International Journal of Paramedicine

Published by the National EMS Management Association (USA)

NATIONAL EMS MANAGEMENT ASSOCIATION

EDITORIALS

AMBULANCE DESERTS: A CRITICAL CHALLENGE FOR EMS LEADERSHIP IN ACHIEVING EQUITABLE EMERGENCY CARE ACCESS

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Recommended Citation: Barishansky, R. (2025). Ambulance deserts: A critical challenge for EMS leadership in achieving equitable emergency care access. *International Journal of Paramedicine.* (11), 10-13. https://doi.org/10.56068/SVZN3119. Retrieved from https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3414.

Keywords: ambulance, leadership, policy, funding, emergency medical services, EMS, paramedicine

Disclosures: None.

Funding: External funding was not used to support this work.

Received: May 26, 2025
Revised: NA
Accepted: May 26, 2025
Pre-Issue Release: June 11, 2025
Published: July 8, 2025
Revision *Published:* July 10, 2025

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Author Interview: https://youtu.be/idTZCBsy42A

Revision: The references were in error. Corrections have been made to the in-text citations and endnotes in this version.

ABSTRACT

The growing prevalence of ambulance deserts—geographic areas where residents live more than 25 minutes from the nearest ambulance station—poses a critical threat to health equity and public safety in the United States. Rooted in systemic underinvestment, workforce shortages, and fragmented policies, these deserts disproportionately affect rural and underserved communities, where response times can exceed 30 to 60 minutes during life-threatening emergencies. This paper examines the structural determinants of ambulance deserts, including the lack of statutory recognition of EMS as an essential service, outdated reimbursement models, and the absence of coordinated sustainability planning. Drawing on two decades of leadership experience across EMS, public health, and government, the author outlines five strategic actions for EMS leaders: securing essential service designation, advancing statewide sustainability plans, advocating for readiness-based funding, expanding Medicaid reimbursement pathways, and strengthening the EMS workforce. The paper also explores global parallels, offering key lessons for international health and emergency systems. Ultimately, ambulance deserts must be reframed as a public health emergency requiring bold leadership, integrated policy reform, and sustained public investment. EMS leaders are uniquely positioned to drive this transformation—if they act decisively and strategically.

In the United States, the public's expectation that dialing 911 will summon rapid emergency medical response is foundational to trust in the healthcare and public safety systems. However, this assumption is becoming increasingly untenable in many parts of the country. The emergence of ambulance deserts—defined as geographic areas where residents live more than 25 minutes from the nearest ambulance station—has exposed profound and dangerous inequities in prehospital emergency care access (Maine Rural Health Research Center, 2023).

This issue is particularly pronounced in rural and frontier regions, where systemic underinvestment and structural chal-

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lenges intersect. In some counties, response times exceed 30, 40, or even 60 minutes, significantly increasing mortality risk in time-sensitive emergencies such as cardiac arrest, stroke, or trauma (Carr et al., 2006). Yet, while these trends are alarming, they are not intractable. Addressing ambulance deserts requires bold, informed leadership from within the EMS profession.

While this issue is acutely visible in the United States, the trends are mirrored in many countries where EMS infrastructure and policy have not kept pace with population needs—particularly in rural and under-resourced regions.

STRUCTURAL DETERMINANTS OF AMBULANCE DESERTS

The persistence of ambulance deserts reflects a confluence of factors: chronic underfunding of EMS systems, reliance on inadequate fee-for-service reimbursement models, workforce shortages exacerbated by geographic and economic disparities, and fragmented policy frameworks that fail to recognize EMS as a critical component of public infrastructure (National Association of State EMS Officials [NASEMSO], 2020).

Despite being the front line of healthcare in emergencies, EMS is not universally recognized as an essential service in the United States—unlike police and fire services. This statutory omission undermines consistent funding, workforce development, and system planning. The consequences are most visible in rural and underserved communities, where EMS agencies are often volunteer-based and financially precarious.

STRATEGIC ACTIONS FOR EMS LEADERS

EMS leaders must take an active role in reshaping policy, financing, and operations to confront and reverse the trend of ambulance deserts. Five key strategies are outlined below:

1. Advocate for Statutory Recognition of EMS as an Essential Service

Only 11 U.S. states explicitly designate EMS as an essential service, a status that mandates public funding and system accountability. This designation must include clear statutory language regarding form, function, and financing.

