FACTORS AND ISSUES ASSOCIATED WITH RURAL AMBULANCE CRASHES

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Literature Review

- 28 articles in the peer reviewed literature
- Articles categorized in 4 areas
  - Description of the problem
  - Safety issues
  - Lights and siren use
  - Legal and ethical use
Findings

- Driving an ambulance is dangerous
- An estimated 6,500 crashes per year
  - 20/day
  - 1 every hour
- More crashes than law enforcement and fire counterparts
Contributing Factors

- Volunteers with less experience
- Inadequate screening of drivers
- Inadequate training
- Fatigue and distraction
- Poor vehicle design
- Limited knowledge of driving laws
- No policies and procedures
Lights and Sirens

- Saves little time
  - 30 miles @ 70 MPH = 25.7 minutes
  - 30 miles @ 80 MPH = 22.5
- Increase crash risk
  - 2-3 times
- Time savings is of no value in all but the most extreme (salvageable) clinical conditions
Lack of Safety Restraint Use

- More likely to die in ambulance than similar size vehicle for other purposes
- Providers, patients and family unrestrained
- Use in front good
- Use in back variable from less than 5% to more than 95%
Rural Crash Characteristics

- More likely to result in injuries
- More likely to involve poor road conditions
- More likely to be the striking object (rather than being struck)
Economic Costs

- Estimated at more than $500,000,000/yr.
- $900,000 - $1.2 million per fatality
- Highest patient safety risk
- 13 times more likely to result in lawsuit than errors in care
- Can devastate a rural EMS agency
Educational Solutions

- Required training
- Better training
- Simulation training
Enforcement Solutions

- Policy development and implementation
  - State level
  - Agency level
- Creation of a culture of safety
Engineering Solutions

- Safer ambulance design – driven by science
- Better markings/lighting
- Work friendly patient/provider compartment
- Intelligent transportation solutions
- Quality feedback systems, e.g. black boxes
What Can You Do Today?

- Adopt and enforce a lights and sirens response protocol
- Wear restraints in the back
- Install a quality feedback system
- Screen drivers before they drive
- Train and monitor drivers
Article