

# RURAL EMS MANAGERS AWARENESS PROGRAM



U.S. Department of Health and Human Services  
Health Resources and Services Administration (HRSA)  
Office of Rural Health Policy (ORHP)



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# Foreword

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Often concerned and caring people are asked to manage a volunteer, paid, or combination emergency medical services (EMS) agency with little specific preparation or training for the task. Sometimes it occurs because the person has been the best Emergency Medical Technician (EMT) or an effective instructor. There is danger associated with these types of promotions, not only may the person be an ineffective manager, but the service may lose a quality EMT or instructor in the process.

There are several comprehensive EMS management training programs available in both the private and public sector. Unfortunately, these educational offerings do not always coincide with an individual's selection as EMS manager. Additionally, many of them are often held far away from the new manager's home location and require the person to be away from his/her community for several days.

This document is meant to be a brief orientation... a survival kit, if you will. It is not meant to replace more formal management training and education programs, but is meant to serve as a stopgap measure to help a newly appointed manager understand a bit about the breadth and complexity of running even the smallest EMS agency.

EMS is one of the "foundation" health care programs in any rural community. In a recent document from the Institute of Medicine (IOM) titled *Quality Through Collaboration: The Future of Rural Health*, EMS is listed as one of four essential programs to which all communities must have access, along with primary health care, dental care, and basic mental health care. A more recent publication from the IOM titled *Emergency Medical Services: At the Crossroads* notes the fragile nature of the EMS system across the country and especially in rural areas. That document also notes the need for training of EMS agency managers.

We would like to take this opportunity to express our gratitude to those of you who help hold EMS together by managing a rural EMS agency. Hopefully, the information contained in this document will make that job a little easier.

Marcia K. Brand, PhD, Director  
Office of Rural Health Policy

Nels D. Sanddal, Director  
Rural EMS and Trauma Technical  
Assistance Center





## **INTRODUCTION**

Emergency Medical Services (EMS) is a unique health care system in many regards. In rural areas much of the care is provided by volunteers. EMS agency management personnel may also be volunteers. Generally, even the most remote and rural hospitals are managed by persons with specific education, training, and/or experience in health care management, but leaders of rural EMS agencies often do not have such formal preparation.

EMS agency managers are called by many different names - service chief, agency director, or association president. Regardless of the title, these managers have an awesome responsibility to the patients served, to the oversight and regulatory bodies to whom they report, and to the personnel for which they are responsible. It can be a daunting task, especially for those with limited preparation and experience.

As an EMS agency manager, you are a critical element in the health care delivery system for your community.

### Purpose

The purpose of this document is to provide new EMS agency managers with an orientation to the broad scope of an EMS system. For individuals who have been focused primarily on delivering quality patient care, the transition to managing an EMS agency within the complex emergency health care system can be overwhelming.

### Description of Product

This is a written “text” on issues associated with various components of the EMS system. It is intended to serve as both an initial orientation and as a reference guide. As resources allow, it is anticipated that this text will be migrated to an interactive Web-based training program that can be accessed by anyone at any time.

### Need for Additional Training

This manual is not intended to replace more formal training programs that may be provided by your State or Commonwealth EMS Office or by other public or private entities. It is meant only as an orientation to your new role and responsibilities as an EMS agency manager. Additional training and experience is essential to refine the skills needed to become an effective EMS agency manager. You are strongly encouraged to seek out those training opportunities.



## BACKGROUND/OVERVIEW

A bit of background is necessary to set the stage for the principles covered in this orientation manual. Modern EMS systems evolved over the past four decades, so EMS is still a fairly young science. It is important to remember that the principles we hold as true today may be challenged in the future as additional research and evaluation are conducted. The EMS agency manager should be a leader in reviewing research and evaluation results at a local level. Agencies that become mired in tradition are resistant to change and often fall behind in terms of their policies, protocols, procedures, and even the quality of care provided. It is essential that each EMS agency continue to seek ways to improve its performance and service to its patients. However, this does not always mean that “more is better.” For instance, in many systems it is unclear that higher levels of training for EMS personnel result in better outcomes for the patient. Improvement may mean doing what we already do more efficiently and effectively, or it may mean doing something new or different. Regardless, it takes an effective EMS agency manager and engaged medical director to provide the leadership necessary to make those determinations.

### EMS History

There are many fine historical accounts of the development of modern EMS systems. One of the most recent is contained in the Institute of Medicine’s (IOM) report titled *Emergency Medical Services: At the Crossroads*. The IOM (2006) report describes the EMS historical development as:

EMS dates back for centuries and has seen rapid advancements during times of war. At least as far back as the Greek and Roman eras, chariots were used to remove injured soldiers from the battlefield. In the late 15th century, Ferdinand and Isabella of Spain commissioned surgical and medical supplies to be provided to troops in special tents called *ambulancias*. During the French Revolution in 1794, Baron Dominique-Jean Larrey recognized that leaving wounded soldiers on the battlefield for days without treatment dramatically increased morbidity and mortality, weakening the fighting strength of the army. He instituted a system in which trained medical personnel initiated treatment and transported the wounded to field hospitals (Pozner et al., 2004).

This model was emulated by Americans during the Civil War. General Jonathan Letterman, a Union military surgeon, created the first organized system in the U.S. to treat and transport injured patients. Based on this experience, the first civilian-run, hospital-based ambulance service began in Cincinnati in 1865. The first municipally-based emergency medical service began in New York City in 1869 (NHTSA, 1996).

In 1910, the American Red Cross began providing first aid training programs across the country, initiating an organized effort to improve civilian bystander care. During World Wars I and II, further advances were made in emergency medical services, although typically these were not replicated in the civilian setting until much later (Pozner et al., 2004). Following World War II, city EMS services were often operated by municipal hospitals and fire departments. In smaller communities, funeral home hearses served as ambulances because they were the only vehicle in the town capable of quickly transporting patients on stretchers. With the advent of Federal involvement in EMS in the early 1970s, and the articulation of standards at the State and regional level, these services were gradually replaced by others, including third service providers, fire departments, rescue squads, and private ambulances (NHTSA, 1996).

By the late 1950s, prehospital emergency care in the United States was still little more than first aid (IOM, 1993). Around that time, however, advances in medical care began to spur the rapid development of modern EMS care. While the first recorded use of mouth-to-mouth ventilation was in 1732, it was not until 1958 that Dr. Peter Safar demonstrated mouth-to-mouth ventilation to be superior to other modes of manual ventilation. In 1960, cardiopulmonary resuscitation (CPR) was shown to be efficacious. These two clinical advances led to the realization that rapid response of trained community members to cardiac emergencies could improve outcomes. The introduction of CPR and the development of portable external defibrillators in the 1960s provided the foundation for advanced cardiac life support (ACLS) that fueled much of the development of EMS systems in subsequent years.

In 1965, a President's Commission on Highway Safety was convened to look at the medical care and transportation of citizens who were injured on the Nation's highways. The commission recommended a national program to reduce highway deaths and injuries. The following year, the National Academy of Sciences and National Research Council released *Accidental Death and Disability: The Neglected Disease of Modern Society*. (NAS and NRC, 1966) (p. 23)

The IOM (2006) goes on to further acknowledge *Accidental Death and Disability* as the beginning of modern EMS.

Many experts date the development of modern EMS systems in the United States back to the 1966 publication of the landmark report *Accidental Death and Disability: The Neglected Disease of Modern Society* (NAS and NRC, 1966). Following the publication of this report and subsequent congressional action, EMS systems rapidly developed across the country. However, momentum was lost in 1981 when direct Federal funding for planning and development of EMS systems ended and was replaced by block grants to States. Over the past 25 years, EMS systems developed in a haphazard manner nationwide, regulated by State EMS offices that have been highly inconsistent in their level of sophistication and control. The result has been a fragmented and sometimes balkanized network of

under-funded EMS systems. These EMS systems frequently lack strong quality controls, cannot or do not collect data to evaluate and improve system performance, fail to communicate effectively within and across jurisdictions, allocate limited resources inefficiently, and lack effective strategies and resources for recruiting and retaining personnel.

A significant lack of funding and infrastructure for EMS research has sharply limited studies of the safety and efficacy regarding many common EMS practices. Pressing questions remain about important issues, such as the value of Advanced Life Support (ALS) services, the safety and efficacy of many common EMS procedures, the optimal approach to managing multi-system trauma, and the cost effectiveness of public-access defibrillation programs. Barriers to data collection, a lack of standardized data elements and definitions, and a limited pool of researchers trained and interested in EMS all pose significant challenges to research in the field. As a result, the prehospital emergency care system provides a stark example of how standards of care and clinical protocols can take root despite an almost total lack of evidence to support their use.

Because of this lack of supporting evidence, EMS systems often must operate blindly in addressing such questions as how available EMS personnel should be deployed, what services should be provided in the out-of-hospital setting, and what approach to organizing the EMS system is best. Multiple models of EMS organization have evolved over time, including fire department-based systems, hospital-based systems, and other public and private models. However, there is little research to demonstrate whether any one of these approaches is more effective than the others.

Within the last several years, complex problems facing the emergency care system have become more visible to the public. Press coverage has highlighted instances of slow EMS response times, ambulance diversions, trauma center closures, and ground and air crashes during patient transport. This heightened public awareness of these problems, which have been building over time, clarified the need for a comprehensive review of the U.S. emergency care system. Although emergency care represents a vital component of the U.S. health system, to date, no study of the system has been conducted. The events of September 11, 2001, and more recent disasters, such as Hurricane Katrina and the subway bombings in London and Madrid, have further raised awareness... (p. 13).

## EMS Agenda for the Future

In 1996, the National Highway Traffic Safety Administration (NHTSA) established an agenda for EMS system development into the 21<sup>st</sup> century. The *EMS Agenda for the Future* identified fourteen attributes that make up the modern EMS system including (NHTSA, 1996):

- Integration of health services
- Legislation and regulation
- System finance
- Human resources
- Medical direction
- Education systems
- Public education
- Prevention
- Public access
- Communications systems
- Clinical care
- Information systems
- Evaluation (pg. v).

Those same fourteen attributes serve as the organizational backbone for the discussion contained in this document.

## Rural EMS Agenda for the Future

In 2004, the National Rural Health Association, with funding support from HRSA's Office of Rural Health Policy, published a companion report to the 1996 *EMS Agenda for the Future* that specifically addresses issues, concepts, challenges and opportunities for rural EMS. That visionary document, titled *Rural and Frontier EMS Agenda for the Future*, provides a detailed discussion of the current status of EMS in rural America and offers some guidance about how rural systems might evolve to in the next few decades. The *Rural and Frontier EMS Agenda for the Future* describes the following vision for rural EMS (NRHA, 2004).

The rural/frontier EMS system of the future will [ensure] a rapid response with basic and advanced levels of care as appropriate to each emergency. It will also serve as a formal community resource for prevention, evaluation, care, triage, referral, and advice. Its foundation will be a dynamic mix of volunteer and paid professionals at all levels, as appropriate for and determined by its community. Fulfilling this vision requires the application of significant Federal, State, and local resources as well as committed leadership at all levels to address such issues as:

- Staff recruitment and retention
- The role of the volunteer
- Adequate reimbursement and subsidization

- Effective quality improvement
- Appropriate methods of care and transportation in remote, low-volume settings
- Assurance of on-line and off-line medical oversight
- Adequacy of data collection to support evaluation and research
- Adequacy of communications and other infrastructure
- Ability to provide timely public access and deployment of resources to overcome distance and time barriers

Rural/frontier EMS providers are acutely aware of the challenges that they face. This document is intended to arm EMS agency managers in these settings with information about future directions in which their services and systems might best head to [ensure] their survival, advancement, and growth. It is also, more importantly, targeted to local, State and National makers of policy and funding decisions to underscore the fragility of rural/frontier EMS, identify the barriers to success, propose solutions, and highlight successful practices that EMS agency managers must consider within the sphere of their influence (p. 3).

