



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**IMPROVING EMERGENCY MEDICAL SERVICES (EMS)
IN THE UNITED STATES THROUGH IMPROVED AND
CENTRALIZED FEDERAL COORDINATION**

by

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March 2011

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REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE March 2011	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE Improving Emergency Medical Services (EMS) in the United States Through Improved and Centralized Federal Coordination			5. FUNDING NUMBERS	
6. AUTHOR(S) Leeanna Mims			8. PERFORMING ORGANIZATION REPORT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A				
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) Emergency Medical Services (EMS) is an important discipline in the arena of first responders. Unlike other first response disciplines, EMS does not have strong representation at the federal level. This thesis argues that representation is necessary and identifies the federal agency in which it should reside. Current federal agencies that have a role in EMS are evaluated. These agencies include the National Highway Traffic Safety Administration (NHTSA), the Departments of Homeland Security (DHS) and Health and Human Services. These agencies are evaluated to determine where the federal oversight for EMS should be placed. Existing overlaps are shown. EMS strategy needs are conveyed by examining the components of interest-based strategy and identifying EMS as a megacommunity. The application of megacommunity components identifies what needs to be eliminated and reduced combined with what issues need to be raised and how this will create a stronger network for EMS support for both everyday needs and in times of national disaster. The recommendation is made that the federal oversight of EMS be a newly created office of United States EMS Administration (USEMSA) within the Department of Health and Human Services. The recommendation includes what should be considered in forming the USEMSA.				
14. SUBJECT TERMS Emergency Medical Services, EMS, Surge Capacity			15. NUMBER OF PAGES 67	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18

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STATES THROUGH IMPROVED AND CENTRALIZED FEDERAL
COORDINATION**

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Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

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ABSTRACT

Emergency Medical Services (EMS) is an important discipline in the arena of first responders. Unlike other first response disciplines, EMS does not have strong representation at the federal level. This thesis argues that representation is necessary and identifies the federal agency in which it should reside.

Current federal agencies that have a role in EMS are evaluated. These agencies include the National Highway Traffic Safety Administration (NHTSA), the Departments of Homeland Security (DHS) and Health and Human Services. These agencies are evaluated to determine where the federal oversight for EMS should be placed. Existing overlaps are shown.

EMS strategy needs are conveyed by examining the components of interest-based strategy and identifying EMS as a megacommunity. The application of megacommunity components identifies what needs to be eliminated and reduced combined with what issues need to be raised and how this will create a stronger network for EMS support for both everyday needs and in times of national disaster.

The recommendation is made that the federal oversight of EMS be a newly created office of United States EMS Administration (USEMSA) within the Department of Health and Human Services. The recommendation includes what should be considered in forming the USEMSA.

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LIST OF ACRONYMS AND ABBREVIATIONS

ALS	Advanced Life Support
ASPR	Assistant Secretary for Preparedness and Response
BLS	Basic Life Support
DHHS	Department of Health and Human Services
DHS	Departments of Homeland Security
DMAT	Disaster Medical Assistance Teams
DOT	Department of Transportation
EMS	Emergency Medical Services
EMT-B	Emergency Medical Technician-Basic
ESF	Emergency Support Function
FICEMS	Federal Interagency Committee on Emergency Medical Services
FTEs	Full-Time Equivalent Employment
HSPI	Homeland Security Policy Institute
IAFC	International Association of Fire Chiefs
IAFF	International Association of Firefighters
IFSTA	International Fire Instructor Association
MMRS	Metropolitan Response System
NDMS	National Disaster Medical System program
NEMSAC	National EMS Advisory Council
NEMSIS	National EMS Information System
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NVFC	National Volunteer Fire Chiefs
OHA	Office of Health Affairs
PSAP	Public Safety Answering Point
PUM	Public Utility Model
RCPGP	Regional Catastrophic Preparedness Grant Program

USEMSA	United States EMS Administration
USFA	United State Fire Administration
WMD	Weapons of Mass Destruction

I. INTRODUCTION

A. PROBLEM STATEMENT

Emergency Medical Services (EMS) is the country's system for providing prehospital medical treatment and the transport of those patients in need to the appropriate place for definitive medical care. A multitude of different agencies provides treatment and transport to include private ambulance companies, fire departments, hospitals and air ambulance agencies. System types vary based on the service area, needs and resources available. Some systems operate in rural areas while others are in urban centers. Many serve a combination of the two. The level of care provided ranges from basic life support to very advanced medical treatment. All systems work, in some manner, under the license of a physician and follow the protocols established by that oversight. EMS is this nation's first on scene medical intervention in large-scale disasters, along side fire and police first responders.

EMS is not clearly represented in the broad range of disciplines related to homeland security. It does not have the formality needed to guide EMS as whole in the nation's resource of first responders, which was evidenced in a course taken while attending a class sponsored by the Center for Homeland Defense and Security at Naval Postgraduate School in Monterey, California. The class entitled Multi-Disciplines in Homeland Security is an exploration of all the resource disciplines in homeland security. When the disciplines were being reviewed and highlighted, the author asked the question of "where is EMS in the listed items?" The answer came from both the instructor and the class; it is within health, it is within fire, it is within transportation. All of these answers are correct, which begged thesis exploration as to why, if EMS is such an involved player, is it not clearly formalized as its own discipline.

If those learning about homeland security are not clear on EMS's structure, then it can be argued that a continued lack of understanding exists at the federal level, even as many studying homeland security express a desire to progress in their careers to higher levels of government. Twenty percent of those in the program already work at the federal level in some capacity.

Federal coordination of the EMS profession needs evaluation. EMS is its own profession and has not been recognized as such. Federal funding and coordination can assist the nation's EMS systems similar to the way that federal funding and coordination has assisted this nation's fire and law enforcement departments. Many everyday unsolved issues with EMS need resolution to include both EMS surge capacity and limited EMS funding. Knowing that everyday response is already a challenge in some areas, an elevated response at the national level will, therefore, be limited.

EMS is a substantial player in the realm of homeland security with unmet needs. This thesis argues that needs would be better served by strengthening EMS support in the federal system by placing EMS under a more appropriate agency to help resolve the issues it faces.

Three federal agencies share responsibility for funding and providing guidance to the nation's EMS systems: Department of Homeland Security, Health and Human Services, and National Highway Traffic Safety. Although each of these agencies may have a vested interest in some areas of EMS, they should be consulting with an agency dedicated to securing EMS's interest as a whole. Clear recognition of EMS as a more independent first response entity will assure its issues are not lost in the agendas of agencies tasked with higher priority goals related to their organizational missions.

Through analyzing a strategy for addressing EMS's needs based on process, such as identifying the players and directions of power, the author intends to show a workable conclusion giving federal leaders insight on how they can effectively structure EMS for the purposes of overarching policy in its many diverse areas. National EMS will also be depicted as a megacommunity that needs to undergo a major change to reach new strategies for solving today's problems and for identifying future obstacles. The

megacommunity approach serves to provide a better mindset on how to work toward guided goals when such a complex network is involved (Gerencser, Kelly, Napolitano & Van Lee, 2008, p. 80). Key to both strategy and megacommunity understanding is ensuring that proper focus is placed on the true application of EMS, first response prehospital medical treatment and transport.

B. RESEARCH QUESTION

Would changing the federal agency structure of EMS coordination be advantageous to ensuring a robust EMS system that would fortify EMS as the safety net for all aspects involved with emergency medical care and transport? If so, where would this agency be located in the federal system and why?

C. PRACTICAL SIGNIFICANCE OF THE PROBLEM

Plenty of controversy exists amongst public and private agencies and various EMS constituencies on where the administration, oversight and main federal support should be for the discipline of EMS. This controversy must be explored to address the problem of risks in the next disaster. Some of these risks include the following.

- **Funding.** The federal funding system is flawed. EMS has negligible amounts of grant funding in comparison to the other response disciplines of homeland security. Some of this controversy lies in the sometimes private structure of EMS, which is perceived as an inappropriate beneficiary of public funds.
- **National Voice.** One voice is needed to provide clarity as to the role and structure of EMS in day-to-day needs or in times of disaster. Many speaking on its behalf include fire and health services. Support is also received from federal agencies. Without a consistent voice and repeated message, priorities are not known or understood.
- **Surge Capacity.** This national problem presented itself to EMS over ten years ago. When an elevated need for EMS presents itself for prehospital medical care and treatment, delays are often experienced due to insufficient resources. The burden has increased and EMS has difficulties meeting the demands of surge emergent needs. In many areas across the country, EMS waits at hospitals because of emergency room overloads and insufficient hospital beds. While waiting, these first responders are unavailable to answer other emergencies.

- Public Awareness of the EMS Discipline. The public at large is not aware of the EMS structure in its community or at a higher level. When social services are absent or cut, many times EMS is the answer for needed assistance.
- Research and data evaluation. EMS is in need of nationally collected data to determine its successes and needs for change. Very little research is done to evaluate patient outcomes and the benefit of EMS intervention. Each of these problem areas are in need of exploration and research to gain insight for the future structuring and policy of EMS.

D. LITERATURE REVIEW

A meeting was held in Washington, D.C. in October 2006 entitled the “National EMS Preparedness Initiative Policy Summit.” The importance of this summary is that it identifies the key problems with EMS nationally. It can be evaluated to determine if its recommendations have been addressed, or if they have fallen by the wayside. If so, that failure might be because EMS was left leaderless at the federal level. EMS providers from each of the different EMS models attended the summit. These models include hospital-based, fire-based, private-for-profit, and third service providers. Review of the current status of the problems identified during this summit will provide evidence that more is needed to make changes for an improved national EMS system.

