

Advancing Health Equity Through Community Health Workers and Peer Providers: Mounting Evidence and Policy Recommendations



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The Center on Health Equity Action for System Transformation is the only national entity exclusively dedicated to the development and advancement of patient-centered health system transformation policies designed to reduce racial, ethnic, and geographic inequities. We focus on advancing equity while improving outcomes, increasing value, and lowering costs. We catalyze and coordinate action to develop and implement health equity-focused health care delivery and payment policies. We achieve impact by partnering with and supporting community leaders, health equity experts, and other stakeholders at national, state, and local levels.

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The Evidence for Equity Initiative focuses on synthesizing, translating, and disseminating evidence to help community leaders and decision-makers in developing and implementing effective health equity policies and programs, particularly patient-centered outcomes research (PCOR) and comparative effectiveness research (CER).

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Executive Summary

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As decision-makers seek to transform health care delivery and payment systems to increase value, improve outcomes, and control costs, they need clinical, health systems, and population health research, as well as other scientific evidence, to inform their decisions about what kinds of interventions and treatment to pay for, and how to organize care delivery. Given our nation's demographic and economic context, health system transformation will succeed and remain sustainable only if it also addresses the long-standing health and health care inequities that affect communities of color and other underserved groups. However, our current evidence base is incomplete and often biased. Strengthening it by making it both transparent about who is included in the research and representative of all of our nation's communities is imperative.

This report reviews results from nine recent studies funded by the Patient Centered Outcomes Research Institute (PCORI) that provide further support for including community health workers (CHWs) and peer providers (PPs) as important components of health care delivery that are particularly effective in addressing health and health care inequities. These studies underscore the enormous value of CHWs and PPs, an often overlooked, usually underutilized, yet highly versatile health workforce, as powerful health equity change agents. To facilitate scaling and integration of CHWs and PPs across the health care system, we translate this evidence into equity-focused policy recommendations for advocates to promote and decision-makers to adopt.

Community Health Worker and Peer Provider Policy Recommendations Based on Research Funded by PCORI

We reviewed nine PCORI-funded studies that examined the effectiveness of interventions led by different types of CHWs and PPs across health conditions such as serious mental illness (SMI),

chronic diseases, and traumatic physical injury. Study participants were of diverse ethnic, racial, linguistic, socioeconomic, and geographic backgrounds, including Black, Latinx, American Indian, monolingual Spanish-speaking, low-income, and rural patients. One study focused solely on women. Informed by our analysis of these studies, we developed 12 health system policy recommendations across four broad policy categories. In addition, we developed four recommendations to improve health equity-focused patient-centered outcomes research (PCOR) by making it more diverse, relevant, and transparent.

A. Payers and providers should include CHWs and PPs in care teams to improve outcomes while reducing costs.

1. Payers and providers should include CHWs and PPs in care teams to improve outcomes and reduce hospital and emergency department (ED) utilization to potentially generate savings.
2. Health systems should ensure effective integration of peer mentors into health care teams to maximize positive outcomes.

These studies underscore the enormous value of CHWs and PPs, an often overlooked, usually underutilized, yet highly versatile health workforce, as powerful health equity change agents.

3. Payers and providers should take advantage of the different Medicaid reimbursement pathways to provide an integrated, sustainable funding mechanism for CHW and PP services.
4. Payers and providers should incorporate CHW utilization into well-designed advanced alternative payment models.

B. Payers and providers should include CHWs and PPs in care teams to improve outcomes for a variety of health conditions.

5. Payers and providers should use CHWs and PPs to improve outcomes for people with physical and mental health conditions.
6. Payers and providers serving people with SMI should prioritize peer navigators' abilities to leverage their shared experiences in recruitment and patient assignments.
7. Payers and providers should use CHWs and PPs to help patients with multiple chronic conditions engage with primary care providers and prevent their chronic disease symptoms from worsening, thereby reducing the need for costly emergency care.

C. Payers and providers should include CHWs and PPs in care teams serving diverse communities affected by health inequities.

8. Payers and providers should use CHWs and PPs to improve health outcomes in communities and patient populations that experience health inequities based on racial, sexual, geographic, linguistic, or economic characteristics.
9. Payers and providers should prioritize recruiting and training community members as CHWs or similar roles to serve as critical trust brokers and bridges between communities and health systems. This is especially important in communities with shortages of licensed clinicians and a need for chronic disease management.
10. The federal government should specifically invest in the health and health care of American Indians and Alaska Natives. It must honor its trust and treaty obligations and increase funding for the Indian Health Services (IHS), including dedicated funding for community health representatives (CHRs).
11. Payers and providers should implement CHW interventions to mitigate the negative effects of the shrinking safety net in urban and rural communities.

D. Payers and providers should include CHWs and PPs in care transition teams.

- 12. Payers and providers should include CHWs and PPs in care teams to improve patients' self-efficacy and prevent avoidable hospital utilization as they transition from inpatient to community settings.

E. Research on CHWs and PPs should be improved to strengthen the evidence base for equity.

- 13. Researchers should design CHW and PP intervention studies to include follow-up with patients to assess the longer-term impact of these interventions on outcomes.
- 14. Researchers should design studies that include diverse populations with sufficiently large sample sizes to power subgroup analysis.

- 15. Researchers should design studies that measure not only whether patients were rehospitalized, but also how many days they spent in the hospital once readmitted.
- 16. Researchers should make efforts to design studies that will not exclude participants with limited English proficiency.

Overall, this research adds to the existing evidence of the power of CHWs and PPs as valuable health equity change agents. Advocates, decision-makers, and other health care stakeholders must prioritize the inclusion of this workforce in care delivery teams as a standard practice that health care payment systems support fully and sustainably.

**Advancing Health Equity Through
Community Health Workers and Peer Providers:**
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Background

As decision-makers seek to transform health care delivery and payment systems to increase value, improve outcomes, and control costs, they need clinical, health systems, and population health research, as well as other scientific evidence, to inform their decisions about what kinds of interventions and treatments to pay for, and how to organize care delivery. Given our nation's demographic and economic context, health system transformation will succeed and remain sustainable only if it also addresses the long-standing health and health care inequities that affect communities of color and other underserved groups. However, our current evidence base is incomplete and often biased. Strengthening it by making it both transparent about who is included in the research and representative of all our nation's communities is imperative.