The three documents referenced in this section, *Emergency Medical Services: At the Crossroads*, *Emergency Medical Services: Agenda for the Future*, and *Rural and Frontier Emergency Medical Services: Agenda for the Future* provide much of the underpinning for this orientation manual. References to these documents are included in both the reference and resource sections of this publication. Access to all three of these publications is free and could be considered a required reading list for all EMS agency managers. *Regional EMS and Trauma Needs Assessment: Benchmarks, Indicators and Scoring* developed by the Critical Illness and Trauma Foundation with funding support from the State of Colorado also served as a key resource document.





## THE FOURTEEN COMPONENTS OF AN EMS SYSTEM

### 1. Integration of Health Services

**Purpose:** For its patients and the community as a whole, the Emergency Medical Services (EMS) should provide care and services that are integrated with other health care providers, community health and public safety resources.

**Goal:** To achieve improved communications and systems performance that improves the quality of care received in the community.

**Objective 1.1:** The Emergency Medical Services (EMS) agency participates in a multidisciplinary planning process that describes the role of the agency within the health care and public safety systems serving the community and the region.

All EMS agencies are expected to participate in a variety of meetings, planning groups, conferences, and community events. It is important for the EMS agency to be represented at these various venues by a knowledgeable and articulate individual. The EMS director may choose to represent the agency or to assign representation to your staff or volunteers, trying to match the group with an appropriate individual, e.g. your most knowledgeable person on all-hazard responses might be the best representative of your agency on the Local Emergency Planning Committee.

Some of the meetings that might be important for the agency to participate in could include:

- Local Emergency Planning Committee
- Hospital/System Quality Improvement Committee
- 9-1-1 System Committee
- Public Safety Communications Committee

In addition to participating in these committees, a multidisciplinary group should be convened occasionally to provide input and guidance into the EMS agency itself. It is important for the EMS agency to focus on how best to meet the community's needs for emergency care and transportation. The results of these meetings should include the development, revision, or refinement of an EMS plan for the community. Depending on the status of EMS system development, a formal assessment and planning process might be helpful. A useful tool for this might be the *Community Assessment Guide* that can be found at [www.remsttac.org/communityassessment](http://www.remsttac.org/communityassessment).

**Objective 1.2: A clearly defined and easily understood structure is in place for the EMS decision-making process.**

The EMS operational decisions are based on the system plan and reflect ongoing engagement with multidisciplinary stakeholders and partners to ensure integration of the EMS agency within the community and the region.

The EMS agency manager needs to operate the service in a manner that is consistent with the EMS plan and the appropriate policies and procedures. Policy development and decisions may be guided by an administrative team, a board of directors or a stakeholder group. To the extent possible, decisions should not be made in a vacuum or in an autonomous manner. There should be thoughtful deliberation about the needs of the community, the EMS response, and individual patients as each important decision is made. For instance, prior to making a decision about changing the level of service the agency provides, community stakeholders should be consulted to make sure the planned change fits the overall health care plan for the community and is something that the community is willing to support and sustain.

The EMS agency manager must be accountable to the agency's governing or oversight body, whether that is a government entity, a non-profit board, or other formally constituted entity. The EMS agency should be accountable to the community it serves. It should have a clearly stated mission that is widely known to other health care and public service entities, and to the community at large.

**Objective 1.3: The EMS agency has a process in place to measure its progress in meeting goals and objectives in the system plan and in the integration of the agency in the health care and public safety assets in the community.**

The EMS plan\* becomes one benchmark against which to measure EMS progress or outputs. For instance, if the EMS plan suggests that by a certain date all EMS providers will have completed a particular training course, then the measure is whether (or not) that goal was met. There may be other agency benchmarks as well, e.g. if there is a franchise or contract with the city/county, that includes a goal of being able to respond (leave the ambulance station) in fewer than 10 minutes 85 percent of the time, that also becomes a measure of importance. The priority in this process is to determine the efficiency and effectiveness by which individuals can receive appropriate prehospital emergency care in the community. Is the right patient getting the right care in the right place within the right time frame? This is the essence of community and regional integration.

\* Many EMS agencies will not have an EMS plan, per se. However, all should strive toward that goal. As an interim measure, the agency can measure itself against its stated mission and the supporting agency's policies, procedures, and protocols.

## Key Points

- **EMS is a component of the overall health care system.**

Alasdair Conn, MD, quoted in the *EMS Agenda for the Future* (1996), suggests:

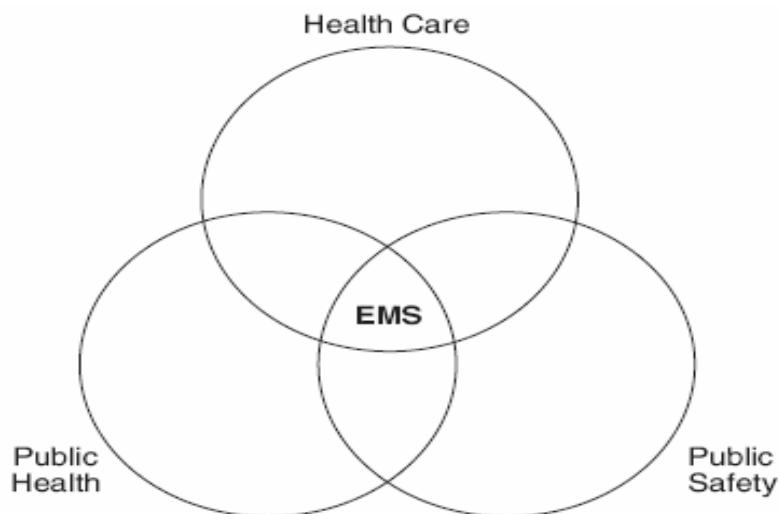
Out-of-facility care is an integral component of the health care system. EMS focuses on out-of-facility care and also supports efforts to implement cost-effective community health care. By integrating with other health system components, EMS improves health care for the entire community, including children, the elderly, and others with special needs. (NHTSA, 1996, p. 9)

- **EMS is at the intersection of public health and public safety.**

The Institute of Medicine report states that:

EMS operates at the intersection of health care, public health, and public safety; therefore, it has overlapping roles and responsibilities. (Figure 2-1) Often, local EMS systems are not well integrated with any of these groups; therefore, they receive inadequate support from each of them. As a result, EMS has a foot in many doors but no clear home. (IOM, 2006, p. 29)

**FIGURE 2-1**



- **EMS cannot operate in isolation; it must be integrated into the community's health care, public health, and public safety systems.**

NHTSA's *EMS Agenda for the Future* states that:

Integration of health care services helps to ensure that the care provided by EMS does not occur in isolation and that positive effects are enhanced by linkages with other community health resources and integration within the health care system.

EMS provides out-of-facility medical care to those with perceived urgent needs. It is a component of the overall health care system. EMS delivers treatment as part of, or in combination with, systematic approaches intended to attenuate morbidity and mortality for specific patient subpopulations. (NHTSA, 1996, p. 9)

### **Summary**

While it is important that the EMS agency focuses on its primary mission of prompt, efficient, and effective prehospital care, the EMS agency manager must pay close attention to the environment surrounding the EMS agency. It is vital for the EMS agency to be closely engaged with other health care and public safety assets within the community.

## 2. EMS Research

**Purpose: Decisions concerning the delivery of emergency care should be guided by science-based evidence rather than “intuition” or “tradition.”**

**Goal: To contribute to formal and informal research that helps identify better methods of EMS delivery and prehospital patient care and to implement improved methods identified in peer reviewed literature.**

**Objective 2.1: EMS collaborators (agencies, facilities, other stakeholders) have sufficient policies to conduct and participate in system research efforts.**

To identify which procedures result in the optimal care of the injured or acutely ill patient, a collaborative relationship is needed between and among all of the agencies, institutions, and individuals who contribute to that outcome. Barriers to conducting research such as misinterpretation of Health Insurance Portability and Accountability Act (HIPPA) standards concerning research should be proactively addressed in policies and procedures that support data contributions for scientific inquiry.

This is not to suggest that appropriate protections of patient privacy shouldn't be in place. In fact such protections should clearly be spelled out in agency and institutional policies. Since most EMS agencies are not affiliated with universities or other formal research entities, collaboration with such entities is essential to ensure that ethical standards are met throughout the research design, implementation, and reporting phases.

**Objective 2.2: EMS agency participants are integrated with external stakeholders in applying and publishing system design, patient care, and specific intervention research.**

It is important for the new EMS agency manager to promote a culture of scientific truth within the ranks of your agency. When EMS personnel say they need to have the latest widget or gadget, the comeback response is “how do we know it works?” One approach to the establishment of a scientifically-oriented culture within the EMS agency is to participate in intra-agency and interagency quality improvement activities. Such evaluation processes are discussed in the last section of this orientation package.

**Objective 2.3: EMS agency participants (agencies, facilities, other stakeholders) cooperate to conduct and participate in system research efforts. Research efforts may include collaboration with social scientists, economists, health services researchers, epidemiologists, operations researchers, and other clinical scientists.**

EMS research is a complicated process and must be conducted appropriately to ensure that the outcomes are valid, reliable, and reproducible. It is vital that relationships are explored and/or built with credible researchers and that the decisions concerning the design, implementation, and reporting of the findings are jointly decided. Most researchers are affiliated with universities or colleges. Since EMS is part of a complex system, all research may not be medically-based. For instance, if there are questions about the best system configuration, an industrial/organizational psychologist may be the best resource. Similarly, other questions might lead toward relationships with economists, sociologists, ethicists, human factor psychologists, or educators.

A research team will be able to ensure the quality of the research with the following process:

- the research question is clearly stated,
- the methodology is appropriate to answer the question,
- the number of cases is large enough to establish the true results,
- human subject protections are in place,
- the data are appropriately analyzed and reported, and
- the conclusions are supported by the data.

The research team will also determine the degree to which the conclusions can be generalized to other settings.

### **Key Points**

- **Research involves pursuing and disseminating knowledge.**

Many EMS providers consider research as some ethereal process that has little relevance to the daily practice of emergency medicine. There are several types of medical research.

- Basic science involves understanding how the body reacts to certain insults or to a particular intervention, e.g. what chemicals a cell produces when it is deprived of oxygen. Most basic science research is conducted in the laboratory.

- Clinical science looks more broadly at how the body responds to a particular treatment, e.g. how it responds to lactated Ringer’s IV solution compared to isotonic saline in various stages of shock. Most clinical trials are conducted in settings that can be closely controlled and monitored.
- Applied research takes the findings of basic science and clinical research and then translates them into practiced applications. This type of research might include out-of-hospital trials of procedures that have proven to be clinically effective and beneficial for patients in the hospital.
- Systems research examines how various attributes of the system effect response and outcomes, e.g. does having a third crew person result in shorter on-scene times for trauma patients?
- Human factors research involves the examination of the person and the machine, e.g. emergency driving.

