Category V

Criterion 5F: Emergency Medical Services (EMS)

The agency operates an EMS program with a designated level of out-of-hospital emergency medical care that meets the needs of the community.

NOTE: EMS is a major element of many fire service agencies. Fire service personnel are frequently the first responder to medical emergencies. For that reason, emergency medical response can be organizationally integrated with fire suppression activity. Care should be exercised not to create a priority or resource allocation conflict between the two program activities. Agencies that only provide first responder services must also complete this criterion.

Summary:
The State of Kansas licenses Lawrence-Douglas County Fire Medical as an Advanced Life Support Service (ALS) or Type I Service. As of September 2017, the EMS level of certification for sworn members is as follows: 85 are AEMT’s and 58 are Paramedics. Of the three Operations Division Chiefs, two are AEMT’s and one a Paramedic. Among the Administrative staff, there are six Paramedic’s, and three AEMT’S. Currently the Division Chief of EMS position is in the process of being filled due to the retirement of the previous Division Chief of EMS. The interview process to fill the Division Chief of EMS will commence on October 4th, 2017. One current uniformed operations member has no EMS certification.

The Division Chief of EMS oversees the EMS activities. In 2016, the department responded to 9513 EMS calls, which represents nearly 80% of the departments call volume.

The department has a minimum of seven medic units staffed in the City of Lawrence and Douglas County every day. Additional resources can be available if the volume of calls indicates the need. Five Secondary medic units, one at each station in the City of
Lawrence, serve this purpose and as a backup for first out units. Each medic unit is staffed with a minimum of one Paramedic and one AEMT; of the two members on the medic unit, one is an officer. Each Engine, Truck or Quint company has a minimum of four AEMT’s. The Medical Priority Dispatch (EMD) protocols with pre-arrival instructions ensure an adequate number of personnel and units respond to out-of-hospital incidents to provide the best and quickest possible care.
Performance Indicators:

CC 5F.1 Given its standards of cover and emergency deployment objectives, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and magnitude of emergency medical incident(s).

Description
The department meets it’s staffing, response, and equipment criteria for deployment objectives represented as response performance objectives. Specific response performance objectives are in place to guide the department towards maintaining or improving response quality for all risk categories and classifications of risk within the program of emergency medical service. These performance objectives are documented in department policy 103.20 Response Performance and Outcomes. Performance baselines are documented in Response Performance and Outcomes Appendix A, Baselines. Performance benchmarks are documented in Appendix B, Benchmarks.

Distribution / First unit to stop loss
For 90 percent of low, risk emergency medical incidents, the total response time for the arrival of the first-due unit, with a minimum of 1 AEMT; (1) total, is: 19 minutes and 28 seconds in urban areas, 26 minutes and 28 seconds in rural areas. The first-due unit is capable of establishing command; performing cardiopulmonary resuscitation; and utilizing an automated external defibrillator. These operations are performed utilizing safe operational procedures.

For 90 percent of moderate, risk emergency medical incidents, the total response time for the arrival of the first-due unit, with a minimum of 1 AEMT; (1) total, is: 10 minutes and 17 seconds in urban areas, 19 minutes and 57 seconds in rural areas. The first-due unit is capable of establishing command; performing cardiopulmonary resuscitation; and utilizing an automated external defibrillator. These operations are performed utilizing safe operational procedures.
For 90 percent of high risk emergency medical incidents, the total response time for the arrival of the first-due unit, with a minimum of 1 AEMT; (1) total, is: 9 minutes and 58 seconds in urban areas, 21 minutes and 57 seconds in rural areas. The first-due unit is capable of establishing command; performing cardiopulmonary resuscitation; and utilizing an automated external defibrillator. These operations are performed utilizing safe operational procedures.

For 90 percent of maximum risk emergency medical incidents, the total response time for the arrival of the first-due unit, with a minimum of 1 AEMT; (1) total, is: 15 minutes and 35 seconds in urban areas, 18 minutes and 23 seconds in rural areas. The first-due unit is capable of establishing command; performing cardiopulmonary resuscitation; and utilizing an automated external defibrillator. These operations are performed utilizing safe operational procedures.