Overall, it seems that agreement exists between the parties involved that insufficient funding is an issue. It is also indicated that a lack of strategic planning occurs at the federal level for EMS. This lack of strategic planning might include the failure to recognize EMS as a megacommunity that has evolved rapidly over the last 10 years. A subsequent chapter discusses the megacommunity concept.

Several solutions were offered during the summit. An overwhelming percentage of EMS providers want the establishment of a federal EMS office to identify policy for response and to align funding distribution with those policy priorities. High in percentage priority also included the establishment of a common political voice (George Washington University).

Fragmentation is presented as an obstacle to effectiveness. An identified lack of commonality in definition, role and responsibilities of EMS exists. A large percentage of attendees agreed that a federal EMS Administration should be convened comparable to the United State Fire Administration (USFA), which provides insight for determining placement. Another strong agreement exists concerning the need also to form one common nongovernmental organization consisting of representation from all EMS model delivery systems.

The lack of EMS surge capacity was a topic and remains a national concern. Although not specifically identified here, EMS compensates for a missing element of health care, which is the unavailability of more social programs to help those not needing emergency treatment and transport. Many patients seen by EMS have no other means to seek medical treatment for chronic health issues and no family support system to assist them.

The summary document of this meeting serves as a resourceful tool for evaluating the need for policy, recommended solutions and identifies key dates for task force completion dates relative to the four topics. It has polling questions that provide a research methodology good for evaluating/arguing opinions (George Washington University).

1. Fire and EMS Groups at Odds

A publication in EMS responder posts the National EMS Preparedness Summit outcome indicating significant disagreements with both summit indications and with the Homeland Security Policy Institute (HSPI) report entitled “EMS Back to the Future – An Agenda for Federal Leadership.” The Back to the Future document indicates that moving EMS from the Department of Transportation to the Department of Homeland Security is indicated to establish an agency equivalent to the United State Fire Administration (USFA). Evidence exists that the fire constituency organizations, such as the International Association of Fire Chiefs (IAFC), oppose this move and argue that EMS should be placed under the fire service. If not, these organizations felt the role of the USFA would be diminished. Thus, it would not be in the best interests of EMS given its

multitude of nonfire based providers. A recent article in Firehouse magazine did a great job at defining how fire departments approach EMS. They do not tolerate it, they accept it or they embrace it, which provides a good argument as to why the fire service should not be the lead agency for this discipline.

Fire department structure varies from all volunteer with or without EMS, all career or a combination with varying levels of EMS service. Overall, it would be better for the USFA to focus on developing credentialed fire departments rather than their level of EMS service delivery. The level of credentialing should be directly tied to eligibility for federal EMS assistance dollars.

Other fire related constituency groups opposing the HSPI's report findings include the International Association of Firefighters (IAFF), National Fire Protection Association (NFPA), National Volunteer Fire Chiefs (NVFC), and the International Fire Instructor Association (IFSTA). All of these are constituencies primarily interested in securing the needs of the fire service rather than purely focusing on EMS.

In past years, the fire service has parented EMS without equal regard for its imperative role in community service. For this reason, placing EMS under the USFA at the federal level would cause EMS to still be obligated to assist the fire service with its needs rather than focusing on the sole needs of EMS. This idea is not a discredit to the fire service or the USFA. The fire service is only another parent provider of EMS. EMS deserves to be the parent over its multitude of providers and needs without being used as a conduit for funding or justification of expanded services to secure the fire services future. In some cases, an expanded fire service to include EMS is appropriate, and in some cases, it is not. Not all communities have a dedicated fire service, which can make EMS provision problematic and fragmented. To support this argument, two cases of fire based EMS, Washington, DC and Orlando, Florida, are reviewed.

Washington, DC's former fire chief, Adrian Thompson, claims that merging the provision of EMS with the fire service for this nation's capitol was not working (Cella, 2010). He blames this on cultural issues that may or may not be unique to his community. What is recognized in this case is that placing EMS in the fire department was synonymous with trying to make an ill-fitted shoe fit better.

The Orlando Fire Department provides EMS but does not provide the medical transport of patients. A third service private provider offers this service. In this case, the fire service culture is also a factor. For years, the union has fought bringing transport into its repertoire of services stating that it would burden the system and place extra demands on its represented workforce. This is equivocal to what other central Florida neighboring departments were implementing regarding the take over of transport based on the need for the continuity of care given to patients. Orlando is now considering the option but the driving force is its need to improve its revenue stream. Similar arguments are being used for the continuity of care to help with the initiative that should have driven the decision years ago. Again, the fire service can be a provider of EMS but examples such as these indicate that oversight at the federal level is not ideal. The use of EMS as a machination to secure government services assures that its true needs will only be met, as it will then be forced to recognize issues of failure rather than proactively identifying how it should expand and evaluate provisions for the public good. Local demands and resources must determine what level of service to provide. Federal oversight provides the minimal framework for the provision without regard to special interest groups not identified as stakeholders, which are identified later.

A comment by Paul Maniscalco, HSPI co-chair, indicates that a problem occurs because EMS has no budget authority (George Washington University). His position leans towards a separate funding stream for EMS that would not monetarily harm the fire service. He further believes that EMS has become a burden on local communities.

Lori Moore, IAFF Assistant to the General President, indicated that starting a new administration would only create a setback. Representation of EMS at the federal level is misrepresented, according to Moore, in the HSPI report. She also discussed the need for improved data collection and where that currently stands. The National EMS Information

System (NEMSIS) is referenced. Currently, a standard data collection criterion comparable to the fire services national fire incident reporting system (NFIRS) does not exist. NEMSIS is creating this same level of data tabulation as NFIRS.

Nathan Williams, an advocate for nonprofit EMS, states the HSPI report expresses both good and bad points. His position is that EMS should not be moved to DHS as it would cause more confusion than provide a solution. In his opinion, the best direction for EMS cannot be decided until more information is known. The author would agree with this statement based on the vast array of issues that DHS is facing. A report by the Institute of Medicine that is a two-year study on EMS is also referenced, which needs to be tracked to review for further study (Caspi, 2005).

2. National EMS Organizations Oppose Establishing an U.S. EMS Administration Within the Department of Homeland Security

Additional arguments to the findings of the HSPI report on the future of EMS. Advocates agree that EMS has been overlooked in funding initiatives. They do not agree, however, that EMS should be moved to DHS but rather prefer to leave it in the Department of Transportation's National Highway Traffic Administration (NHTSA). Thus, more insight is provided to debate the argument of where EMS should or should not be placed.

This report makes three recommendations: 1) create an EMS office within DHS to provide EMS leadership in disaster response/preparedness, 2) create a dedicated program for EMS funding, and 3) pass legislation to create a Federal Interagency Committee on EMS to improve coordination among the many federal agencies involved and not just NHTSA. Since this report, the Federal Interagency Committee on EMS was formed. A review of the progress of this committee can indicate if the committee structure is solving the problems identified in the summit results.

Advocates support a multifaceted approach to improve support. Steps taken thus far include the following.

- EMS funding allowance added to the Homeland Security and fire grant program
- NHTSA and the Health Resources and Services Administration developed plans to implement the NEMSIS
- Recognition that the Institute of Medicines report on the Future of Emergency Care in the U.S. Health System is imperative

Advocacy groups include a long list of medically focused interest groups to the American College of Physicians and the National Association of State Medical Directors (Policy Position Paper).

The United States Fire Administration's reauthorization legislation is regularly evaluated (Baird, 2008, p. 2). Its funding has been threatened repeatedly. In past legislation attempts, the U.S. fire administrator would be authorized to coordinate EMS-related activities with the federal, state and local agencies. Although the fire service has a role, moving it from DOT if that is the intent, would be a mistake at this time. The author makes this statement given the argument presented by Paul Maniscalco in which he indicates that by having one single advocate that can be a champion of EMS, all agencies involved will benefit (Caspi, 2005). Although EMS is integrated into the fire service, it is also an intricate part of health services. As more data becomes available through better information gathering, the author foresees it will be realized that EMS is actually a health services issue, not a fire subdiscipline. EMS is not just about fire departments. It is not only about health services. EMS is a complicated service delivery from both the public and private sector that is not fully mapped or understood. A number of system service deliveries must be taken into account. This interpretation is supported by a 2008 pilot study conducted by Johns Hopkins for DOT (MacKenzie & Carlini, 2008). An answer could lie in the USFA only assisting with addressing the standards needed for the fire department service provision of EMS.

3. National EMS Research Agenda

This published study from 2001 makes eight recommendations relative to EMS research needs. These recommendations include development of a cadre of EMS investigators, establishing centers of excellence, federal sponsorship of EMS research and

encouraged support from state and charitable organizations (National Highway Safety, 2008). Again, if these recommendations have not been acted upon, it could be evidence of how the federal structure needs to be addressed to bring about action. Given the review of results from an EMS summit conducted in 2006, it would prove valuable to compare those results with the recommendations made by this EMS Research Agenda to determine if the research role was considered and to what degree. With regard to the research agenda recommendation that centers of excellence be developed and federal sponsorship be gained for research, discussions with the Federal Interagency Committee on EMS can elaborate on whether or not these objectives are being met.