While these types of research help to advance the science of emergency medicine, some types of research and their associated findings are more directly relevant to EMS agencies and EMS providers. Keep in mind that “just because it is written” does not necessarily mean a conclusion is true. This is not to say that researchers knowingly lie, but there are many challenges that are inherent in the research process. For example, the number of people included in the research sample might be too small to ensure accurate findings. In other cases something else happening in the community or with the population studied affected the outcome rather than the procedure being tested. In some cases the research findings might be absolutely true in one location but do not translate well to all settings. Different types of research methods are considered more reliable than others such as a double blind randomized clinical trial. Reading, understanding, and translating (or applying) research is a science in and of itself. An engaged and knowledgeable medical director can be very helpful in the process of applying research to EMS practice.

- **EMS is a relatively new discipline.**

Medicine, as a broad field, has been practiced since the beginning of mankind and it has evolved significantly. Treatments that were once considered “mainstream,” e.g. blood letting, are no longer practiced. Despite major advances, medicine is still an art as well as a science. Alternative and complementary approaches that were shunned as unproven a short time ago are being more fully integrated into treatment plans.

The discipline of emergency medicine is still evolving after 40 years. Tracking the changes in how procedures and medications used in cardiopulmonary resuscitation have changed over that period illustrates that “what we did yesterday” was not always in the best interests of our patients. It also demonstrates the responsibility that EMS has to our patients to change our approaches and techniques with new knowledge gained through research.

- **In its roughly 30 year history, EMS has relied on “conventional wisdom” and “common sense” to develop its standards.**

EMS is a gadget-driven industry. Someone is always promoting a new or better spine board, head immobilizer, defibrillator, or widget. As a leader you do not have to look hard to find the one more item that the agency “just had to have” and is now gathering dust in some back corner. Take pneumatic anti-shock garments and esophageal obturator airways as examples.

- **Two concepts are important: every member of the EMS team should be aware of the importance of research and every member of the team should be ready and willing to participate at some level.**

One of the biggest obstacles to finding the truth about a particular practice or procedure is attitude. Statements such as “we’ve always done it that way” ;“I know it works”; or “those findings might have been true in LA, but they don’t apply to our service,” are formidable barriers. Leadership is one of the keys to breaking down those barriers. With an open, inquisitive mind, the EMS manager can challenge conventional wisdom and encourage the EMS agency to engage in self-evaluation processes. This helps set the stage for more formal research efforts.

### **Summary**

Research is essential to assist EMS agency managers and medical directors to make informed decisions about many issues. Some issues are clinical in nature, such as whether a particular airway adjunct positively or negatively impacts patient outcomes. Still other research findings deal with larger systems issues such as whether rural EMS assets can be deployed in a different manner to decrease response time. EMS agency managers must be informed consumers. A glossy trade magazine advertisement does not mean a product has been proven scientifically or will necessarily benefit the patient.



### 3. Legislation & Regulation

**Purpose:** To ensure that the public has access to emergency medical care that meets minimum standards of quality.

**Goal:** To meet the letter and intent of all statutes and regulations pertaining to the delivery of prehospital care in a given state or jurisdiction.

**Objective 3.1:** The Emergency Medical Services agency is in full compliance with all applicable laws, rules, ordinances, contracts, etc. that govern all aspects of their operation. Current copies of all relevant policies and required licenses, certifications, insurances, etc. are on file.

In virtually every jurisdiction in the United States legal requirements must be met in order to operate an “ambulance service” or “EMS agency”. The rules and regulations vary by jurisdiction and by type and level of service provided. For example, transporting advanced life support services are held to different standards than non-transporting basic life support agencies. Similarly, the standards for operations in one State may be quite different from those in another State. Often laws, rules and regulations govern both the agency’s operation (e.g. an EMS agency license) and the agency’s personnel (e.g. EMT license). It is important for the EMS agency manager to be knowledgeable of and strive to achieve or maintain compliance with all rules and regulations pertaining to both the EMS agency and its personnel.

Other legal requirements may also need to be met. Examples might include non-discrimination policies in hiring, the absence of sexual harassment, and the provision of a drug free workplace. These issues often tend to get overlooked, particularly in volunteer organizations. Even in an all-volunteer agency, certain employment laws and rules must be adhered to.

Additionally, there are often legal reporting requirements. These could involve the submission of patient care data to a region or state, or the reporting of suspected child abuse or domestic violence. Reporting requirements can also be administrative. For instance, if the agency’s legal structure is a private non-profit company, IRS form 990 may need to be filed on an annual basis.

**Objective 3.2:** The EMS agency makes decisions and operates based upon its EMS plan, internal policies, and the applicable laws, rules, ordinances and contracts that govern their operations.

Knowing the rules and regulations is only part of the equation. Meeting their intent and expectations is also important. Shortcutting, ignoring, or working around the guiding standards undermines the agency over the long term and violates the public’s trust. If certain requirements cannot be met, the best tactic is

to work with the regulating agency to develop a plan to come into compliance or to restructure the agency in such a way that it is in compliance. For example, if an agency does not have enough EMT-Paramedics to meet the intent of regulations governing advanced life support service licensure, it could possibly recruit and/or train additional staff, meet the regulation in another way (e.g. R.N. coverage if allowed), or re-designate the service as a basic life support unit.

**Objective 3.3: The EMS Agency is reviewed periodically by objective, third-party experts, reviewers, or regulators to ensure that it functions in compliance with all applicable laws, rules, ordinances, and contracts that govern its operation.**

In most states, regulatory agency representatives make routine inspections of each EMS agency. Visits may be scheduled or unannounced. The purpose of these inspections is to assure to the public “that the agency is doing everything right” rather than try to find something wrong. So these inspections are important, even if they may be inconvenient or even stressful. EMS agencies that monitor themselves closely will have less to worry about when the regulators visit.

In addition to these mandated regulatory assessments, national accreditation organizations have developed EMS service standards of excellence. They provide external evaluation teams to ensure that these high standards are met. These formal accreditation processes are both time consuming and relatively expensive. However, if the agency can afford such visits, meeting formal accreditation standards takes the agency to a new level of excellence that few services attain. For information pertaining to one such accreditation program go to [www.caas.org](http://www.caas.org).

### **Key Points**

- **Each state has legislation and regulations providing a statutory basis for EMS.**

In most States, it is the State that has jurisdiction over the operation of EMS agencies or ambulance services. However, in some States, certain activities may be governed by regional councils or other entities. Regardless of the structure, it is important that the EMS agency manager know and work to achieve full compliance with all such laws, rules, and regulations. Regulatory agencies are, most often, anxious to assist you in achieving that compliance. Work to develop a collaborative, rather than adversarial, relationship with the regulatory agency.

- **The purpose of legislation and regulations is to ensure the safety of the public.**

One of the most important challenges facing EMS on a national level is the wide regulation variability between and among the States. A paramedic level service is not the same in all States. Several prominent National organizations are working to close these gaps. However, the degree to which such efforts will be successful depends on the adherence to standards by EMS agencies in each State.

- **Rules and regulations affect system design, funding, scope of practice, licensure and certification, and research.**

The best regulatory oversight ensures standardization, while supporting innovation. Neighboring EMS agencies, licensed at the same agency level of operations, may vary considerably in their structure, response, and quality of care attributes. Leadership is the key to achieving compliance with rules and regulations, as well as attaining excellence under those operating parameters.

- **Rules and regulations may be promulgated by Federal, State and local levels of government.**

In most instances, the State or Commonwealth EMS Office oversees EMS activities. A good place to gather information pertaining to those rules and regulations is on the State's Web site. A Google™ search for State + your State's name + EMS should lead you to that website. You may also be able to search for the State EMS Office's Web site location via the State (or Commonwealth) Web site. In most instances the State EMS Office is within the State Department of Health. However, the State EMS Office may be in the State public safety agency, or there may be a freestanding EMS board. Regardless of the structure, it is important to learn and abide by the laws, rules, and regulations that govern EMS operations in State.

## **Summary**

Regulations may sometimes seem punitive and unnecessary. However, they are designed, in their purest sense, to protect the health and welfare of the public. EMS experiences significant variation from one State to another and even from one community to another. Some variation results in superior response and patient care, but the opposite is sometimes also true. Remember, when it is your loved one traveling through a neighboring community or State, you want some assurance that the EMS agency responding meets minimal standards for training, licensure, equipment, and communications. People traveling to and living in your community have the same rights to an EMS agency that meets the expectations of at least minimum competence and efficiency.



#### 4. System Finance

**Purpose:** To ensure that sufficient resources exist to support the delivery of quality patient care to the community.

**Goal:** To identify the true cost of EMS delivery in a community, to secure the resources necessary to meet that true cost, and to be good stewards of public revenues through programs that enhance efficiency and effectiveness of the agency's primary mission.

**Objective 4.1:** Cost, charge, collection, and reimbursement data are projected and collected, as well as compared to (or benchmarked) against industry data and used in strategic and budget planning.

For many new EMS agency managers, particularly in rural, volunteer systems, one of the most perplexing responsibilities is the management of fiscal resources. Regardless of the EMS system's size or configuration, e.g. paid or volunteer, costs are associated with the delivery of care. Cost categories include personnel, ambulances, facilities, supplies, training, fuel, maintenance, and other costs associated with the delivery of medical care. These costs might be recouped in a variety of ways including: collected fees, local government subsidies, donations, fund raisers, or grants. Regardless of the source of funds, the EMS manager's responsibility is to safeguard and spend these resources in a manner that ensures the highest possible quality of care for the community.

**Objective 4.2:** Budgets are approved and based on historic and projected cost, charge, collection, reimbursement, and public/private support data.

It is important to track budget, expense, and revenue data over time to help the manager, the agency, and the governing body to achieve the maximum service efficiency and effectiveness within the limitations of available resources. Typically, the EMS agency manager is accountable to some higher authority, such as the city government, the county commissioners, the ambulance oversight committee, or a non-profit board. It is crucial for the EMS manager to acquire the skills necessary to understand and present financial data. If the EMS manager does not have the skills needed to manage the financial aspects of the operations, or if the EMS agency is too large or complex, then the EMS manager should develop a strong working relationship with the accountant, billing clerk, bookkeeper, or treasurer of the organization. Regardless of who does the day-to-day billing or bookkeeping, it is essential that the EMS manager exercises his/her fiduciary responsibility for tracking budgets and for oversight of the revenue and expense process.

**Objective 4.3: Financial resources exist that support the planning, implementation, and ongoing management of the administrative and clinical care components of the EMS agency.**

Imagine if there were a crash in your service area that resulted in critical injuries, and the survivors dialed 9-1-1, and nobody came. Many rural EMS agencies are faced with this risk. While financial resources do not fix all of a community's EMS service challenges, the lack of resources worsens the problem. Supporters of the system need to understand that the cost per patient transport is inversely related to the number of calls per year responded to by the EMS agency. It costs as much to respond to 1, 50, or 200 calls. The "cost of readiness" in rural environments is substantial. Ambulances do not cost less because a community only has a few calls per year. A similar core of individuals needs to be prepared to respond to an occasional call as for daily calls.

**Key Points**

- **EMS, like all organizations, must be financially sound.**

Many EMS agencies take pride in being a "volunteer" agency. However, even in the smallest and purest volunteer systems there are costs. Those costs might include equipment and supplies, a garage for housing the ambulance, dispatch, training, etc. Even if all of these expenses are donated, they need to be accounted for in an annual budget. The funds or donated services needed to meet that budget must be obtained each year.

