

**National EMS Advisory Council
Committee Reporting Template
June 2, 2009
FINAL**

Committee: Safety
Title: EMS Injury and Safety Data

ISSUE SYNOPSIS:

A. PROBLEM STATEMENT

Emergency Medical Services (EMS) has been identified as a high risk industry with injuries and deaths among both service providers and the public. The current lack of a comprehensive EMS injury data system, capable of collecting, cataloging and reporting standardized EMS crash and non-crash related injury data, severely limits the industry's ability to develop, test and implement mitigation strategies. The task of identifying injury causative factors becomes far too speculative without timely, accurate, complete, integrated and accessible data that includes location, cause, contributing factors, and related activities associated with injuries involving EMS personnel. This report does not focus on medical errors.

B. RESOURCES/REFERENCES RELATED TO THE ISSUE

- ◇ Model Minimum Uniform Crash Criteria: DOT HS 810 957 June 2008
- ◇ American National Standard Institute (ANSI) D16.1 Manual on Classification of Motor Vehicle Traffic Accidents, Seventh Edition
- ◇ American National Standard Institute (ANSI) D20-1 Data Element Dictionary on for Traffic Records Systems
- ◇ Feasibility for an EMS Workforce Safety and Health Surveillance System, NHTSA
- ◇ Bureau of Labor Statistics Injury Data
- ◇ Study of Emergency Vehicle Warning Lighting, (July 2005) USFA
- ◇ Emergency Vehicle Visibility and Conspicuity Study, USFA

Additionally, there are three projects in progress that may provide insight to this topic. They are:

- ◇ NIOSH - National Electronic Injury Surveillance System (NEISS) project

- ◇ NIOSH – Project on interior design issues of ambulances.
- ◇ NFPA – the development of standard on ambulance design.

C. CROSSWALK WITH OTHER STANDARDS

- ◇ National Emergency Medical Services Information System (NEMSIS):
NHTSA Version 2.2.1

D. ANALYSIS

Emergency Medical Technicians and Paramedics are routinely exposed to factors that threaten personal as well as patient safety.

The public, government, and EMS industry have a duty to identify these threats, find ways to remove and reduce their impact, and develop a culture of safety in EMS, as espoused by the National EMS Advisory Council.

There are limited sources of existing data that identify threats to personnel and patient safety. Non-vehicle/crash related injuries are by far the most numerous and their cost to the industry and society is staggering. Non-vehicle/crash injuries also present the biggest challenge for researchers as there are few established data definitions and repositories for the collection and analysis of these types of incidents.

In contrast there are several federally sponsored data capture and analysis systems which can be use to obtain EMS transport incidents. The most prominent systems are directed by the National Highway Traffic Safety Administration (NHTSA), Federal Highway Administration (FHWA), Federal Motor Carrier Safety Administration (FMCSA), and the National EMS Information System (NEMSIS).

The data collected by most of these systems originate from traffic crash data recorded by local law enforcement agencies responding to highway crashes. Police Accident Reports (PAR) are completed on scene then uploaded into local and/or State maintained data bases. State crash information is then uploaded into national data collection and analysis systems.

Data definitions used to input information into State crash files is published in the DOT report “Model Minimum Uniform Crash Criteria (MMUCC)” and the American National Standard Institute (ANSI) D16.1 “Manual on Classification of Motor Vehicle Traffic Accidents”, Seventh Edition. State PAR definitions are reported to be 75% compliant with the standards contained in MMUCC and ANSI D16.1.

The examination of data definitions and elements captured by States indicates a wide range of interpretation related to EMS programs. For example, a search of ANSI D16.1-2007 reveals no references to “ambulance vehicles” or to “fire trucks”. The MMUCC definition for “ambulance” is now defined as, “any public or private ambulance service under contract to a jurisdiction to provide emergency response for medical emergencies.” A fire truck is now included in the general definition of an emergency motor vehicle, “Indicates operation of any motor vehicle that is legally authorized by a government authority to respond to emergencies with or without use of emergency warning equipment, such as police vehicle, fire truck, or ambulance while actually engaged in such response.” Collecting data using dissimilar definitions for EMS is problematic and often results in inaccurate reporting.

There are also other initiatives on the non-governmental side that are capturing data on incidents. The National Fire Fighter Near-Miss Reporting System is a voluntary, confidential, non-punitive and secure reporting system with the goal of improving fire fighter safety. The data collection allows for an EMS provider, regardless of agency type, to report near misses in the collection system. You can find additional information at: <http://www.firefighternearmiss.com/>. EMSCloseCalls.com is operated by an individual and offers a similar format for personnel to upload information as a result of a close call. CONCERN network is a reporting database system for air medical services to report incidents.

The most blatant limitation with these sources of data is heterogeneity in terminology. For example data definitions used to track vehicle crash and their resulting injuries, fail to identify EMS-specific terms such as: What is an ambulance? What is an EMS System? What constitutes an EMS call? What differentiates a run, trip, call, response, incident, and/or dispatch?

Similar disparities in data collection can be noted when comparing data definitions used to capture information on transportation injuries as vehicles used for EMS purposes are, in some cases, exempted from FMCSA safety oversight.

The analysis of EMS injury data is an important step in the process of reducing the rate of crash and non-crash related injuries and fatalities among EMS workers, their patients and the general public. Current data capture systems fail to capture the important elements of injuries and the associated denominator data such as miles traveled, vehicle miles, scheduled work hours, hours on duty, and hours responding to calls. This information is an important foundation for any project designed for the purpose of reducing risks and improving the general culture of safety within the industry.

E. COMMITTEE CONCLUSION

An essential element in creating a culture of safety is establishing a baseline of known hazards and injuries. Existing federal and non-federal systems for measuring worker, patient, and public injuries and fatalities fall short of meeting the needs of the industry.

RECOMMENDED ACTIONS/STRATEGIES:

National EMS Advisory Council

The Safety Committee recommends the establishment of a standing sub-committee on “EMS Safety Data” to pursue the future development of information processing system(s), process or services capable of providing the analytical tools needed for the mitigation of illnesses, injuries, and deaths to EMS providers, patients, and public.

National Highway Traffic Safety Administration

The National EMS Advisory Council recommends a NHTSA review of current data definitions relating to EMS illnesses, injuries and deaths, to include definitions contained in MMUCC, ANSI D 16.1, and any other database system recording EMS illnesses, injuries, and deaths.

The National EMS Advisory Council recommends NHTSA to encourage and develop relationships between federal and non-federal partners utilizing existing reporting systems to improve consistency of terminology and access to data sources on EMS illnesses, injuries, and deaths. (i.e. IAFC Near Miss reporting system, Bureau of Labor Statistics, National Transportation Safety Board)

Other Department of Transportation

None

Federal Interagency Committee on Emergency Medical Services

The National EMS Advisory Council recommends NHTSA work with FICEMS to assure integration and utilization of EMS illnesses, injury, and fatality surveillance databases across federal agencies.