4. Configurations of EMS System—A Pilot Study

The U.S. Department of Transportation sponsored this 2008 study. It provides a refreshed definition of an EMS system (MacKenzie & Carlini, 2008). It recognizes the demand for a multitude of provider structures needed to deliver services, which continues to make the argument that EMS has identity issues federally and needs independent representation. With regard to the 2006 summit conducted by George Washington University's Homeland Security Policy Institute, one should ask how this pilot study assists in addressing those problems identified during the summit. As mentioned previously, those summit items included funding, a need for a national voice, surge capacity and public awareness. To stay on an affective path, study coordination must reference those studies that have already identified needs. If not, a path with multiple directions ensues without any coordination for reaching solutions.

II. BACKGROUND

A. DEFINITION OF EMS

EMS is the first care access for those in need of medical attention. Services are delivered through a variety of measures and providers. In simple terms, the care delivered is one of two levels. Basic life support is delivered by an emergency medical technician-basic (EMT-B). This level of service is equivalent to advanced first aid and cardiopulmonary resuscitation. In some states, the skills of the EMT may be more extensive if established by adopted standards.

Advanced life support (ALS) is the next level of field delivery care. A paramedic provides these services, which includes skills referred to as invasive. Intravenous therapy, drug administration, electrocardiogram interpretation and other more extreme procedures in the cases of traumatic injury are performed. As with the EMT-B level, some states have varying degrees of paramedic certification relative to the skills a paramedic is qualified to perform.

Since the EMS System Act's of 1973 definition of EMS, which described its role of illness and injury prevention, a great deal has changed. EMS has expanded its role to include that of being one of advanced medical prehospital care and transport. It has become one of our nation's first responders in disaster, which is evidenced in a report by the National Association of State EMS Officials. This report stresses that the definition of EMS has evolved and became less clear with time (National Association of State EMS Officials, 2007, p. 4). In addition, EMS many times serves as the missing link for access to nonemergent medical care. Until its current structure and definition are formalized and given the necessary support, EMS understanding will not be fully recognized.

B. EMS SUPPORT STRUCTURE

1. EMS Support Agencies

To clarify EMS's current support structure, it is appropriate to review each federal agency that has some role in EMS. These agencies include the National Highway Traffic Safety Administration (NHTSA), Department of Homeland Security (DHS), and the Department of Health and Human Services (DHHS). Each of these agencies house offices for addressing the concerns of EMS with varying objectives. It is also prudent to "follow the money" with a review of each agency's budget in an effort to highlight how funds are allocated.

Agencies With Roles and Objectives Relative to EMS Planning, Preparedness & Response

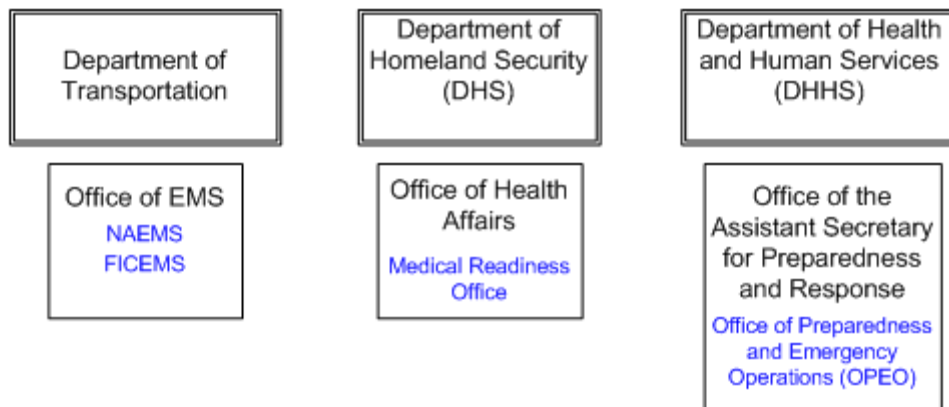


Figure 1. EMS Agency Representation

a. NHTSA's Role and Objectives

The National Highway Traffic Safety Administration located within the Department of Transportation currently houses the Office of EMS, and is considered the lead coordinating agency. Its objective is to gather consensus on projects of national significance and identifies with twenty-six national organizations that deal with the interests of EMS at varying stakeholder levels. It is not a money grantor. This organization deals with a broad variety of issues ranging from ambulance safety to

evidence-based practice research with a small, dedicated staff. The formation of two committees has strengthened this agency's role, the Federal Interagency Committee on Emergency Medical Services (FICEMS) and the National EMS Advisory Council (NEMSAC).

(1) FICEMS. In 2005, the U.S. Department of Transportation Reauthorization, Public Law 109-59, established the Federal Interagency Committee on Emergency Medical Services (FICEMS). Its purpose is to ensure the coordination of the various agencies involved in EMS at all levels of provision: state, local, tribal and regional EMS. In addition, it is also charged with the coordination efforts of 9-1-1 systems. A technical working group reported several items to FICEMS in December 2007 to include the following.

- Initiation of a two-year work plan with performance measures that include an accelerated National EMS Assessment
- Development of a federal matrix of EMS responsibilities
- Establishment of a time-table and procedures for the development of prehospital evidence-based practice guidelines
- Initiated review of model state EMS plans developed by the National Association of State EMS officials
- Collaborated in several day-to-day EMS activities (EMS)

At a conference held in Dallas, Texas of the International Association of Fire Chief's, the author had the opportunity to listen to Dr. Kevin Yeskey speak about FICEMS, who is the 2009 Chair of FICEMS. It was stated that the primary role of FICEMS is to focus on out of hospital EMS. Several major activities were highlighted to include a pandemic flu, a national EMS assessment, a national transportation safety board, evidence-based practice and a national EMS stakeholders meeting. Dr. Yeskey indicated that a good national assessment of EMS does not exist and a contractor is currently being sought to help identify the current state of EMS. Thus, although there may be no one size fits all with EMS systems, a common point of coordination must exist. When considering structure, a more regionalized system might benefit the effort of coordination back to the federal level. EMS could fall into perhaps the same regional structure as FEMA for purposes of EMS preparedness, response and

recovery. This is not to say that its parent agency should lie within FEMA, but if all first responder agencies were networked through a regional “clearinghouse” for filtering of issues to and from the federal government, some continuity might be gained for purposes of understanding needs and better EMS deployment in the event of a large-scale disaster. This concept will be further considered when entering into final recommendations.

(2) NEMSAC. The National EMS Advisory Council (NEMSAC) is a nonfederal committee formed in April 2007 concerned with safety in EMS, EMS finance, EMS systems, EMS education and the EMS workforce. It consists of twenty-five members representing various committees: safety, systems, oversight/analysis/research, finance and education/workforce. It has no regulatory authority and serves to advise NHTSA on EMS. It has issued a strong position statement on EMS’s role in healthcare reform (U.S. DOT National EMS Advisory Council). A highlight of that statement is “EMS is and remains the healthcare systems’ safety net to ensure equity and access to emergency medical care” (U.S. DOT National EMS Advisory Council). It also discusses that EMS must be viewed as a partner in public health and disease management. The author believes this provides a great deal of support to the recommendation for considering centralized coordination within health and human services where the *medical* in EMS would best be served. Medical service is the foundation upon which EMS is based and a comment made by Michael Petrie states that much of today’s debate rests on ensuring that this fact is not forgotten in the quest of how EMS is best served.

(3) Budgetary Review. NHTSA’s budget represents less than 1% of the Department of Transportation’s total budget for 2010 (U.S. Department of Transportation), which is approximately 867 million dollars of a 73 billion dollar budget. The Office of EMS is not discernable in the review of the dollars allocated to its mission. Nowhere in its budget mission overview does it indicate that EMS is a focal point. The largest majority of its budget is assigned to the provision of grants. NHTSA received no increases in full-time equivalent employment (FTEs) in 2010. In comparison, 50% of the

14 administrations within DOT did receive increases. The Office of EMS, according to Drew Dawson during a 2009 briefing in Dallas, Texas, was staffed with eight employees (D. Dawson, personal communication, August 27, 2008).

b. DHS's Role and Objectives

The Office of Health Affairs (OHA) is an agency within DHS. This office was created as an agent for matters concerning health and security matters for DHS. There are four primary offices within OHA: Weapons of Mass Destruction (WMD) and Biodefense, Medical Readiness, Component Services and International Affairs, and Global Health Security. A review of these offices indicates that the Office of Medical Readiness contains divisions that play a significant role in areas associated with EMS.

(1) Office of Medical Readiness. This office is the lead agency within DHS for interagency coordination on health and medical issues. It is comprised of several divisions that address components of EMS to include planning and policy, medical first responder, incident and grant coordination and emergency management and medical response integration. These divisions are all “preparedness” driven agencies, which is the role of DHS in the event of national threats to public health (Homeland Security, The Office of Medical Readiness, 2009). It serves as the point agency for the medical first responder community. Although it has several of the components needed to address the issues facing EMS, it does not seem whole as a resource. This observation is made when considering the other agencies involved in EMS, such as NHTSA and HHSA, and their roles. It would be beneficial to review the previous committees described, FICEMS and NESAC, and evaluate if they would be more effectively placed under the auspice of this office as it does not appear to be directly involved with the foundation of EMS, which is medical treatment, and transport, except in the cases of national significance. For these cases, it works directly with the National Disaster Medical System program (NDMS), which falls under the Secretary of Emergency Preparedness within the Department of Health and Human Services.

