Community paramedicine program

Intervention in brief

High risk:	A **community paramedicine program** is a partnership between acute care providers and local EMS providers to deploy advanced practice paramedics who provide patient-centered in-home health care services to underserved populations. The goal is to improve access to care and reduce readmissions by diverting patients to care settings outside the ED when appropriate.
Strength of evidence	 Medium Intervention has not been frequently studied and evidence often based on case study findings.
Impact	• **Decreased cost (wide range):** Insignificant change to $39,000 decrease in costs per patient; $325K–$3.6M cost savings • **Decreased utilization (wide range):** 47-59% decrease in hospitalizations; insignificant change to 75% decrease in ED visits; 25-28% less likely to visit ED; 6-13% less likely to require hospitalization; 78% did not return to ED in next month; 48% decrease in readmissions • **Improved quality, clinical outcomes:** 4 to 6% decrease in diastolic blood pressure among hypertension patients; 31-point decrease in average blood glucose levels among patient with diabetes • **Increased access**: 50–75% of patients connected to area medical homes after intervention • **Improved stakeholder satisfaction:** 99% of patients would recommend to a family member or friend; 96% reported feeling more confident in their self-management of medications
How to succeed	To build an effective community paramedicine program: • Determine program goal and scope based on community needs Coordinate with stakeholders across the health care organization • Leverage existing paramedic staff time or partner with fire departments who have excess capacity to fill the community paramedic role • Target uninsured and/or risk-based patient populations to help ensure that partnering with health care organizations will maximally benefit from reductions in costs of care and utilization • Track inpatient admission and readmission rates, number of ED visits, ambulance transports, overall cost of care reductions for the program patients, as well as relevant chronic care measures to bolster the case for reimbursement and funding For our comprehensive guide on how to extend your care team by adding community paramedics, review our How to Develop a Community Paramedicine Program brief here.

Source: Population Health Advisor research and analysis.

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Demonstrated impact

Literature review summary

Title: Expanding Paramedic Scope of Practice in the Community: A Systematic Review of the Literature
Publication: Prehospital Emergency Care
Date: 2013
Type: Systematic review
Study population: Pediatric and adult patients across 11 peer-reviewed articles in United Kingdom, Canada, and Australia
Major findings: Patients participating in two of the 11 studies were compared to a control group and were less likely to visit the ED (25-28%) or require a hospital admission (6-13%). Studies analyzing changes in ED use showed range of results (insignificant change to 40% decrease). One economic analysis revealed cost savings of approximately $257 per patient, although this difference was not statistically significant.
Source: Full article here.

Title: How to Develop a Community Paramedicine Program
Publication: Advisory Board
Date: 2016
Type: Case study compilation
Study population: Frequent ED users and non-emergency transport patients across eleven programs in the U.S.
Major findings:
- Cost savings: $325K–$3.6 million; $4,295 cost savings per patient
- Reduced utilization: 42–72% decrease in ED visits; 78% of participants did not return to ED in next month of intervention; 48% decrease in readmissions for CHF patients
- Increased access: 50–75% of patients connected to area medical homes
- Improved clinical outcomes: 4–6% decrease in diastolic blood pressure among hypertension patients; 31-point decrease in average blood glucose levels among diabetes patients
- Improved satisfaction: 99% of patients would recommend to a family member or friend; 96% reported feeling more confident in their self-management of medications

Source: Full article here.

Title: Community Paramedicine: A Promising Model for Integrating Emergency and Primary Care
Publication: UC Davis Institute for Population Health Improvement
Date: 2013
Type: Case study
Study population: 23 CHF patients referred by cardiac care case managers
Major findings: Patients participating in the program received routine home visits from MedStar paramedics. After one year, MedStar estimated:
- Cost savings: $16,000 per patient
- Reduced hospital admissions: 47% decrease
- Prevented hospital admissions: 44 avoided inpatient stays

Following the success of this initiative, MedStar enrolled 10 patients at risk of CHF-related readmissions in another community paramedicine program. MedStar saved almost $39,000 per patient. Over the eight-month period, there were no 30-day readmissions and there was only one cardiac-related ED visit.
Source: Full article here.

Source: Population Health Advisor research and analysis.

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Title: A Pilot Study from McKinney Community Health Paramedicine Program and BEST EMS
Publication: American College of Emergency Physicians
Date: 2010
Type: Case study
Study population: 23 patients who called 911 at least four times in the previous six months
Major findings: Patients' ED visits decreased by 75% (8.67 to 2.16 180 days after enrollment) and hospital visits by 59% (2.83 to 1.16 180 days after enrollment) compared to baseline.
Source: Full article here.

Source: Population Health Advisor research and analysis.

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Appendix

- Bingham BL, et al., "Expanding Paramedic Scope of Practice in the Community: A Systematic Review of the Literature," *Prehospital Emergency Care*, 17, no. 3 (2013): 361-372, https://www.ncbi.nlm.nih.gov/pubmed/23734989.
- "How to Develop a Community Paramedicine Program," Population Health Advisor, The Advisory Board Company, https://www.advisory.com/research/population-health-advisor/white-papers/2016/how-to-develop-a-community-paramedicine-program.
- Kizer KW, et al., "Community Paramedicine: A Promising Model for Integrating Emergency and Primary Care," *Institute for Population Health Improvement*, http://escholarship.org/uc/item/8jq9c187.
- Fagan L, et al., "A Pilot Study from McKinney Community Health Paramedicine Program and BEST EMS," *American College of Emergency Physicians*, https://www.acep.org/content.aspx?id=96674#sm.0001df9sknts0dyjpvq21nbx6gspl.

Source: Population Health Advisor research and analysis.