The evidence supporting the effectiveness of CHWs and PPs in improving health outcomes for underserved and underrepresented communities is strong.¹ For example, the Centers for Disease Control and Prevention recommended that states use CHWs to prevent chronic disease in high-risk communities. The Institute of Medicine recommended using CHWs to reduce hypertension. And the Affordable Care Act encouraged use of CHWs to improve health outcomes for the medically underserved through health promotion.² Nevertheless, deployment of

CHWs and PPs at scale in our health care system has been limited. However, ongoing efforts to transform the health care system to emphasize and reward value by changing the way we pay for and deliver care offer an important opportunity to fund CHWs sustainably and adopt their use more widely. Payment models that hold providers and health care organizations financially accountable for their patients' health outcomes or for population health are leading some to include CHWs as an effective workforce to meet such value-based payment incentives, especially those concerning the social determinants of health.

PCORI strengthens the evidence base for effective health equity interventions by funding research that focuses on patients' expressed needs and includes diverse populations. It has funded 70 studies of CHWs and PPs (currently at different stages of completion) to help patients, clinicians, and other health care stakeholders determine how best to deploy this workforce for maximum impact.³

This report reviews nine PCORI studies of CHWs and PPs that provide new evidence supporting the value of this workforce in advancing health equity among different communities, in various settings, and across a number of health conditions. We translate this evidence into equity-focused policy recommendations for advocates to promote and decision-makers to adopt. It is the third in a series from the Evidence for Equity Initiative, a project launched by Families USA's Center on Health Equity Action for System Transformation.

Contextualizing Community Health Workers and Peer Providers within the Health Care System

Many job titles are included under the U.S. Department of Labor's Standard Occupational Classification of Community Health Workers. These include CHWs, peer mentors, peer navigators, *promotores*, community-based doulas, PPs, and others.⁴ Each has specific roles and training or certification requirements, as well as different levels of recognition by health care systems and payers. However, they share some key characteristics:

- » They share a key life experience with their clients — such as cultural background, experience with specific conditions, recovery, or reentry — which facilitates trust.
- » They provide non-clinical supports for their clients.
- » They are based in or originate from the same communities as their clients.
- » They work both in clinical and non-clinical settings.

Arguably, the most important characteristic of all types of CHW is shared experience with their clients,⁵ which may take many forms. For example, it could be based on living in the same community, the shared experience that results from living with certain demographic characteristics (for example, institutional racism and sexism, language barriers, etc.), or having been a patient (for example, similar diagnosis or recovery goals, or navigating the same health system). This shared experience, along with their specific roles and unique relationships with patients, make many CHWs particularly effective in improving health

outcomes, especially for people from underserved communities struggling with inequities.

Community Health Workers

CHW is an umbrella term that encompasses a wide variety of job descriptions. Generally, CHWs are community-based and share a sociocultural background with their clients.⁶ They serve as bridges between their communities and the health care system, fostering greater trust and enhancing the health system's ability to provide higher quality, culturally centered care. CHWs also have an intimate knowledge of their communities' needs and available resources, making CHWs particularly effective at addressing the social determinants of health, and they are skilled advocates for their clients and their communities more broadly. Growing evidence supports CHWs' effectiveness in improving health outcomes such as medication adherence, quality of life, disease self-management, and lowering health care costs.^{7,8,9}

Peer Providers

While PPs are often considered a subset of CHWs,¹⁰ for purposes of this analysis, some important differences distinguish them from that broader group. PPs typically work in behavioral health settings, where they may hold job titles such as peer support specialists, peer navigators, and peer mentors.¹¹ Their defining characteristic is a shared lived experience of recovery from mental illness and/or substance use disorder rather than a sociocultural affinity with their clients.¹² Importantly, the Centers for Medicare and Medicaid Services (CMS) reimburses PPs as a provider type distinct from CHWs, and states have separate certification processes for PPs and CHWs.^{i,ii}

ⁱ PPs have a well-established pathway and history of Medicaid reimbursement. As described in 2007 Centers for Medicare and Medicaid Services guidance, peer support services delivered directly to Medicaid beneficiaries with mental health and/or substance use disorders are Medicaid-reimbursable. See CMS guidance at https://www.integration.samhsa.gov/workforce/CMS_letter_with_date.pdf.

ⁱⁱ Many states have developed processes for training and certifying peer providers. Some, like California, do not have a statewide certification process, but PPs can still be reimbursed by Medicaid for certain services. For state-specific information on reimbursement, see <https://copelandcenter.com/peer-specialists>.

New PCORI Research Supports Including Community Health Workers and Peer Providers in Care Teams to Improve Outcomes and Achieve Health Equity for Diverse Patient Populations

For this report, we reviewed new PCORI-funded studies with published results and synthesized their findings, showing that using CHWs and PPs are powerful interventions to advance health equity. Given the sometimes loosely applied term CHW, we selected only studies that used CHWs and PPs with a core attribute of this workforce: a shared cultural affinity or lived experience with clients. These studies were:

1. Can People Who Have Experience with Serious Mental Illness Help Peers Manage Their Health Care? (Brekke et al.)¹³
2. Peer-Navigator Support for Latinx Patients With Serious Mental Illness (Corrigan et al.)¹⁴
3. Working with Bilingual Community Health Worker *Promotoras* to Improve Depression and Self-Care Among Latino Patients with Long-Term Health Problems (Ell et al.)¹⁵
4. Impact of Community Health Representative-Led Patient Activation and Engagement on Home-Based Kidney Care (Shah et al.)¹⁶
5. Does a Program that Focuses on Lifestyle Changes Reduce Heart Disease Risk Factors in a Rural Community in Appalachian Kentucky? (Moser et al.)¹⁷
6. Collaborative Goal Setting With or Without Community Health Worker Support for Patients With Multiple Chronic Conditions (Long et al.)¹⁸
7. Using One-on-One Peer Mentors to Help Patients With a Spinal Cord Injury Transition From Rehabilitation to Home (Jones et al.)¹⁹
8. Using Home Coaching to Support Older Adults With Chronic Illness After an Emergency Room Visit (Carden et al.)²⁰
9. Is a Patient Navigation Program More Helpful Than a Referral Program for Reducing Depression and Improving Quality of Life Among Women Living in Neighborhoods with Few Resources? (Poleshuck et al.)²¹

The nine studies we selected examined the effectiveness of interventions led by CHWs and PPs across different health issues such as SMI, chronic disease, and traumatic physical injury. Study participants represented diverse ethnic, racial, linguistic, socioeconomic, and geographic backgrounds, including Black, Latinx, American Indian, monolingual Spanish-speaking, low-income, and rural patients. Some worked exclusively with a single group — women, Latinx, and Zuni Indians. However, some studies were limited by the statistical power of the sample size to provide disaggregated results, or by general research design issues. The following tables are an overview of each study. Taken as a group, the studies provide substantial evidence that use of CHWs and PPs contributes to valuable, effective health equity interventions.