In larger volunteer, combination, or paid services, a budget must be prepared and sufficient resources to "fund" the budget must be obtained. These funds might come from patient billing, community support, governmental budgeting, or other sources.

- **Adequate funding sources must be maintained.**

Complacency is dangerous when it comes to "fighting" for fiscal resources. If the city or county government does not see a continued need for a specific EMS service, or if they feel other issues have a higher priority, the EMS agency could lose hard-earned resources in subsequent budget cycles. It is essential, therefore, to have an accurate accounting system and programmatic reports that document the essential nature of the services provided by your EMS agency.

- **Budgets must be developed and followed.**

The beginning of any accounting process is a budget. The Rural EMS and Trauma Technical Assistance Center (REMSTTAC) offers a tool to assist with the budget development process ([www.remsttac.org/budgetmodel](http://www.remsttac.org/budgetmodel)) also available in hard copy. This particular model takes into account cash, non-cash, and volunteer resources, and it helps document the ongoing cost of readiness. The budget can be used to track your financial status throughout the fiscal year (fiscal year refers to the accounting year that a particular entity uses, it may, or may not, be the calendar year. For instance, many organizations operate on a July 1- June 30 fiscal year).

### **Summary**

System finance is one of the most difficult areas for many new EMS agency managers. Most do not have a bookkeeping or accounting background. Some are challenged by balancing their own checkbook. And yet, it is critical that they understand the finances associated with the EMS agency. If those costs are not tracked closely, the challenges facing the EMS agency may only get worse over time. Good stewardship and accountability for public resources are key to maintaining the public's trust. The EMS agency manager must be willing and prepared to ask for help if and when it is needed.





## 5. Human Resources

**Purpose:** To ensure that quality personnel, in sufficient numbers, are available at all times to support the agency's primary mission of providing EMS care.

**Goal:** To continually enhance the quality of patient care delivered through programs of recruitment and retention of personnel including issues of training, upgrading, and personnel satisfaction.

**Objective 5.1:** The EMS agency has personnel recruitment and retention policies and programs to maintain an adequate number of trained and licensed personnel (paid and/or volunteer) to meet performance standards for level of care and response times.

One of the major challenges facing EMS agencies today is recruiting and/or retaining sufficient EMS providers to cover the agency's mission. While urban "paid" systems are not immune to these challenges, staffing problems tend to become more serious in smaller, more remote, communities. In these rural communities, there are many reasons why it is difficult to maintain an adequate workforce. For example, many rural areas face economic challenges that cause both adult family members to work, sometimes substantial distances away from home. Some employers are less understanding about the absence of workers each time there is an ambulance call. This diminishes the responder pool during daytime work hours.

In addition to the economic pressures, there is evidence that the nature of volunteerism is changing across America. People continue to volunteer but they often do so with "more strings attached" (Putnam, 2000). When EMS was just beginning in the United States, some individuals were on call virtually 24 hours a day 7 days a week throughout the year. It is now more common for volunteers to place limits on their involvement, e.g. every Tuesday and Thursday evening. Volunteer pools in many communities are shrinking because younger residents are migrating to larger communities for additional opportunities, and the remainder of the population is aging. This aging phenomenon changes both the dynamic of the volunteer pool and increases the need for EMS services among the population. These changes in volunteerism have a profound impact on personnel scheduling with the large numbers of personnel needed to ensure on-call coverage.

Another issue that impacts recruitment and retention is the changing nature of rural health care. With many facilities converting from community hospitals to Critical Access Hospitals, more patients are transferred between facilities and often for long distances. Round trip inter-facility transfers can last many hours and put additional pressure on employers or the self-employed.

**Objective 5.2: Formal personnel policies are reviewed regularly by the EMS agency’s governing authority and clearly identify expectations and responsibilities for both the agency and staff.**

Even in the smallest volunteer systems, clear expectations for agency personnel are needed. Policies might include expectations around training attendance, attire when responding, and professional conduct. Such policies and procedures must be transparent to all and should be consistently enforced.

**Objective 5.3: Staff surveys or regular feedback sessions reflect that personnel understand applicable policies and procedures (e.g. schedules, equipment, protective gear, etc.), have access to required and advanced training, have leadership opportunities, and have access to stress management services as needed.**

Recruiting new members is a major challenge, but keeping existing members is often even more difficult. Most personnel feel a strong need to be part of the EMS agency “family.” They need to feel that management personnel care about them, provide opportunities for development, and are interested in what else is going on in their lives. Performance reviews should be conducted on a regularly scheduled basis. These reviews should focus on the positive attributes of the individual’s performance plus areas that might need improvement. Required training needs to be provided in a manner that is economical and readily available. Opportunities for advancement either within or outside of the agency should be supported.

Feedback should be solicited from the crew about how to make things better for them individually and collectively. When common themes emerge, the EMS agency manager should attempt to address the suggestions. The health and well-being of personnel should also be high on the agency’s priority list. This might include ensuring access to personal protective devices or providing timely access to stress management services.

**Objective 5.4: The Emergency Medical Services agency is fully staffed; personnel understand policies and their job duties/responsibilities. Staff indicates that they have input into management and operational decisions, and have reasonable access to needed equipment, supplies, training, and support, including stress management services as appropriate.**

Of course, the first priority is having enough personnel to fulfill the agency's mission. Part of that equation is investing in the existing personnel. The things valued by current providers are likely to be similar to what might attract new members. People want to feel needed and engaged. Feedback should be solicited formally and an "informal" open door policy should prevail. Ensuring that essential equipment and supplies are provided to allow EMS personnel to do their job well will assure them that they are valued. Recognition is important for those actions that go above and beyond, as well as more commonplace actions, such as not missing an on-call shift in six months.

### **Key Points**

- **The most valuable resource of an EMS agency is the people who staff it.**

The difference between a good and a great EMS system is the people who operate within the system on a day-to-day basis. The best EMS providers are those who are both clinically competent and compassionate. There is evidence that patients are less concerned with the care they receive than they are with how the EMS providers responded to them.

The opposite is also true; the difference between a good EMS agency and one that is not well-respected in the community is also the people who work on the service on a day-to-day basis. It only takes a couple of reports in a rural community that a provider was rude to someone's "Aunt Martha" to place the entire organization in jeopardy.

- **Competent, qualified personnel must be identified, recruited, and retained.**

The challenges associated with finding the right people in a rural environment are twofold. First, the pool of potential applicants from which to choose is not big. Often the selection criteria have more to do with willingness and availability than competence or compassion. Second, there is often a disconnect between what the public thinks being an EMS provider means and what it truly is. Remember that most perceptions are shaped by popular television shows and further refined by the life-saving emphasis of initial training. These perceptions are tested when a provider does not get called to respond for days or even weeks and then finds that few calls require truly life-saving assistance.

Potential EMS providers must understand the routine and often mundane nature of EMS. It is equally important that training is aligned with the reality of the agency's calls, including both life-saving and comforting approaches to the patient's illness or injury.

- **Adequate compensation and benefits must be secured.**

Many providers feel underpaid and underappreciated, even in urban EMS systems. A quick comparison of salaries between EMT-Paramedics and Registered Nurses documents a significant disparity in salaries and benefits. Combine that with other challenges faced by EMS providers on a daily basis and it is easy to see why many of our paid colleagues leave the profession after a short time.

Of course the challenge is even more significant in rural volunteer systems where compensation in any form may be minimal or non-existent. In these environments, it is essential to find out what keeps your volunteers engaged and to increase those opportunities. It may be the social aspects of training night; it may be the recognition as a valuable community member. It will, most likely, differ by individual, but it is the EMS manager's job to try to find the "reinforcers" that attract and keep the right people. At the same time, the EMS manager should begin to work on a transition plan to a paid EMS workforce since most experts note that fully volunteer EMS agencies are disappearing rapidly.

- **Personnel policies must be developed and maintained.**

It is vitally important that all agency personnel, whether they are paid or volunteer understand the EMS agency's expectations around their participation and performance. It is equally important that policies be adhered to by all personnel.

- **Personnel must be developed.**

EMS personnel recruitment, development, and retention often represent the largest ongoing cost of an EMS agency. To protect this ongoing investment, it is essential that sufficient resources and energy be targeted to the development of existing personnel. This may mean upgrades in training or the opportunities to advance to other roles within the EMS agency such as training officer or manager. Astute EMS managers are always investing other personnel in the agency's management so that someone is groomed to replace them when they leave the agency or transition from their leadership role.

### **Summary**

EMS has always been about taking care of people, and this is usually thought of in terms of taking care of the patient. It is at least equally important to take care of the EMS personnel. In the past, there seemed to be an endless supply of volunteers who were anxious to join the EMS agency and contribute to their community. Today every person on the roster is precious. Special care and attention is needed to coax the maximum performance from all personnel while, at the same time, meeting their needs for reinforcement and development.

## 6. Medical oversight

**Purpose:** Medical oversight involves granting authority and accepting responsibility for care provided by EMS.

**Goal:** To ensure that all clinical aspects of the EMS agency are conducted in accordance with the highest standards and traditions of health care and that they are continuously reviewed to identify opportunities for improvement.

**Objective 6.1:** The EMS agency's medical director has clear-cut responsibility, including the authority to adopt protocols, to implement a quality improvement system, to restrict the practice of prehospital care providers, and to generally ensure medical appropriateness of the EMS system.

Early in this document, the notion that EMS operates at the intersection between health care, public health, and public safety was introduced. However, since the primary mission of EMS is reducing death and disability, it is primarily a medical service. Medical oversight is essential to the delivery of high-quality care and to the ongoing improvement of that care because EMS, as a medical science, is largely practiced in an uncontrolled environment by persons with limited diagnostic skills.

The medical director should be actively engaged in several activities including the establishment of protocols, individual provider performance review, and ongoing EMS agency performance improvement activities. In many States, EMS providers practice under the license of a physician. The physician, in these circumstances, needs to be even more actively engaged in monitoring the care rendered under that license. This includes the ongoing quality improvement of the clinical and operational aspects of the EMS agency and the individuals that practice under his/her license.

**Objective 6.2:** The EMS agency medical director is actively involved with the development, implementation, and ongoing evaluation of protocols to ensure they are congruent with the EMS and hospital system design. These protocols include, but are not limited to, which resources to dispatch (Advanced Life Support (ALS) vs. Basic Life Support (BLS)), air-ground coordination, triage, early notification of the medical care facility, pre-arrival instructions, treatment, transport, and other procedures necessary to provide optimal care of ill and injured patients.

In the past many EMS medical directors chose to contribute to their EMS agencies in a very “hands off” manner, often signing certification or recertification forms with little knowledge or involvement. Through the efforts of groups like the National Association of EMS Physicians, the art and science of medical oversight has become better defined, and expectations are clearer for physician medical directors to be actively involved in the agency’s efforts.

Much of the medical director’s work revolves around protocol development and striving toward agency compliance and efficiency in meeting the protocol expectations. It is essential that the EMS manager develop a strong working relationship with the medical director for patient care, legal protection, and simply because it is the right thing to do. The EMS manager needs to model positive behavior when dealing with the medical director so that other agency personnel will engage in meaningful quality improvement activities. Much like the recruitment and retention of agency personnel, it is essential that the EMS manager find a physician with whom he/she works well and then foster a positive working relationship that can be sustained over time.

