

5549

**INDIAN HEALTH SERVICE**

**AN ASSESSMENT**

**OF**

**EMERGENCY MEDICAL SERVICES**

July 20-23, 1993

National Highway Traffic  
Safety Administration  
Technical Assistance Team

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## TABLE OF CONTENTS

Subject	Page
BACKGROUND . . . . .	1
ACKNOWLEDGMENTS . . . . .	4
INTRODUCTION . . . . .	5
A. REGULATION AND POLICY	
Standard . . . . .	7
Status . . . . .	7
Recommendations . . . . .	<b>8</b>
B. RESOURCE MANAGEMENT	
Standard . . . . .	10
Status.. . . . .	10
Recommendations . . . . .	11
C. HUMAN RESOURCES AND TRAINING	
Standard . . . . .	13
Status.. . . . .	13
Recommendations . . . . .	15
D. TRANSPORTATION	
Standard . . . . .	16
Status.. . . . .	16
Recommendations . . . . .	<b>17</b>
E. FACILITIES	
Standard . . . . .	19
Status.. . . . .	19
Recommendations . . . . .	<b>20</b>
F. COMMUNICATIONS	
Standard . . . . .	21
Status.. . . . .	21
Recommendations . . . . .	22
G. PUBLIC INFORMATION AND EDUCATION	
Standard . . . . .	23
Status.. . . . .	23
Recommendations . . . . .	23
H. MEDICAL DIRECTION	
Standard . . . . .	25
Status . . . . .	25
Recommendations . . . . .	26

I. TRAUMA SYSTEMS	
Standard . . . . .	28
Status . . . . .	28
Recommendations . . . . .	29
J. EVALUATION	
Standard . . . . .	30
Status . . . . .	30
Recommendations . . . . .	31
K. CURRICULA VITAE	

## BACKGROUND

**Injury is the leading cause of death for persons in the age group 1 through 44. Each year, nearly 40,000 people lose their lives on our nation's roads, and approximately 70 percent of those fatalities occur on rural highways. The National Highway Traffic Safety Administration (NHTSA) is charged with reducing accidental injury on the nation's highways. NHTSA has determined that it can best use its limited resources if its efforts are focused on assisting States with the development of integrated emergency medical services programs that include comprehensive systems of trauma care.**

To accomplish this goal, NHTSA has developed a Technical Assistance Team (TAT) approach that permits States to utilize highway safety funds to support the technical evaluation of existing and proposed emergency medical services programs. NHTSA serves as a facilitator by assembling a team of technical experts -who have demonstrated expertise in emergency medical services development and implementation. These experts have demonstrated leadership and expertise through involvement in national organizations committed to the improvement of emergency medical services throughout the country. Selection to the Technical Assistance Team is also based on experience in special areas identified by the requesting State. Examples of specialized expertise include experience in the development of legislative proposals, data gathering systems, and trauma systems. Experience in similar geographic and demographic situations, such as rural areas, coupled with knowledge in providing emergency medical services in urban populations is essential.

The Indian Health Service, Department of Health and Human Services requested the assistance of NHTSA. NHTSA agreed to utilize its technical assistance program to provide a technical evaluation of the Indian Health Service EMS Program. NHTSA developed a format whereby the Indian Health Service, Emergency Medical Services provided comprehensive briefings on the EMS system based on an outline developed by the Technical Assistance Team.

The Technical Assistance Team assembled in Phoenix, Arizona on July 20 through 23, 1993. For the first day and a half, over 20 presenters representing various components of the EMS system within the Indian Health Service, provided in-depth briefings on emergency medical services and trauma care in the areas served by the Indian Health Service. Topics for review and discussion included the following:

General Emergency Medical Services Overview

System Components:

- Regulation and Policy
- Resource Management
- Human Resources and Training
- Transportation
- Facilities
- Communications
- Trauma Systems
- Public Information and Education
- Medical Direction
- Evaluation

The forum of presentation and discussion allowed the Technical Assistance Team the opportunity to ask questions regarding the emergency medical services system, clarify any issues identified in the briefing materials provided earlier, and develop a clear understanding of how emergency medical services function throughout the Indian Health Service. The team spent considerable time with each presenter so that they could review the status for each topic.

Following the briefings by presenters from Indian Health Service, EMS, public and private sector providers, and members of the medical community, the Technical Assistance Team sequestered to evaluate the current EMS system as presented and to develop a set of recommendations for system improvements.

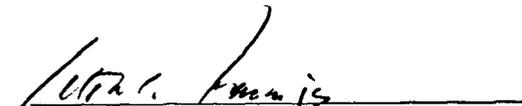
It must be recognized that the evaluation standards used in this process were developed to assess state EMS programs. For the purpose of this review, the use of the word "state" in the standard refers to the Indian Health Service (IHS). The TAT recognizes the complexities of the relationships between the IHS and tribal governments. This report may not always accurately reflect those relationships, but this should not detract from the intent of the recommendations made.

When reviewing this report, please note the ***bold italics*** represent priority recommendations identified by the Technical Assistance Team.

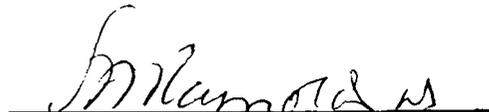
The statements made in this report are based on the input received. Established standards and the combined experience of the team members were applied to the information gathered. All team members agree with the recommendations as presented.

  
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## ACKNOWLEDGMENTS

The Technical Assistance Team would like to acknowledge the Indian Health Service EMS National Staff, Department of Health and Human Services, National Emergency Medical Services Program, for their support in conducting this assessment.