(2) Budgetary Review. The findings in the review of funding allocation for NHTSA's Office of EMS also hold true for the Office of Health Affairs in

DHS. The office associated with EMS in DHS represents less than 1% of the overall department's budget. Sixteen organizations are identified within DHS's budget authority. Of those, 11 received budgetary increases for 2010. The Office of Health Affairs funding was decreased by 12% leaving it with 138 million dollars, which is the second lowest allocation of all DHS organizations. This office hosts 84 FTEs divided among WMD, Biodefense, Medical Readiness and Component Services. Although not directly presented, dollars for EMS research within the Science and Technology Directorate do exist, which are shared between the research needed for advancement of first responder technologies to include fire, emergency management, law enforcement, and EMS.

c. DHHS's Roles and Objectives

The Office of the Assistant Secretary for Preparedness and Response (ASPR) is located within DHHS. This office provides guidance on matters involving public health and interagency coordination between HHS and other offices at varying levels of government involved in emergency preparedness related to bioterrorism and public health threats. It is comprised of five divisions that include Biomedical Advanced Research and Development Authority, Office of Medicine, Science and Public Health, Office of Preparedness and Emergency Operations, the Office of Policy and Strategic Planning, and Office of Resources, Planning and Evaluation. In review of these offices, the Office of Preparedness and Emergency Operations stands out as having a significant role in areas associated with EMS.

(1) Office of Preparedness and Emergency Operations (OPEO). This is the lead agency for developing operational plans and training exercises to meet the demands of preparedness in the event of public health emergencies. It has operational, as well as planning objectives relative to response. A point to consider is that EMS is significantly involved in public health as the standing system in place to deal with emergencies. OPEO objectives include response and fulfillment of duties related to the requirements of the national response plan.

(2) Budgetary Review. DHHS's budget for fiscal year 2010 totaled nearly 880 billion dollars (U.S. Department of Health and Human Services, 2009).

This is spread over 19 operating divisions with both mandatory and discretionary allocation of funds. The Office of the Assistant Secretary's Emergency Preparedness budget is approximately 891 million dollars representing less than 2% of the total Office of Secretary's five billion dollars for overall preparedness with regard to bioterrorism and emergency response. Total, the preparedness budget represents less than 1% of the total DHHS budget. As a lead agency in preparedness for public health crisis, this amount of discernable funding is trivial. Ten million dollars is earmarked for the Emergency Care Systems Initiative, which does mention the inclusion of the development of protocols for prehospital patients (U.S. Department of Health and Human Services, 2009, p. 109).

The budget document also highlights concerns of the health care community and health reform. Nowhere does it specifically mention EMS as a whole. The goals of the agency as set by Presidential vision include improving the quality of and access to health care, investing in scientific research, securing public health and providing services to vulnerable populations. Of eight principles emphasized for reform, two can be associated with EMS although not directly stated. These include the need to invest in prevention and wellness and improve patient safety and quality care. These facts will be later utilized to assist in determining the placement of EMS in federal structure.

2. Advantages and Disadvantages of Structure

a. Advantages

In review of these three overhead agencies, suffice it to say that NHTSA's Office of EMS and related committees serve as an information gathering point for EMS. DHS's Office of Medical Readiness is primarily in place for preparedness. DHHS's Office of Preparedness and Emergency Operations is also concerned with preparedness combined with operational response and logistical support. It takes a great deal of review of the agencies to make this determination. Other offices within each agency also have objectives and interest in areas of EMS although not as prevalent as the examples given.

This crossover would seem to be a cause of a great deal of miscommunication pending a national disaster. This should especially be avoided given the known failure of 9/11 involving communication.

The current system does have advantages. With the creation of FICEMS, EMS has a stronger voice within NHTSA. This is not to say that it has an overall stronger voice in the federal government as a whole or that it works to address the issue of need for a common voice to improve public awareness. FICEMS has credibility given the long-standing parent organization of NHTSA. Both NEMSAC and FICEMS are working together to develop a national process for data and research use for evidenced-based guidelines. This collaboration is advantageous to ensure the multiple needs and nationwide concerns of EMS are vetted. NEMSAC, as a nonfederal committee, has the advantage of vetting without the usual bureaucracy associated with a supplanted federal agency.

Overall, some of the issues identified by National EMS Policy Summit have been addressed (George Washington University, 2006). Documentation exists that demonstrate that research and data needs have been given great consideration through the involvement of NEMSIS and a draft national model for the EMS evidence-based guidelines development process. An eight-step process approach is indicated that would address several areas to include system inputs, evidence accumulation, priorities for guideline development, guideline development, model EMS protocol development, dissemination of these, implementation, and the evaluation of effectiveness. This approach appears to be a well-structured strategy for addressing the summit concern of research and evaluation. However, it does not consider the other areas identified, such as funding, national voice needs, surge capacity or public awareness. When reviewing this model, it begs the question as to why this type effort is incorporated under NHTSA. Although NHTSA has an interest in EMS relative to highway safety and transportation failures, the focus of much of this guideline process is rooted in medical guidelines and education, which would seem more appropriately served under the auspices of health services.

b. Disadvantages

With the existence of three committees within NHTSA designated for the purposes of EMS evaluation and recommendations, FICEMS, its technical working group and NEMSAC, difficulties no doubt exist in communication and duplication of efforts within NHTSA. There is limited focus on what was identified by EMS stakeholders as major issues. With multiple committees, no common voice exists. Nowhere within any of the information reviewed was it indicated that solutions for surge capacity or the establishment of a public education effort were underway. A great deal of mention has been made about “initiating” but progress appears slow with regard to finding solutions verses identifying process. Limited exposure to the “real world” application of EMS and the lack of regular interaction as a day-to-day working agency does not allow for regularly vetted communication about needs, problems and solutions. These committees will not be the answer in the next disaster relative to response needs. This is not to say that they do not have value.

When considering the review of the offices contained with DHS and DHHS, they appear to have overlapping initiatives related to EMS. It is difficult to understand which agency has final authority on issues of concern requiring compliance or implementations for EMS and its role in national disaster, public health, emergency care, and transport. Keeping in mind the earlier needs of EMS addressed funding, a national voice, EMS surge capacity, public awareness, and research evaluation, addressing EMS’s needs are scattered within the “newer” offices’ intent to provide a resource for problem solving on a whole as related to those concerns that threaten community health and intervention from a widespread crisis. Although this is a need, it does not focus on strictly building a robust EMS system nationwide that is the basis of defense against pandemics or acts of terrorism. The position statement adopted by NEMSAC on June 3, 2009, further reflects that the needs identified in the 2006 EMS Preparedness Initiative Policy Statement are still at issue (National EMS Advisory Council, 2009).

A large overall disadvantage is the inequity of funding distributed to and through each of these departments for matters that concern EMS. Dollars are cloaked under sections that have responsibilities for addressing particular issues of health and response. No one agency has allocated funds for dealing with the overall needs of EMS.

The following diagram illustrates the federal agencies having a role in EMS and their overlap. The star is shown to accentuate the absence of a central agency that provides oversight and guidance for EMS coordination, funding and advocacy.

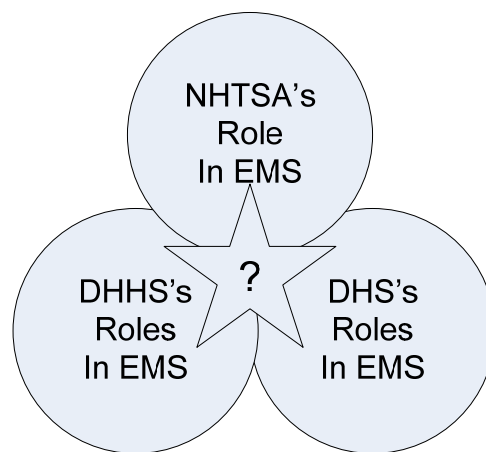


Figure 2. Federal Role Overlaps

Strategy for EMS is needed (George Washington University, 2006). When considering the “star” in the center of the above depiction, what should it represent? It should be the basis upon which medical disaster preparedness and national response needs rely. That reliance is a strong voice for EMS system development across the country. It would seem that EMS, as it is currently structured, is without cognizance of its true stakeholders; providers and the public served. Highlights from recent committee discussions of FICEMS and NEMSAC indicate the need to initiate a development matrix for federal EMS responsibilities. Those items include system finance, regionalization, national credentials for training, medical direction, coordination, accountability and communications from the standpoint of interoperability providers (EMS Update, Fall 2008/Winter 2009).

The federal level must recognize itself only as player in which it has certain responsibilities to include federal response and assurances that local and state resources can meet the demands placed on EMS. By taking this role of the federal system as a player and the true stakeholders being those who execute prehospital care, transport and those who receive its benefits, the next chapter explores strategy needs based on understanding EMS's network and bases of power.

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III. EMS NETWORK

A. UNDERSTANDING EMS BASES OF POWER

In trying to show examples of EMS's unique network, Bryson's example of building strategy through "a bases of power-direction of interest diagram," provides a structure for exploration (Bryson, 2004). By doing so, it will be easier to better understand the methodology needed for the basis of strategy for the purposes of how EMS federal structure can be best approached. It is necessary to have a fluid way of monitoring, at the federal level, the needs of EMS and the progress on how they are being met. These needs can be considered both opportunities and challenges faced by EMS systems, which provide better insight for future planning rather than simply the present issues (Bryson, 2004, pp. 38–40).