**Objective 6.3: The retrospective medical oversight of the EMS agency’s protocols for triage, communication, treatment, and transport is accomplished in a timely manner and is closely coordinated with the established quality improvement processes of the local health care system.**

In some EMS systems, the physician reviews each and every patient encounter. In others, particularly when the medical director is a volunteer or minimally compensated, the EMS agency manager flags cases for review. In either case it is important that the medical director has timely access to those records and that a system is in place to provide feedback to the EMS agency manager and crew members in a constructive non-threatening manner. Since EMS is an important part of the community’s broader emergency health care system, it is essential that quality improvement discussions include all disciplines and services so there are optimal patient care results.

### **Key Points**

- **The medical director oversees all issues relating to the clinical care delivered to patients.**

In the past medical oversight was often limited to advanced levels of care. However, today all EMS agencies should have an active medical director, regardless of whether they provide advanced or basic care. It is important to identify, recruit and retain an engaged medical director who will work well with agency leadership and personnel to help them attain the goal of excellence in patient care... every time.

- **Issues include training and education, protocols and quality improvement.**

The medical director can and should be involved in many ways. One of the most important roles is the development and/or adoption of standardized treatment protocols that are consistent with statewide protocols or scope of practice models. Such protocols provide the mechanism by which education programs can be tailored and serve as the cornerstone of quality improvement activities.

- **Medical oversight must be integrated with other management and command structures.**

The medical director is part of the management team. The EMS agency manager and the medical director must develop a solid working relationship built on mutual trust and respect. Clear lines of authority during routine and catastrophic events must be defined so that you are supporting, rather than competing with, each other's role.

### **Summary**

A physician who is engaged with and concerned about your EMS agency is important to the development and maintenance of a high quality EMS system. The identification and involvement of a medical director should be viewed as an opportunity to more fully invest your EMS agency in the health care system in your community or region, rather than just another regulation that must be met. It is natural to be apprehensive about receiving feedback on individual or agency performance as it relates to the care of the ill or injured patient. However, the involvement of the medical director is essential to establishing a culture of excellence within the EMS agency.





## 7. Education Systems

**Purpose:** To provide new recruits with the knowledge and skills needed to provide excellent patient care and to promote the refinement and enhancement of those knowledge and skill sets with seasoned professionals.

**Goal:** To provide training, or access to training, that ensures each professional working for the EMS agency has the opportunity to achieve performance mastery and competence based on essential knowledge and skill consistent with that provider's scope of practice.

**Objective 7.1:** The Emergency Medical Services agency has clear written educational requirements consistent with State and Nationally recognized levels of training. A structure is in place to provide education and maintenance of clinical skills.

An agency's quality of care is only as good as the education and training received by EMS providers initially and on a continuing basis. Training programs should stress the attainment and maintenance of clinical competence consistent with the provider's intended level of practice and with the designated agency service level, e.g. BLS or ALS. The education and training should conform to the objectives outlined in the National EMS Education and Practice Blueprint (NHTSA, 1998) and the minimum requirements of State and National certification and licensure organizations.

As the level of desired certification and licensure increase, e.g. from EMT-B to EMT-P, the complexities of the training system also increase. For instance clinical opportunities must be provided to attain and maintain competency in advanced procedures. However, remember that the foundation for all procedures is deeply rooted in the basics of emergency care. It is therefore essential that all training programs have a sound basic delivery structure that stresses the fundamentals contained in the EMT-Basic training program.

**Objective 7.2:** The EMS agency provides initial and continuing education programs including periodic testing, consistent with State and Nationally recognized levels of care.

Education and training of all health care professionals is a key factor in the provision of appropriate care. In rural environments it may be weeks, months, or even years before an individual provider has an opportunity to use a particular skill, such as assisting in childbirth. The low frequency of using certain skills makes education and training even more vital. Fundamentals gained in initial training must be routinely updated and reinforced. Periodic knowledge and skills testing at a service level help to ensure the maintenance of competence necessary to provide appropriate care to your patients.

**Objective 7.3: The Emergency Medical Services agency measures the effectiveness of its continuing education program by measuring competency on a regular, consistent basis. Continuing education and remedial education are based on structured performance improvement processes.**

Training and education are often the means by which the “loop is closed” in a performance improvement process. When either individual or system deficiencies are noted, often the root cause is that the providers never had the knowledge and/or skill in the first place, or that it has eroded over time. In either case continuing education becomes the appropriate process for making mid-course corrections.

### **Key Points**

- **Education and training traditionally involve the initial certification and continuing education of personnel related to clinical issues.**

The manner and mechanism by which initial and ongoing training occurs in a given community varies widely. Sometimes the EMS agency is responsible for the entire process. In some communities, a partnership with a local community college may exist. In other communities, the hospital may provide some assistance. Regardless of the method, the EMS manager is responsible for ensuring that the training is of high quality, meets the needs of the agency’s personnel, and results in the acquisition of new knowledge or skills or in the ongoing maintenance of expected levels of competency.

- **Non-clinical and operational issues must also be addressed through education and training programs.**

Non-clinical issues are often overlooked, but they are essential to the success of the agency. Important elements to include in training may be incident command, vehicle operations, recordkeeping, radio communications, and stress management.

### **Summary**

Among the many benefits of effective educational systems and processes, the obvious ones include the acquisition and maintenance of knowledge and skills necessary to ensure quality patient care. There are others benefits as well. If EMTs believe they have been provided with needed education and training, they will be more confident in approaching difficult patient cases and use appropriate judgment, even if they are not very experienced or trained for a particular event. Sharing training experiences with fellow crew members also has social benefits. Education and training should be viewed as an opportunity to provide professional and personal reinforcement to your agency’s crew members rather than a way to meet recertification requirements.

## 8. Public Information, Education, and Relations

**Purpose:** To engage and invest the EMS agency’s community in the ongoing need for quality emergency medical care. The purpose is to ensure that the public knows about your EMS agency, that it knows about the work it does, and that it becomes an active partner in improving emergency health care in the community. This could include increased wellness and prevention activities and ensuring strong financial support for EMS agency activities.

**Goal:** To ensure that the EMS agency enjoys strong political and financial support through programs that enhance communication between the agency and the community it serves.

**Objective 8.1:** A public information and education (PI & E) program exists that heightens public awareness of the need for an EMS system and the preventability of injury and/or illness.

The development of a PI & E program is one of those activities that often falls very low on the “to do list.” In an environment where scheduling personnel for next week’s call is a challenge, finding the time and resources to start a PI & E campaign may seem like a waste of time and resources. However, the problem of recruiting volunteers may be tied to the fact that the public does not understand the nature of the EMS agency or its needs.

To begin informing the public, start small and reach out to other groups. For instance there may be a “Mothers Against Drunk Drivers” chapter or a “SafeKids Coalition” in your community. Participate in their activities. EMS brings two things to such prevention campaigns – credibility and information. EMS professionals are often highly regarded by the community, and therefore, lend a degree of truth and urgency to the campaign. In addition, the EMS agency has access to data concerning the types and locations of various injuries and illnesses that can help target specific wellness and prevention initiatives.

The National Highway Traffic Safety Administration and the U.S. Fire Administration published guidelines and an action manual titled *Public Information, Education, and Relations in Emergency Medical Services* in 1994. This manual has very practical ideas about how to establish and maintain a PI & E campaign. One suggestion is that each EMS agency should select a PI & E officer who is responsible for proactively promoting the exchange of information concerning the EMS agency and its activities. This person should be someone other than the EMS agency manager. Keep in mind that there may be extremely competent people in the community who would volunteer to do the PI & E functions but have no desire to provide direct care to injured or ill persons.

**Objective 8.2: An assessment of the needs of the general public concerning the EMS and Trauma System information is conducted.**

PI & E is a way to market your agency. To market effectively, it is important to know who your consumers are, and what services they expect and would like to receive. A simple way to begin is to follow-up with your patients and/or their families to learn what their perceptions were about the incident. Patients and their families may focus on the “tone” of the provider rather than the care provided, the appearance of the ambulance interior, or how the transition at the hospital was handled. Many times prehospital personnel are so concerned about providing the right care that they overlook other issues of greater concern to the public served.

**Objective 8.3: The local EMS agency facilities enjoy strong public support.**

Public support comes in many ways. It might mean a substantial pool of potential volunteers, strong support at fundraising events, or letters to the editor of the local newspaper. If your agency receives public funding, it may mean a request for a mill levy increase will be supported by voters. Most important, it means that the community values the EMS agency as an asset.

**Key Points**

- **Providing accurate, timely information is key.**

If you have invested time and energy in establishing lines of communication when things are going right, it is easier to deal with the press or other community members when something did not go right. The time to let the newspaper reporter know that it is inappropriate to ask about specific patient details is over coffee during a routine briefing on communications protocols rather than at the scene of a motor vehicle crash.

- **Topics range from awareness to issues of public health and safety.**

The EMS agency can and should do much to help make its community safer and healthier. This may include participation in bicycle rodeos for youth, blood pressure screening programs for the elderly, and the promotion of safety belts and infant/child restraint systems.

- **In addition to the general public, relationships should be established and maintained with a variety of partner organizations including local government and other emergency service agencies.**

In the post-9/11 era, it has become obvious that EMS needs to partner with agencies in the public safety, health care, and public health arenas to ensure a timely and coordinated response to a significant event. If that level of cooperation is to be successful during an all-hazards event, the relationship should be initiated prior to crisis events. Once again, communication is the key.

### **Summary**

Public information, education, and community relations may slip off of the radar screen when an agency is facing challenges. And yet it may be what is needed to solve the problem. For instance, if an agency is short on personnel, the lack of a PI & E program may contribute to the lack of volunteer support. People need to know what you are trying to do and what challenges you are facing before they will respond. Remember EMS is not just about care, it is about the public's perceptions of this community service.



## 9. Prevention

**Purpose:** Since the publication of the *EMS Agenda for the Future* in 1996, there has been an increasing emphasis on the role of EMS in supporting public health efforts. Supporting the improvement of community health through participation in prevention efforts is part of the core public health mission. EMS can support prevention activities in a number of ways.

**Goal:** To make information and resources available through the EMS agencies; to support the community's health through participation in injury prevention and wellness promotion activities.

**Objective 9.1:** A written injury/ illness prevention plan is developed and coordinated with other community agencies. The injury/illness prevention program is data driven, and targeted programs are developed based on important injury/illness risks identified in the community. Specific goals with measurable objectives are incorporated into the injury/illness prevention plan using best practices.

Contributing to the health and safety of a community is an essential part of what EMS does. EMS has a long and rich history of being involved in injury prevention campaigns, health screenings at community health fairs, and childhood safety activities. The fire service is a model in its promotion of fire prevention and life safety issues, leading to a dramatic decrease in fire responses. EMS agencies should also be joining efforts that will reduce the number of calls for services over time.

**Objective 9.2:** Injury/illness prevention programs use EMS agency data to develop intervention strategies.

Knowledge derived from data helps key decision makers and other leaders make better decisions. EMS data, particularly if it is electronic and tracked over a number of years, may be one of the most powerful sources of information available to identify target populations or specific locations where injury or acute illnesses frequently occur. The EMS agency's data, appropriately stripped of patient identifying information and aggregated, can be an extremely powerful bargaining chip as you negotiate with other agencies for support or funding.

**Objective 9.3:** The effect or impact of injury and/or illness prevention programs is evaluated as part of a system performance improvement process.

Just as data are key to the identification of problems and to targeting prevention strategies to high risk populations, data are also essential for evaluating the impact of intervention strategies. One of the biggest challenges prevention programs face is gauging the success of their efforts. EMS is essential in this process.

