An Assessment of Indian Health Service Affiliated Tribal EMS Agencies in the United States

Andrea Lynn Genovesi, MA[a]; Betty Hastings, MSW[b]; and Lenora Olson, PhD[a]

[a] *Department of Pediatrics, University of Utah School of Medicine, Salt Lake City, UT*

[b] *Indian Health Service, Emergency Services, U.S. Department of Health and Human Services, Rockville, MD*

Introduction

American Indians and Alaska Natives (AI/AN) are disproportionately burdened by injuries and other diseases. Approximately 3.3 million AI/ANs from 564 federally recognized native tribes are located in 35 states. The majority of the tribes do not have their own EMS system. EMS services are vital for AI/ANs due to their above average rate of death and disability for injury and disease.

The Indian Health Service (IHS) created federally funded tribal EMS agencies to help meet the pre-hospital needs for AI/ANs. Most of the IHS EMS agencies' service population lives on or near reservations and in rural communities. IHS EMS agencies have the same isolation issues as general rural EMS including having to ***contend with insufficient staffing of emergency medical technicians, substandard road conditions, and radio communication dead zones***.

Methods

In 2007 we surveyed 75 IHS EMS agency contacts of the existing 88 agencies that provide care to the affiliated tribes. ***The intent of the survey was to evaluate agencies' ability to care for patients with a focus on pediatrics***. The survey was comprised of 89 questions. The survey questions were divided into topic sections that included pediatric training needs, medical direction, injury prevention, preparedness and response, data collection, and pediatric equipment. We classified agencies as Basic Life Support (BLS) or Advanced Life Support (ALS) based on the types of ambulances they had. We made the survey available to the contacts in web and paper versions.

Results

We had a ***79% response rate.*** The 59 agencies accounted for 266 ambulances, 1008 emergency medical technicians (EMTs), and 54,413 pre-hospital 911 emergency responses during 2006; ***13% (n=7,190) of which were for pediatric patients***. Table 1 below provides an overview of our findings. Table 2 to the right shows the top missing pieces of recommended pediatric equipment not carried by each type of ambulance – not carried by any ambulance for 10%+ of the agencies.

Table 1. IHS EMS Agency Survey Findings (n=59 agencies)

Findings	% of Agencies
Demographics	
Basic Life Support (BLS) agency	39%
Stand-alone EMS agency	66%
Pediatric Training for Staff	
Need for pediatric training	83%
Need for Pediatric Education for Pre-hospital Professionals (PEPP)	68%
Need for Emergency Pediatric Care (EPC)	64%
Medical Direction	
Do not have a medical director	15%
Have pediatric on-line medical direction	85%
Have pediatric off-line medical direction (*i.e.*, written protocols)	83%
Injury Prevention	
Have staff participating in a pediatric injury prevention program	53%
Have staff participating in *Ride Safe* program or *Safe Kids* program	22%
Disaster Preparedness	
Have Mass Casualty Plan (MCP)	51%
Have Mass Fatality Plan (MFP)	27%
Have both MCP & MFP	25%
Did not have enough pediatric equipment when responding to mass casualty incident	14%
EMS System Data Collection	
Collect EMS patient care data	95%
Use National EMS Information System (NEMSIS) 2.2.1 data elements	48%
Submit patient care data to state EMS authority	77%

Table 2. Top missing recommended* pediatric equipment not carried by any ambulance (n=40 agencies with BLS ambulances & n=33 agencies with ALS ambulances)

Essential Equipment and Supplies	% of Agencies with BLS Ambulances	% of Agencies with ALS Ambulances
Stethoscope	38	15
Suction catheters: tonsil-tip and 6F-14F	18	-
Extremity splints: pediatric sizes	18	18
Thermal blanket	16	18
Nasogastric tubes: 8F-16F	N/A	18
Transport monitor	N/A	15
Defibrillator with adult and pediatric paddles/pads	N/A	12
Monitoring electrodes: pediatric sizes	N/A	12

**1996 AAP/ACEP list for recommended essential pediatric equipment and supplies for Basic Life Support (BLS) and Advanced Life Support (ALS) pre-hospital provider agencies*

Conclusions

Our findings indicate that in some areas, IHS EMS agencies are ***prepared*** to care for children including participating in pediatric focused injury prevention programs, having a MCP, collecting and submitting patient care data, and integration with the state EMS system. However, severe ***deficiencies*** remain including lack of medical directors, pediatric training, and capacity to care for children during a mass casualty incident.

Allocation of resources to improve the areas of deficiencies may be necessary. However, resources are often scarce, so inventive solutions for solving the problems need to be determined. One possible solution is combining and sharing resources with their state EMS systems.

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