

Community Paramedics: Redefining EMS

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Emergency medical service (EMS) systems were developed in the 1960s and 1970s to respond to traumatic and medical emergency conditions in the community and provide life-saving (stabilizing) care while en route to the hospital emergency department.^[1,2] Over time, additional skills training and medical education were provided to prehospital care providers. What were initially ambulance attendants became emergency medical technicians (EMTs), which further diversified into today's EMTs, advanced EMTs, and paramedics.^[3]

The different levels of paraprofessionals, particularly paramedics, receive highly sophisticated disease, pharmacology, anatomy, and pathophysiology education and medical skill training that is based on the National EMS Core Content, National EMS Scope of Practice, and [National EMS Education Standards](#).^[4] These documents are published by [National Highway Traffic Safety Administration \(NHTSA\)](#), the lead federal agency for EMS.^[5]

The paramedic's advanced knowledge and skill set has not been matched by a more adaptable role in the healthcare system, however. Current healthcare policy is defined by the Affordable Care Act and calls for reducing healthcare costs and reining in emergency department visits and hospital readmissions, and studies show that it has succeeded.^[6,7] Paramedics may be pivotal in achieving these goals by providing the right care, at the right place and the right time. EMS providers are among the few healthcare providers today who make house calls to address the acute decompensation of chronic conditions and who can be at the patient's house within minutes.

What Is Community Paramedicine?

[Community paramedicine](#), also known as "[mobile integrated healthcare](#)," is a rapidly developing field at the intersection of EMS and public health.^[8,9] The goals of community paramedicine programs have included more appropriate use of emergency services, increased access to primary care, and enhanced opportunities for skill development of EMS personnel.^[10]

Community paramedicine has its roots in international EMS programs. One model of community paramedicine is RESPIGHT (Response to emergencies; Engaging with communities; Situated practice; Primary healthcare; Integration with health, aged care, and social services; Governance and leadership; Higher education; Treatment and transport options). RESPIGHT is based on an Australian rural paramedic model.^[11] It covers many of the domains of existing domestic and international community paramedicine programs.

There are other definitions of a community paramedic and of community paramedicine. In one working definition, for example, a community paramedic is a paramedic with additional training in working within a community paramedicine program under local medical control as part of a community-based team of health providers. [Community paramedicine in this case is defined as a community-based model of care that uses the skills of paramedics and EMS systems to address care gaps in the community.](#)^[10]

The American College of Emergency Physicians and other stakeholder organizations define [mobile integrated healthcare and community paramedicine](#) as follows^[12]:

In its simplest definition, Mobile Integrated Healthcare (MIH) is the provision of healthcare using patient-centered, mobile resources in the out-of-hospital environment. It may include, but is not limited to, services such as providing telephone advice to 9-1-1 callers instead of resource dispatch; providing community paramedicine care, chronic disease management, preventive care or post-discharge follow-up visits; or transport or referral to a broad spectrum of appropriate care, not limited to hospital emergency departments.

Community Paramedic Programs in the United States

Community paramedic programs are now operating in about 20 states.^[13] They have been found beneficial in addressing the social determinants of health^[14] (Table 1) and domains of healthcare quality (Table 2).^[15]

Table 1. Social Determinants of Health^[14]

- Economic stability
- Education
- Health and healthcare
- Neighborhood and built environment
- Social and community context

Table 2. Domains of Healthcare Quality^[15]

- Safe
- Effective
- Patient-centered
- Timely
- Efficient
- Equitable

Community paramedic programs in rural areas are designed to address chronic disease management and to fill current gaps in the healthcare system.^[16,17] In British Columbia, Canada, community paramedics in a rural setting provide preventive health measures and health promotion activities.^[18] Community paramedic programs have been associated with fewer emergency department admissions, EMS transports,^[19] and hospital admissions, as well as improved quality of life and healthcare outcomes in patients with chronic medical conditions.^[20,21,22,23,24]

Consumers of community paramedic programs have been satisfied with community paramedicine and say that these programs give them a feeling of empowerment in their healthcare and a greater sense of security and support.^[25] Community paramedic programs also increase patient referrals to needed home care services.^[19]

From the EMS agency perspective, community paramedic programs may be useful as a way to use light-duty EMS providers.^[23] Table 3 lists a sampling of community paramedic programs and their services.

