

National EMS Assessment Executive Summary

Purpose

This 2011 National EMS Assessment was commissioned by the Federal Interagency Committee for Emergency Medical Services (FICEMS) and funded through the National Highway Traffic Safety Administration (NHTSA). The purpose of this document is to describe EMS, emergency preparedness, and 911 systems at the state and national levels using existing data sources. Additional insight on current issues within EMS and disaster preparedness is provided through the findings from four expert panels. Finally, a review and discussion of existing data sources, data needs, and opportunities for a future recurring national EMS assessment is provided.

EMS Overview

Emergency Medical Services (EMS) is the practice of medicine involving the evaluation and management of patients with acute traumatic and medical conditions in an environment outside the hospital (prehospital). EMS is the intersection of public health, public safety, and acute patient care. EMS is unique in that the appropriate resources and care must be delivered to the patient's location in the appropriate time. EMS must also operate from a preparedness perspective assuring an optimal response to provide care to victims of any disaster and mass casualty event.

The ingredients for success within EMS lie in the understanding of the health and medical care of populations through systems. Ultimately, the clinical outcome of the patient is dependent on a coordinated "systems of care" approach. Systems of care require EMS to quickly identify and stabilize patients with time dependent specialty care needs and deliver them to the most appropriate destination within a therapeutic window of time.

National EMS Assessment Data Sources

An initial inventory of existing data systems throughout the US at the state and national levels did identify several data sources relative to EMS, but only two had the ability to comprehensively to describe EMS, emergency preparedness, and 911 communications across the majority of states and the national level. The National EMS Database maintained by the National EMS Information System Technical Assistance Center (NEMSIS TAC) provided extensive information describing EMS service and patient care through the 2010 EMS data submitted by the 30 participating states. The National Association of State EMS Officials through an extensive survey known as the "NASEMSO 2011 EMS Industry Snapshot" provided the most complete existing EMS data source representing all 50 states and 4 or the 6 US territories. Although the EMS Industry Snapshot was not a part of the National EMS Assessment Project, the NASEMSO released the data for use in this National EMS Assessment report.

National EMS Assessment Results

Over 200 data points provided detailed information and insight into EMS, emergency management and 911 communications.

1. EMS Organizations

- A total of 19,437 Credentialed EMS Agencies exist in the United States (excluding CA).
- A total of 73,529 Credentialed EMS Vehicles exist in the United States (excluding ID, NE, MO, and IN).

- Over 93% of the EMS Agencies respond to 911 emergent events either with transport capability (65%) or without transport capability (28%). A total of 5% of the licensed EMS Agencies provide non-emergent medical transport services. Specialty Care Transport Agencies compose over 4% of the licensed EMS Agencies and are almost equally divided between Air Medical and Ground Transport Services.
- Over 52% of the EMS Agencies function at the EMT-Basic level, 37% at the EMT-Paramedic Level, and 9% at the EMT-Intermediate Level.

2. EMS Professionals

- A total of 956,058 Credentialed EMS Professionals exist in the United States (excluding KS and SC)
- 64% are EMT-Basic, 24% EMT-Paramedic, and 6% EMT-Intermediate,
- 67% of the EMS workforce is male, 33% is female
- 70% of the EMS workforce is between 20 and 49 years with the most common age range between 30-39 years.
- 75% of the EMS workforce are White/Caucasian, 8% Black/African American, 5% Asian, and 4% American Indian or Alaska Native

3. EMS Information Systems

- 44 (88%) of the states currently have a State EMS Data System based on the NEMSIS Standard but only 11 (22%) of the states collect 100% of their EMS events.
- 39 (78%) of the states require local data collection and submission to the State Data System through regulation or law
- 31 (62%) of the states participate in the National EMS Database
- 21 (42%) of the states reported that they use EMS data for public health surveillance monitoring for disease outbreaks and acts of terrorism
- 20 (40%) of the states currently link EMS data to other healthcare data with Trauma being the most common linkage.

4. EMS Disaster Preparedness

- 41 (82%) State EMS Offices indicated they actively participate in the Assistant Secretary for Preparedness and Response (ASPR ESF-8) Program but only a small number are funded.
- 44 (88%) State EMS Offices indicated they actively participate in the Hospital Preparedness Program (HSGP) but only a small number are funded.
- 37 (74%) of states indicated that their local EMS Agencies participate in the Assistant Secretary for Preparedness and Response (ASPR ESF-8) Program.
- 37 (74%) of states indicated that their local EMS Agencies participate in the Hospital Preparedness Program (HSGP).
- 22 (44%) of State EMS Offices participated in at least one CBRNE mass casualty exercise in 2010. The majority of exercises were related to biological entities such as pandemic influenza.
- Only 7 (14%) of the states have a requirement for local EMS Agencies to hold or participate in a mass casualty exercise.
- 34 (68%) of the states indicated that either local or statewide EMS protocols including triage have been implemented and are currently in use by local EMS.