Paul Maniscalco describes EMS's strategy as fragments because many committees do not have the strategy or statutory authority to guide direction (P. Manicalco, personal communication, January 15, 2009). Thus, it is necessary to provide guidance for understanding how strategy is formulated.

Designing strategy first requires understanding who and what is involved, which includes stakeholders and players. It also requires consideration be given to their interest, support for strategy, and recognition of limitations. If considering Bryson's example, the following chart demonstrates how this could assist in both understanding the network and determining a responsible place for the placement of an oversight agency. Typically the players, not the stakeholders, are seen at the center of what is needed to build an interest-based strategy. Keep in mind that interest-based power direction in the case of EMS is to serve the stakeholders of EMS; hence, in the following diagram, they appear in the center.

Although players are at the center of Bryson's bases of power-direction of interest, it is the stakeholders of EMS that should be considered the most influential and driving the direction needed. The center is recognized as the stakeholders who deliver

and receive the service benefits of EMS. The federal role of EMS is really a player that is not at the center of EMS's direction of power. Using this approach assists in working to identify factors relative to determining where the EMS lead should be in the federal government structure by allowing a mechanism for determining the direction of interest and what support mechanisms are involved or needed.

Bases of Power-Direction of Interest Strategy Components

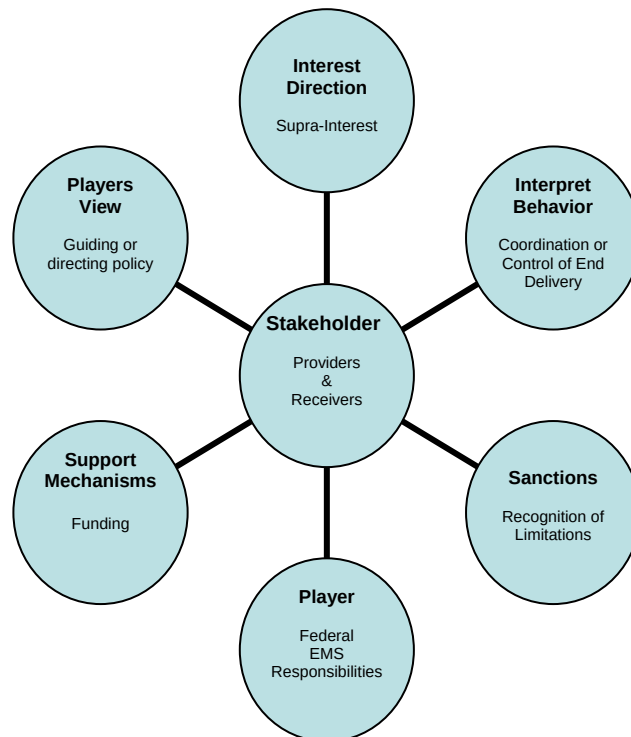


Figure 3. Bases of Power

1. Stakeholders

It is about the STAKEHOLDERS! Multiple entities require consideration by the player. The public served by the EMS community, EMS providers, educators, and researchers all have a major stake in the delivery of EMS. In addition, the definitive care organizations, hospitals and clinics, must also be considered, and are placed at the center of the diagram to give significance to where all focus should be centered. EMS's most

important stakeholder is the public that it serves and all circles of influence must direct their guidance and actions towards that end service product. Also to be considered is that not only are the stakeholders independent in their needs for strategy, they are also partners. This is also true when considering the federal government as a player.

2. Player and Its Roles

The *player* in this diagram is the federal responsibilities in EMS and a partner in EMS. National risks include pandemics, medical implications of terrorism, and coordination for natural disasters. The commonality in all of these is the assumed need of immediate medical care and definitive medical treatment. Currently, the authority of EMS at the federal level has overlap between agencies. This overlap creates confusion, miscommunication, unclear roles, and an unclear organizational position. Structured support with regular vetting of input from the EMS stakeholder community clearly is an imperative role in not only disaster but also day-to-day public service. The federal government is responsible for ensuring a coordinated response in the next disaster, appropriation of funds to advance needs and to give public assurance that the medical service delivery is robust in both its delivery and credentialing. If this is understood, then as a player, placement in the federal government should be where all these needs can be evaluated and addressed. Most importantly, it is important not to lose sight of EMS being about medical care; all other associated issues are necessary to support the provision of medical care delivery to the public on a daily basis. It is not possible to focus only on the next disaster by only addressing what has presented as past failures. Future risks of failure must be pre-identified based on tacit knowledge of all known bases of power.

3. Interest Direction from a Supra Perspective

In keeping with Bryson's intent behind interest direction, the supra-interest of EMS coordination, funding and advocacy must be considered. Keep in mind what was discussed earlier about interest direction being utilized to drive strategy for organizational structure of EMS at the federal level. By temporarily considering all involved in EMS, whether defined as a player or stakeholder, how to approach each of these identities

involved must be ascertained. It may be necessary to inform, consult, involve, collaborate, or empower dependent on the issue under review, which are identified in Bryson's participation planning matrix for utilization of interest-based power direction strategy. Redundantly identified key issues include the need for a national voice, secured funding, public awareness surge capacity, and research/study coordination. It is very difficult in the current array of EMS agencies to know who should be involved, at what level based on the above participation levels, and where a decision of final resolution resides.

4. Interpretation of Behavior

What is critical in this area for federal consideration is to work towards building minimal credible standards and support for EMS without pushing regulation at the state and local level. The chosen federal agency to lead EMS would define the basic framework of EMS care while allowing regionalization based on community need. Many EMS agencies are extremely robust in their care and delivery. It is also expected that many have room for improvement. If the author were to interpret the current behavior of how EMS's role has been handled at the federal level, it is clouded and duplicated. This smoke and mirror image is created by multiple agencies attempting to address the needs of EMS without a solid focus from a parent-coordinating agency. The needs of EMS have been buried within committee and multiple offices with overlapping objectives rather than within an accountable agency. This smoke and mirrors is better understood when considering EMS in what the author describes as its recent eras" EMS post-9/11, EMS post-Katrina and EMS post-pandemic flu. EMS post-9/11 created the formation of FICEMS within NHTSA. EMS post-Katrina saw DHHS recognize a need for better response coordination and the formation of a medical readiness office. EMS post-pandemic evolution focused on an Office of Preparedness and Operations within DHHS. Although concurrent reasons may exist for addressing these eras between the agencies, it is cloudy when trying to navigate the need for strategy designed to address future threats that require EMS be a quickly accessible resource for planning and decision making.

5. Sanctions

The current limitations of EMS are mostly due to its loose structure throughout the country. Unlike law enforcement or fire, which typically is provided by a city or county, EMS is more diverse in its organization. It may be provided by private third service or hospital based. It may be fire based for which many will argue this is the best place for its delivery just as many see the same argument for third service type deployment. Regardless, this creates a network of inconsistent service delivery, medical protocols and administrative oversight. At times, EMS is still viewed as a ride to the hospital. Advanced medical treatment and life saving technology now demands a different approach. Due focus on medical care is not best served when locked in to a structure hierarchy whose first focus is transportation safety. A consistent national voice is needed to improve public awareness, for reputable recognition in the field of medicine, and to sit at the table during disaster preparation and response. Whatever agency is selected to oversee EMS must be based on the auspices of patient centered care.

6. Player's View or Roles

To understand where EMS should be parented in the federal government, it is necessary to first understand its role. Using this approach of bases of power direction assists in finding the role of the federal government in EMS with consideration given to the needs of all the stakeholders.

By reviewing each circle of power, items stand out concerning the role of the player relative to guiding or directing policy. The player, which is the federal role to be identified, is responsible for federal considerations for pandemics, medical implications of terrorism and coordination during large-scale national disasters. This role also needs to serve as the nation's best resource for ensuring a robust EMS system nationwide on a day-to-day basis. This is the best safety net for EMS when called on for national disaster intervention.

According to the supra-interest examined, concerns arise for securing a national voice, robust funding and increased public awareness combined with overall consideration given to the issue of surge capacity and needed research coordination. Interpretation of behavior shows that credible standards and EMS support designed to help at the local and state level are needed. Credible standards are those vetted through stakeholders, deemed appropriate and then supported through a centralized oversight agency. If these standards are allowed to represent what is included in the player's view, they can be used to identify the appropriate resource location for EMS. These player views provide the ideas for strategic action. Comprehension of strategic action would reinforce the political feasibility understanding at all levels of government. The player's view must encompass considerations for all the circles identified. Combined with those issues of national implication, it is then possible to arrive at an understanding of what the federal roles (playing) of EMS are. With that understood, this rearrangement of Bryson's approach allows for the basis of persuasive evaluation of how strategy for EMS should be designed.

Bryson's chart provides the ability to divide a complex network into identifiable parts to recognize how they all connected. It can be concluded that all involved are players, as well as stakeholders. By using the interest-based strategy, it can be ensured that all are included, limitations are identified, what support is necessary and whether outcomes needed involve coordination or control of an issue. Using an interest-based approach ensures that regardless of the differences of opinion about an issue, the end result is in the best interest of all involved.

B. EMS STRUCTURE

In effort to understand who EMS's stakeholders are, it is necessary to review the composition of the types of systems that exist for today's service delivery. With over 30 variations in system design, the author explains the system components using the provided explanation for medical care and EMS infrastructure (Polaris Group, 2007).