The Team would like to thank all the presenters for being candid and open regarding the status of emergency medical services in the Indian Health Service and Tribal Areas throughout the United States. Each presenter was responsive to the questions posed by the Technical Assistance Team which aided the reviewers in their evaluation.

Special recognition should be made regarding the extraordinary efforts taken by Pete Decker, **IHS** Emergency Medical Services Program, and National staff, the National Native American Emergency Medical Services Association and all the briefing participants for their well prepared and forthright presentations. In addition, the team applauds the well organized, comprehensive briefing packages sent to the team members in preparation for the assessment.

## INTRODUCTION

The American Indian and Alaska Native population is being decimated by an epidemic. Unlike other epidemics, which have generated priority attention at the national level and the marshalling of significant resources and funding, such as the tuberculosis epidemic of the **1950s**, this epidemic has been largely ignored.

The modern epidemic, which primarily impacts the youngest and healthiest of the Native American population, is traumatic injury. Injury accounts for over 60% of all deaths to Native American children and young adults, and remains approximately three times that for the total U.S. population. Potential years of life lost for Native Americans due to injury are six times greater than that of heart disease.

There has been no comprehensive, coordinated effort to attack this serious public health problem. Numerous studies have shown that state of the art emergency medical services and trauma systems combined with effective injury prevention efforts, can significantly reduce this "neglected epidemic of modern society."

The impact of premature death or disability on young people is catastrophic to the entire family, often causing displacement of the family breadwinner, and can significantly impact the social welfare system.

A major commitment to developing comprehensive EMS and trauma systems for Native Americans is long overdue. When an emergency occurs, and a human life is in balance, an EMS system that gives that individual every possible chance for survival is vitally needed. All citizens should have the 24-hour protection of such a system, regardless of where they may be when the emergency occurs.

There are particular challenges to the planning and development of comprehensive emergency medical services (EMS) systems in many areas of the nation populated by Native Americans. Geographic isolation is a factor in many cases. This is often compounded by the lack of telephones and other forms of communications in emergencies, lack of nearby first responder and ambulance service organizations, poor roads, severe weather and other similar factors. The factors that affect access to and delivery of EMS to rural populations in general, and frontier populations in particular, are especially prevalent in Native American areas.

The Indian Health Services (IHS) deserves commendation for the development of a very complete network of strategically located medical care (hospital and clinic) facilities. The fact that these facilities are all accredited by the Joint Commission on the Accreditation of Health Care Organizations (JCAHO) is a singular achievement that is unparalleled in rural America. The Native American community deserves a similar

effort to ensure that all Native Americans have adequate prehospital emergency medical care systems available.

## INDIAN HEALTH SERVICE EMERGENCY MEDICAL SERVICES (EMS)

The Technical Assistance Team reviewed ten essential components of an EMS system. For each component reviewed, the Technical Assistance Team identified key EMS issues or standards, assessed the status, and made recommendations for necessary changes.

### A. REGULATION AND POLICY

#### Standard

To provide a quality, effective system of emergency medical care for adults and children, each EMS system must have in place comprehensive enabling legislation with provision for a lead EMS agency, as well as a funding mechanism, regulations, and operational policies and procedures.

#### Status

While the Federal Government's responsibility for American Indians and Alaska Natives has a long history and there has long been legislative authority for the Indian Health Service, there is no specific legislation related to the provision of emergency medical services for this special population. Further, there is no clear recognition within IHS that EMS is an integral part of the overall health care system and essential to the health and well being of the Native American population.

Since 1978, there has been some level of EMS activity within IHS, but these efforts have been minimally staffed by some very dedicated individuals with many collateral duties. These individuals have made significant contributions toward development of EMS in Indian Country, but they have been frustrated in these efforts by lack of time, dedicated resources and institutional support. There is not an effective, functioning lead agency for EMS within IHS. Establishment of a formal EMS Branch has been approved in concept by IHS Headquarters, though not yet funded or staffed with fulltime dedicated EMS positions.

The EMS program is essentially a decentralized program, due in part to Public Law 93-638, the "Indian Self-Determination and Education Assistance Act" and the emerging "self-governance" provisions of Public Law 100-476. Many Tribal governments have operated EMS systems for many years. There are at times ill-defined relationships between IHS/EMS, the Tribal Governments and State EMS Offices and programs. These jurisdictional issues may preclude the most effective provision of emergency medical services to the intended population.

Though many Tribal Governments budget or reprogram IHS dollars to support EMS delivery at the Tribal level, there are no funds specifically budgeted within IHS for the EMS lead agency function, prehospital EMS system development, EMS training or operations. Historical dependence on available year end funds provides no chance for system or program planning and results in very inconsistent, unreliable support for critical programs and services. Estimates of projected IHS EMS Program-budgetary **needs range from \$44 million to \$55 million** per year. This does not reflect the total cost of EMS delivery for the Native American population.

The sole regulatory or standard document that guides the development of EMS for the Native American population is Part 3, Chapter 17 of the Indian Health Manual. 'This document was last updated in 1986 and is in great need of revision. The application of this standard appears to be quite spotty, as there is not an adequate lead agency to monitor compliance. There are no comprehensive operational policies and procedures in place and little ability to execute such policies if they existed. The possible application of state standards is often complicated by issues of-sovereign nation status.