Action: EMS leaders should engage state legislators using local data, case studies, and stakeholder coalitions to secure formal recognition of EMS as essential. This recognition can catalyze more stable funding and inclusion in state infrastructure planning (Barishansky, 2024).

2. Promote Statewide EMS Sustainability Planning

A comprehensive sustainability plan is vital to ensure long-term EMS viability. Such plans should include service delivery assessments, financial modeling, workforce projections, and regionalization strategies.

Action: EMS professionals should collaborate with departments of health and emergency management to develop or update these plans. Offering technical expertise and participating in state-level task forces can advance sustainable system design (NASEMSO, 2020).

3. Advocate for Readiness-Based Funding

EMS systems must maintain constant operational readiness, including staffing, equipment, and training—even when not actively responding to calls. Yet current reimbursement models pay only for transport, creating financial disincentives that jeopardize readiness.

Action: Leaders should frame EMS funding as a public safety investment akin to fire or law enforcement readiness, advocating for state and federal appropriations to support baseline preparedness (National Highway Traffic Safety Administration [NHTSA], 2019).

4. Expand Medicaid Reimbursement Pathways

Innovative reimbursement mechanisms such as treatment-in-place, community paramedicine, and non-transport encounters offer opportunities to stabilize EMS agency revenue and enhance patient-centered care.

Action: EMS agencies should work with state Medicaid programs to adopt and scale models pioneered in states like Minnesota, Georgia, and Tennessee. Evidence from pilot programs indicates improved patient outcomes and system savings.

5. Strengthen and Sustain the EMS Workforce

Recruitment and retention challenges are acute, particularly in rural areas. A robust EMS workforce strategy must include educational pipelines, scholarship and tuition assistance, rural incentives, and internal career advancement pathways.

Action: EMS leaders should form partnerships with academic institutions, pursue legislative support for workforce development programs, and build internal leadership development frameworks (Institute of Medicine, 2007).

GLOBAL IMPLICATIONS: LESSONS FOR INTERNATIONAL HEALTH AND EMERGENCY SYSTEMS

Although this analysis focuses on the United States, the phenomenon of ambulance deserts—and the underlying systemic challenges that create them—offers important lessons for policymakers around the world. Countries with rural, remote, or underserved populations face similar obstacles: uneven EMS coverage, under-resourced services, and challenges sustaining a qualified workforce.

In many high- and middle-income countries, EMS is increasingly expected to serve as the connective tissue between public safety and healthcare systems. Yet as the U.S. experience illustrates, when EMS is not structurally embedded in health and emergency planning—with statutory recognition, reliable financing, and integrated governance—inequities can deepen, particularly outside of urban centers.

Several cross-cutting lessons for international consideration include:

- Recognizing EMS as Essential Public Infrastructure: Formal designation of EMS as an essential service enables consistent public investment and helps guard against regional disparities in access.
- Financing for Readiness, Not Just Activity: Payment systems that reimburse only for patient transport fail to reflect EMS's core mission: being prepared to respond.

Readiness-based funding models can support preparedness and resilience, particularly in low-volume or rural settings.

- Investing in Rural and Frontier EMS Capacity: Targeted workforce incentives, educational pipelines, and community-based models (like community paramedicine) can help build EMS capacity in hard-to-serve areas.
- Integrating EMS into Broader Health and Disaster Systems: EMS should not operate in a silo. International planners should ensure that EMS is coordinated with hospitals, primary care, and disaster preparedness programs.

The U.S. experience with ambulance deserts is both a cautionary tale and a call to action. For countries seeking to strengthen health equity, system resilience, and emergency preparedness, ensuring timely access to EMS must be seen not as a luxury, but as a baseline responsibility of government and public health.

CONCLUSION: REFRAMING EMS AS CRITICAL INFRASTRUCTURE

Ambulance deserts are not merely logistical inconveniences; they are public health emergencies hidden in plain sight. Their persistence threatens not only individual patient outcomes but also system-wide preparedness and resilience. For EMS leaders, this is not simply a challenge of management—it is a test of vision, voice, and advocacy.

Addressing ambulance deserts will not be achieved through piecemeal efforts or passive reliance on legislative reform. It will require assertive and informed leadership from those within the EMS profession, supported by data, coalitions, and persistent public engagement. As the frontline stewards of emergency care, EMS leaders must lead the charge in redefining EMS as an essential, funded, and equitable component of America's public health and safety infrastructure.

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