1. Provision of Medical Care

Providers are those people delivering service to some degree of standard with regard to medical treatment. In simplistic terms, emergency medical care may be at the advanced life support (ALS) or basic life support (BLS) level. The agency provider may deliver emergency care, nonemergency care or advanced critical level intervention. These care services may or may not involve transport to a medical facility depending on the situation.

All of the providers operate under a medical protocol approved by a physician that accepts responsibility for those working beneath his license. This association allows the life-saving interventions performed in the field to be acceptable without a physician present. Although systems vary as to the liberal nature of their protocol in accordance with their medical director's permission, all give a standard level of care for the different types of medical or traumatic injuries. In this arena, the stakeholders are the emergency medical technicians, paramedics, physicians and nurses licensed to provide aid.

2. Infrastructure

To understand the infrastructure, it is first necessary to understand what occurs when calling 911 for emergency medical service. The call is received through a public safety answering point (PSAP), which identifies from where the call is originating. Thus, the dispatch center can verify the patient/caller's location and determine the severity and nature of the problem. This information is then used to dispatch the appropriate level of emergency medical response. The manner in which this occurs is dependent on the PSAP configurations, dispatch agreements and technology available. Once the call is received by dispatch and through the assistance of technology, a unit appropriately equipped to handle the type of call is dispatched. These units may be fire engines, rescue trucks, ambulances, helicopters or other specialized equipment staffed at varying levels of EMTs, paramedics, nurses or doctors depending on the level of care needed.

Not all calls that the 911 systems receive are emergent in nature. Through medical priority dispatch standards and call screening, it may be determined that a unit with less

medical resources can be sent in a nonemergency response mode to assist. Sometimes there are a mix of the types of units and medical provision level depending on who is closest and how the system is designed to meet response standards. Many times, it is like a pit crew jumping out on pit row. In cases where time is of the essence, the dispatch center knows its job and how its skills interact to assure the best outcome is provided.

Infrastructure is the resources needed to deliver services. Of course, providers are the first resource. The logistics may come from a private service, government agency or a combination thereof. These agencies may be operated from a local or state level. In the case of some private agencies, they operate nationally through contracts with various entities for varying levels of service.

Many nationwide examples of public-private partnership exist. An example would be San Diego's arrangement between the San Diego Fire-Rescue Department and Rural Metro Corporation, a private EMS company. This represents a complex business relationship united by contract and shared risk associated with the business.

Another example of EMS systems is those that are fire-based. In these systems, the fire department responds, and in some cases, transports the patient to hospital. They may contract with a private provider to respond and handle the actual transports, which are referred to as a two-tier system. An initial responder who is closest arrives to handle the alarm while a second response agency brings the patient to the hospital. In some cases, a government agency may own and operate the EMS service delivery, such as a Public Utility Model (PUM). Pinellas County, Florida operates in this manner.

Keep in mind that the definitive infrastructure is typically the hospital receiving the patient. Not all EMS transports to a hospital involve the emergency room. EMS also provides the inter-facility transfer of patients from one hospital to another or returns patients to their homes. In many cases, these inter-facility transfers are critically ill patients in need of specialized care and equipment that may not be available at the originating hospital or facility.

The intent of this explanation is not to present the best model but to provide a more comprehensive understanding for those not familiar with EMS or how complicated

its structure can be. In a report on the state of EMS systems by the National Association of State EMS Officials, it was noted that the lack of coordination and accountability due to a fragmented system is endangering the improved quality of care (National Association of State EMS Officials, 2007, p. 3). EMS cannot reach consistency in a fragmented system. Regardless of the structure, the stakeholders are all the same, the providers of medical care and the public being served.

3. Public Served

Varying demographics exist with regard to those who need assistance. EMS responders are equipped differently in accordance with their locations. Rural areas require the ability to provide longer treatment delivery, which can lead to different medical protocols. Geography and the availability of hospital resources drive what these protocols allow. Areas with aging populations require a greater understanding of geriatric needs while those with mixed ethnicities may present with language and cultural barriers. The common denominator for all systems, regardless of its structure, is the public protected by care that is patient centered.

Whether a system is local, private or state; the national EMS system overall is very fragmented. This is not to say that federal regulation should be used to establish the operating procedures for EMS at a local level. It should take an active role in the establishment of assuring effective coordination in nationally significant events and ensure systems are accountable in their provision of quality care by the widespread establishment of guidelines.

4. Inequity of Coverage

There are four first response disciplines: fire, law, emergency management, and EMS.

Law enforcement first response agencies are structured differently. It is possible to count on a state, county or local law agency to exist. This is not the case for fire or EMS first response agencies.

When considering the fire first response agencies across the states, evident disparity of the levels of services provided does exist. Some departments are all career (paid) organizations, strictly volunteer or a combination thereof. State forestry is the only common ground fire service across the nation. Due to the inconsistent overall structure of the fire service, areas of the country are not equally protected against hazards. Some of these departments provide some level of EMS intervention but it is not consistent.

A United States Fire Administration exists, but it plays no active role in consistency of service across the country. It is protective in watching out for America's firefighters but not the public served. EMS is destined to the same fragmentation as the fire service, if it is not recognized as its own first response system charged with protecting both the emergent and nonemergent health needs across the country.

The comprehension of how to devise a strategy based on an interest-based approach and its components, combined with knowledge of the EMS structure, provides an understanding of the EMS community. To identify the key changes needed and how those can be approached, it is necessary to use all facets to address the megacommunity needs of EMS.

IV. NURTURING EMS AS A MEGACOMMUNITY

A. NEW STRATEGY

1. Megacommunity Defined

The last chapter examined the components of an EMS network and interest-based strategy. Next, it is essential to learn how to apply that interest-based strategy to a megacommunity. A megacommunity is defined as one that “is a public sphere in which organizations from three sectors—business, government and civil society—deliberately join together around compelling issues of mutual importance, following a set of practices and principles that make it easier for them to achieve results without sacrificing their individual goals” (Gerencser, Kelly, Napolitano, & Van Lee, 2008, p. 53). EMS possesses all these components. Businesses associated with EMS include hospitals and private providers. Many EMS systems are operated and regulated by varying levels of government and many advocacy groups have been formed comprising the civil society component. Earlier the author presented mutual issues that face EMS as a whole to include the need for better funding, a national voice, EMS surge capacity, increased need for public awareness, and research-based decision making. Practices and principles exist at all levels that allow the stakeholders to deliver and provide services with flexibility based on their needs and resources.

With this understood, the point becomes how to nurture this megacommunity to move in a successful direction and what is success? The successful direction requires new strategy and success is compelling those sectors involved to engage and build capacity.

2. Understanding Blue Oceans

Kim and Mauborgne teach that blue oceans, as compared to red oceans doing things the same way, are new strategies that work to improve value innovation (Kim & Mauborgne, 2005, p. 12). In identifying that the realignment of federal EMS structure is a value innovation needed, it is appropriate to use the concepts of blue ocean strategies.

Risk minimization would be secured using this strategy if done effectively. The author again defines the risks of EMS, known concerns, and unidentified failures during the next disaster.

3. Strategy Components

The first step for a new strategy can be described as reconstructing market boundaries to lessen competition. Creating a lead agency in the federal structure does challenge the current market boundaries that split its interest between multiple agencies. All of these agencies compete for funding and resources that would allow EMS as one of their “chips” on the table. EMS can no longer be treated as a chip but must move towards being its own player that makes the decisions on how its dedicated funding and resources should be shared with its stakeholders based on priority needs.

In an effort to change EMS to move it toward being a nurtured megacommunity, it is first necessary to examine components. To accomplish this, several factors must be evaluated and identified as to how they can be satisfied, which include elimination, reduction, raise, and create.

Eliminate	Raise
Duplication of EMS federal oversight	• Unite one voice for national needs and public awareness. • Professional status as a medical discipline in 1st response. • Increased collaboration between players
Reduce	Create
Confusion of multiple federal agency oversight	A point office in federal government for ALL aspects of EMS – leadership, collaboration, coordination and decision making

Figure 4. Megacommunity Strategy Components

a. *Elimination*

It has been explained that various offices for EMS at the federal level are functioning in numerous departments that include National Highway Traffic Administration, Department of Health and Human Services, and the Department of Homeland Security. Each of these departments represents a part of the EMS megacommunity. Limited resources and complex communications are reasons for what needs eliminated, such as the duplication of EMS systems oversight and leadership within the federal system.

b. *Reduce*

This elimination of duplication is not to say that the efforts underway should be abandoned; however, they should be streamlined through better organization for the support of the megacommunity. By streamlining oversight, it is possible to improve leadership and limit the confusion of efforts. Scattered resources most closely placed together can reduce the confusion of communications and improve effectiveness of EMS in its critical role of first response.

c. *Raise*

The intent of streamlining is to maximize effectiveness; it is not about giving the power of control over an EMS system delivery. Streamlining raises the ability to address effectively the megacommunity issues faced. These issues include synchronizing one voice for national needs and public awareness, raising the professional status of its role of a medical discipline in first response, and increasing collaboration between the players of the megacommunity.

d. *Create*

The goal is to create a point office in federal government that serves as a pass through providing leadership, collaboration, coordination and decision making for

the EMS community. This office will assist in the elimination of duplication, a reduction in confusion and scattering of resources along with an increase in the ability to address needs effectively.