### **Key Points**

- **Primary prevention is a responsibility of all health care providers.**

There are three phases of prevention. Primary prevention refers to programs that prevent an incident from occurring, e.g. crash avoidance warning systems. Secondary prevention involves reducing the impact of the incident, e.g. airbags deploying or bicycle helmets. Tertiary prevention includes reducing the risk for further injury through appropriate recognition and care of the patient once the incident has occurred, e.g. spinal immobilization following a motor vehicle crash. EMS agencies are primarily involved in tertiary prevention. However, it is also important for EMS agencies to participate in primary and secondary prevention efforts.

- **The best example is CPR education for the general public.**

During CPR training, EMS providers have traditionally talked about such issues as prudent heart living. This is an example of primary prevention. However performing CPR is tertiary prevention, helping people provide appropriate care after the event to reduce the impact of the episode.

- **EMS is a recognized leader in injury prevention.**

This statement speaks to the credibility of EMS providers. The public holds them in particularly high regard. When EMS providers speak in public forums about what they know first-hand, e.g. the result of not being restrained in a motor vehicle crash, people listen. Armed with current information we can impact a variety of causes of injury.

### **Summary**

C. Everett Koop, the former Surgeon General of the United States noted that “prevention is the vaccine for trauma.” The more an EMS agency can do to contribute to the health, safety, and welfare of a community, the more it will be valued as a community resource. However, EMS does not have to carry this burden alone. Prevention activities provide an excellent opportunity to partner with other health care, public health, and public safety agencies or organizations. Spending time to develop partnerships leads to trust and relationship building that are essential to many other activities of the EMS agency.



## 10. Public Access

**Purpose:** To ensure that the public knows how to access the EMS system when the need arises and to ensure efficient and timely response.

**Goal:** The goal of the public access component of the EMS system is to ensure the timely notification and dispatch of appropriate resources to the scene of each illness or injury-producing event. Additionally, the public should receive information to assist in the stabilization and treatment of the individual until EMS arrives.

**Objective 10.1:** Citizens have a universal access number to access the system with dispatch of appropriate medical resources in accordance with a written plan. The dispatch system utilizes Enhanced-9-1-1 and Wireless-9-1-1 technologies and provides pre-arrival medical instructions to callers.

The universal access number is part of a central communications system and plan that ensures bidirectional communication, inter-facility dialogue, and disaster communications among all system participants. Most often the EMS agency is not “in charge” of the overall public safety dispatch center. The EMS agency sometimes staffs a sub-center for EMS dispatch. Inter-agency cooperation and coordination are essential for the establishment and maintenance of a centralized dispatch center. In most localities, 9-1-1 is the universal number. However, there are still some locations, mostly in rural and frontier areas, where another telephone number is associated with requesting emergency assistance. If your EMS agency serves one of those alternate calling locations, it is important to become a leader and champion for the completion of the Enhanced 9-1-1 system in the community.

**Objective 10.2:** An assessment of the needs of the general public and their ability to access the EMS system is conducted, and the results are integrated into the system plan.

The best EMS system in the world is of no value if people are unable to access it. Rapid public access is critical to the outcome of critically ill or injured patients. The EMS agency should actively promote the central access number. EMS vehicles should have signs that remind the public to dial 9-1-1 (or alternate telephone number) in an emergency. Stationery and signage should have a similar message. This is especially important if the jurisdiction recently converted to a 9-1-1 system, or if a large population seasonally or routinely travels through the area and an alternate calling number is used.

**Objective 10.3: Unique populations (e.g., language, socially disadvantaged, migrant/transient, remote, rural, and others) within the EMS agency’s response area are able to access the EMS system.**

As with all public information and education efforts, the message must be culturally specific. This may mean a different language, e.g. Spanish or other language used in the community. Marketing or promoting knowledge about the access number to targeted groups and locations is also important.

**Key Points**

- **The public should have easy, reliable access to the EMS system.**

Most often this will be a 9-1-1 public service answering point (PSAP). EMS should support and promote integration, rather than duplication of PSAP, wherever it is feasible. The system must be widely known and continuously promoted throughout the service area.

- **Activation of the system should be appropriate and timely.**

Once the public service answering point has been contacted, the response by the dispatcher must be equally efficient. Calls need to be routed to the correct agency to initiate the call, where EMS dispatching should occur in a timely and efficient manner. Then within the limitations of rural systems, and sometimes volunteer systems, the amount of time it takes to “get the ambulance rolling” should be as short as possible.

**Summary**

Public access is not under the direct control of the EMS agency in most cases. This provides an opportunity for the EMS agency to develop and refine relationships with a public safety organization to ensure efficient and effective public access.

## 11. Communication Systems

**Purpose:** Effective communications between the dispatch center and EMS, EMS and other public safety entities, and EMS and the hospital are essential for quality patient care.

**Goal:** To ensure that an effective and efficient communications system is in place that provides a mechanism for seamless interaction between and among all emergency health care, public safety, and public health care entities in the service area.

**Objective 11.1:** The EMS agency, in concert with a multidisciplinary, multi-agency, and multi-jurisdiction committee, adopts an EMS communications plan that includes provisions for intra-agency, inter-agency, regional, and State voice and electronic data communication.

The terrorists' attacks of 9/11/2001 highlighted the issue of interoperability between communication systems. In many localities, this event galvanized the emergency health care, public safety, and public health communities to work together to solve their joint communications issues. Unfortunately, this has not been universally true. In some locations issues of politics, turf protection, resource limitations, and tradition have prevented meaningful progress. It is important that EMS be represented in all efforts to collaborate in the improvement of communications assets and procedures.

**Objective 11.2:** In accordance with the EMS agency's communication plan, radio and other communication asset purchases and configurations are coordinated with community, sub-regional, regional, and statewide agencies.

In addition to serving on the communications planning committee referenced above, the EMS agency must ensure that all equipment purchases support, rather than conflict with, the overall communications plan. By appropriately collaborating and cooperating, your EMS agency may be able to reduce its costs for purchase and ownership of radio communications assets.

**Objective 11.3:** The communications system is routinely evaluated and tested to ensure its reliability, robustness, redundancy, and interoperability during routine applications and all-hazards events, involving multiple patients and multiple agency responses.

The best radio communications systems are only as good the operators who use them and test them under the worst circumstances imaginable. The only way to make sure that the system will be ready is to exercise it daily during routine operations and to test it in drills.

### **Key Points**

- **Include all phases of communication, from access to dispatch to operations.**

Communications systems are involved in all phases of a response. Requirements for each of these phases will be different. However, all communications systems must be integrated in such a manner that each health care, public health and public safety entity can speak to one another with limited fuss and confusion.

- **Communication systems incorporate the best technology available, and are properly maintained and updated on a regular basis.**

The best communications technology for a community is not always the newest. In some areas geography, topography, and meteorology will influence decisions about which technology is best suited for the location. Fiscal resources may be a deciding factor in other communities. Effective communication is less about “how much it costs” than “how well it works.” So long as the communications system meets the goals for efficiency and effectiveness, the specific type and configuration of assets is of less importance. So long as the network meets the goals of interoperability, any infrastructure is appropriate. Additionally, communications systems must be maintained and upgraded on a planned and regular basis.

- **Communication systems include all relevant public safety, public health, and health care resources.**

The communications system must be designed to meet the needs of all public safety, public health, and health care agencies, including EMS. Internal communications needs should be addressed by dedicated tactical channels. Interagency communications should occur in a standardized manner across all agencies.

- **Communication systems should be coordinated.**

Coordination occurs at many different levels. In real time, the emergency communications center is the coordinating body. However, intra-agency and interagency coordination also occurs administratively through regular meetings of the interagency communications committee.

## **Summary**

Having the correct training and standard operating procedures in place is critical. Radio communication challenges or failure may be the result of “operator error,” rather than equipment failure. That said, modern equipment, appropriate for the terrain and mission is also essential. The ability to talk with other agencies is clearly an essential element of responses to both day-to-day and catastrophic events.



## 12. Clinical Care and Transportation Systems

**Purpose:** Most often prehospital care involves the recognition and treatment of presenting signs and symptoms coupled with transportation to a facility appropriate to meet the patient's needs. In the future, more clinical care may possibly be provided by EMS, without transportation to an acute care facility. To prepare for that eventuality, it is essential that EMS work to build trust with the broader health care community by providing excellent care to all of its patients and being engaged in performance improvement activities.

**Goal:** To provide quality prehospital care commensurate with levels of training and scope of practice and to select the appropriate transportation mechanisms to get the patient to the acute care setting best suited to meet their needs in a safe and timely manner.

**Objective 12.1:** The EMS agency plan clearly defines the roles and responsibilities of EMS personnel and for those emergency department personnel in treatment facilities accepting patients from the prehospital providers. Evidence-based written prehospital patient care protocols and guidelines are maintained and updated.

Clinical care is, literally, where the rubber meets the road in EMS! It is critical that all prehospital care providers know their craft and trade well, as a function of training, experience, medical oversight and performance improvement efforts. EMS providers also need to understand their job responsibilities (even if they are volunteers). Written policies and procedures that clearly outline expected behavior and duties are essential to establishing and maintaining a cadre of high-quality individuals. EMS has a sacred trust to its patients and must be prepared to provide the highest quality of care during each and every patient encounter.

EMS providers must also understand the roles and responsibilities of other members of the "emergency health care" team. The expectations concerning the transfer of patients and the continuity of care need to be clearly stated and agreed upon by the receiving facility as well.

All prehospital care should be guided by protocols. All EMS agencies must have a qualified medical director who is engaged and involved in the service. In particular, the development, adoption, and adherence to protocols clearly fall under the purview of the medical director.

**Objective 12.2: Clinical care is documented in a manner that enables agency and system-wide information to be used for quality monitoring and performance improvement.**

Documentation is one of the least rewarding aspects of EMS. Filling out a patient care report after a late night call that has interrupted a volunteer's sleep is not viewed as an important aspect of the job by many. However, documentation is essential for a number of reasons. First, it is essential to ensure quality of care. Many aspects of emergency care can only be documented by prehospital personnel, such as the condition of the vehicle in a car crash, or the state of a household in a suspected abuse situation. Information gathered at the scene directly influences the care that the patient receives in the hospital. The response or lack of response, to various treatments initiated in the prehospital phase of care also influences the course of treatment.

Documentation is also the cornerstone of any performance improvement process. It allows the comparison of actual performance to established protocols, identifies trends or patterns in illness or injury, and helps identify system strengths and weaknesses.

Documentation is also the "best defense" against frivolous legal claims. Unfortunately, many services make their primary rationale for documentation the fear of litigation. Excellence in patient care is the true reason to document.

**Objective 12.3: Patient outcomes and quality of care are monitored. Deficiencies are recognized and corrective action is implemented. Variations in standards of care are minimized and improvements are made routinely.**

Tracking patient outcomes can be a very challenging process. Many facilities "hide" behind the veil of the Health Insurance Portability and Accountability Act (HIPAA) when asked about how a patient fared who was transported by the EMS agency. It is essential that the EMS agency medical director be involved in helping to establish the linkages and trust that is necessary to accomplish this patient tracking. If the EMS agency and the facility participate collaboratively in a performance improvement process, then data can and should be shared between agencies.