Concentration / Effective Response Force

For 90 percent of low risk emergency medical incidents, the total response time for the arrival of the effective response force, with a minimum of 1 paramedic and 1 AEMT; (2) total, is: 19 minutes and 29 seconds in urban areas and 24 minutes and 32 seconds in rural areas. The ERF is capable of: establishing command; conducting initial patient assessment; obtaining vitals and patient’s medical history; performing cardiopulmonary resuscitation; and utilizing an automatic external defibrillator. These operations are performed utilizing safe operational procedures.

For 90 percent of all moderate risk emergency medical incidents, the total response time for the arrival of the ERF (ALS unit), with a minimum of 1 paramedic and 1 AEMT; (2) total, is: 11 minutes and 6 seconds in urban areas, 20 minutes and 21 seconds in rural areas. The ERF is capable of: establishing command; conducting primary and secondary patient assessment; triaging the patient; electrocardiogram interpretation; medication administration; bio-com communications with medical control; application of standing and physician orders; patient and equipment packaging for transport; and transportation to the hospital. These operations are performed utilizing safe operational procedures.
For 90 percent of all high risk emergency medical incidents, the total response time for the arrival of the ERF (ALS unit), with a minimum of 1 paramedic, and 2 AEMTs; (3) total, is: 11 minutes and 45 seconds in urban areas, 24 minutes and 54 seconds in rural areas. The ERF is capable of: establishing command; communicating with family or other witnesses; scene documentation; conducting primary and secondary patient assessment; triaging the patient; electrocardiogram interpretation; medication administration; bio-com communications with medical control; application of standing and physician orders; patient and equipment packaging for transport; and transportation to the hospital. These operations are performed utilizing safe operational procedures.

For 90 percent of all maximum risk emergency medical incidents, the total response time for the arrival of the ERF (ALS unit), with a minimum of 2 paramedics and 2 AEMTs; (4) total, is: 18 minutes and 58 seconds in urban areas, 22 minutes and 54 seconds in rural areas. The ERF shall be capable of: establishing command; communicating with family or other witnesses; scene documentation; conducting primary and secondary patient assessment; triaging the patient; electrocardiogram interpretation; medication administration; bio-com communications with medical control; application of standing and physician orders; patient and equipment packaging for transport; and transportation of multiple patients to the hospital. These operations shall be performed utilizing safe operational procedures.

**Appraisal**

In 2017, the department added an ambulance within the City of Eudora, expanding its stand of cover for the county to seven ambulances. This expansion of services enhanced travel time distribution quality within that urban planning zone and ultimately enhancing resiliency system wide.
Plan
The department will continue to monitor response time quality through its compliance methodology identified in department policy 103.20 Response Performance and Outcomes.

References
The agency has standing orders/protocols in place to direct EMS response activities to meet the stated level of EMS response.

Description
The Department operates under protocols outlined in its Standard Operating Procedures, and falls under the auspices of the Kansas Board of EMS statutes. The Department has one Medical Director who reviews critical incidents, evaluates services, makes recommendations, substantiates procedures and provides as needed training based on topics identified through a quality assurance / quality improvement assessment for a variety of topics. All department members have access to medical protocols via intranet access within the stations and on toughbooks provided for ePCR documentation.

The Medical Director is currently a member of the Department of Emergency Medicine at Lawrence Memorial Hospital (LMH), and has direct input and approval of the emergency medical response protocols and procedures of Lawrence-Douglas County Fire Medical Department. The Medical Director approves the volunteer emergency medical responder medical protocols and procedures, which are developed by members of the protocol project team. All volunteer emergency medical responder agencies have copies of their protocols for review of the volunteer emergency responder agency members.

LMH Emergency Department physicians act as the primary Medical Control for the department. According to protocol, under certain circumstances, personnel working in the field are required to obtain orders and/or instructions from Medical Control. Personnel receive regular training on the procedures outlined within the protocols to ensure consistent unified knowledge, skills and abilities throughout the year.