#### Recommendations

- ◆ ***Establish an adequately staffed EMS Branch within IHS to assure effective oversight, policy development, support and advocacy for quality EMS for Native Americans.***
- ◆ ***Establish an EMS line item within the IHS budget with a dedicated EMS funding base consistent with clearly documented EMS needs by Fiscal Year 1995.***
- ◆ IHS and Tribal Governments should continue pursuit of other possible sources of funding to help meet identified needs. Such sources may include collection from third party payors or application for NHTSA 402 funds or Federal Highway Administration funds for special projects.
- ◆ ***Congress and IHS should officially recognize EMS as an integral part of health care for Native Americans.***
- ◆ ***The IHS EMS Branch should revise Part 3, Chapter 77 of the Indian Health Manual to reflect current EMS standards by the end of Fiscal Year 94 and provide thereafter for annual review with revisions as necessary.***
- ◆ ***The IHS EMS Branch should work aggressively to attain integration of Native American EMS Services with state EMS systems, including compliance with state standards.***

- ◆ The IHS EMS Branch and the National Native American EMS Association should promote the development of mutual aid agreements between neighboring Tribal governments and between Tribal governments and non-Native EMS agencies.
- ◆ Develop a long range plan for EMS delivery under the evolving self-governance program, with provisions for maintenance of clinical standards and accountability through such tools as performance based contracts.
- ◆ Provide education on the need for EMS to Tribal Councils, Service Units, Area Offices, IHS Headquarters, and Congress. This may be accomplished through cooperative efforts of the National Native American EMS Association, IHS EMS staff, IHS EMS Medical Directors' Committee, and state EMS offices.

## **B. RESOURCE MANAGEMENT**

### Standard

The provision of centralized coordination to identify and categorize the-resources necessary for overall system implementation and operation is essential to an effective EMS system. This is required to maintain a coordinated response and appropriate resource utilization throughout the State. It is essential that adult and pediatric victims of medical or traumatic emergencies have equal access to basic emergency care, including the triage and transport of all victims by appropriately certified personnel (at a minimum, trained to the EMT-Basic level) in a licensed and equipped ambulance to a facility that is appropriately equipped and staffed, and ready to administer to the needs of the patient.

### Status

The IHS has made limited progress in the area of EMS resource management. The lack of adequate funding and staffing of the EMS program has been a significant constraint to meeting national needs. The decentralized approach of the Indian Health Service has also been a factor limiting the management of EMS resources in a uniform manner throughout the nation. The timing of funding allocations has been a serious problem for the EMS program.

The IHS does not have a comprehensive plan for EMS program development that includes a needs assessment process for prehospital EMS. In contrast, the IHS appears to have such a process to address hospital and clinic needs. They also have a limited planning process used to anticipate the need for replacement of GSA ambulance vehicles.

There is currently no assurance that a well coordinated EMS response will occur within the geographical areas for which the Indian Health Service is responsible. There appears to be a great disparity between a few "model" EMS programs and others that do not meet minimum accepted standards.

While eight of the IHS Area offices have had a review conducted of their EMS programs, four areas have not yet been evaluated. The lack of review of Area Offices and Service Units on a regular basis results in a lack of accountability relative to defined EMS management standards.

Information was not furnished to the assessment team indicating the status of special training to ensure that prehospital EMS personnel serving Native American areas are provided the knowledge, skills, and equipment to appropriately care for pediatric patients.

Access to emergency medical care in most geographical areas populated by Native Americans is hindered to a significant degree by the lack of telephones in a high percentage of residences. In one area, about 75% of the population does not have telephones. In many other areas, over 50% of the population does not have telephones in their homes. In addition, this problem is compounded by the lack of highway call boxes on the roads in very isolated areas. It appears that detection and notification time in emergencies are adversely affected in many Native American areas.

While there are indications that a high percentage of EMS responses are conducted by trained EMT crews, the lack of a comprehensive management information system (MIS) and run report analysis system makes it difficult to know with assurance that this standard is being met. The lack of adequate programs for EMS continuing education and recertification further complicates the retention of those EMT personnel with some experience and appears to exacerbate the need for training replacement personnel on a continual basis. Unless integrated into state EMS systems, there is currently no uniform system of inspecting and licensing IHS and Tribal EMS vehicles and services. There is also a lack of information on the status of primary response (first responder non-transport) and secondary response transport units in all areas.

In contrast, the IHS has excellent information on the hospital and clinic aspects of the emergency medical care system in terms of facilities, staffing, equipment and overall capabilities.

### Recommendations

- ◆ ***The IHS EMS Branch should develop a policy to mandate the development of a comprehensive EMS plan for the IHS that addresses all aspects of emergency care for all patients. This plan should be reviewed and revised on a regular basis.***
- ◆ The IHS EMS Branch should develop a policy that requires that EMS funding allocations be linked to an entity (e.g. Area Office, Tribal government) meeting defined EMS standards.
- ◆ The EMS Branch should develop a plan that encourages the development of volunteer staffing, especially for first responder units in rural areas.
- ◆ ***Each IHS Area Office should identify an EMS coordinator and adequately fund this essential position.***

- ◆ The EMS Branch should conduct studies to identify the appropriateness of resource utilization throughout the entire EMS system.
- ◆ The EMS Branch should serve as a clearinghouse for IHS EMS activities nationally. For example, information dissemination on exemplary EMS programs and the acquisition of equipment from federal surplus sources.
- ◆ ***The EMS Branch should encourage the integration of Native American EMS systems within regional/state wide EMS systems.***

## C. HUMAN RESOURCES AND TRAINING

### Standard

EMS personnel can perform their mission only if adequately trained and available in sufficient numbers throughout the State. At a minimum, all transporting prehospital personnel should be trained to the EMT-Basic level. In addition, each prehospital training program should use a standardized curriculum for each level of EMT personnel. In an effective EMS system, training programs are routinely monitored, instructors must meet certain requirements, and the curriculum is standardized throughout the State. In addition, the state agency must provide a comprehensive plan for stable and consistent EMS training programs with effective local and regional support.