The EMS agency must develop a "corporate culture" that thrives on trying to do a little better each and every time, as there is no "perfect" EMS response in the uncontrolled prehospital environment. Care can always be provided a little better, more efficiently, or in a more compassionate manner. EMS providers need to be encouraged to acknowledge mistakes, misjudgments, and errors in a non-punitive manner that supports quality improvement. Superior leadership by both the EMS agency manager and the medical director are essential to attaining this culture of excellence.



## Key Points

- **The mission of EMS is to provide emergency care to all segments of the population outside of medical facilities.**

Even though clinical care and transportation is only one of 14 chapters contained in this orientation, it is the primary focus of what EMS does. One of the EMS manager's biggest challenges is to take care of all of the non-clinical care issues so that the EMS providers can focus on the real issue -- timely and appropriate care and transportation of the ill or injured patient.

- **EMS is also responsible for the interfacility transportation of patients.**

A very important aspect of EMS is the transfer of patients between facilities. In some situations this may be a secondary transport of an acute patient following initial stabilization at a small local facility. More commonly it involves routine and scheduled transfers between nursing homes and acute care facilities or similar transfers.

While routine interfacility transfers are often difficult to staff in rural volunteer systems, they can be the sustaining life blood for some systems in terms of revenue generation. In spite of the "routine" nature of these transfers, the care delivered during the transport must be up to standard and the behavior of the EMS providers must remain professional.

- **The "baseline" of emergency care and the "ceiling" of emergency care vary according to community needs, resources, and statute.**

Quality patient care has less to do with the level of care, e.g. paramedic, than it does with how well that care is delivered. A long-standing notion in U. S. prehospital emergency care is that "more is always better." For example, if an EMT-Basic is good, then an EMT-Intermediate must be better, and an EMT-Paramedic must be the best. The reality is that some EMT-Ps are exceedingly competent while others have marginal competence. The same is true across all health care professions. The EMS agency must strive to provide the best care within the description of its scope and practice each and every time the pager tones.

## Summary

The clinical care and transportation system describes the core mission of EMS. Superior clinical care and efficient transportation are possible with excellent education and training, combined with a rigorous performance improvement program. The role of the EMS manager and medical director in ensuring high quality clinical care cannot be overstated.



### 13. Information Systems

**Purpose:** Information systems provide the tools that set the stage for evaluation and quality improvement. Without planning and thought, data are often gathered in a sporadic and haphazard manner that does not lead to positive change and improvement. Information systems can be simple or complex, freestanding or linked, homegrown or commercial. As long as they provide a mechanism for data collection and analysis that leads to system improvements, they are valuable.

**Goal:** To establish efficient and effective information systems that can drive system performance improvement across clinical, administrative, and financial operations.

**Objective 13.1:** The EMS agency participates in a system data collection and information data sharing network. The EMS agency collects pertinent EMS data from prehospital providers on each episode of care and uses data for system improvements.

Each response, whether it be emergent, routine, or cancelled should generate a record in the data system. Specific policies and standards should be established relative to the expected completeness, accuracy, and legibility of each record. Improved recordkeeping, in terms of both quantity and quality, is an excellent target for performance improvement activities. Information gathered by the EMS agency should be combined with data from other sources such as trauma registries to provide a complete picture of the patient encounter and outcome.

**Objective 13.2:** The information system is available for routine EMS agency and public health surveillance. It is accessible to individual users as well as management for system oversight.

From an agency perspective, having the ability aggregate data records over time is important. While one patient encounter may help identify the strengths and opportunities for improvement associated with that patient's providers that day, it does not help you evaluate how well the agency or provider is performing on an ongoing basis. Every EMS agency must have a way to electronically combine and examine data over time. In some instances paper records can be entered into a simple database or spreadsheet program, while some services have the capability for in-field electronic patient care reporting that is uploaded in real-time to a web-based server. The method used is not important, but it is essential that your system data are used in a methodical and ongoing way to improve system response effectiveness and efficiency along with patient care.

An exciting development in EMS at a national level is the National EMS Information System (NEMSIS). The NEMSIS provides common definitions and structure for hundreds of EMS-related data fields. Many EMS information system software vendors are becoming NEMSIS compliant, meaning they are using the same common definitions and value labels as NEMSIS. Over time this means that your EMS agency can be benchmarked against similar EMS agencies across the country. NEMSIS will be an important tool to help to improve system performance.

**Objective 13.3: The information system is used to assess system and provider performance, measure compliance with applicable standards/rules, and allocate resources to areas of greatest need or acquire new resources as necessary.**

Data become useful information when the data management system enables you to generate routine and custom reports. The information gleaned from these reports can be a powerful tool for performance improvement, quality assurance, administration, and in reporting to oversight entities (e.g. city fathers, governing board, or State EMS office). Because such reports are so powerful, it is imperative that sufficient resources (either paid or volunteer) are dedicated to keeping the data up-to-date and running the reports. Data will be truly useful when a performance improvement culture exists within your agency.

### **Key Points**

- **All phases of data collection and storage should include clinical records, financial information, and human resources.**

The more functions that a data system has, the more valuable it is to the EMS agency for system planning and performance improvement activities. For instance, if a single database can generate the patient care record, the billing record, and also make notes in personnel files about procedures completed, it is more useful than three separate record systems that require duplicate data entry.

- **Information systems should incorporate the best technology available, and should be properly maintained and updated on a regular basis.**

Information systems have associated costs. The sophistication, complexity, and cost of the information system must be weighed against resources and needs of the EMS agency. A volunteer agency responding to a few dozen calls during the year will be able to meet their data needs in a much different (and less costly) manner than a neighboring agency that has a call volume ten times higher.

No data system is valuable if the data entry falls behind or the system cannot aggregate data and generate the desired reports. It is important to invest in an information system that is appropriate to the agency's current needs and has some potential for expansion in the future. Avoid becoming reliant on a home grown database that only one person is familiar with or can make work efficiently. When that person leaves the agency, the data are often lost and or input stops. Such an event can be disastrous to an EMS agency.

- **Information should be shared appropriately by public safety, health care, public health and emergency management.**

By ensuring that EMS data systems become NEMSIS compliant, an environment is created in which linkages with other health and safety databases will be more efficient. EMS data have value to other agencies for planning and monitoring applications in public health, health care, and public safety. The EMS agency database may be the first to detect a flu outbreak – but only if public health is monitoring it.

### **Summary**

Documentation is necessary to support quality patient care through the continuum between the prehospital and in-hospital phase of care. That patient care documentation becomes the essential data for an information system that can assist the agency's mission on a number of different levels. Having access to data and information can be extremely beneficial in performance improvement efforts and in documenting resource needs to oversight or funding entities.



## 14. Evaluation

**Purpose:** EMS agencies must continually strive to improve their response and service. This should include continuous performance improvement activities that focus on clinical care, service delivery, and customer satisfaction.

**Goal:** The EMS agency has a formal evaluation process that includes performance improvement measures in clinical care, operations and customer satisfaction.

**Objective 14.1:** The EMS agency's management uses computer technology advances and analytical tools for monitoring system performance.

Evaluation requires information derived from data. While it is possible to gather such data and extract the information from paper forms, computers greatly assist the process. However, the computer is a tool rather than an answer to evaluation. A planned process with responsible individuals assigned to the evaluation process must be developed.

**Objective 14.2:** EMS agency prehospital providers collect patient care and administrative data for each episode of care and provide these data to the hospital. The EMS agency has a mechanism to evaluate the data to monitor trends and identify outliers.

The first reason to collect data on each patient encounter is to ensure continuity of care between the prehospital and hospital by documenting assessment findings, treatments and responses to treatments. Other reasons including billing and documentation for legal protection. One of the most important reasons to collect data on each patient encounter is to create a larger database that documents the strengths of each EMS agency, allowing the EMS agency to examine their weaknesses and setting benchmarks to examine progress toward "excellence."

As the health care world moves towards electronic health records, and more and more States, localities, and vendors offer electronic EMS patient records, the process of data collection will become easier. The establishment of the NEMSIS with its common definitions and XML programming language will allow even the smallest EMS agencies to contribute to a larger database that will allow for benchmarking and broad system evaluation.

However, the modern EMS system cannot wait for full electronic recordkeeping to begin the process of evaluation. Even if a few data points, such as time from dispatch to time at patient side and time at hospital are abstracted from paper forms and entered into a simple spreadsheet program such as Microsoft Excel®, important information can be obtained. Evaluation is a process that should start small and grow as the EMS agency and the prehospital providers become more comfortable with the process.

**Objective 14.3: The EMS agency engages the medical community in assessing and evaluating the EMS agency, including participation in EMS research. Findings from research or other performance improvement efforts are translated into improved service.**

It is unlikely that most EMS agency managers will have extensive evaluation or research backgrounds. However, others in the community may have those skills, such as the EMS agency's medical director. The performance improvement manager at the local hospital also may be willing to provide guidance and assistance. Regional EMS authorities may offer training or support for performance improvement activities. It is important to find help to assist in the establishment of an evaluation program that leads to ever-improving performance.

### **Key Points**

- **All components of the EMS system should be evaluated on a continuous basis.**

It is not necessary to embark on a system-wide evaluation process all at once. Start by choosing something of concern or interest to you, the EMS providers, and the medical director. Perhaps it will be clinical, e.g. an increase in the number of times that oxygen is delivered as indicated by protocol. Perhaps it will be administrative, e.g. a reduction in the number of patient care reports that are missing breath sound documentation. Maybe it will be operational, e.g. a reduction in time between receipt of the call page and the unit leaves the station. Start small and build upon successes.

- **In addition to clinical issues and outcomes, the effectiveness and efficiency of the system should be evaluated.**

Effectiveness and efficiency can be measured many ways. Examples include administrative and operational measures described under the previous bullet. Customer satisfaction is another important measure of system effectiveness.



- **Quality assurance and performance improvement are based on evaluation.**

Data are powerful when information gained leads to performance improvement. Evaluate your system rigorously and share improvements in effectiveness and efficiency with appropriate members of the community. This includes both the medical and regulatory/oversight community. If the city leaders know that you are making improvements on an ongoing basis and that the customers are increasingly happy with your service, they will be more receptive to requests for support.