Effectiveness of Interventions Led by Community Health Workers and Peer Providers Across Different Health Issues

1. Can People Who Have Experience with Serious Mental Illness Help Peers Manage Their Health Care? (Brekke et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Patients with SMI who received care through a large community mental health agency in Southern California.</p> <ul style="list-style-type: none"> • 60% Latinx, 25% white, 8% Black, and 8% other or multiracial • 54% female • Average age was 47 • 97% received insurance coverage through Medicaid; 3% received insurance coverage through CalWORKS 	<ul style="list-style-type: none"> • Group 1: Usual mental health care plus the Bridge intervention. Patients worked with a peer navigator for six months to develop a health care plan and set health goals. Peer navigators accompanied patients to medical appointments, the lab, and pharmacy; assisted with securing appointments; and coached patients on health care management skills. • Group 2: Usual mental health care while on a six-month wait list; patients received the Bridge intervention after six months. 	<ul style="list-style-type: none"> • Health service use • Global satisfaction with care • Quality of relationship with primary care provider • Patient self-management • Health screenings • Medical diagnoses • Health symptoms • Pain • Global health ratings • Interference with daily activities • Prescribed physical health medications • Mental health and functional status • Psychiatric medications • Health habits • Internalized stigma • Provider-level stigma • General life satisfaction 	<ul style="list-style-type: none"> • Participants in the Bridge intervention increased their use of primary care health services. • After six months, Bridge intervention participants reported improved relationships with primary care providers, increased preference for primary care, and decreased preference for emergency or urgent care or avoiding health services altogether. • Bridge intervention participants were no more likely than patients who received usual care to visit urgent care and the ED after six months. However, after 12 months, Bridge intervention participants increased routine screenings and decreased ED and urgent care visits. • Bridge intervention participants also reported a better understanding of current health problems, greater confidence in health care self-management, and less physical pain. 	<ul style="list-style-type: none"> • Subgroup analysis was limited to female/male and Latinx/non-Latinx due to the small participant population. • English fluency was a criterion for participation, which limits the generalizability of findings for patients with limited English proficiency.

2. Peer-Navigator Support for Latinx Patients With Serious Mental Illness (Corrigan et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Latinx patients with SMI living in Chicago, Illinois.</p> <ul style="list-style-type: none"> • 58% female • Average age was 46 • 72% born outside continental U.S. • 63% preferred to speak Spanish 	<ul style="list-style-type: none"> • Group 1: One-year trial of integrated usual care plus a peer navigator who met with participants at least once weekly to identify and address their health concerns. • Group 2: Integrated usual care. 	<ul style="list-style-type: none"> • Scheduled and achieved appointments • Recovery • Empowerment • Quality of life 	<ul style="list-style-type: none"> • Participants in the peer navigator program intervention scheduled and attended more doctor appointments. • Peer navigator program intervention participants reported improved recovery, more personal empowerment, and better quality of life. 	<ul style="list-style-type: none"> • Researchers did not follow up with participants to measure outcomes after the intervention ended, so it is not known whether patients continued to experience improved outcomes after they stopped working with a peer navigator. • Participants in the two groups differed in characteristics such as gender, place of birth, preferred language, and education level. • Although participants were ethnically homogenous, no subgroup analysis considered other characteristics, such as gender, age, preferred language, or place of birth.

3. Working with Bilingual Community Health Worker *Promotoras* to Improve Depression and Self-Care Among Latino Patients With Long-Term Health Problems (Ell et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Latinx patients with depression and concurrent diabetes and/or heart disease from three safety net community clinics in Los Angeles, California.</p> <ul style="list-style-type: none"> • 85% female • Average age was 57 • 91% born outside the U.S., 68% born in Mexico • 50% were monolingual Spanish speakers • 30%–35% of participants received insurance coverage through Medicaid 	<ul style="list-style-type: none"> • Group 1: Usual care plus the A Helping Hand intervention. Patients received depression and care self-management support from a bilingual, community-based <i>promotora</i> once a week for six weeks. Sessions were primarily face-to-face in the patient's home, or by telephone. These were followed by three monthly booster sessions. <i>Promotoras</i> also assisted patients with food and health clinic transportation needs. • Group 2: Usual care through the Los Angeles County Department of Health Services' Patient-Centered Medical Home. <p>However, during the study, the Patient-Centered Medical Home made care improvements, including utilizing CHWs and <i>promotores</i> in Department of Health Services clinics.</p>	<ul style="list-style-type: none"> • Depression care and treatment • Depression symptom improvement • Psychological health • Patient activation • Physical condition • Stress and social support • HbA1C • Clinic visits 	<p>Six months after the intervention was implemented (1.5 months after the intervention ended):</p> <ul style="list-style-type: none"> • Both groups reported increased activation and self-efficacy in managing their chronic conditions. • Both groups were more likely to seek professional help for their depression, be prescribed antidepressant medication, and adhere to the treatment. • Both groups reported slightly improved psychological health. • Both groups' hospital and ED admissions had increased slightly. <p>Twelve months after the intervention was implemented:</p> <ul style="list-style-type: none"> • Both groups maintained levels of activation and self-efficacy in managing their chronic conditions. • Both groups were even more likely to seek professional help for their depression and be prescribed and adhere to antidepressant medication. • Both groups reported significantly improved psychological health. • Both groups' hospital and ED admissions had decreased significantly. 	<ul style="list-style-type: none"> • The concurrent implementation of A Helping Hand <i>promotoras</i> and Patient-Centered Medical Home CHWs limits the ability to attribute positive patient outcomes solely to the A Helping Hand intervention because participants in both groups had access to CHWs. • Although participants were ethnically homogenous, no subgroup analysis considered other characteristics such as gender, age, preferred language, or place of birth.