5. EMS Communications

- 33 (66%) of the states indicated that Wireless Enhanced 911 was available within 70% or more of their geography and population.
- Only 15 (30%) of the states are able to track the number of 911 calls within their state requesting EMS services and only 11 (22%) are able to track the number of 911 EMS Dispatches.
- Only 18 (36%) states credential Emergency Medical Dispatch Centers.
- Over 75% of the states indicated that state and local EMS or emergency management entities can mass communicate with each other through email, text messaging, or paging when needed for normal or disaster operations.

6. EMS Events and Patient Care

- 31,368,740 EMS Events (Responses) occurred within the United States in 2010 (excluding LA, IL, MI, OH, OR, and RI)
- 22,651,921 EMS Transports occurred within the United States in 2010 (excluding LA, IL, MI, OH, OR, and RI).
- 25 (50%) of states have EMS protocols developed at the state level then implemented locally. The remaining states have local protocol implementation without statewide coordination.
- 25 (50%) of states maintain a list of medications at the state level that have been approved for use by EMS at each EMS professional level. The remaining states allow the decision of medication use to be determined by the local EMS Medical Director.
- 12 (24%) of states maintain a list of procedures at the state level that have been approved for use by EMS at each EMS professional level. The remaining states allow the determination of medical procedure use to be determined by the local EMS Medical Director.

7. EMS Workforce Health and Safety

- 12 (24%) of states have a formal recommended Wellness and Prevention Program for EMS professionals
- Only one state currently monitors EMS on the job injury data
- 18 (36%) states monitor EMS on the job fatalities
- 11 (22%) states monitor EMS vehicle crash data
- 7 (14%) states monitor EMS blood-borne pathogen exposure data

8. EMS Funding

- On average, state EMS offices receive 33% of their funding from the state's general budget, 19% from motor vehicle related fines or fees, 7% from federal preparedness funds, and multiple other sources providing less than 5% each.
- Only 3 (6%) states have determined the average cost and reimbursement for a 911-based EMS ground transport.

9. EMS Expert Panel Findings

- There is a wide variation in how EMS Agencies are defined within each state

- Volunteerism has no standard definition from state to state
- Regulatory requirements for Dispatch Centers vary considerably with few states addressing EMD.
- The ability to measure and monitor EMS vehicle crashes and EMS workforce safety is still at a very early infancy.
- Regionalized Systems of Care associated with trauma, stroke, STEMI, cardiac arrest, etc. are maturing but often with little regulatory guidance, management, data, or standardization.
- EMS professional education is most commonly a certificate and not a degree. Movement should be toward a degree but cost and access to programs are currently limited.
- State EMS Office budgets have been significantly impacted by the current economic downturn. This has limited the ability of the State to provide leadership beyond baseline regulatory functions.

10. Emergency Management Expert Panel Findings

- EMS has been invited and participates in State and Federal Disaster Programs but funding of EMS through these programs has and continues to be limited.
- There has been significant deployment of regional equipment and/or treatment trailers that can be accessed by EMS.
- EMS in general will be very challenged to meet the 2013 narrow banding transition. This is due greatly to insufficient funding for equipment.
- Patient triage and tracking systems are being developed and implemented but few states have fully deployed them.
- Most states have plans that include mass transportation vehicles. These are usually public or school based vehicles. Some states are working on dedicated medical transport buses but this is in its infancy. Regulations will be required to license them.
- Specialty Service Capabilities within EMS (rescue, hazmat, swift-water, etc.) in general are felt to be adequate but these capabilities are not monitored, regulated, or licensed to assure quality and safety.
- Children and vulnerable populations are being addressed by EMS Preparedness initiatives but the ability to know the patients location within the community, understand each special need, and provide EMS professionals with the required special skills and knowledge to care for this population is lacking.

Project Team

- University of North Carolina, Department of Emergency Medicine (Project Lead)
- National Association of State EMS Officials
- University of Utah, School of Medicine, NEMSIS Technical Assistance Center
- Critical Illness and Trauma Foundation

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