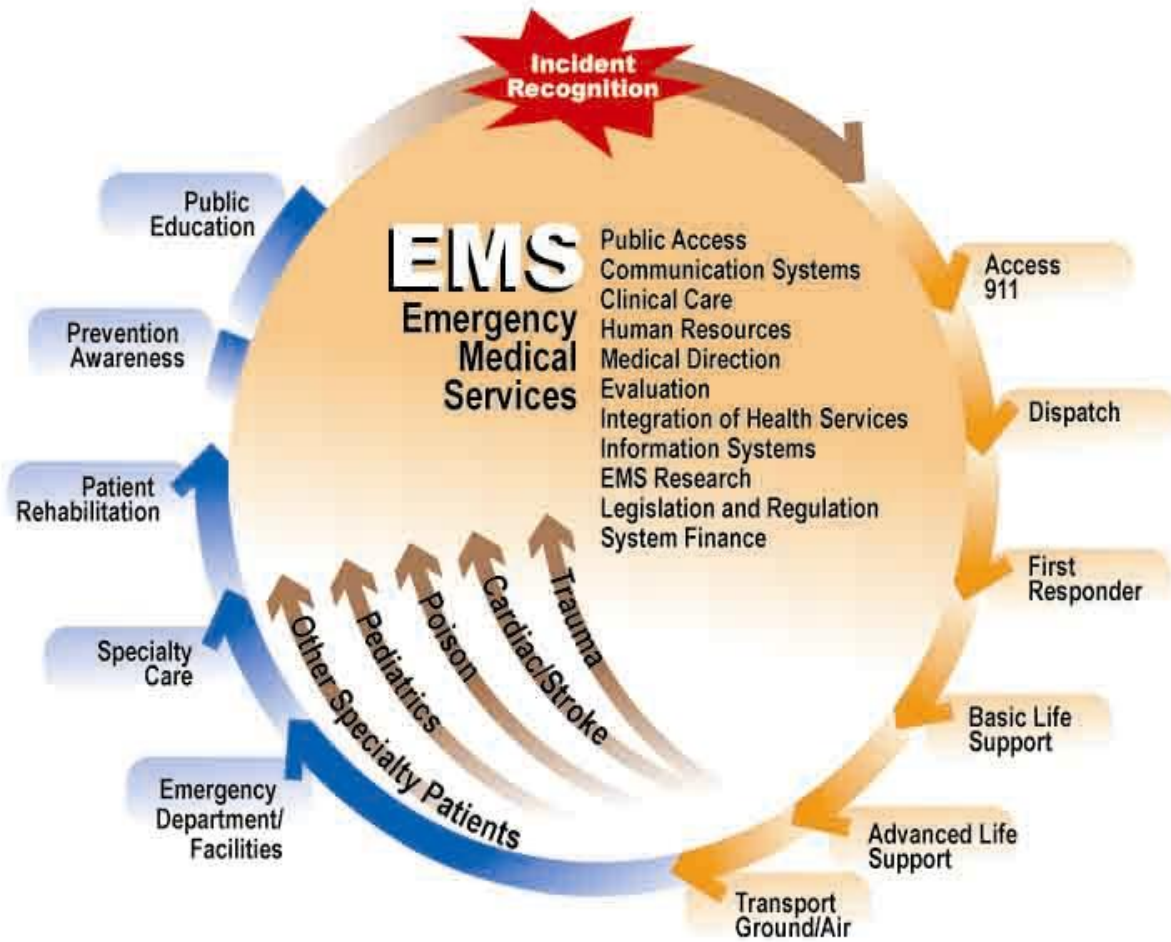
### **Summary**

In a health care delivery system where life and death hang in the balance from time to time, it is the EMS agency manager's duty to ensure that response, treatment, and transport are the best they can be within the confines and limitations of the EMS agency. The only way to be assured of that is by participating in rigorous evaluation processes and making it part of your EMS agency's culture



## APPENDIX A: EMS SYSTEMS INTERACT - DIAGRAM

The following figure from NHTSA illustrates how various components of the EMS system interact.





## **APPENDIX B: ACKNOWLEDGEMENTS**

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Joseph D. Hansen, REMT-B, Co-chair  
Assistant Director  
Rural Emergency Medical Services and Trauma Technical Assistance Center

Patrick Malone, Director, Co-chair  
Initiative for Rural Emergency Medical Services  
University of Vermont

### **Contributors and Reviewers:**

Jane W. Ball, RN, DrPH  
Technical Consultant

Bethany Cummings, DO  
Rural Affairs Ad Hoc Committee  
National Association of EMS Physicians

Douglas F. Kupas, MD  
Rural Affairs Ad Hoc Committee  
National Association of EMS Physicians

Fergus Laughridge, Program Manager  
Nevada State Health Division  
EMS Bureau of Licensure & Certification

Tami Lichtenberg, Program Manager  
Technical Assistance and Services Center  
Rural Health Resource Center

Tommy Loyacono, MPA  
National Association of Emergency  
Medical Technicians

Jacob L. Rueda III, PhD, Project Officer  
U.S. Department of Health and Human  
Services  
Health Resources and Services  
Administration  
Office of Rural Health Policy

Nels D. Sanddal, M.S., REMT-B  
Director  
Rural Emergency Medical Services and  
Trauma Technical Assistance Center

Karen Sweeney, Program Associate  
National Center for Frontier Communities

Chris Tilden, PhD, Director  
Kansas Department of Health &  
Environment  
Office of Local & Rural Health

Gary Wingrove, Technical Consultant  
Technical Assistance and Services Center  
Rural Health Resource Center

Jill Zabel Myers, Healthcare Consulting  
Wipfli LLP



## APPENDIX C: REMSTTAC STAKEHOLDERS GROUP

Katrina Altenhofen, MPH, REMT-B  
State Coordinator  
Emergency Medical Services of for Children  
Iowa Department of Public Health

Jane W. Ball, RN, DrPH  
Executive Director (Retired)  
EMSC National Resource Center  
Trauma-EMS Technical Assistance Center

Bethany Cummings, DO  
Rural Affairs Ad Hoc Committee  
National Association of EMS Physicians

Drew Dawson, Chief, EMS Division  
National Highway Traffic Safety  
Administration

Tom Esposito, MD  
Medical Director  
Rural EMS and Trauma Technical Assistance  
Center

Blanca Fuertes, Past Project Officer  
U.S. Department of Health and Human  
Services  
Health Resources and Services Administration  
Office of Rural Health Policy

Christian L. Hanna, MPH  
Michigan Public Health Institute  
Child and Adolescent Health

Bob Heath, EMS Education Coordinator  
Nevada State Health Division  
Intermountain Regional EMS for Children  
Coordinating Council

Marilyn Jarvis  
Assistant Director for Continuing Education  
Extended University  
Montana State University

Douglas F. Kupas, MD  
Rural Affairs Ad Hoc Committee  
National Association of EMS Physicians

Fergus Laughridge, Program Manager  
Nevada State Health Division  
EMS Bureau of Licensure & Certification

Tami Lichtenberg, Program Manager  
Technical Assistance and Services Center  
Rural Health Resource Center

Tommy Loyacono, MPA  
National Association of Emergency Medical  
Technicians

Patrick Malone, Director  
Initiative for Rural Emergency Medical  
Services  
University of Vermont

N. Clay Mann, PhD, MS  
Center Director of Research  
Professor of Pediatrics  
Intermountain Injury Control Research Center  
University of Utah

Evan Mayfield, MS  
U.S. Department of Health and Human  
Services  
Center for Disease Control and Prevention  
Office of the Commissioner

Charity G. Moore, PhD  
Research Assistant Professor  
Cecil G. Sheps Center for Health Services  
Research  
Univ. of North Carolina at Chapel Hill

Carol Miller, Executive Director  
National Center for Frontier Communities

Kimberly K. Obbink, MEd, Director

Extended University  
Montana State University  
Jerry Overton, Executive Director  
Richmond Amulance Authority

Daniel Patterson, PhD  
AHRQ-NRSA Post-Doctoral Research Fellow  
Cecil G. Sheps Center for Health Services  
Research  
Univ. of North Carolina at Chapel Hill

Davis Patterson, PhD, Research Scientist  
Battelle Centers for Public Health Research  
and Evaluation

Ana Maria Puente, Past Project Officer  
U.S. Department of Health and Human  
Services  
Health Resources and Services Administration  
Office of Rural Health Policy

Kristine Sande, Project Director  
Rural Assistance Center  
University of North Dakota Center for Rural  
Health

State Offices of Rural Health  
Idaho Department of Health and Welfare

Dan Summers, RN, BSN, CEN, EMT-P  
Director of Education  
Center for Rural Emergency Medicine  
West Virginia University

Chris Tilden, PhD, Director  
Kansas Department of Health & Environment  
Office of Local & Rural Health

Robert K. Waddell II  
Secretary /Treasurer  
National Association of EMS Educators

Bill White, President  
National Native American EMS Association

Gary Wingrove, Technical Consultant  
Technical Assistance and Services Center  
Rural Health Resource Center

Jill Zabel Myers, Healthcare Consulting  
Wipfli LLP

Mary Sheridan, Director



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## **Resources**

### **Critical Illness and Trauma Foundation, Inc. (CIT)**

300 N. Willson Avenue, Suite 502E

Bozeman MT 59715

Phone: 406.585.2659

Fax: 406.585.2741

Email: [info@citmt.org](mailto:info@citmt.org)

<http://www.citmt.org>

### **National Association of EMS Physicians (NAEMSP)**

P.O. Box 15945-281

Lenexa, KS 66285-5945

Phone: .913.492.5858

Toll-Free: 800.228.3677

Fax: 913.599.5340

Email: [info-naemsp@goAMP.com](mailto:info-naemsp@goAMP.com)

<http://www.naemsp.org>

### **National Association of Emergency Medical Technicians (NAEMT)**

PO Box 1400

Clinton, MS 39060-1400

Physical Address:

132-A East Northside Drive

Clinton, MS 39056

Phone: 601.924.7744

Toll Free: 800.34-NAEMT

Fax: 601.9247325

Email: [info@naemt.org](mailto:info@naemt.org)

<http://www.naemt.org>

### **National Association of State EMS Officials (NASEMSO)**

201 Park Washington Court

Falls Church, VA 22046-4527

Phone: 703.538.1799

Fax: 703.241.5603

Email: [info@nasemso.org](mailto:info@nasemso.org)

<http://www.nasemso.org>

### **National Center for Frontier Communities (NCFC)**

HCR 65 Box 126

Ojo Sarco, NM 87521

Phone: 505.820.6732

Email: [frontierus@frontierus.org](mailto:frontierus@frontierus.org)

<http://www.frontierus.org>

**National EMS Management Association (NEMSMA)**

PO Box 927812  
San Diego, CA 92192  
Phone: 858.456.8600.  
Email: [nemsma@aol.com](mailto:nemsma@aol.com)  
<http://www.nemsma.org>

**National Highway Traffic Safety Administration (NHTSA)**

NHTSA Headquarters  
400 Seventh Street, SW  
Washington, DC 20590  
Phone: 888.327.4236  
TTY: 800.424.9153  
<http://www.nhtsa.dot.gov>

**Office of Rural Health Policy (ORHP)**

Health Resources and Services Administration  
5600 Fishers Lane, 9A-55  
Rockville, MD 20857  
Phone: 301.443.0835  
Fax: 301.443.2803  
<http://www.ruralhealth.hrsa.gov>

**Rural Assistance Center (RAC)**

School of Medicine and Health Sciences, Room 4520  
501 North Columbia Road, Stop 9037  
Grand Forks, ND 58202-9037  
Phone: 800.270.1898  
Fax: 800.270.1913  
E-mail: [info@raonline.org](mailto:info@raonline.org)  
<http://www.raonline.org>

**Rural EMS & Trauma Technical Assistance Center (REMSTTAC)**

300 N. Willson Avenue, Suite 802H  
Bozeman, MT 59715  
Phone: 406.587.6370  
Toll-Free: 866.587.6370  
Fax: 406.585.2741  
Email: [info@remsttac.org](mailto:info@remsttac.org)  
<http://www.ruralhealth.hrsa.gov/ruralems>

**Technical Assistance and Services Center (TASC)**

600 E. Superior Street, Suite 404

Duluth, MN 55802

Phone: 218.727.9390

Fax: 218.727.9392

Email: [tasc@ruralcenter.org](mailto:tasc@ruralcenter.org)

<http://tasc.ruralhealth.hrsa.gov>

**United States Fire Administration**

National Emergency Training Center

16825 South Seton Avenue

Emmitsburg, MD 21727-8998

Phone: 301.447.1000

Fax: 301.447.1346

Admissions Fax: 301.447.1441

Email: [ricky.ziebart@dhs.gov](mailto:ricky.ziebart@dhs.gov)

<http://www.usfa.dhs.gov/downloads/pdf/pcm/pcm-R150.pdf>