

PRIMARY CARE INVESTMENT: EVIDENCE SNAPSHOT

Community Health Workers in Primary Care

by Signe Peterson Flieger, PhD, MSW

August 28, 2020

Background

Integrating community health workers (CHWs) into primary care delivery is a patient-centered, culturally sensitive intervention.¹ There is no single model or role for CHWs in primary care, yet they tend to provide supports in three broad areas: (1) health education, health literacy, and coaching; (2) clinical services and social supports such as health assessments, care coordination, and medication management; and (3) connections to community resources.¹⁻³ Due to reimbursement limitations of fee-for-service, CHW salaries are often grant-supported.⁴ CHWs typically focus on increased preventive care and support for individuals with specific chronic conditions such as asthma, HIV, diabetes, and hypertension.^{1,4}

CHWs are particularly useful as members of primary care teams in underserved and hard to reach areas.^{1,2,5} They require limited clinical training, provide patient-facing services, and improve access to health care while also addressing the social determinants of health, serving as a bridge between clinical settings and community-based resources.^{1,2} Often, CHWs come from the community served by the practice, sharing lived experience, language, socioeconomic status, and race/ethnicity of some members of the target population.² While CHWs have long been used in resource limited settings globally,³ they are underutilized in the United States, and there is a lack of standardized implementation in primary care.² Massachusetts policymakers acknowledge the role that CHWs play in connecting individuals with primary care, expanding access to medical care, reducing health disparities, improving quality, and reducing health care costs.⁶

Quality Implications

Community health worker interventions have the potential to improve quality.

- A randomized controlled trial of a diabetes education program implemented by CHWs among uninsured Mexican Americans showed significant decreases in HbA1c levels.⁷
- A randomized parallel group controlled trial among low-income adults with uncontrolled asthma found home visits by CHWs focused on improving self-management skills increased symptom-free days, improved asthma-related quality of life, and improved multiple measures of asthma control, but did not impact urgent care use.⁸
- An observational study of the Healthy Fit intervention, authorized through a Medicaid 1115 waiver in Texas in partnership with a local public health department, showed increased uptake of recommended cancer screening rates among low-income Hispanic immigrant populations as a result of coordinated CHW outreach and follow-up, with mixed results for immunization completion relative to national averages.⁹

- A randomized clinical trial of a brief CHW intervention during a patient's hospital admission found that participants in the intervention group were 52 percent more likely to complete primary care follow-up within two weeks, reported higher quality discharge communication, and greater improvements in patient activation and mental health.¹⁰

Cost Implications

Structures of CHW interventions vary together with program implementation costs.

- Program expenses for a full CHW team in the Individualized Management for Patient-Centered Targets (IMPACT) intervention—including six CHWs, supervision staff, office space, and equipment—totaled about \$568,000 annually, equal to a cost of \$1721 per patient for a six-month intervention.¹¹
- A systematic review combined program cost accounting from 17 studies, and estimated the annual program cost of CHWs per patient or family to range from \$200 to \$1472, noting significant differences in how studies quantified costs.⁴
- The Community Connections team CHW model in rural Vermont focuses on linking patients to community services, enrolling in health insurance, connecting with a primary care provider, finding transportation to medical appointments, and supporting healthy behaviors and chronic condition management.⁵ Estimated annual program cost equaled about \$420,000. This includes 67 percent for personnel (i.e. three full-time CHWs, a part-time chronic integration coordinator, and leadership support) and 33 percent for operations (i.e., office space, workforce development, training, and start-up expenses).⁵

As a cost saving strategy, CHWs aim to improve care management and avoid costly utilization such as ED visits and hospitalizations.