### Status

The IHS EMS training program has a zero funding base. The IHS EMS Training Coordinator, who also has other duties and responsibilities, receives approximately \$225,000 near the end of each fiscal year in residual funds, for EMS training activities. This situation makes planning and conducting EMS training classes very difficult. Only by operating on a letter of credit basis is any advance planning even possible. The incumbent in this position has been very dedicated to providing EMS training to EMS systems and it is amazing that he has been able to partially meet the needs of the IHS EMS system with so little support from IHS headquarters.

The \$225,000 in non-budgeted funds are used as follows: \$80,000 for Advanced Trauma Life Support Training for physicians and nurses; \$42,000 for salary and travel for the only EMS instructor/coordinator at the Black Hills Training Center; and the remainder is used for various prehospital EMS training programs.

The Black Hills Training Center (BHTC) provides training for Tribal EMS agencies in the Aberdeen, South Dakota area, and on a limited basis for Tribal EMS providers from other areas. The BHTC EMS instructor/coordinator is a paramedic who is certified to teach all levels of prehospital EMS courses up to the EMT-paramedic level. All EMS training at BHTC is overseen by a course medical director; all EMS training classes follow **USDOT** curricula; and all students successfully completing courses are offered written and practical examinations administered by either the National Registry of **EMTs** or by the State of South Dakota.

Most training at the BHTC has been at the EMT Basic and Intermediate levels but recently an EMT instructor course was provided and 26 new instructors were trained.

The BHTC, which is the only national training center in the IHS system, is in danger of losing needed facility space due to expansion and encroachment from other medical programs at the Sioux-San Hospital, where it is located. One advantage of the BHTC for the IHS is the availability of low cost lodging and cafeteria facilities.

In addition to the EMS training funded by the national IHS EMS office , several of the larger tribes have established their own EMS training programs. For example, the Oklahoma Cherokee Nation and the Navajo Nation have an ongoing programs to provide basic and advanced prehospital EMS courses. Some pediatric training is being done at the Tribal levels, but there has been no centralized reporting of the numbers of courses or students.

Emergency nurse training is provided by IHS Area Offices and Service Units, but there is no dedicated funding for this training. Currently, a twelve week emergency nurse residency training program is being developed for IHS nurses.

Area Offices, Service Units, and Tribes conduct a variety of EMS training courses and CME programs, but there is no central reporting of the numbers of people trained or types of training courses provided.

According to testimony presented to the Technical Assistance Team, throughout the IHS system there is a strong commitment to providing Advanced Trauma Life Support (ATLS), Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS), Trauma Nurse Core Curriculum (TNCC), and other specialized emergency training courses to physicians and nurses at IHS facilities.

Although there has not been a comprehensive nationwide assessment of needs for training and continuing medical education of IHS and Tribal physicians and nurses, it appears that there is a fairly high priority placed on this need at the Area Office and Service Unit levels.

To date, there has been no comprehensive assessment of the needs for EMT training or for EMT instructors for IHS and tribal EMS providers, nor of the available resources and numbers of training programs provided.

There appears to be no consistent certification for prehospital providers throughout the IHS/Tribal EMS systems; therefore, there is no consistent process for continuing education, refresher training, or recertification. In some areas, Tribal EMS programs comply with state certification and recertification requirements, but in other areas they do not. The BHTC instructor has reported some problems with states granting legal recognition and certification of **EMTs** trained at the center.

## Recommendations

- ◆ ***The IHS EMS Branch should work with Area Offices, Services Units, and Tribes to conduct a comprehensive assessment of EMS training and CME resources, as well as needs for EMS training and CME for all levels of EMS providers, including prehospital, clinic, and hospital medical personnel.***
- ◆ The IHS EMS Branch should fund a full time national IHS EMS Training coordinator, to plan and coordinate EMS training programs in cooperation with Area Offices, Service Units, and Tribes.
- ◆ ***The IHS EMS Branch should have a dedicated budget for EMS training activities which is adequate to meet the needs for training for all levels of EMS providers in the IHS and Tribal EMS programs,***
- ◆ The Black Hills Training Center should be preserved and should place a greater emphasis on training a cadre of EMS instructors for Native EMS programs.
- ◆ Native EMS programs should be integrated with state EMS training and certification programs. Wherever this is not feasible, prehospital EMS programs should maintain certification and recertification from the National Registry of Emergency Medical Technicians.
- ◆ The IHS EMS Branch should foster improved coordination, legal recognition and memoranda of agreements between Tribal and state EMS programs.
- ◆ The IHS EMS Branch should provide adequate funding at the national level for ATLS, ACLS, PALS, TNCC, and other specialized emergency medical training courses for physicians and nurses in the IHS and tribal EMS systems.
- ◆ The IHS EMS Branch should work with Area Offices, Service Units, Tribes, and states to develop innovative programs for training and continuing education for prehospital, clinic, and hospital EMS providers. Consideration should be given to training provided through satellite video systems, teleconferencing, interactive training, and other technologies.

## D. TRANSPORTATION

### Standard

Safe, reliable ambulance transportation is a critical component of an effective EMS system. Most patients can be effectively transported in a ground ambulance staffed by qualified emergency medical personnel. Other patients with more serious injuries or illnesses, particularly in remote areas, require rapid transportation provided by rotor craft or fixed wing air medical services. Routine, standardized methods for inspection and licensing of all emergency medical transport services is essential to maintain a constant state of readiness throughout the State.

