Improving Rural Emergency Medical Services Systems Capability

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 Less than 20 percent of the US population lives in rural areas

60 percent of fatal crashes occurred on rural roads, while only 39 percent of the total vehicle miles traveled occur on the same roads

Between 2000 and 2007, of all fatal crashes involving large buses, less than one quarter were in rural areas

But...the rural bus crashes accounted for 56 percent of the fatalities and 72 percent of the non-fatally injured victims.

National Highway Traffic Safety Administration, 2005
Fatalities by Time of Death After Crash

31% (90+ Mins)*
34% (10-90 Mins)*
35% (0-9 Mins)*

Minutes Post Crash

*Based on FARS 2005 Data, Slide Courtesy of NHTSA OEMS
Rural EMS Concerns

- Communications: ability to call 9-1-1
- Rapid EMS response
- Competency/readiness of EMS personnel
- Equipment availability
- Clinical level of care and competency
- Proximity of helicopters
- Access to trauma centers
EMS Realities at Rural Crash Scenes

- Closest ambulance: 25 miles away
- Closest hospital: 50 miles from scene
- Closest Level 1 Trauma Center: 120 miles from scene
- Family practice office or medical clinic within 30 miles
How Can State DOTs and State EMS Offices Work Together?

- Links to each other’s websites
- Seats each other’s advisory committees
- Sharing new publications
- Involvement in planning of new/special initiatives
- Invite as speakers to each other’s annual meetings/conferences
- Direct input and involvement with EMS strategic plans and highway safety plans
- Consider projects in collaboration with the state safety engineer/ITS program manager
Organizing Ideas via the Star of Life

Detection 1

1. Transfer to Definitive Care

2. Reporting

3. Response

4. On Scene Care

5. Care in Transit

6. Medicine and Healing (Staff)

Registration Mark
9-1-1 ACCESS AND CAPABILITIES

- Enhanced 9-1-1 and Phase II Compliance
- Next Gen 9-1-1
EMS RESPONSE AND CAPACITY

- Integrated Ambulance-Based Safety Systems
- Evidence-based Emergency Vehicle Operations Standards
EMS RESPONSE AND CAPACITY

- National EMS Scope of Practice Model and National EMS Education Standards
- Vehicle Extrication Education and Competency Standards
- Regionalization of Emergency Care
MIECE

Model Inventory of Emergency Care Elements
ON SCENE MEDICAL CARE

- Field Triage Decision Scheme: The National Trauma Triage Protocol
- The National Unified Goal for Traffic Incident Management
PATIENT TRANSPORTATION

- Helicopter EMS Utilization Criteria
- Ambulance Access to Intelligent Transportation Systems (ITS) Infrastructure
DEFINITIVE CARE: HOSPITAL AND SPECIALITY CARE INFRASTRUCTURE

- Prehospital and Interfacility Telemedicine Applications
- Trauma Systems
CrashHelp System Prototype

For: EMT's / Paramedics in the field
Google Android Compatible Phone
Android Application

For: Emergency Department / Trauma Center
Web based interface
DATA and TRAFFIC RECORDS STRATEGIES:

- National EMS Information System
- Hospital Discharge Databases and/or Trauma Registries
- Records Linkage
- Contact Your State EMS Data Manager:
  - [http://nemsis.org/support/stateProgressReports/index.html](http://nemsis.org/support/stateProgressReports/index.html)
“What preparation/planning would we be doing in advance of a mass casualty incident on this stretch of highway in order to be optimally prepared?”

Scale of responses from “unknown” to “none” to “awesome”

Activity focused

Allows for identification of opportunities for improvement
Guidelines to identify areas of improvement and measure progress over time

Can be used at the state, regional or local level

Doubles for all-hazards preparedness assessment

Can be used to identify needs and priorities (DHS, 402, HSIP, etc.)
SUMMARY: the 4th E

- Until the other 3 Es are 100% effective, EMS is the only hope
- Potential improvements through EMS exist during all phases of post crash care
- Technology an extremely promising area
- New partnerships yield new opportunities!