4. Impact of Community Health Representative-Led Patient Activation and Engagement on Home-Based Kidney Care (Shah et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Zuni Indians residing in the Zuni Pueblo in rural New Mexico with multiple risk factors for chronic kidney disease (CKD).</p> <ul style="list-style-type: none"> • 58% male • Age ranged from 21–80 • Average age was 47 	<ul style="list-style-type: none"> • Group 1: Usual care plus the Home-based Kidney Care (HBKC) intervention for 12 months. CHRs visited participants' homes every other week and engaged and educated them on healthy lifestyles and management of CKD risk factors. Patients also attended group sessions at the clinic every three months. • Group 2: Patients received usual care provided by the IHS. 	<ul style="list-style-type: none"> • Patient activation • Body mass index (BMI) • Blood pressure • HbA_{1c} • Cholesterol • Urine albumin/creatinine ratio • High sensitivity C-reactive protein level • Short-form 12 health survey mental score • Sensitivity analyses • Health-related quality of life 	<ul style="list-style-type: none"> • Compared to patients who received usual care, participants in the HBKC intervention had lower BMI, HbA_{1c} levels, and high-sensitivity C-reactive protein after the intervention, which translates to reduced risk of CKD. • HBKC intervention participants had significantly improved levels of patient activation, which is associated with lower ED utilization and hospitalization and improved health outcomes. • Researchers identified a statistically significant correlation between improved patient activation and lower BMI. A reduction in other CKD risk factors also coincided with improved patient activation. • HBKC participants were no more likely than those in usual care to stop participating in the study, which indicates that the intervention was well received by patients. 	<ul style="list-style-type: none"> • Hospitalization and health care utilization data was not collected. • Researchers did not follow up with participants to measure patient activation outcomes after the intervention ended. • Although participants were ethnically homogenous, no subgroup analysis considered other characteristics such as gender and age. • A subgroup analysis was not published at the time of this writing.

5. Does a Program that Focuses on Lifestyle Changes Reduce Heart Disease Risk Factors in a Rural Community in Appalachian Kentucky? (Moser et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Patients from Appalachian Kentucky who were at risk for cardiovascular disease (CVD) and did not have a regular primary care provider.</p> <ul style="list-style-type: none"> • 96.9% white • 76.9% female • Average age was 43 	<ul style="list-style-type: none"> • Group 1: CVD risk factor screening, primary care physician referral, plus HeartHealth intervention. Patients attended six interactive group sessions taught by CHWs dedicated to managing CVD risk factors and promoting self-care. • Group 2: Only CVD risk factor screening and primary care provider referral. 	<ul style="list-style-type: none"> • CVD risk factors: tobacco use, blood pressure, lipid profile, BMI, depressive symptoms, physical activity • Quality of life • Participant satisfaction • Adherence to the intervention 	<ul style="list-style-type: none"> • Both groups showed improvements in patient satisfaction, adherence to recommendations, and quality of life. • HeartHealth participants were more likely to meet their CVD risk reduction goals related to reducing lipid levels, HbA1c, blood pressure, and body weight, and increasing number of steps walked. • For HeartHealth participants, improvements in blood pressure, cholesterol, and number of steps walked continued from four months to 12 months after the intervention was implemented. • HeartHealth participants' mental and physical quality of life, adherence to lifestyle change recommendations, and satisfaction with their health care and providers was highest 12 months after the intervention was implemented. • Subgroup analysis proved the HeartHealth intervention was effective regardless of participants' gender, depressive symptoms, or level of health literacy. Participants' race/ethnic background was not factored into the analysis, as most study participants were white. 	<ul style="list-style-type: none"> • 96.9% of participants were white, so the results of the study may have limited applicability to non-whites who experience disparities in CVD.

6. Collaborative Goal Setting With or Without Community Health Worker Support for Patients with Multiple Chronic Conditions (Long et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Patients from three primary care facilities in Philadelphia, Pennsylvania. Patients lived in high-poverty zip codes, were uninsured or publicly insured, and had multiple chronic conditions.</p> <ul style="list-style-type: none"> • 94.3% Black • 62.5% female • Average age was 53 	<ul style="list-style-type: none"> • Group 1: Patients set chronic disease management goals and then participated in a standardized intervention known as Individualized Management for Patient-Centered Targets (IMPACT) in which CHWs provided tailored support such as navigation, coaching, social support, and advocacy. CHWs then connected participants with long-term support as the intervention ended. • Group 2: Patients set chronic disease management goals without CHW support. 	<ul style="list-style-type: none"> • Patient-rated physical health • Patient-rated mental health • Patient activation • Chronic disease control • Quality of patient-centered care • Hospital admissions 	<ul style="list-style-type: none"> • Compared to patients who received usual care, participants in the IMPACT intervention reported better quality of primary care, spent fewer days in the hospital, and had fewer hospital readmissions. • The IMPACT intervention lasted six months, and researchers measured outcomes at the end of the intervention and three months later. For some measures, including patient activation and chronic disease control, patients' outcomes continued to improve in the three months after the intervention ended. • There was no difference in self-rated physical health between participants in the IMPACT intervention and those who received usual care, but ratings improved for patients in both groups after nine months. • The intervention was proven effective for patients regardless of age, gender, or specific chronic disease. 	<ul style="list-style-type: none"> • Limited follow-up to measure persistent effect of intervention after it ended. • The IMPACT intervention was proven effective in three primary care settings: a veterans' hospital, a federally qualified health center, and an academic family practice clinic. However, the small sample size limited researchers' ability to detect differences across sites.

7. Using One-on-One Peer Mentors to Help Patients with a Spinal Cord Injury Transition From Rehabilitation to Home (Jones et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Patients from the spinal cord injury program at a private, not-for-profit specialty inpatient rehabilitation hospital in Atlanta, Georgia.</p> <ul style="list-style-type: none"> • 73% were white • 77% were male • Average age was 37.5 	<ul style="list-style-type: none"> • Group 1: Patients were connected with peer mentors who met with them weekly throughout their inpatient stay and phoned them weekly for 90 days post-discharge to discuss and address patient concerns. Peer mentors provided patients with information on other community resources and strongly encouraged them to participate in monthly activities sponsored by the peer team. • Group 2: Patients were not assigned peer mentors. They were connected with peer mentors and peer team–sponsored activities only upon request. 	<ul style="list-style-type: none"> • Self-efficacy • Rehospitalization 	<ul style="list-style-type: none"> • Although participants in the peer mentor intervention and patients who received usual care had a similar number of unplanned hospital visits, patients in the peer mentor program spent less time in the hospital during these visits. • Compared to patients who received usual care, participants in the peer mentor intervention had a greater increase in self-efficacy. • Although peer navigators ceased working with patients 90 days after their discharge into community settings, the largest increase in patient self-efficacy was recorded six months after discharge. • Greater self-efficacy was associated with improved health outcomes and less avoidable utilization. 	<ul style="list-style-type: none"> • Patients were assigned peer mentors based on injury level, age, sex, and interests, but not on race/ethnicity. • Most patients were young white males, and subgroup analysis focused only on the level of injury, which limits the applicability of results. • The PCORI final research report was not published at the time of this writing.

