Campaign
Program Director
EMS Public Information, Education and Relations Workshop
Program Director
EMS Public Information and Educational National Conference
Project Director
Development of Trauma Systems: A State and Community Guide
Program Manager
A Statewide Injury Prevention Program by EMS Providers
Project Director
Mobile Trauma Training Unit Model Program
Project Director
ASTM F.30 Committee on Emergency Medical Services
Subcommittee F30.03 Public Information and Education
EMT-A, Maryland

Ameen I. Ramzy, MD, FACS

The Professional Centre
120 Sister Pierre Drive
Suite 501
Towson, MD 21204
(410) 337-6802

Private Practice, General Surgery and Trauma Surgery
Assistant Professor of Surgery, Johns Hopkins University School of Medicine
Assistant Professor of Anesthesiology and Critical Care, Johns Hopkins University
School of Medicine
EMS Medical Director, Baltimore County Fire Department
Medical Director, Baltimore/Washington International Airport Fire Rescue Service ALS

ORGANIZATIONS/APPOINTMENTS

Consultant in EMS and Trauma Systems, USA and Internationally
Fellow, American College of Surgeons
American Association for the Surgery of Trauma
ATLS Instructor and Regional Faculty
Former
Attending Surgeon/Traumatologist, Shock Trauma Center, MIEMSS
Deputy Director, MIEMSS and Maryland State Director, EMS
Director, EMS Fellowship, MIEMSS
Chairman, ACS, Maryland Committee on Trauma
Medical Director, Paramedic Training Program, University of Maryland, Baltimore
County
Medical Director, Resuscitation Unit, Shock Trauma Center
Preceptor for Fulbright Scholar
Medical Director, Field Operations (State EMS Medical Director)
Associate Medical Director, Field Operations, MIEMSS
Member & Medical Advisor, Executive Committee, National Association of State
EMS Directors

Robert A. Swor DO, FACEP

Department of Emergency Medicine
3601 W. 13 Mile Road
Wm. Beaumont Hospital
Royal Oak, MI 48072
(313) 551-2015

Staff Emergency Physician, Emergency Medicine
EMS Coordinator
Wm. Beaumont Hospital

Clinical Instructor
Section Division of Emergency Medical
Department of Surgery
University of Michigan Medical School

Medical Director
EMT Training Programs
Oakland County Community College

ORGANIZATIONS/APPOINTMENTS

Michigan Chapter, American College of Emergency Physicians
Chairman, Emergency Medical Services Committee
Board of Directors
National Association of EMS Physicians
Education Committee
Secretary/Treasurer, Executive Committee
American Board of Emergency Medicine
Board Examiner
Society for Academic Emergency Medicine
EMS Committee
Oakland County Emergency Medical Services
Executive Committee
Chairman, Quality Assurance Committee
American College of Emergency Physicians
Chairman, State of Michigan EMS Coordinating Committee