- A randomized controlled trial of IMPACT, a structured and standardized CHW intervention serving Medicaid or uninsured individuals with two or more chronic illnesses living in low-income neighborhoods, found a return on investment of \$2.47 for every \$1 invested, as a result of fewer, lower cost, and shorter hospital admissions.^{11,12}
- A microsimulation study estimated the benchmark level of savings needed for payers to invest in CHWs in primary care, focusing on ED visit avoidance and associated admission costs.¹³ Using 2015 input costs from Massachusetts, the mean annual cost of one CHW was equal to \$47,800, including salary, supplies, and training.¹³ To achieve cost neutrality for one CHW, four to five ED visits would need to be avoided among a panel of 70 patients with congestive heart failure or uncontrolled hypertension with one or more ED visits in the past year.¹³ The number of averted ED visits needed to achieve cost neutrality increased to 14 for asthma, and 23 for substance use related diagnoses, suggesting the potential for cost reductions varies based on primary diagnosis, with common cardiovascular diseases potentially offering greater cost savings.¹³
- Several studies assess the cost savings associated with CHW interventions. However, randomized controlled trials have shown less positive outcomes compared to other study designs, suggesting potential cost savings may be overstated.^{4,11} For example, a systematic review of 34 studies on the impact of CHWs on utilization and costs among patients with chronic conditions found mixed results. Ten out of 19 studies showed a

significant decrease in ED visits, eight out of 17 studies showed a significant decrease in hospitalizations, and five out of seven studies showed a significant decrease in urgent care visits. Examining findings across the 12 randomized controlled trials that measured utilization outcomes, one showed a significant reduction in hospitalizations, three showed a decrease in ED use, and three showed an increase in scheduled outpatient primary care visits.⁴

References

1. Rosenthal EL, Brownstein JN, Rush CH, et al. Community health workers: Part of the solution. *Health Affairs*. 2010;29(7):1338-1342.
2. Hartzler AL, Tuzzio L, Hsu C, Wagner EH. Roles and functions of community health workers in primary care. *Ann Fam Med*. 2018;16(3):240-245.
3. Hayhoe B, Cowling TE, Pillutla V, Garg P, Majeed A, Harris M. Integrating a nationally scaled workforce of community health workers in primary care: A modelling study. *J R Soc Med*. 2018;111(12):453-461.
4. Jack HE, Arabadjis SD, Sun L, Sullivan EE, Phillips RS. Impact of community health workers on use of healthcare services in the United States: A systematic review. *J Gen Intern Med*. 2017;32(3):325-344.
5. Mirambeau AM, Wang G, Ruggles L, Dunet DO. A cost analysis of a community health worker program in rural Vermont. *J Community Health*. 2013;38(6):1050-1057.
6. Anthony S, Gowler R, Hirsch G, Wilkinson G. *Community health workers in Massachusetts: Improving health care and public health*. Boston, MA: Massachusetts Department of Public Health Community Health Worker Advisory Council;2009.
7. Prezio EA, Cheng D, Balasubramanian BA, Shuval K, Kendzor DE, Culica D. Community Diabetes Education (CoDE) for uninsured Mexican Americans: A randomized controlled trial of a culturally tailored diabetes education and management program led by a community health worker. *Diabetes Res Clin Pract*. 2013;100(1):19-28.
8. Krieger J, Song L, Philby M. Community health worker home visits for adults with uncontrolled asthma: The HomeBASE Trial randomized clinical trial. *JAMA Intern Med*. 2015;175(1):109-117.
9. Brown LD, Vasquez D, Salinas JJ, Tang X, Balcazar H. Evaluation of healthy fit: A Community health worker model to address hispanic health disparities. *Prev Chronic Dis*. 2018;15:E49.
10. Kangovi S, Mitra N, Grande D, et al. Patient-centered community health worker intervention to improve posthospital outcomes: A randomized clinical trial. *JAMA Intern Med*. 2014;174(4):535-543.
11. Kangovi S, Mitra N, Grande D, Long JA, Asch DA. Evidence-based community health worker program addresses unmet social needs and generates positive return on investment. *Health Aff (Millwood)*. 2020;39(2):207-213.
12. Kangovi S, Mitra N, Norton L, et al. Effect of community health worker support on clinical outcomes of low-income patients across primary care facilities: A randomized clinical trial. *JAMA Intern Med*. 2018;178(12):1635-1643.
13. Basu S, Jack HE, Arabadjis SD, Phillips RS. Benchmarks for Reducing emergency department visits and hospitalizations through community health workers integrated into primary care: A cost-benefit analysis. *Med Care*. 2017;55(2):140-147.