8. Using Home Coaching to Support Older Adults With Chronic Illness After an Emergency Room Visit (Carden et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Patients age 60 or older from two EDs in northern Florida. Patients were insured by Medicare and were considered to have low health literacy.</p> <ul style="list-style-type: none"> • 77% of patients were non-white • 57% female 	<ul style="list-style-type: none"> • Group 1: Following discharge from the ED, trained coaches from two community agencies on aging helped patients schedule follow-up doctor visits, recognize disease worsening, reconcile medications, communicate with providers, and set achievable goals. Coaches visited patients' homes within three days of ED discharge and called three times within one month of discharge. • Group 2: Usual care for patients leaving the ED, which consisted of written and verbal discharge instructions and advice to follow up with a provider. 	<ul style="list-style-type: none"> • Patient activation • Follow-up doctor visits 	<ul style="list-style-type: none"> • Compared to patients who received usual care, patients who received coaching were more likely to attend a follow-up appointment within four weeks of an ED visit. • For all patients, patient activation levels decreased following discharge, but they decreased less for patients who participated in the intervention. • Follow-up visits did not increase for coached patients. • Qualitative data from interviews with Black participants detailed their reasons for seeking care in the ED, including the belief that they would receive comprehensive care and a need for urgent or same-day treatment. This demonstrates a need to address barriers that may prevent Black patients from receiving quality care in appropriate facilities. 	<ul style="list-style-type: none"> • Although the study focused on patients recently discharged from ED, it did not measure ED utilization post-discharge. • Small sample size of 69 patients and limited participation in in-person interviews following the intervention. • Limited demographic information on study participant population and no subgroup analysis. • PCORI final research report was not published at the time of this writing.

9. Is a Patient Navigation Program More Helpful than a Referral Program for Reducing Depression and Improving Quality of Life Among Women Living in Neighborhoods With Few Resources? (Poleshuck et al.)

Participants	Interventions Tested	Outcomes Measured	Results	Limitations
<p>Women with depressive symptoms receiving care in women's health clinics in Rochester, New York.</p> <ul style="list-style-type: none"> • 57% Black, 21% white, and 19% Latinx • Average age was 30 • 73% had household income of less than \$20,000 per year • 30% of women were pregnant at the start of the study 	<ul style="list-style-type: none"> • Group 1: Patients met with patient navigators who guided them through a computer-based tool designed to identify and prioritize their concerns. Each patient's responses on the tool were used to create a personalized care plan. Navigators provided up to four months of outreach and support to implement the personal care plan. After four months, the patient and navigator reviewed the personalized care plan, determined next steps, and considered additional supports and resources to sustain progress. • Group 2: Patients used a screening tool to identify and prioritize their concerns. Patients were then offered information about community resources; assistance in making appointments, if needed; and an appointment with an onsite social worker. 	<ul style="list-style-type: none"> • Patient satisfaction • Depression • Quality of life • Social barriers • Physiological barriers • Health comorbidities (anxiety, alcohol abuse, pain, physical health function) 	<ul style="list-style-type: none"> • Participants in both groups experienced improvement in symptoms of depression. • Both groups reported increased patient satisfaction, but the patient navigator intervention was more effective for the subgroup of patients with lower perceived financial resources. • The patient navigator intervention was more effective in improving social quality of life for the subgroup of patients with higher levels of pain and anxiety. • Although each intervention lasted only four months, some patients reported less depression and improved quality of life three months or even six months after the interventions ended. 	<ul style="list-style-type: none"> • Subgroup analysis accounts for heterogeneity of patients' social and psychological barriers, but not for characteristics such as race/ethnicity and age. • English fluency was a criterion for participation, which limits the generalizability of findings for patients with limited English proficiency.

PCORI's Community Health Worker and Peer Provider Portfolio: Policy Implications

As Families USA has previously noted,²² the use of CHWs serves as a powerful intervention to address inequities. These studies provide valuable evidence that CHW- and PP-related interventions are effective in a variety of settings across health conditions and in diverse communities. To address health inequities, policymakers, industry decision-makers, and other health care stakeholders must prioritize the effective inclusion of CHWs and PPs into health care delivery teams broadly and ensure sustainable financing for their valuable services. To support these objectives, we translated our findings into 12 policy recommendations to guide advocates and decision-makers in achieving these goals, and four research recommendations to strengthen the evidence base for CHWs and PPs as providers of valuable equity interventions.

To address health inequities, policymakers, industry decision-makers, and other health care stakeholders must prioritize the effective inclusion of CHWs and PPs into health care delivery teams broadly and ensure sustainable financing for their valuable services.

A. Payers and providers should include CHWs and PPs to improve outcomes while reducing costs.

Four of the research studies (Brekke et al., Ell et al., Jones et al., Long et al.) measured the effects of CHW and PP interventions on hospital and ED utilization. In all four studies, the CHW and PP interventions reduced avoidable utilization. For some (Brekke et al., Ell et al.), the reduction in the number of hospital and ED visits was observed 12 months after the intervention was implemented, demonstrating the lasting impact of the intervention. Successful CHW and PP interventions that reduce avoidable utilization can produce net savings for health systems and payers,^{23, 24, 25} resulting in a positive return on investment.^{iii, iv} In addition, CHWs can improve patients' perception of primary care, which can benefit providers and health systems that are incentivized to report on and improve patient experience.

States should explore alternative payment models (especially those that reward reduced utilization) and Medicaid reimbursement pathways to finance CHWs and PPs to generate savings or, at least, contain cost growth. For example, state Medicaid programs should use the rehabilitation services option to reimburse PPs for post-acute care. State Medicaid agencies have the option of covering remedial services in a facility or in the home to reduce physical disability and restore function.²⁶ These services can be provided by a PP rather than a physician.²⁷

ⁱⁱⁱ Families USA, in collaboration with the Center for Health Law and Economics of the University of Massachusetts Medical School, published two tools for estimating the impact of two specific CHW programs—one for diabetes and one for childhood asthma—in specific geographies. These tools allow users to apply local data and measure return on investment and social impact to help make the business case for paying for CHW services and including CHWs in care teams. To view these tools, see [Community Health Worker Impact Estimator Tools: Asthma and Diabetes](#) on our website.