### Status

Ambulances used by Native EMS programs may be owned by Tribes, leased from the GSA, or leased from a commercial source. Currently, the majority of ambulances (100) in service with Tribal programs are GSA leased vehicles. All GSA ambulances are constructed and inspected to meet the federal specification for ambulances (KKK-A-1822). GSA enforces rigid standards for periodic preventive maintenance, safety inspections, and replacement of components affecting safe operation of the vehicles, and arranges and oversees these services. This process is expensive, does not include adequate EMS equipment, and often results in significant delays in providing maintenance and repairs. On one example, leasing from a commercial source was more cost-effective and efficient than leasing from GSA.

Where air medical transportation services are available, IHS routinely uses them for response and transport of severely injured or ill patients. On some Indian reservations, such services are not available or are significantly limited.

IHS also has no dedicated funds for ambulance and equipment purchase or replacement. End of year residual funds are used to purchase ambulances through GSA. This funding is inconsistent and unpredictable. IHS EMS staff have established an ongoing program for prioritizing replacement of GSA ambulances based on age and mileage. About 200 ambulances have been purchased, and about 100 are still in service. Currently, 16 new GSA ambulances are on order. The IHS General Counsel has ruled that IHS does not have the authority to purchase its own ambulances, but must go through GSA.

The Indian Health Service does not license or inspect ambulance services. Some states license Native ambulance services, but others do not. However, Native ambulance services are encouraged by IHS to meet state standards, and those services billing for services are required by Medicare, Medicaid, and other third party payers to be state licensed/certified or at least meet the standards.

There is no comprehensive inventory of EMS vehicles and equipment, and no comprehensive placement strategy for ambulance and first responder services.

Although air medical services are routinely used in some areas, there is no requirement to use licensed air medical services. In some areas, unlicensed services have been used to transport patients. Where a significant amount of contract care funds are used to pay for air medical transportation, locally based and controlled air medical services may be more cost-effective and better meet the needs of the patient.

Some Tribes have tried to obtain ambulances and equipment from military and other government surplus, but these efforts have had mixed success. There have been some reports of military ambulances being destroyed rather than being placed in surplus.

### Recommendations

- ◆ ***The IHS EMS Branch should work with Area Offices, Service Units and Tribes to conduct a comprehensive nationwide needs assessment, including plans for strategic placement of ambulance services, first responder services, and air medical services.***
- ◆ ***The IHS EMS Branch should have dedicated funding for the purchase or lease of ground ambulances and air medical resources, based on the comprehensive needs assessment.***
- ◆ The IHS EMS Branch should seek Congressional authority to purchase its own ambulances (separate from GSA) for those tribes that don't have adequate resources or capabilities to purchase or lease their own vehicles.
- ◆ The IHS EMS Branch should work with Area Offices, Service Units, and Tribes to explore other cost effective methods for innovative purchase or lease of ground and air ambulance resources.
- ◆ The IHS EMS Branch Medical Director should work with Area Offices, Service Units, and Tribes to develop medically appropriate triage and transport protocols to ensure that transportation decisions are based on patient needs and cost effectiveness.
- ◆ The IHS EMS Branch Office should assist Tribal EMS programs to develop or improve billing and collection systems and a process should be established that ensures that most or all of these funds be used to enhance the emergency medical service.

- ◆ The IHS EMS Branch should assist tribes in developing a process to obtain surplus government ambulances and medical equipment, and should encourage other government agencies to surplus useable vehicles and equipment, rather than destroy them.
- ◆ The IHS EMS Branch should assist Tribes to develop air medical services meeting appropriate standards, if it can be shown that such services would improve patient care and access, and would be cost effective.
- ◆ The IHS EMS Branch should develop a comprehensive inventory of all tribal ambulances, air medical services, and other EMS patient transportation resources.
- ◆ ***The IHS EMS Branch should encourage all states to provide certification /licensure for Native EMS agencies within their boundaries. {Reservations which cross state lines may need to develop appropriate agreements with each state to avoid the need for multiple licensure}.***

## E. FACILITIES

### Standard

It is imperative that the seriously ill patient be delivered in a timely manner to the closest appropriate facility. This determination needs to consider both stabilization and definitive care. This determination should be free of political considerations and requires that the capabilities of the facilities are clearly understood by prehospital personnel. Hospital resource capabilities must be known in advance so that appropriate primary and secondary transport decisions can be made.

### Status

The Indian Health Service and Tribal Health programs shoulder the responsibility of providing the facilities for health care for approximately **1,300,000** American Indians and Alaska Natives. The wide variety of demographic and geographic settings have required the use of facilities ranging from community health centers, through small hospitals, to large medical centers. There are 50 hospitals, 158 health centers, and 172 Alaskan Community Health Aide Clinics within the system. Their effective utilization requires imaginative distribution among the populations served and judicious use of physicians, physician extenders, and Community Health Aides.

Even though the hospitals are widely disbursed and of great variety, all are JCAHO accredited, as are most of the health clinic emergency rooms, a commendable accomplishment for any system. The consistent attention to JCAHO Emergency Room criteria has allowed the system to categorize all of its services and this, along with strategic distribution of hospitals and clinics, allows timely delivery of the seriously ill patient to the nearest appropriate facility. Advance identification of tertiary care referral needs, local capabilities, and close association with prehospital personnel allows for smooth flow from discovery through stabilization to definitive care.

There is evidence of excellent planning for modernization and replacement of facilities. A national priority waiting list is maintained and melded to a line item budgeting process that seems to allow maintenance and replacement of facilities where needed. Furthermore, access to funding for **facilities** seems very effective. The facilities fit their environment and the needs of the patient, and design changes are appropriate to those needs.

Unfortunately, there continues to be significant difficulty in the recruitment and retention of physicians within the system, the resolution of which will be difficult. Even though there is a structure for smooth patient flow through the system, there are no generally established policies, procedures, protocols, or transfer agreements to assure that this is accomplished.