When considering all these components, the need to eliminate, reduce, raise and create, a framework strategy is created that moves toward nurturing EMS needs rather than what could be considered as appeasing the needs through scattered efforts. Recreation of how EMS is supported should not be done as an act of impulsive management. It should be based on reorganization utilizing modern sciences of organizational strategies that encompass the recognition of complex networks, interest-based direction, and canvassing of all involved. When considering what has been presented regarding megacommunities and blue ocean strategy concepts, this scientific approach is accomplished.

B. BENEFITS OF ACCOMPLISHMENT

1. Inclusiveness

When serving as the lead for a megacommunity, bias towards inclusiveness rather than segregation must exist. It is essential in order to combat an “us verses them” strategy. This “us verses them” strategy can be seen in the homeland security competition for funding. When federal dollars are allocated for specific areas, both through entitlements and grants, all of the first response disciplines benefit. It has been effective; however, the duplication of spending efforts and spending without proven outcomes has occurred. As the megacommunity leader for EMS, the federal government would have an agency sitting at the same table with law enforcement, fire and emergency management rather than simply considering EMS as a subsidy agency for benefit as with the FIRE grant. A better sense of inclusiveness lends itself to developing better solutions for critical outcomes (Gerencser, Kelly, Napolitano, & Van Lee, 2008, p. 194).

2. EMS Boundaries

What are the boundaries of EMS? It is difficult to see without looking at the big picture. There is EMS advocacy for trauma, children, research based medical practices, equipment specifications, data requirements, injury prevention, and new technologies. All these are spoken for by the various offices of EMS located throughout the federal structure. Of extreme importance is one that the author views as underemphasized is EMS's role of nonemergency health care access for those needing medical attention. Some people, especially those without family or other advocate resources, have no other means to access health care and use EMS to fill this gap, which is seen everyday in the alarms to which EMS responds. This lack of access represents a gap in U.S. social services for health care and streamlining the oversight could be a solution for tapping this trend and giving it direction to ensure a better health safety net, which will most likely become one of the most important change aspects of EMS in the future, as health care reform unfolds. Realizing EMS can and will have an expanded role in this area will strongly affect how EMS is defined as a health care service provider.

3. White Noise Trends

This trend is what could be viewed as “white noise.” White noise is a term used when evaluating strategy for future threats or opportunities. It refers to those issues that have indicators of being on the horizon but not yet loud enough in the mixed discussion of issues for becoming priority. Identifying white noise issues early, such as EMS filling the missing link in health care access, can provide an advantage for how to create a support framework prior to the issue becoming one without any priority in strategy. Loud can be associated with critical and the less critical issues are allowed to become, the better can resources be effectively managed and remain proactive rather than reactive.

These benefits of using identified strategy to realign EMS structure at the federal level have solid value proposition. A better understanding of the bigger picture would be realized through increased collaboration. Therefore, it is possible to see beyond the current demands and find trends in the white noise environments, and the boundaries of EMS would be better defined and expanded as necessary. If there is a warning to be

considered, it is the perception of state and local government. A sole lead agency in EMS at the federal level must be perceived as a collaboration builder, a leader through change and have an expert understanding of EMS systems as a whole. The federal agency would serve as the clearinghouse for addressing national EMS needs and provide the basic support framework to which regional and local agencies turn for building their services. Currently, since a good national assessment of EMS does not yet exist, this is an ideal time to consider realignment as this need is addressed. According to Dr. Kevin Yesky, 2009 FICEMS chair, a contractor is being sought to provide this assessment (K. Yeskey, personal communication, August 27, 2009).

V. RECOMMENDATIONS

Based on literature review, understanding the EMS strategy components through the bases of power and megacommunity existence of EMS, it is recommended that a United States EMS Administration (USEMSA) Office be formed and placed under the auspice of the Department of Health and Human Services. Although various agencies show some interest in EMS, there is no deliberate joining.

The extensive evaluation of the parent agencies involved at some level with EMS and their overlapping roles, the evaluation of the common unmet needs associated with both day-to-day operations and during disaster combined with the need to build a robust safety net for medical systems delivery centered on patient care, demand the formation of an agency solely charged with EMS oversight at the federal level. The author also believes and experts would agree that EMS is important in the ability to prepare EMS effectively for a future role in health care reform given it is and will continue to be the first gate through which many pass to access the health care system.

A. USEMSA'S MISSION

Any organization must have a mission. USEMSA's mission must represent the megacommunity needs of EMS and understand that stakeholders have different needs depending on the type of service delivery system, their demographics and resource limitations. It is important to remember the definition of a megacommunity; a public sphere in which organizations from differing sectors *deliberately* join together around compelling issues of mutual importance. Defining the mission allows a framework for this effort.

The recommendation for USEMSA's mission comes from the need to address the national needs of EMS both in day-to-day operations and during times of disaster, which includes prevention efforts, response coordination, standards for patient centered care, standards of system operation, research, and performance measurement objectives for systems. The desire to be the clearinghouse of information for matters concerning EMS

and the focal point of coordination for EMS resources needed by other agencies that have overlapping needs must be addressed. This mission must identify with the future of EMS and serve to mold its future role in healthcare reform.

B. CLEARANCE FOR GRANT FUNDING

Numerous grants benefit EMS across differing agencies established relevant to the needs of those agencies, which should remain to include funds available through the assistance to firefighters grant program, urban area security initiative grants and other homeland security programs. Dedicated grant funding allocated to the USEMSA for meeting strategically prioritized objectives are needed. Existing objectives need evaluation and stakeholders should establish future objectives to provide services represented by NEMSAC.

With regard to healthcare reform and developing EMS's role to ensure effectiveness for those entering the health care system through its service provisions, dollars need to be allocated to define its role and determine how it can best serve in ensuring patients reach the appropriate destinations for receiving definitive medical care. Hospitals have advocates for patients that serve to help guide them through the complicated process of administration relative to medical care. This advocacy should begin with EMS when it is called for assistance.

Many service delivery systems are private providers. Federal grants exclude them from funding. Although grants should not be awarded for those only serving to profit, allowances for consideration should be made when those private agencies are the primary means a community has for emergency medical service needs and when a broadened service will provide for a robust system of delivery. Many times the rural areas may have to rely on private service to meet their needs. If healthcare reform is truly designed to assure all have equal access to the healthcare system, those in need of assistance in areas that lie outside of metropolitan or urban centers deserve a basic level of EMS provision as delivered by denser areas.

With the continual push towards interoperability on a nationwide basis, means to communicate with a medical facility and direct physician contact would benefit the long-term goal of assuring equal health care provision not only in times of disaster but in routine response. This ability to communicate through both would need to include voice and multi-media medical technology that would enhance a standardized method of assistance in guiding EMS service providers on the next step in a patient's care; therefore, increasing the ability to advocate effectively and reduce unnecessary cost. It is not enough to establish only a national medical reporting system, such as NEMSIS. Many times EMS is blamed for bringing patients to an already crowded emergency room when another medical care facility would be more appropriate. EMS has no choice in many of its communities. States, such as Florida, have statutes that prevent emergency medical services ambulances from transporting patients anywhere other than an initial receiving hospital.

As health care reform expands, its restrictions will also grow in effort to contain cost and uphold accountability, which will further exasperate the blaming, and in turn, forcing piecemeal legislation that will not address the system as a whole. USEMSA's effort to develop the guidelines for what is a foreseen need would lend state assistance for preparing its service providers to serve as effective conduits to definite and appropriate health intervention needs of the communities they serve, which when combined with standards of care and outcome based research, would serve as valuable assignments of oversight to the USEMSA. The author believes these are critical components for building and supporting a robust system for service delivery.

C. AUDIT OF OFFICES FOR NEW PLACEMENT

DOT's Office of EMS, DHS's Office of Medical Readiness, DHHS's Office of Preparedness and Response should be audited for a movement of these resources to a newly formed USEMSA. This audit should include the process of reallocating existing dollars that would be better utilized under a new agency. FTE's associated with those offices and grant programs should either be moved entirely or required to include USEMSA in the application and evaluation process. However, it will not lend all that is

needed to establish an effective office. According to Paul Maniscalco, funding for the office must be associated with appropriated rather than entirely discretionary funds, which is accomplished by forming an administration (P. Manicalco, personal communication, January 15, 2009).

By securing a new and deliberate agency with a defined mission, it will eliminate the duplication of efforts and reduce the confusion associated with multiple agency oversight. This will be done by raising unity of voice, increased professional status of the first response discipline most responsible for emergency patient centered care and allow for better collaboration. Issues will not be lost in committee or in the multiple priorities established for a larger parent organization. EMS cannot prosper to meet the full needs of its role as a first response discipline when it is only recognized as a crossover responsibility for so many federal agencies.

This recommendation for placement when considering the “star” earlier presented showing the question of where EMS oversight should be is redrawn to show that intent.