^{iv} Penn Medicine calculated a positive return on investment for the CHW intervention tested in the study by Long et al. The savings generated from reduced hospitalizations resulted in a return investment of \$2 for every dollar spent on the intervention. For more information, see <https://www.pennmedicine.org/news/news-releases/2017/august/community-health-workers-lead-to-better-health-lower-costs-for-medicare-patients> and <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5055768/pdf/AJPH.2016.303366.pdf>.

Recommendations

1. Payers and providers should include CHWs and PPs in care teams to improve outcomes and reduce hospital and emergency department utilization to potentially generate savings.
2. Health systems should ensure effective integration of peer mentors into health care teams to maximize positive outcomes.
3. Payers and providers should take advantage of different Medicaid reimbursement pathways to provide an integrated, sustainable funding mechanism for CHW and PP services.
4. Payers and providers should incorporate CHW utilization into well-designed advanced alternative payment models.

B. Payers and providers should include CHWs and PPs to improve outcomes for a variety of health conditions.

Several studies tested CHW and PP interventions to treat a variety of health conditions, including SMI (Brekke et al., Corrigan et al.), depression (Ell et al., Poleshuck et al.), spinal cord injury (Jones et al.), CKD (Shah et al.), CVD (Moser et al.), and other chronic conditions (Carden et al., Ell et al., Long et al.).

Patients with SMI and/or multiple chronic conditions often struggle to access appropriate care in a fragmented health care system in which mental health, physical health, and social supports are separate from one another, both in treatment methodology and geography. This is particularly challenging for people who have comorbid physical and mental conditions and those with limited English proficiency. PPs' shared experiences with similar diagnoses and treatment plans enhance

their ability to connect and foster trust with patients and improve outcomes, particularly for patients with SMI. CHWs and PPs can help patients understand the important role their primary care providers plays in managing their chronic conditions; those with an improved perception of primary care may rely on their primary care provider instead of the hospital or ED to manage their chronic conditions.

For example, Brekke et al. demonstrates that, for patients with SMI, a peer navigator intervention improves relationships with primary care providers, enhances patients' preference for primary care over the ED, increases the number of routine screenings they undergo, and decreases their visits to the ED and for urgent care. Long et al. demonstrated that CHWs improve patients' perception of primary care, which can play a role in reducing hospital admissions. Corrigan et al. demonstrated that peer navigators help patients understand and engage more efficiently with the health care system, resulting in increased access to preventive care and improved understanding of the health system.

Recommendations

5. Payers and providers should use CHW and PP services to improve outcomes for people with either physical or mental health conditions.
6. Payers and providers serving people with SMI should prioritize peer navigators' ability to leverage their shared experiences in recruitment and patient assignments.
7. Payers and providers should use CHWs and PPs to help patients with multiple chronic conditions engage with primary care providers and prevent their chronic disease symptoms from worsening, thereby reducing the need for costly emergency care.

C. Payers and providers should include CHWs and PPs in care teams serving diverse communities affected by health inequities.

The studies we reviewed also measured the effectiveness of CHWs and PPs among diverse communities and patient populations, many of whom experience disproportionate negative health outcomes based on racial, geographic, linguistic, and economic characteristics. Populations included Black, Latinx, American Indian, Appalachian, limited English proficient, and low-income participants. CHWs and PPs leverage their shared experience to address the health inequities within these communities.

CHWs serving as *promotores de salud* have a long history of providing care, support, and education across Latin America. The CHWs and PPs in three of the studies discussed in this report (Brekke et al., Corrigan et al., Ell et al.) continue this tradition in the U.S., working in Latinx communities to provide culturally centered care that addresses social determinants of health. These studies provide further evidence that *promotores* and other CHWs and PPs acting in similar roles can improve patients' health and help them navigate the health care system to get the care they need.

For women with low socioeconomic status who rely on women's health clinics to address a variety of health concerns, including depression, anxiety, chronic pain, and intimate partner violence, peer navigation interventions such as the one tested by Poleshuck et al. can eliminate non-clinical barriers to good health by providing care that addresses social and environmental factors.

CHRs are a type of CHW who have worked for decades in American Indian communities that started receiving federal funding through the IHS in 1968, when Congress established the Community

Health Representative Program. Today, more than 1,600 CHRs serve 250 tribes, but this program is at risk because the president's budget calls for the elimination of funding. One study (Shah et al.) tested a CHR intervention to reduce risk factors for CKD, which disproportionately affects American Indians (who also face barriers to accessing the national transplant waiting list).^{28,29,30} In the early stages of CKD, treatment options are available that can prevent the need for dialysis and transplants. However, dialysis and transplants are the only viable options for patients with late stage CKD or end stage renal disease. This study showed that CHRs improved patient activation and reduced CKD risk factors such as high BMI and HbA1c levels. By addressing risk factors and engaging patients, CHRs can help prevent CKD from advancing to a stage that, in addition to being increasingly hard on patients, is more costly to treat.³¹

CHWs' ability to improve risk reduction and self-care is especially important in both rural and urban core areas, given the high rate of hospital closures and shrinking workforce.^{32, 33, 34, 35} Multiple studies showed successful outcomes for patients in rural (Moser et al., Shah et al.) and urban settings (Corrigan et al., Long et al., Poleshuck et al). In particular, CHW interventions that leveraged the strengths of rural patients and their communities can give patients the skills to reduce the risk of chronic conditions while keeping them close to home, preventing health complications that require inpatient treatment.

Recommendations

8. Payers and providers should use CHWs and PPs to improve health outcomes in communities and patient populations that experience health inequities based on racial, sexual, geographic, linguistic, and economic characteristics.
9. Payers and providers should prioritize recruiting and training community members as CHWs or

similar roles to serve as critical trust brokers and bridges between communities and health systems. This is especially important in communities with shortages of licensed clinicians and a need for chronic disease management.

10. The federal government should specifically invest in the health and health care of American Indians and Alaska Natives. It must honor its trust and treaty obligations and increase funding for the IHS, including dedicated funding for CHRs.
11. Payers and providers should implement CHW interventions to mitigate the negative effects of the shrinking safety net in urban and rural communities.