There is a demonstrated commitment to the provision of ATLS, ACLS, and PALS throughout the system. Funds for this CME, however, are not consistently set aside to assure that efficient and timely planning can take place.

### Recommendations

- ◆ Uniform JCAHO accreditation for all facilities should be continued.
- ◆ ***The IHS should institute the American College of Surgeons COT criteria for trauma care categorization.***
- ◆ The IHS Comprehensive EMS Plan must continue to assure that the facilities resources match the patient and health care needs of the service area.
- ◆ ***Continue to develop or return to programs to enhance recruitment and retention of Health Professionals to include:***
  - ***Native American health care and health management scholarships;***
  - ***Creative and positive continuing education and preceptor programs; and***
  - ***Continuing access to and consistent funding for ATLS, ACLS, PALS, and RN trauma training programs.***
- ◆ Develop formal and uniform treatment and transfer policies and agreements.

## F. COMMUNICATIONS

### Standard

An effective communications subsystem is an essential component of an overall EMS system. Beginning with the universal system access number, the communications network should provide for prioritized dispatch, dispatch to ambulance communication, ambulance to ambulance, ambulance to hospital, and hospital to hospital communications to ensure adequate EMS system response and coordination.

### Status

There appears to be considerable variation among the local EMS communication systems that serve Native American populations.

One of the most serious communications problems in many Native -American geographical areas is lack of citizen access. The lack of telephones in many Native American residences is a very significant problem, especially in the more remote areas. In an emergency, the nearest telephone may be a considerable distance away and in most cases there are no alternate means of citizen access, such as pay phones or emergency call boxes. In over half of the 12 IHS areas, over 40% of the citizens do not have telephones. The worst case situation is one area where almost 75% of the Native Americans do not have telephones.

Another serious problem is the lack of emergency medical dispatch (**EMD**) training for many of the dispatch center personnel. Thus, they are not able to provide prearrival instructions to callers in **critical**, life-threatening emergency situations. This apparently is particularly the case in those emergency dispatch centers that are operated by police agencies.

The narrative information furnished to the NHTSA assessment team indicates that in a majority of cases, the local emergency medical services agencies have adequate radio and paging capabilities for dispatch. However, an inventory showing the number and types of radio dispatch methods was not furnished.

The radio communications systems available to serve Native emergency medical organizations appear to be largely dependent upon the state radio networks. For example, in states that have extensive and highly developed radio communications networks, including mountain top radio sites and microwave control links, the Native American emergency medical services appear to have relatively adequate communications capabilities for first responders and for ambulance services. However, in states with quite primitive radio communications systems, the Native American EMS agencies often lack adequate radio communications, especially when responding in remote areas. This affects ambulance-hospital communication, as well

as ambulance-ambulance communication capability. In those systems with repeaters and/or relay points, this is much less a problem, however, dead spots and areas of marginal coverage exist.

Also, testimony was given that indicates that some of the radios that are still in use with Native American EMS organizations are very old and not reliable. The lack of dedicated funding to obtain new or replacement EMS radio equipment is seen as a significant problem.

### Recommendations

- ◆ ***The EMS Branch should develop a communication plan as part of the comprehensive EMS planning process.***
  - The communications plan should inventory all existing means of citizen access, dispatch facilities, EMS radio communications systems, including age and condition of the communications equipment.
  - The communications planning process should include either radio communications engineering studies to determine the adequacy of coverage or, at a minimum, structured survey questionnaires for all EMS organizations serving Native Americans requesting information on adequacy of coverage by existing radio systems.
  - The communications planning process should include review of the potential for new forms of technology to address the identified needs ranging from enhanced 9-1-1 systems, to computer aided dispatch (CAD) systems, to use of call boxes and EMS unit radios linked to communications center dispatch/coordination points and local/regional medical direction facilities by satellite linkages.
  - The communications plan should identify solutions to the identified problems, including costs, and be used in the effort to obtain adequate funding resources to address EMS communications needs, both in terms of replacement equipment and need for new approaches to solve identified EMS communications problems.

## G. PUBLIC INFORMATION AND EDUCATION

### Standard

Public awareness and education about the EMS system is essential to a quality system and is often neglected. Public information and education efforts must serve to enhance the public's role in the system, its ability to access the system, and the prevention of injuries. In many areas, EMS personnel provide system access information and present injury prevention programs which ultimately lead to better utilization of EMS resources and improved patient outcome.

### Status

Due to inadequate staff and resources, **IHS/EMS** has offered virtually no formal public information or education programs or materials on a national level. There does, however, appear to be significant activity among many Native EMS programs, though there has been no centralized reporting or sharing of such programs. Most information on what programs do exist came from the phone survey conducted in preparation for the Assessment. Local public information and education activities are primarily focused on injury prevention. There is varied **level of cooperation and coordination between** EMS programs and Area Offices Injury Prevention Coordinators.

Examples of comprehensive ongoing EMS public information efforts at the Tribal level include the Oklahoma Cherokee Nation and the Rosebud Indian Reservation, both of which have multi-faceted activities for National EMS Week, as well as such things as newsletters and EMS presence at health fairs. In addition, the National Native American EMS Association has already made an early impact on getting the word out about EMS needs for Native Americans and is in the process of developing a display that can be used to further increase awareness.

There is clearly a need for further education of individuals and groups at all levels about the benefits of having an effective EMS system.