Table 3. Summary of a Selection of Community Paramedic Programs

| Program | Services | Goals | Outcomes |
|---|---|---|---|
| CONNECT Community Paramedicine , ^[26] Pittsburgh, PA | In-home medication reconciliation Coordinate medical care plan with primary providers, specialists, and hospitals Accompany patients to provider visits Assess for social isolation Assess for changes in activities of daily living Coordinate with social service agencies Navigate patients to social support Assess housing, utilities, food security, and other social determinants of health needs | Prevent hospital admissions and readmissions Reduce emergency department visits and 911 calls Address social determinants of health | Saved \$1.8 million in healthcare costs Reduced COPD patient readmission rates Reduced emergency department visits and 911 calls for superusers Provided support for chronic pain patients Helped veterans receive benefits |
| Mount Sinai Community Paramedicine , New York, NY | In-home urgent visits for exacerbations of chronic conditions with in-home treatment Telemedicine consultation with affiliated program physicians and coordination with primary care providers | Prevent hospital readmissions Reduce 911 calls and emergency department visits | No data published |
| Northwell Health Community Paramedicine , ^[28,29,30] New York, NY | In-home urgent visits for exacerbations of chronic conditions with in-home treatment Telemedicine or telephone consultation with affiliated program physicians and coordination with primary care providers In-home fall risk assessment Disease management education | Prevent hospital readmissions Reduce 911 calls and emergency department visits | 78% of patients seen by a community paramedic were treated at home; only nine of these were seen in an emergency department within 24 hours Admission rate for those transported by a community paramedic was higher than for a patient transported by traditional means 90% of those who used the community paramedic service stated they would have used traditional 911 if they didn't have a community paramedic option |

| Program | Services | Goals | Outcomes |
|---|---|---|--|
| Medstar Mobile Healthcare , ^[31] Fort Worth, TX | Routine home visits to high utilizers of the emergency department or 911 to provide disease management education and refer to resources Home visits for patients at risk for 30-day readmission to provide patient and family education and coordinate with primary care provider, coordinate in-home medical care and PCP appointment Post-ED discharge home visits to facilitate observation avoidance and to coordinate primary care follow-up Coordinate with home healthcare services | Improve patient outcome Improve the health of the population Reduce costs | Reduced ambulance transports by 60% for enrolled patients and 74% for superusers 52% reduction in readmissions for a high-risk readmission cohort |
| Montgomery County Hospital District Community Paramedicine , ^[32] Montgomery County, TX | Comprehensive physical, mental and social home assessment Develop a care plan Coordinate care, manage healthcare communication, and refer to support services and resources | Reduce 911 EMS utilization | 60% of enrolled patients have shown a reduction in 911 use |

COPD = chronic obstructive pulmonary disease; ED = emergency department; EMS = emergency medical services; PCP = primary care physician

Challenges to Pushing the Envelope

EMS regulations and legislation were originally developed to provide an emergency medical care system that could stabilize patients and transport them to emergency departments. Community paramedics push the envelope of the current framework of EMS, and regulation and legislation have lagged behind.^[13] States allow community paramedicine leaders varying levels of freedom to craft community paramedicine programs.^[33] [Fifteen states have provided legislative authority for community paramedicine programs.](#)^[34]

Reimbursement for these services is another challenge, because there is no dedicated funding mechanism for community paramedicine.^[13] Some programs, such as the Connect Community Paramedicine program in Pittsburgh, Pennsylvania, have [created partnerships with insurance companies to provide funding for community paramedic programs](#) to prevent readmissions.^[35]

Without a unified model of community paramedicine, training and education for this expanded role are not standardized, nor is there a standard scope of practice.^[13,24,33] This differs from the standardized roles and scopes of practice defined by NHTSA through the National EMS Core Content, National EMS Scope of Practice, and National EMS Education Standards documents.^[3,4] There is concern about the risk for undertriage of patients to the emergency department, even with additional training for paramedics, which may worsen patient outcomes.^[36] We also lack data about the safety and efficacy of community paramedic programs.^[24]

Finally, other healthcare providers work in the home care industry, including visiting nurses and [innovative telemedicine](#)^[37] and hospital-at-home programs,^[38] are being developed by healthcare systems to address healthcare quality and prevent unnecessary admissions. Community paramedicine is just one approach of many to address healthcare quality and the social determinants of health. Of note, the [American Nurses Association supports community paramedic programs.](#)^[39]

Community paramedicine is an exciting and growing branch of EMS. Despite the challenges these programs face, they are likely to continue to develop. In the future, many emergency medicine physicians will probably be able to use this resource to help keep patients at home and prevent unnecessary 911 EMS transports, repeat emergency department visits, and hospital readmissions.