D. Payers and providers should include CHWs and PPs in care transition teams.

Transitions from inpatient to community settings are points in care delivery where patients can be especially vulnerable to negative outcomes.³⁶ Two of the research projects implemented CHW and PP interventions in ED and inpatient settings that focused on critical care transitions. In one study (Jones et. al), peer mentors improved the self-efficacy of patients with spinal cord injuries, increased their use of primary care services, and reduced the number of unplanned days they spent in the hospital after leaving an inpatient rehabilitation center. In another study (Carden et al.), health coaches helped patients schedule and attend follow-up visits with primary care providers and prevented sharp declines in patient activation following discharge from the ED. Both studies demonstrate how using CHWs and PPs in care transition interventions can improve outcomes and reduce costly avoidable health care utilization in post-acute treatment settings.

Recommendation

12. Payers and providers should include CHWs and PPs in care teams to improve patients' self-efficacy and prevent avoidable hospital utilization as they transition from inpatient to community settings.

E. Research on CHWs and PPs should be improved to strengthen the evidence base for equity.

Our review of these studies surfaced methodological recommendations to make research more representative and transparent and to help support health equity-centered delivery and payment transformation. These recommendations have the potential to strengthen the evidence base so that treatments, therapies, and interventions are optimally effective for diverse patients and can accelerate improvements in persistent health and health care inequities.

Recommendations

13. Researchers should design CHW and PP intervention studies to include follow-up with patients to assess the longer-term impact of these interventions on outcomes. Many of the studies we reviewed followed up with patients to measure changes in quality of life and engagement in their health care. If an intervention improves patients' quality of life or activates them to pursue effective treatment for their health conditions, then patients have the potential to improve their health outcomes long after the intervention ends. However, this potential can only be understood if researchers follow up with patients to measure outcomes after the intervention ends.
14. Researchers should design studies that include diverse populations with sufficiently large

sample sizes to power subgroup analysis. Instead of making assumptions based on the aggregated results of research based on homogenous populations that often excludes certain communities, policymakers must have transparent evidence to better tailor, target, and fund strategies that address inequities experienced by specific groups. Five studies (Brekke et al., Jones et al., Long et al., Moser et al., Poleshuck et al.) conducted subgroup analyses, which were often limited to certain patient characteristics. Other studies (Corrigan et al., Ell et al., Shah et al.) focused on ethnically homogenous populations and therefore did not require subgroup analyses for race and ethnicity, but also did not conduct subgroup analyses for other patient characteristics. Many researchers noted that they were unable to conduct subgroup analyses given the small number of participants in their studies.

15. Researchers should design studies that measure not only whether patients were rehospitalized, but also how many days they spent in the hospital once readmitted. In addition to number of rehospitalizations, the number of days spent rehospitalized is an especially valuable measure. In measuring health and quality of life, there is a strong relationship between the severity of a patient's condition, recovery time, and the number of days spent in the hospital due to that condition.³⁷ Moreover, the number of days spent in the hospital has a direct relationship to the cost of care.
16. Researchers should make efforts to design studies that will not exclude participants with limited English proficiency. Given the value of CHW and PP interventions in addressing communication barriers among linguistically

diverse communities, studies should measure the effect of CHW and PP interventions on patients whose primary language is not English. Two studies (Brekke et al., Poleshuck et al.) included English fluency as participation criterion to avoid the administrative burden and cost associated with translating for participants with limited English proficiency. Research funding must be made available to account for costs associated with including linguistically diverse participants to ensure the evidence generated is more representative.

Conclusion

The nine PCORI-funded studies reviewed in this report expand the evidence base for policies and clinical approaches that include CHWs and PPs as unique and valuable members of the health workforce. Taken as a group, the successes of the interventions tested in these studies demonstrate that CHWs and PPs can improve patient outcomes, increase access to primary care, reduce avoidable hospital and ED utilization, and generate savings for payers and providers across a wide variety of patient populations, conditions, and settings. By leveraging shared lived experiences and enhancing trust, CHWs and PPs engage and activate patients in their health and health care, which helps to reduce their chronic disease risk and enable them to remain healthy in their own communities. CHWs and PPs can be funded sustainably through Medicare and Medicaid and integrated effectively into health care delivery models that incentivize value-based care.

Although these studies demonstrate that CHWs and PPs improve outcomes for patients who experience inequities based on their race and ethnicity, sex or gender identity, language, location, and diagnoses, there is room to improve the evidence base. Issues with study design limit our understanding of these

The successes of the interventions tested in these studies demonstrate that CHWs and PPs can improve patient outcomes, increase access to primary care, reduce avoidable hospital and ED utilization, and generate savings for payers and providers across a wide variety of patient populations, conditions, and settings.

successful interventions, particularly in terms of the policy implications for addressing health inequities. The lack of available disaggregate data in some of the research studies limited evidence on how their interventions addressed specific inequities. This limitation highlights the need for an explicit focus on equity that includes disaggregate outcomes data as a central research objective. Additionally, the lasting impact of these interventions cannot be demonstrated unless researchers follow up to measure patients' outcomes after the intervention ends. As the evidence base to support utilization of

CHWs and PPs continues to grow, we hope to learn more about the long-term effectiveness of their use for certain subgroups that experience inequities.

Despite these limitations, this research adds to the existing evidence of the power of CHWs and PPs as valuable health equity change agents. Advocates, decision-makers, and other health care stakeholders must prioritize inclusion of this workforce in care delivery teams as a standard practice that is fully and sustainably supported by health care payment systems.