Due to the continually evolving nature of pre-hospital care, all protocols are continually under review and modified as required. The Medical Director, the Lawrence Memorial Hospital Department of Emergency Medicine, and the Douglas County Medical Society review and approve modifications in the form of addendums to the protocols.
Appraisal
There are sufficient protocols, procedures and guidelines to carry out EMS services to the community. All methods comply with state regulations. The Division Chief of EMS participates in the development and planning of all of the above documents and communicates frequently with the Medical Director. The protocols have been updated since the documented time of 2014. The department has not documented timestamps of when updates have occurred.

Plan
The department will continue to follow the current medical treatment protocols and SOPs. As techniques, methods, and procedures change, appropriate communication and implementation will occur. Training and skill evaluation will continue to ensure competency of personnel of the protocols and skills described therein. The Division Chief of EMS will investigate a medical protocol application or “app” to enhance the ability to access protocols on scene. The Division Chief of EMS will develop a formal review schedule of medical protocols to ensure updates are documented by December of 2018.

References
Medical Treatment Protocols
SOP 107.20 Medical Advisor
Kansas Board of EMS Statutes
(http://www.ksbems.org/html%20pages/final_regulations.php)
Kansas Board of EMS Regulations (http://www.ksbems.org/html%20pages/statutes.php)
CC 5F.3 The agency has **online and offline medical control**.

**Description**

The Department utilizes the services of the Department of Emergency Medicine physicians at the Lawrence Memorial Hospital (LMH) Emergency Department (ED) as Medical Control. Personnel may use the designated medic unit cellular phones or an 800MHz radio mounted in the patient compartment of the medic units specifically for secure delivery of patient information and requested orders needed for patient care. The ED physician on-duty serves as on-line Medical Control.

LMH on-line Medical Control grants permission to use other hospitals for receiving patients in the event of critical trauma, burns, or upon request by the patient or family. The receiving hospital then acts as Medical Control ensuring operations remain within the scope of agency protocols during transport.

The Medical Director and established treatment protocols provide direction for off-line medical control. Personnel receive training in the use of both on-line and off-line medical control. On occasion, the 800MHz radio is unable to communicate with a receiving hospital. During these times, it is appropriate for the paramedic to contact the receiving hospital with updated patient care information and requests for procedures or medications to be administered prior to arriving at the receiving hospital via department cellular telephone.

**Appraisal**

The on-line and off-line medical control options are sufficient for departments EMS services. Sufficient Medical Control resources exist for personnel to adequately treat and transport any patient.

**Plan**

The Department will continue to utilize medical control through both on-line and off-line methods. The Medical Director will monitor the effectiveness of Medical Control on an as-needed basis.
References

Medical Treatment Protocols

SOP 205.10 Communications
CC 5F.4 The agency creates and maintains a patient care record, hard copy or electronic, for each patient encountered. This report contains provider impression, patient history, data regarding treatment rendered, and the patient disposition recorded. The agency must make reasonable efforts to protect reports from public access and maintain them as per local, state/provincial, and federal records retention requirements.

Description

The Department utilizes ESO Solutions software as its electronic Patient Care Report (PCR) system for all emergency medical calls regardless of transport decision. The PCR contains patient history, primary impression, treatment rendered and the patient disposition.

Agency SOP details procedures regarding release of information contained on the PCR and comply with federal laws relevant to patient confidentiality. The Department also files an abbreviated incident report electronically using Firehouse® for NFIRS containing no patient information.

Appraisal

The department’s PCR complies with applicable laws and regulations. Established procedures governing the electronic patient care report filing system are working well.

Plan

The Department will continue utilizing electronic PCR reporting software that meets the National Emergency Medical Service Information System (NEMSIS) gold-level compliance guidelines. We plan to maintain this level of compliance with updates to the software as needed.