### Recommendations

- ◆ ***There should be a major cooperative effort between IHS/EMS, local EMS Coordinators, and the National Native American EMS Association to educate Tribal Councils, Service Units, Area Offices, IHS Headquarters and Congress about the necessity for EMS and the positive impact it can***

**have. This is particularly important due to the extremely high injury fatality rate among the Native American population.**

- ◆ Accurate success stories should be well documented to highlight the benefits of EMS as well as injury prevention strategies and to assist EMS advocates in telling the EMS and Injury Prevention story. -
- ◆ ***The IHS EMS Branch should have sufficient resources to support public information and education activities, such as development and distribution of Public Information Assistance Packages for use by local EMS agencies, modifiable to better meet local needs, and regular publication of newsletter to share ideas and success stories among local EMS services and others who could benefit from such information. The newsletter may be a joint venture between the EMS and the National Native American EMS Association.*** -
- ◆ Greater emphasis should be placed on First Aid or Bystander Care and CPR training for the public, which should be especially directed at school age children.
- ◆ Communication and coordination should be improved between IHS Injury Prevention Coordinators and local EMS Coordinators and IHS/EMS staff.
- ◆ Use of safety restraints and helmets as well as the “None for the Road” program in an effort to combat the major killer of young Native Americans should be aggressively promoted.
- ◆ Develop and implement effective programs to educate the public about appropriate EMS system access.
- ◆ EMS should share prehospital as well as trauma registry data to support injury prevention initiatives.

## H. MEDICAL DIRECTION

### Standard

EMS is a medical care system that includes medical practice as delegated by physicians to non-physician providers who manage patient care outside the traditional confines of office or hospital. As befits this delegation of authority, it is the physician's obligation to be involved in all aspects of the patient care system.

Specific areas of involvement include the following:

- planning and protocols
- on-line medical direction and consultation
- audit and evaluation of patient care.

### Status

Part 3, Chapter 17 of the Indian Health Manual - Emergency Medical Services - specifies the physician responsible for medical direction at IHS Headquarters, Area Office and Service Unit levels. This document also specifies the responsibilities of the medical director at each of those levels. A recent document developed by the IHS EMS Medical Directors Committee further specifies the duties of the Service Unit EMS Medical Director, however, this document has not been implemented.

Previous IHS EMS medical direction was provided by Dr. John Porvaznik, MD, FACS, between the years 1980-1990. Dr. Porvaznik provided administrative and clinical leadership that apparently has been difficult to replace. Presently, medical direction at the national level has been provided by the IHS EMS Medical Director's Committee which was formed in August of 1992. The responsibilities of the EMS Medical Directors Committee are ill-defined and, although the recommendations of the EMS Medical Directors' Committee appear to have been adopted in the past, the Committee has not been formally empowered with well-defined authority. At present, the Committee provides an advisory role.

There are isolated examples of the provision of high-quality medical direction within IHS. The activities of physicians such as Drs. Doug Peter, Jim Upchurch and Paul Fuhrmeister are acknowledged as models of commitment to the planning and implementation of medical direction.

However, generally, medical direction is inconsistently provided at all levels within IHS. There is no identifiable medical director at the national headquarters level. There is no legal requirement for medical direction for Basic Life Support (BLS) level

personnel, although BLS personnel comprise the backbone of EMS providers in most Native systems. Designated medical directors at the Service Unit and Area Office levels inconsistently fulfill the responsibilities of the position and do not provide the "hands-on" involvement in local EMS activities. A questionnaire distributed to all IHS Service Unit Clinical Directors/Chief Medical Officers revealed that of the 104 respondents, only 47% provided medical direction, 32% had prehospital-treatment protocols; and only 39% had an established quality improvement program.

The lack of adequate medical direction is a result of a number of factors which include a persistently high turnover rate among physicians at IHS and Tribal health care facilities, lack of residency-trained emergency physicians, lack of adequate training in the delivery of emergency care and EMS for non-emergency medicine physicians, excessive collateral duties, and a lack of authority for the responsibilities assumed.

The NHTSA TAT was informed that the retention of IHS physicians is a major problem. With only 16 emergency medicine physicians in IHS, the majority of physicians responsible for the quality of care delivered in the field, and directly responsible for care in the emergency department, have little formal training in the emergency care of the acutely ill or injured.

An IHS EMS Medical Directors Course has been developed and has been conducted twice, providing training on EMS medical direction to approximately 40 physicians. Plans are being made to provide this course on an annual basis.

### Recommendations

- ◆ ***The EMS Branch should institute a policy which requires EMS medical directors for all prehospital EMS agencies.***
- ◆ ***The IHS Director should designate an EMS Medical Director at the national level.***
- ◆ ***The EMS Branch should redefine the responsibility and authority of the medical director at the Tribal, Service Unit, Area Office and National levels.***  
***Once defined, the medical director should be empowered with the authority to fulfill his or her responsibilities. The authority should include:***
  - ***suspension and revocation of clinical privileges;***
  - ***assurance of compliance to existing clinical standards; and***
  - ***execution of an effective quality improvement program.***

- ◆ Each Service Unit should provide adequate orientation to all incoming IHS physicians in local and regional EMS systems.
- ◆ The IHS EMS Medical Directors Course should be mandatory for all designated EMS medical directors.

## I. TRAUMA SYSTEMS

### Standard

To provide a quality, effective system of trauma care, each State must have in place a fully functional EMS system. Enabling legislation should exist for the development of the trauma system component of the EMS system. This should include Trauma Center designation (using ACS-COT, APSA-COT and other national standards as guidelines), triage and transfer guidelines for trauma patients, data collection and trauma registry definitions and mechanisms, mandatory autopsies, **systems** management, and quality assurance for the systems effect on trauma patients. Rehabilitation is an essential component of any statewide trauma system.

