

EMS and Homeland Security

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ABSTRACT

Emergency Medical Services (EMS) is a vital partner in everyday emergency response and in homeland security. To date EMS has not been included in most homeland security activities and EMS needs to expand its role in this enterprise. EMS should play a greater role in disaster response, recovery, intelligence gathering, fusion centers, and syndromic surveillance. EMS could increase its value in homeland security and make real contributions with some additional training and protocols.

INTRODUCTION

Emergency Medical Services (EMS) plays a vital role in the United States in responding to medical emergencies and transporting patients. While a relatively young profession, EMS, with law enforcement and the fire service, constitute one third of the routine 911 emergency response system. The out-of-hospital treatment and transport of patients, a function performed by EMS, is a primary function required at almost every disaster. While the response-phase contribution of EMS is understood, EMS has can make significant, unique, critically important contributions to the prevention, mitigation, and recovery phases of the homeland security cycle.

EMS personnel can be trained to function as intelligence sensors to identify suspicious indicators of terrorism and to report those indicators to intelligence fusion centers. EMS personnel can also provide medical intelligence within fusion centers to help those centers better understand the significance of clinically related tips, leads, and indicators. EMS personnel can also develop and disseminate medical intelligence briefs, which inform EMS, fire, law and other responders of medically based threats to their health and safety. This is an important component of comprehensive force protection and has been used by the United States and

foreign military for decades. EMS must lead development of multi-disciplinary mass casualty response plans and other emergency medical related planning and exercising. At the county, regional, or state level, EMS must form networks of ambulance strike teams to respond to areas devastated by catastrophic events. Finally, EMS data can be used to augment and enhance current syndromic surveillance systems to provide earlier warning of a pandemic or terrorist incident.

BACKGROUND

EMS has existed in its modern form since the early 1970s. It is a young and dynamic profession. While most people recognize EMS as a fire engine or ambulance responding to an emergency call, EMS also includes using paramedics to provide support to primary medical care in communities, and transporting ill or injured patients between medical facilities. EMS is provided by municipal and county-based providers, fire based systems, private providers, and hospital based systems. EMS personnel are paid and volunteer. These various delivery systems have complicated the maturation of EMS, because each delivery system has a slightly different perspective of the optimal EMS system; some have adapted EMS to better suit their core mission. These divisions have resulted in inconsistent lobbying efforts at local, state, and federal levels.¹ As a consequence, the federal government has not designated a lead agency for EMS, set standards for EMS performance in the homeland security mission, provided adequate funding to EMS (less than 4 percent of HHS and DHS grant funding has been dedicated to EMS), nor provided adequate homeland security related training for EMS personnel.²

THE CORE MISSION OF EMS

Most EMS agencies and personnel are very clear about what their core mission is from day to day. Even with a diverse set of agencies providing EMS services, what is provided falls within a fairly recognizable scope. EMS responds to, treats, and transports patients who are ill and injured. EMS occasionally responds to mass casualty incidents and also occasionally to unusual calls such as hazardous materials. EMS also provides ground and air transport over long distances and generally provides a form of social services in the field when no other agencies are indicated or available. This common ground could be the basis of forming a cohesive scope of practice within homeland security that could be applied to all EMS agencies regardless of what delivery model is used. Delivery methods of EMS vary mainly because local needs are different; however a universal approach to homeland security issues could easily be applied to all of the divergent agencies to create a powerful extension of the homeland security enterprise. According to Michael Petrie, Director and Chief of EMS for Santa Clara County, California, a jurisdiction of 2.1 million people, “EMS plays a pivotal role in response roles in homeland security now, but it is also critical that EMS plays a role in prevention.”³

EMS HOMELAND SECURITY ROLES

According to the *National EMS Assessment of 2011*, there are currently over 900,000 EMS personnel in the United States.⁴ This large and highly skilled workforce can significantly and materially improve local, state, and federal government’s performance in planning for, response to, mitigation of, and recovery from homeland security and disaster events. Specifically, EMS can be an integral part of homeland security through the following five programs:

1. EMS personnel should be trained to function as intelligence sensors to identify suspicious indicators of terrorism and to report those indicators to intelligence fusion centers.

2. EMS personnel should provide medical intelligence within fusion centers to help those centers analyze medical data that could provide indicators of potential threats.
3. EMS personnel should develop and disseminate medical intelligence briefs, which inform EMS, fire, law and other responders of medically based threats to their health and safety.
4. EMS must lead development of multi-disciplinary mass casualty response plans and other emergency medical-related planning and exercising, including networks of ambulance strike teams to respond to areas devastated by catastrophic events.
5. EMS data should be used to augment and enhance current syndromic surveillance systems to provide earlier warning of a pandemic or terrorist incident.