References

SOP 107.10 HIPAA Privacy Policy
SOP 107.18 Electronic Patient Care Reporting
SOP 107.16 Patient Reports, Billing Information and Patient Instruction Sheet
Completion, HIPAA-Covered Record Set
The agency has a Health Insurance Portability and Accountability Act (HIPAA) or equivalent (e.g., Freedom of Information and Protection of Privacy [FOIP] for Canada) compliance program in place for the EMS program that meets federal and state/provincial guidelines, and all personnel are properly trained in HIPAA/FOIP regulations and procedures.

**Description**

The Department is up to date with the latest legislation and in full compliance with HIPAA regulations. The Department complies fully with the privacy policy disclosed to all patients who enter the EMS system and with a Patient Care Report (PCR). This policy is available on the department web site and a hard copy is available to the public, if requested.

The Division Chief of EMS and the City of Lawrence Attorney’s Office monitor HIPAA legislation. Based on changes in legislation the department provides training to keep department members informed to ensure compliance. Department personnel receive training on HIPAA regulations and patient care documentation regularly. Training documentation resides in Target Solutions and is managed by the Training Division. HIPAA training is mandatory for all department members.

**Appraisal**

The current HIPAA compliance program in place is adequate to meet the challenges of patient confidentiality. Agency personnel receive adequate training that is within the scope of the appropriate regulations.

**Plan**

The Department will continue to utilize one person as the privacy officer to ensure continuity of training when dispensing information to the media. Review occurs on an as-needed basis. The department will continue to provide HIPAA training on an annual basis.
References

SOP 107.10 HIPAA Privacy Policy
SOP 107.12 Policy on Confidentiality and dissemination of Patient Information and Staff Verification
Training record example of HIPAA training
5F.6 The agency has a quality improvement/quality assurance program (QI/QA) in place to improve system performance and patient outcomes.

Description
Electronic Patient Care Reports (EPCR’s) track and analyze the quality of patient care that is being delivered by the medic crews. The Division Chief of EMS conducts daily reviews of patient reports. Three department paramedics have administrative privileges for the ePCR system to review call data in six medical categories targeted for a more in depth review on a quarterly basis. Quarterly reports are available on the department intranet, and as needed. Select calls are forwarded to the Medical Director for further review. By SOP, the station officers are responsible for ensuring overall completeness of patient care reports. The medical billing division reviews calls for patient billing information and are able to provide feedback on documentation to improve the content detail of patient reports. If there are documentation errors in the ePCR the member authoring the report is contacted to amend the report as needed.

Appraisal
There is a strong need for an independent review of PCRs for quality assurance and for insurance billing purposes. Three qualified paramedics with the understanding of the nature of calls and the standard of care required, review the PCR’s. Current with re-alignment of duties, the Division Chief of EMS reviews calls and forwards calls as needed to the Medical Director. On a quarterly basis, the three paramedics that participate in the quality assurance process review particular types of incident categories according to SOP 107.31. The Division Chief of EMS receives a summary for inclusion in the Quarterly QA report. The Kansas Board of EMS requires the Medical Director to review and approve each quarterly report. Reports are available for review on the Firemed intranet. The department maintains paper copies of the reports for annual review compliance by the State of Kansas Board of EMS.
Plan

The Quality Assurance program emphasizes focused audits by the Division Chief of EMS and the Medical Director on a quarterly basis, with each focusing on a particular audit category. The ultimate goal is to establish trends in patient care, identify needed protocol changes and training needs for the department. Station officers will continue to ensure all overall completeness of patient care reports. The three paramedics assisting the Division Chief of EMS will continue to monitor select patient care topics for protocol compliance. Quarterly QA reports will be reviewed by members through Target Solutions.

References

SOP 107.20 Medical Advisor
SOP 107.31 Quality Assurance Program
Sample QA Reports
Kansas Board of EMS Regulations
CC 5F.7 The agency conducts a **formal and documented appraisal, at least annually**, to determine the effectiveness of the EMS program and its impact on meeting the agency's goals and objectives. This should include an evaluation of the agency’s standard operating procedures, protocols, and equipment.