### Status

The basic structure of the Native American EMS System and its facilities tends itself to trauma system participation. The basic character and distribution of the hospitals and health clinics and their relationship represents an inclusive system, with a well defined systemic approach to trauma resuscitation and transfer. Contract care relationships for referral to higher levels of care are well established, based on knowledge of the capabilities of the IHS facility. Although not a part of this assessment, it is noted that the Alaska Native Medical Center has recently undergone an ACS Level II consultation visit, indicative of high level of trauma commitment. The consistent JCAHO accreditation of IHS Hospitals allows for accurate categorization of capabilities and defines the function of all facilities in trauma care.

The Native American Hospitals have already exhibited the desire and ability to integrate into evolving trauma systems. There has been strong support of the early phases of system development in Montana and Alaska, which includes participation of some facilities in the Trauma Registries.

The **IHS** has been in the forefront in recognizing the importance of training in trauma management. IHS Physicians have participated in the ATLS program since its inception, with evidence of high percentages of ATLS training, especially in the rural areas. Nursing trauma education is manifested by use of TNCC, Advanced Trauma Care for Nurses, and participation in ATLS where **available**. Trauma knowledge has been enhanced in the prehospital phase, especially in including elements of BTLS into the EMT-I curriculum. The prehospital phase does show some weaknesses in inconsistent certification of EMT's, and little bystander training.

Prevention is a major and apparently effective program supported by a comprehensive network of Community Injury Prevention Specialists, and by presentation of programs such as "None for the Road". Commitment is also demonstrated by providing a full time position for an injury prevention officer at the headquarters level. The IHS has

also funded data collection for a three year Native American Preventable Trauma Mortality Study in the Billings Area.

Transport and transfer seems to be consistent and effective, although there is evidence that there is not a policy to assure that only properly licensed air medical services are used.

### Recommendations

- ◆ ***The IHS should support the development of inclusive trauma systems in its service areas.***
- ◆ ***IHS hospitals and prehospital services should integrate into evolving trauma systems in their states and regions.***
- ◆ ***Assessment of trauma care capabilities should be based on ACS-COT criteria.***
- ◆ The IHS should increase its trauma prehospital resources to include:
  - Access;
  - Bystander Training;
  - First Responder Training;
  - Ambulance;
  - Prehospital Trauma Training;
  - Air medical Integration; and
- ◆ Encourage all hospitals to participate in trauma quality improvement including:
  - Trauma Registries;
  - Multidisciplinary Trauma Conferences; and
  - Morbidity and Mortality Conferences.
- ◆ Coordinate EMS injury prevention activities with existing EMS programs.
- ◆ Formalize existing triage and transfer patterns with protocols and policies.

## J. EVALUATION

### Standard

A comprehensive evaluation program is needed to effectively plan and implement a statewide EMS system. Each EMS system must be responsible for evaluating the effectiveness of services provided adult and pediatric victims of medical or trauma related emergencies. The statewide EMS system should be able to state definitively what impact has been made on the patients served by the system. EMS system managers must be able to evaluate resource utilization, scope of service, **patient** outcome, and the effectiveness of operational policies, procedures, and protocols. An effective EMS system evaluates itself against pre-established standards and objectives, so that improvements in service, particularly direct patient care, can occur. These requirements are part of an ongoing quality assurance (**QA**) system to review system performance. The evaluation process should be educational and ongoing. QA reviews should occur at all phases of EMS system management, so that needed policy changes or treatment protocol revisions can be made.

### Status

In 1987, the IHS-Tribal Task Force developed a process for EMS program review. This process included IHS Area review every three years, annual service unit review, and monthly Service Unit Morbidity and Mortality Conferences. The program review areas included prehospital and emergency department care. The standards utilized for program review consisted of the 15 components from Part 3, Chapter 17 of the Indian Health Manual. Eight of the twelve Areas have received a program review conducted by the national IHS EMS staff **within the** last five years. Unfortunately, due to lack of appropriate staffing, no further Area reviews are being conducted. Service Unit Reviews are **inconsistently** conducted.

The tool for the EMS program review consists of a team checklist verifying whether each of the 15 components are met; The assessment of whether a program satisfactorily addressed these components was subjective, with no specific standards specified for each component.

The Navajo Nation has conducted an outcome-based trauma review which might be used as a model for other Native American EMS systems.

The evaluation of prehospital provider clinical performance is sporadic and inconsistent within IHS. Few local EMS agencies have physician review of run reports. This is a result of the lack of any uniform requirement for BLS agencies to have medical directors. There are exceptions, such as in Montana's Crow Agency, where there is a 100% review of all ALS runs by the medical director, review of BLS run tickets by paramedics, and feedback for these run reviews provided to EMS personnel.

Continuous Quality improvement training will be provided to EMS managers at the August 1993, National Native American EMS Association Conference.

### Recommendations

- ◆ ***The EMS Branch should reinstitute EMS Area Program Reviews.***
- ◆ The IHS EMS Medical Directors Committee should revise the evaluation tools for Area and Service Unit Program Reviews.
- ◆ The EMS Branch should initiate multidisciplinary Trauma Review in all Areas.
- ◆ Each Area should institute the use of a minimum data set EMS run report system, consistent with states systems wherever possible;-
- ◆ The EMS Branch should promote the establishment and use of a Trauma Registry, to be integrated with state trauma registries wherever they exist.
- ◆ Each Area medical director should establish a formal run review process between local EMS medical director and providers.
- ◆ ***IHS EMS should fund and establish EMS coordinators for each of the twelve Area offices.***

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Snake River Regional Blood System  
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Joint Magadan, Russia-Alaska EMS Committee

Journal of Prehospital and Disaster Medicine

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