

MEDICINE AND SOCIETY: PEER-REVIEWED ARTICLE

EMS Service Integration in American Indian and Native Alaskan Rural Communities

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Abstract

This article outlines several initiatives to optimize and expand emergency medical services (EMS) in American Indian and Native Alaskan (AI/NA) rural communities. It highlights the significance of cultural humility, cost-effectiveness, equity, and tribal sovereignty in EMS licensure and describes key infrastructure improvements (eg, roads and communication systems) to EMS responsiveness in AI/NA rural communities. This article also examines practical and financial strategies for integrating telehealth and drone-based delivery of critical medicines into rural EMS response capacity.

Tribal Emergency Medical Service

Emergency Medical Services (EMS) play a vital role in providing prompt and optimal care, especially within American Indian and Native Alaskan (AI/NA) populations, which **inequitably experience health vulnerabilities**. With higher rates of chronic illnesses, injuries, and medical emergencies, these populations require stronger, more responsive EMS support to address their unique health needs.¹ However, existing infrastructure for EMS service in AI/NA communities falls short of expectations due to cultural barriers, legal limitations, austere environmental conditions, and insufficient resources. For instance, the Indian Health Service reported that the rate of fatal injuries is 2.5 times higher for AI/NA than for all races, making it pressing to strengthen EMS.¹

This article proposes tangible strategies to reinforce EMS in these communities. By addressing cultural competence, sovereignty in licensing, infrastructure development, the integration of health care services, and inequity in resource allocation, it is possible to enhance the capacity of EMS to effectively serve AI/NA populations.

Cultural Competence Assessment

Cultural competence within the health care sector encompasses a specific set of skills, knowledge, and attitudes essential for health care practitioners to deliver high-quality care to patients from diverse cultural backgrounds. This competency is particularly critical in EMS, as it ensures that the services provided align with the cultural and linguistic requirements of the patients. For AI/NA groups, cultural competence is particularly important because their health beliefs may differ from prevailing societal

norms. EMS personnel might struggle to understand Indigenous perspectives; some lack awareness of Indigenous knowledge, community structures, and distrust of health care systems due to historical trauma.² This gap results in poor communication, poor adherence to treatment, and worse outcomes.³

To address these challenges effectively, it is crucial to design and implement comprehensive **cultural competency training** programs for individuals engaged in EMS. Such programs should address the histories of AI/NA populations, their unique health practices, communication methods, and inequity they face. Regular educational efforts and collaboration with tribal authorities would further support this goal. For instance, cultural competency training has been developed that involves exposure to cultural practice and partnering with Tribal authorities.² Such programs have yielded positive results, including increased patient satisfaction and trust in clinicians.² Another successful example is the University of Arizona Native American Advancement, Initiatives, and Research collaboration, which enhances collaborative research by providing cultural competency training resources to students and other professionals.⁴ Strengthening cultural competence acknowledges both the patient's and the clinician's heritage, thereby promoting more suitable, respectful services for AI/NA communities.

Sovereignty in EMS Licensing

EMS operations within Tribal reservations may be governed by state policies, rules, and regulations that often fail to sufficiently meet the unique needs of Tribal nations and respect their sovereignty. There are multiple reasons why it is imperative for Tribal governments to possess the authority to establish and enforce their own EMS standards and regulations. Day opines that delegating such authority for programs and services through the Indian Self-Governance Demonstration Project demonstrates concern for Tribal sovereignty and enables Tribes to provide more local services.⁵ Tribal governments, being closely connected to local needs, can create EMS protocols that are more effective than those devised by state or federal bodies. For instance, they might integrate Indigenous health practices or target region-specific health concerns.

Supporting Tribal sovereignty in EMS licensing could encourage local ownership and motivation to maintain culturally aligned services. It could also enhance emergency response and lead to better results overall. One case exemplifying the benefits of enhanced Tribal governance is the Choctaw Nation of Oklahoma, which has strengthened services by implementing protocols specifically designed for its members.⁶ This approach has also shaped federal budget decisions for the Indian Health Service that improve the general health of Indigenous communities nationwide.⁷ Another example is the Navajo Nation, which has empowered itself to regulate EMS service and developed training programs, which can lead to more culturally sensitive treatment.⁸

Reservation Infrastructure Development

AI/NA reservations encounter substantial obstacles in maintaining effective EMS due to insufficient structural support. These challenges are exacerbated by the geographical isolation of many reservations, which are often situated in remote or rural areas that are difficult to access. Consequently, EMS response times are frequently prolonged, potentially leading to adverse outcomes in critical situations. Addressing these challenges requires a **comprehensive approach to infrastructure enhancement**. Key recommendations include improving road conditions to ensure reliable, year-round access—an essential step in reducing response times and improving emergency outcomes. Additionally, the expansion and optimization of communication networks are

essential for the efficient coordination and dispatch of EMS resources. Tools like GPS and advanced mobile systems can close the gap between outlying areas and EMS centers, thereby raising overall efficiency in emergencies. For example, the Blackfeet Nation in Montana adopted an updated dispatch system to boost EMS accuracy and dependability.⁹

Health Services Integration

Integration of EMS with other health services on reservations is important for creating a broad and efficient health care framework. This approach aims to enhance the timeliness of and sustainability of patient care. Integration between hospitals, clinics, and EMS ensures that emergency care is delivered not only when the patient comes into contact with EMS personnel but also during hospital care and follow-up, so as to bridge all the care gaps and thereby improve the patient's health.¹⁰ The integration of telemedicine systems is frequently employed to enhance health care delivery, particularly in rural and remote areas. Telemedicine enables EMS personnel to engage in real-time consultations with physicians, thereby facilitating the immediate initiation of medical assessments and interventions prior to patient transport to health care facilities. This approach is especially critical in settings such as reservations, where the nearest health care center may be several hours away.

Additionally, **emerging technologies**, such as drone-based medication delivery, are poised to become vital components in improving health care access in these regions. Drones offer a reliable means of transporting essential medications and medical supplies to remote areas. A notable example of drone use to deliver supplies is the Navajo Nation, where drone trials have demonstrated efficient delivery of medications and other supplies¹¹ to households situated at considerable distances from health care facilities. These efforts demonstrate technology's capacity to ensure timely delivery of essential resources, thereby strengthening existing services in Indigenous communities.

Sources of EMS Financing and Distribution of Resources

Insufficient funding represents a significant challenge for EMS within AI/NA territories,¹² threatening the acquisition of necessary equipment, the hiring of qualified personnel, and the provision of adequate training. Addressing these constraints requires a robust and diverse financial strategy that incorporates advocacy efforts, federal and state grants to strengthen EMS in Indigenous communities, and partnerships with nonprofit organizations dedicated to improving health care services. The success of this approach is evident in partnerships like the one between the Cheyenne River Sioux Tribe and Boston Children's Hospital to improve pediatric emergency care.¹³

Conclusion

This article has explored key strategies for enhancing the equity and effectiveness of EMS for AI/NA populations, highlighting critical factors such as cultural and linguistic considerations, Tribal sovereignty in EMS licensing, infrastructure development, integration of health services, and funding mechanisms. Given the significant barriers these communities face, addressing these challenges is essential for improving health outcomes. Achieving meaningful progress will require coordinated efforts among policy makers, health care providers, and Tribal leadership to advocate for and implement sustainable solutions. By prioritizing these initiatives, stakeholders can enhance emergency medical response and ultimately reduce health care disparities in AI/NA communities.

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