**Description**

The department managers meet for a monthly managers meeting and discuss programs and other topics. A portion of these meetings is set aside for program reviews and updates. A thorough review of the EMS program occurs annually during which EMS protocols and quality assurance are the focus of the discussion. The current Strategic Plan, SOP’s and any performance measures and outcomes specific to the EMS program serve as the basis for the program assessment discussion. A program appraisal guide for department programs provides program managers with key areas to review as part of the program review. The EMS division also publishes quarterly reports analyzing EMS issues over the last quarter.

**Appraisal**

The current appraisal process is effective to determining if the department is meeting the program’s goals and objectives. The monthly activity report publishes quarterly response time performance. The quarterly reports often result in program modifications or targeted training. With increasing demand on the EMS program, the division is challenged in staying abreast to make informed data driven recommendations based on evidence-based medicine and patient outcomes.

**Plan**

The department will continue to publish program quarterly reports and conduct an annual program appraisal at the monthly managers meetings. Target solutions is used by the training division to ensure department members receive training on protocols, medication administration and Standard Operation Procedures. With the continual increase in medical calls, the addition of a Captain assigned to the Division Chief of EMS would
allow for timely follow up on documentation, input of data, compliance with medical protocols, coordination with volunteer emergency medical responders and continuous improvement of services to the citizens of Lawrence and Douglas County.

References
Quarterly Report Example
Strategic Plan
EMS Annual Program Appraisal
5F.8 The agency has developed a plan or has already implemented a cardio pulmonary resuscitation (CPR) and public access defibrillation program for the community.

**Description**
The Division Chief of Training coordinates with a department Captain to manage the CPR program; six line personnel receive an incentive for public education activities. The public educators teach CPR and AED utilization to department members and the community. The program manager is responsible for scheduling of classes, instructors and locations for program delivery and certification and documentation compliance with the American Heart Association. The program manager ensures adequate supplies are available for instructors to provide to their students as well as an adequate supply of mannequins available for practice. The instructors disinfect the mannequins after class. The program manager, as assigned by SOP, also coordinates with the Division Chief of Training to provide CPR for department members.

The Division Chief of EMS coordinates with a department Lieutenant who is currently the program manager for approximately 85 AED’s which are spread throughout the community in all City and County buildings, department apparatus, staff vehicles and volunteer emergency medical responder agencies. The AED program manager manages inventories, maintains all Autopulse devices, and has the authority to purchase needed supplies to keep the devices functioning properly.

**Appraisal**
The department has been very proactive in public education in general. The efforts put forth to educate the public in CPR, the American Heart Association Guidelines changed to “hands only” CPR and the Douglas County Emergency Communication Center instructing callers to perform CPR, the department regularly sees CPR initiated prior to the arrival of department members. AED’s are being utilized more frequently prior to the arrival of department members. In 2012, AED application prior to EMS was at 32% and in 2016 was 45%. The department purchased Zoll Autopulse devices for each primary and
secondary medic unit in 2015. The Autopulse has benefited cardiac arrest patients by providing more efficient and uninterrupted “compressions” throughout the entire resuscitation effort. In 2012 Return of Spontaneous Circulation was at 23% and in 2016 was 40%, it appears as though the general trend for ROSC is improving with the combination of CPR revision, AED and Autopulse utilization combined.

**Plan**

The programs that are in place are working well. The department will continue to evaluate CPR data and AED utilization. The department will seek out opportunities to improve the distribution of AED’s throughout the community and support the devices that are already in the City of Lawrence and Douglas County buildings. The department will continue to meet the community needs for CPR education as requested.

The department will continue to monitor trends in patient outcomes related to cardiac arrest data and seek opportunities to improve patient outcomes based on that data. If equipment available significantly improves ROSC for cardiac arrest patients, the department will evaluate the equipment and make a recommendation for implementing new technology, techniques or equipment if reasonable.

**References**

2012-2017 ROSC data

102.20 Program Management-Assignments