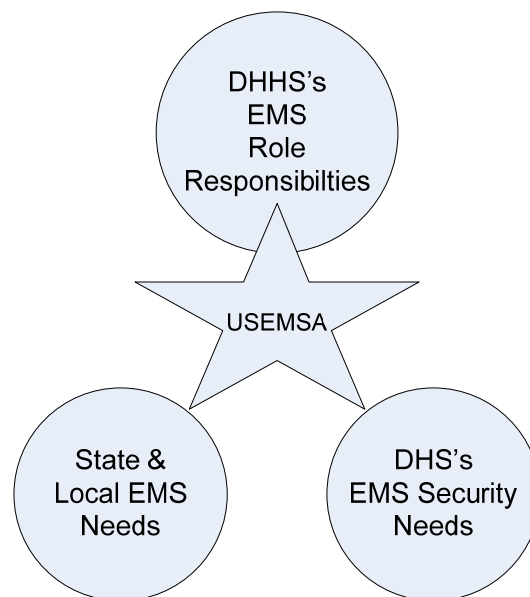


Figure 5. EMS Embedded within DHHS

The USEMSA would be imbedded within DHHS ensuring its roots remain in patient centered care. The points touch the agency responsible for homeland security, DHS and state and local agencies that are the first responders. It is no longer necessary to include DOT as part of this system.

EMS was addressed by DOT in the mid-1960s, since many people were dying on the highways. The author will argue that maintaining an Office of EMS in this department is a holdover from the past rather than an evolutionary organization designed to meet the needs of EMS on a much broader level. DOT, as any with any other agency, would express its needs and concerns to EMS through vetted communication. The established committees of NAEMS and FICEMS would better serve EMS in a direct affiliation with the USEMSA under the auspices of health and human services. The composition of these committees needs to be evaluated to ensure that all stakeholders are represented properly.

D. OFFICE STRUCTURE

The structure of the USEMSA would best be served by involving a NIMS approach to give clarity to other agencies on how to approach the organization with their needs. HSPD 5 required the adoption and use of NIMS/ICS. It is amazing that many federal, state and local partners have still resisted this move. If a USEMSA is formed and serves as the chief agency not only for widespread EMS daily needs but for coordination in the next widespread disaster, it must move in the direction of a NIMS culture, which would be more easily accomplished in forming a new agency by staging the necessary appropriate building blocks of structure. It could serve as a role model agency structure for other federal partners.

This structure would include sections for administration, planning and operations. Administration would oversee grant programming and research, planning would encompass prevention and standards, and operations would serve to strengthen preparedness and response and be a direct link to DHS in times of national response needs. Oversight of the national medical systems in place would fall under the responsibility of this operative group. FEMA and DHS representatives would be reluctant

to move resources, such as Disaster Medical Assistance Teams (DMAT), from their control. A large portion of this response entity resides in the EMS community and it should be located where it is best understood. The USEMSA would be the agency to fill the roles of Emergency Support Function (ESF) 8 during a disaster. Within NIMS, ESF 8 is responsible for medical coordination. In addition to aforementioned funds, the Metropolitan Response System (MMRS), Citizens Corps (Medical Reserve Corps) and the Regional Catastrophic Preparedness Grant Program (RCPGP) would need to be shifted or modified from their current oversight designees to DHHS to reinforce effectiveness of a USEMSA. Within the federal government, parent agencies are extremely large. As it matures, the USEMSA would become a subject matter expert on the navigation of DHHS resources available for addressing public need.

Local and state agencies have difficulty in identifying with the structure associated with the federal government. Establishment in a NIMS format will help others recognize how to search for resources and direction. It will assist the parent agency, DHHS, on where to focus interests in EMS presented from sister agencies that need EMS guidance and/or assistance. For NIMS to be effective, it must be utilized in an organizational structure for day-to-day administration, as well as in times of crisis. In doing so, people become used to their roles and can more easily transgress from the dimensions of strategic problem solving to tactical interventions in a state of emergency.

VI. CONCLUSIONS

In discussing conclusions, it is necessary to review the problem presented in Chapter I. EMS is not clearly represented in the broad range of disciplines related to homeland security. Given the demonstrated depth of EMS, it can be further expounded that it is not clearly represented in its role of health care provision across three federal agencies: Health and Human Services, Homeland Security and the Department of Transportation. As an outsider, it is easy to conclude that EMS is a component of a mass array of agencies, none of which is solely tasked with the coordination and administrative needs of EMS at the federal level.

The research question posed exploring the need to determine the advantages to EMS through the consolidation of oversight within the federal structure and the placement of this oversight. There are advantages to centralized coordination and the clear indication that EMS needs to be coordinated independent of the multiple disciplines that create a fragmented representation.

A. ADVANTAGES OF OVERSIGHT CONSOLIDATION

1. Funding Prioritization

EMS has negligible amounts of grant funding compared to other disciplines. It must compete with the multiple tasks of three agencies to secure its needs. EMS has no direct allocation of federal budgetary funds within these agencies. Their budget dollars do not establish earmarked dollars for EMS coordination. The establishment of EMS as its own administration would provide the appropriations to allow EMS to address its coordination efforts as a resource for EMS countrywide rather than allowing it to fall victim to the multiple priorities of its current parent representation.

2. National Voice Representation

Given the spread of representation, the needs of EMS are lost in the white noise of the federal budget process. There must be one national voice for EMS driven by the needs presented by its stakeholders rather than competing with the needs of stakeholders in nonrelated disciplines.

3. Surge Capacity Interventions

The national problem of EMS surge capacity must be corrected through study and changes implemented that allow EMS more flexibility in how it interacts with the definitive care needed for its patient stakeholders. EMS is many times the first interaction a person has with medical intervention and it should be guiding the determination for the next step in medical care.

In many states, EMS's hands are tied on how it can access the medical system leaving no choice other than a hospital emergency room, which then results in filling hospitals across the country with patients that could be seen by another medical facility. Giving EMS more flexibility in its access to definitive care will lessen the burden on hospitals already serving beyond capacity; thus, ensuring patients are receiving expedited care and reducing the patient cost associated with hospital services that clinics could have provided.

4. Increased Public Awareness

By escalating EMS to a predominant agency within the federal structure of administration, public awareness of EMS and its role in the provision of health care will be heightened, which is a compliment to the future changes of health care in the United States. EMS does not have to retain the current public opinion, which is that the ride to the hospital is where medical care begins. It is the agency responsible for the prevention of acute illness and injury, or the discernable agency, that determines if a condition is an emergency or nonemergency illness and a community's first step in receiving the appropriate definitive medical attention.

5. Research Support

National research prioritized by a single agency will reinforce that the needs of EMS are addressed solely based on stakeholder needs. Performance measurements of EMS across the country would be evaluated from a common platform, which would guide the direction of needed improvements in patient care, assist in identifying what standards are missing and what needs to be changed to ensure consistency in initial health care access.

When prudent providers cannot meet the performance measures assigned because of a lack of community resources, they can be targeted for the distribution of federal assistance based on demographic need. All EMS providers must have the same basic service capabilities and technology prior to providing more advanced communities with dollars. The stakeholder should expect, that regardless of where they reside in the county, the same basic medical intervention will be available that has consistent standards and the ability to assess their medical needs.

B. NEED FOR BUDGETARY ESTABLISHMENT

When reviewing budgets established for the various departments that provide an umbrella for some aspect earlier described, none of these show dedicated funding for the multitude of offices involved in EMS.

Several arguments to the proposal of a USEMSA within DHHS will arise. The most notable will be the opposing position of the fire service to house oversight within DHS and the USFA. As a fire chief, the author would not make this recommendation lightly. The fire service, in its traditions, has stepped forward to handle any new role needed for emergency services and community need, and it is a valuable provider of EMS delivery and will continue to expand its services. However, it is not the sole system delivery and not fully embraced throughout the fire service culture. EMS may be the future of the fire service but this does not incline the author to agree that the fire service is the future of EMS (Roberts, 2010, p. 42). EMS provision offers security to the fire

service while also being beneficial to EMS. Security and beneficial-based relationships are good for partnering, but that does not ensure that the roots of EMS oversight are focused on patient-centered care at a national level.

DOT does not have a role in the EMS of today from the standpoint of oversight. In times of disaster, it is focused on the continuity of transportation flow and most likely with the needs of DHS's Transportation Security Administration. When the author considers Florida's structure at the state level, DOT does not have oversight nor is it a "go to" agency for EMS. Roadway use by emergency vehicles is regulated through its laws. At a local level, DOT only interacted on matters involving the highways. Florida's Department of Health is the regulatory agency for EMS and the licensing agency no matter the type of provider, be it public or private. All national matters involving EMS at a state and local level, whether they are DOT, DHHS, or other department's needs or direction, should be vetted through DHHS for conveyance to states. It becomes confusing when multiple agencies at the federal level all have initiatives for EMS that involve federal compliance. EMS as a megacommunity deserves one parent agency throughout the entire structure of federal government.

The state of affairs that created EMS in the mid-1960s, people dying on the highways, has changed to be a much broader application of emergency medical service system needs. EMS serves as an intersection between public health and fire services. Many of the committees that exist do collaborate but that collaboration does not give evidence of resulting in needed action, which is supported by viewing the minutes from either NEMSC or FICEMS. Committees come together to meet but no cohesion exists to ensure the necessary follow up. A USEMSA would provide a place for actionable results.

The value added by placing EMS oversight under a USEMSA within DHHS is the assurance that EMS's needs and future roles will be addressed, which include patient care centered EMS, continuity of care and cost containment. Committees would continue to be utilized to advance EMS but the creation of a USEMSA would support EMS with the proper authority and funding making it very advantageous to what has yet to be

explored as a value innovation of EMS. That innovation is to expand the role of EMS in health care reform given that, in many cases, it is the first point of access for citizens to enter the health care system.

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