Intelligence Sensors

One possible expanded role for EMS personnel is in the area of acting as intelligence sensors. With some focused training, EMS personnel could become aware of the tactics and tools of terrorists and learn when it would be appropriate to report suspicious activities to the proper authorities.⁵ EMS personnel are uniquely qualified to fill this function because EMS personnel see many things that no one else will see in the course of their duties. EMS personnel respond into all types of situations where potential terrorists, experiencing an emergency, may not have had the time to cover or conceal their activities. EMS personnel may be the only individuals that are exposed to these potential threats before they occur. As Petrie observes:

We go into all locations with short notice and without the baggage that law enforcement has, we are trained observers, we go everywhere, apartments, houses, we are not viewed as a threat and we have the ability to observe things that are going on.⁶

This type of reporting is not without controversy. Some in EMS would say that this is a job for law enforcement and has no place in EMS. However all EMS personnel are now required to report other suspected issues such as child or elder abuse. Possible terrorist activities could fall into a similar reporting paradigm for EMS. In addition, many EMS agencies are very much involved in prevention efforts. EMS in many areas provides training and education in bike safety, pool safety, and car seats. Reporting potential terrorist acts could fall into a prevention of injury category and could be considered a positive contribution of EMS personnel to the homeland security effort, to the nation, and to local communities. Reporting specific suspicious activities related to homeland security could greatly enhance response to a potential threat and provide EMS an opportunity to participate as full partner in homeland security activities.

Analysis of Medical Data and linkage to the Clinical Community

EMS personnel could identify the clinical and operational significance of certain information in fusion centers and serve as a link to the clinical community within a jurisdiction. This is a critical component of force protection.

A qualified paramedic, who is trained as a medical intelligence analyst, could answer the following questions using terminology easily understood by first responders and public safety personnel, and distribute that information in a medical intelligence bulletin:

- What is the potential impact to fire, law, correctional and EMS personnel if many expats from a country with high malaria risk travel to that country for the holidays then return to our jurisdiction?
- Do first responders need to take any precautions in response to a large outbreak of Salmonella or Influenza in the community?
- What do first responders need to know to provide proper treatment to patients taking a new ecstasy-based pharmaceutical?

Reporting suspicious activities by EMS requires a proper reporting mechanism be in place where EMS reports would be taken seriously and synthesized into useable intelligence. The most logical place for this to take place is the local fusion center. There are over seventy-five fusion centers across the nation and their mission is to collect and analyze intelligence data from all sources and then to provide reports back to local, state, and federal agencies that would help mitigate terrorist or naturally occurring disaster events. By contributing to this collective effort, EMS has the opportunity to exchange valuable information with field personnel about possible threats and danger where they work.⁷ This exchange of information provides a chance to work more closely with a variety of partners in the community and that collaboration alone can have positive effects for local EMS agencies. Petrie states: “Just as you can’t ask a paramedic to interpret the law, you can’t ask a law enforcement officer to interpret medical information.”⁸ Medical professionals should analyze data and trained personnel could determine how to not violate local, state, and federal confidentiality laws. Local EMS providers should have representation on the local boards of fusion centers to facilitate this exchange of data and ideas. Collaboration and cooperation could lead to more responsibilities and the identification of logical ways to increase EMS synergy with the other agencies in their region.

EMS as the Multi-Casualty Incident/Event Planning Lead Agency

EMS personnel are the experts when it comes to pre-hospital care. They understand their populations, normal response areas, regions, hospitals, and capabilities. They currently service all of the medical institutions within their jurisdictions and understand the flow of patients in normal and surge situations. With this knowledge they are uniquely situated to be the lead planning agency for mass casualty incidents such as terrorist attacks or natural disasters. These EMS agencies understand current capabilities, how those capabilities will

be affected when an overload occurs, and where to expect help within their regions. Gap analysis can be completed and exercised to determine where weaknesses exist and where patients are most at risk during a catastrophic event.

EMS personnel work daily in treatment and distribution of patient loads and specific patient illness and trauma triage. Basic training of EMS personnel includes discussions and practice of appropriate destination analysis and proper treatment to maximize positive patient outcomes. Since EMS provides this service on a daily basis, EMS is the logical lead for mass casualty incident and logistical planning.

Development of EMS-Based Response Teams

The Department of Homeland Security (DHS), through the Federal Emergency Management Agency (FEMA), should develop models of EMS based response teams that can respond to manmade and terrorist disasters in a comprehensive manner across all jurisdictions and boundaries. These teams should work first within local jurisdictions, then in regions, then in states, and finally across state lines to meet the needs by expanding as needed based on event type and what expertise is needed.

EMS strike teams are typically five ambulances with a strike team leader. Multiple strike teams can constitute an EMS task force, which provides various support components to keep the teams independent and mobile in any environment. This model can be adapted and molded to meet the need of any specialized situation. This model of response could well be used within law enforcement teams to include EMS in the makeup to strengthen a response in an unstable situation that has multiple medical components. The combination of medical expertise and security could quickly and definitively respond to and meet the needs of victims while keeping all responders safe and law enforcement healthy. EMS components in all types of search and rescue are necessary since it is never known when treatment and transport of victims will be demanded. EMS involvement in all types of responding teams in disasters provides not only direct medical

care for victims, but also a peace of mind for responders that are outside of normal, conventional environments and are exposed to a variety of hazardous conditions. Immediate medical care, treatment, health safety, and more are critical to all disaster missions and EMS is the conduit to including all of those components in a response team.

With proper networking, all of these response teams could form a strong system of local, regional, statewide, and national response that is expandable as needed and could easily be collapsed as the disaster is controlled. Use of Incident Command and other common principles combined with a common training model across jurisdictions could provide the needed coordination protocols to make response seamless. DHS through FEMA is the logical agency to coordinate nationwide implementation of this neighbor-helping-neighbor model using current EMS resources.

EMS Role in Data Management and Analysis

One last area of EMS participation is with its data.⁹ EMS data received from dispatch, run reports, and directly from field personnel could provide invaluable insight into a developing terrorist attack or pandemic event.¹⁰ EMS data could shed light on a trend that indicates a needed action to mitigate a circumstance to reduce death or injury. EMS collects data that no other agency does. This data is unique and can be applied to other analysis to create a clearer picture of a possible developing event.

An example would be looking for a series of symptoms that include fever, nausea, and vomiting at unusual levels. If an EMS system's normal level of these symptoms are five a day and suddenly there have been ten sets of these symptoms in the last hour, this could be an indicator of unusual activity.¹¹ Computer software is available that can sit in the background and monitor EMS data to provide a syndromic surveillance solution that would give an early warning of possible threats. This software could be preset to monitor specific data points linked to a biological or chemical attack or a naturally occurring disease process.¹² Each

individual EMS crew working a regular shift might not see a trend in the making; however the software might see a trend developing before any individual would notice. Many parameters such as response times or patient drop times could be monitored, but the ones most valuable to homeland security efforts would be those related to the types of calls EMS is dispatched to and the symptoms patients are experiencing.¹³ Data would need to be collected in aggregate form so that individual protected patient information is not disclosed. All aspects of patient privacy must be addressed.¹⁴

NEW EMS ROLES IN DISASTER RECOVERY

After the initial phase of a disaster occurs, many times the function of EMS response diminishes and EMS personnel have few roles in recovery. EMS agencies should look for new ways to integrate into recovery efforts and improve the overall quality of life in their communities.¹⁵ One possible area of involvement would be damage assessment. Damage assessment teams would benefit from paramedic involvement in many ways. First, if patients are discovered during assessment, treatment can begin immediately. Next, EMS personnel are trained and many are experienced at some level of safety and hazard assessment. With a little more training, this knowledge and experience could supply valuable insights into potential hazards and possible solutions for health related issues. Other roles in recovery should also be explored such as providing a variety of health services in the community, from wound care to immunizations post disaster. The skills of EMS personnel are many and ways to utilize those skills appropriately should be explored. EMS personnel could help their local communities recover faster from a disaster and provide specific help in the field where no other help exists.

CONCLUSION

EMS has demonstrated its ability to expand its role in many ways in healthcare delivery. Homeland security is another area where EMS must be involved fully. EMS is one of the three main response agencies notified when 911 is called, along with fire and law enforcement. In order for EMS to be recognized as a valuable partner in homeland security, EMS needs to find creative ways to provide real services to the homeland security community that make a difference and provide value. With a workforce of nearly 900,000, EMS has trained, professional personnel in all corners of the nation and with a little more training, a little more equipment, and a positive attitude, EMS stands to improve homeland security response and improve the quality of life of citizens served. EMS is the logical choice to perform these homeland security functions and to perform them well. Accepting expanded roles in homeland security could increase needed funding and provide more respect for a discipline that is well deserving and ready to meet the challenge of a changing world.

ABOUT THE AUTHOR

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NOTES

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