Endnotes

- ¹ Catherine Franklin et al., “Interprofessional Teamwork and Collaboration Between Community Health Workers and Health Care Teams,” *Health Services Research and Managerial Epidemiology* (March 2015), accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5266454/>.
- ² Franklin et al., “Interprofessional Teamwork and Collaboration Between Community Health Workers and Health Care Teams.”
- ³ *Community Health Workers*, Patient-Centered Outcomes Research Institute, accessed September 13, 2019, <https://www.pcori.org/topics/community-health-workers>.
- ⁴ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, Health Educators and Community Health Workers*, accessed October 3, 2019, <https://www.bls.gov/ooh/community-and-social-service/health-educators.htm>.
- ⁵ Allen S. Daniels et al., “Defining Peer Roles and Status Among Community Health Workers and Peer Support Specialists in Integrated Systems of Care,” *Psychiatric Services* 68, no. 12 (December 2017): 1296–1298, accessed September 13, 2019, <https://ps.psychiatryonline.org/doi/full/10.1176/appi.ps.201600378>.
- ⁶ Daniels et al., “Defining Peer Roles and Status Among Community Health Workers and Peer Support Specialists in Integrated Systems of Care”.
- ⁷ Regina Otero-Sabogal et al., “Physician-Community Health Worker Partnering to Support Diabetes Self-management in Primary Care,” *Quality in Primary Care* 18, no. 6 (2010): 363–372, accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pubmed/21294977>.
- ⁸ Kim B. Kim et al., “Community Health Workers Versus Nurses as Counselors or Case Managers in a Self-Help Diabetes Management Program,” *American Journal of Public Health* 106, No. 6 (June 2016): 1052–1058, accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4860100/>.
- ⁹ Anna Spencer, *Integrating Community Health Workers into State and Local Chronic Disease Prevention Efforts: Program and Financing Considerations*, (Academy Health, Robert Wood Johnson Foundation, Nemours Children’s Health System, February 2018), accessed September 13, 2019, <https://www.movinghealthcareupstream.org/wp-content/uploads/2018/06/integrating-community-health-workers-into-domain-3d-projects.pdf>.
- ¹⁰ *You’re a What? Peer Support Specialist*, Bureau of Labor Statistics, October 2017, accessed September 13, 2019, https://www.bls.gov/careeroutlook/2017/youre-a-what/peer-support-specialist.htm?view_full.
- ¹¹ Daniels et al., *Defining Peer Roles and Status Among Community Health Workers and Peer Support Specialists in Integrated Systems of Care*.”
- ¹² Cheryl Gagne et al., “Peer Workers in the Behavioral and Integrated Health Workforce: Opportunities and Future Directions,” *American Journal of Preventive Medicine* 54, No. 6 (June 2018): S258–S266, accessed September 13, 2019, <https://www.sciencedirect.com/science/article/pii/S0749379718316374>.
- ¹³ J Brekke, Kelly E, Duana L et al., *Can People Who Have Experience with Serious Mental Illness Help Peers Manage Their Health Care?* (Patient-Centered Outcomes Research Institute, 2019), accessed September 13, 2019, <https://doi.org/10.25302/4.2019.AD.13046650>.
- ¹⁴ P Corrigan, Sheehan L, Morris S et al., *Peer-Navigator Support for Latinx Patients with Serious Mental Illness*, (Patient-Centered Outcomes Research Institute, 2019), accessed September 13, 2019, <https://doi.org/10.25302/8.2019.AD.130601419>.
- ¹⁵ K Ell, Aranda M, Wu S. et al., *Working with Bilingual Community Health Worker Promotoras to Improve Depression and Self-Care among Latino Patients with Long-Term Health Problems*, (Patient-Centered Outcomes Research Institute, 2018), accessed September 13, 2019, <https://doi.org/10.25302/3.2018.AD.13047364>.
- ¹⁶ V Shah, Nelson R, Faber T. et al., *Impact of Community Health Representative-Led Patient Activation and Engagement on Home-Based Kidney Care*, (Patient-Centered Outcomes Research Institute, 2019), September 13, 2019, <https://doi.org/10.25302/4.2019.AD.12115532>.
- ¹⁷ D Moser, Feltner F, Biddle M et al., *Does a Program that Focuses on Lifestyle Changes Reduce Heart Disease Risk Factors in a Rural Community in Appalachian Kentucky?* (Patient-Centered Outcomes Research Institute, 2019), accessed September 2019, <https://doi.org/10.25302/4.2019.CER.850>.
- ¹⁸ J Long, Kangovi S, Mitra N, et al., *Collaborative Goal Setting with or without Community Health Worker Support for Patients with Multiple Chronic Conditions*, (Patient-Centered Outcomes Research Institute, 2019), accessed September 13, 2019, <https://doi.org/10.25302/7.2019.AD.131007292>.
- ¹⁹ Jones et al., *Using One-on-One Peer Mentors to Help Patients with a Spinal Cord Injury Transition from Rehabilitation to Home*, (Patient Centered Outcomes Research Institute, 2019), accessed September 13, 2019, <https://www.pcori.org/research-results/2013/using-one-one-peer-mentors-help-patients-spinal-cord-injury-transition>.
- ²⁰ Carden et al., *Using Home Coaching to Support Older Adults with*

Chronic Illness After an Emergency Room Visit, (Patient Centered Outcomes Research Institute, 2019), accessed September 12, 2019, <https://www.pcori.org/research-results/2013/using-home-coaching-support-older-adults-chronic-illness-after-emergency-room>.

²¹ E Poleshuck, Juskiewicz I, Wittink M et al., *Is a Patient Navigation Program More Helpful than a Referral Program for Reducing Depression and Improving Quality of Life among Women Living in Neighborhoods with Few Resources?* (Patient-Centered Outcomes Research Institute, 2019) accessed September 13, 2019, <https://doi.org/10.25302/5.2019.AD.12114261>.

²² *Community Health Worker Sustainability Collaborative* (Families USA), accessed October 10, 2019, <https://familiesusa.org/our-work/c-h-w/>.

²³ Kimberly R. Enard and Deborah M. Ganelin, “Reducing Preventable Emergency Department Utilization and Costs by Using Community Health Workers and Patient Navigators,” *Journal of Healthcare Management* 58, no. 6 (2013): 412–428, accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4142498/pdf/nihms616520.pdf>.

²⁴ Sanjay Basu et al., “Benchmarks for Reducing Emergency Department Visits and Hospitalizations Through Community Health Workers Integrated into Primary Care: A Cost-Benefit Analysis,” *Medical Care* 55, no. 2 (February 2017): 140–147, accessed September 13, 2019, <https://insights.ovid.com/pubmed?pmid=27547954>.

²⁵ Mitchell H. Katz, “Interventions to Decrease Hospital Readmission Rates: Who Saves? Who Pays?,” *JAMA Internal Medicine* 171, no. 14 (2011): 1230–1231, accessed September 13, 2019, <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/1105805>.

²⁶ Jeffrey S. Crowley and Molly O’Malley, *Medicaid’s Rehabilitation Services Option: Overview and Current Policy Issues* (Washington, D.C.: Kaiser Family Foundation, August 2007), accessed September 13, 2019, <https://www.kff.org/wp-content/uploads/2013/01/7682.pdf>.

²⁷ Jeffrey S. Crowley and Molly O’Malley, *Medicaid’s Rehabilitation Services Option: Overview and Current Policy Issues*.

²⁸ Joseph M. Yracheta et al., “Diabetes and Kidney Disease in American Indians: Potential Role of Sugar-Sweetened Beverages,” *Mayo Clinic* 90, no. 6 (June 2015): 81–823, accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pubmed/26046414>.

²⁹ Marina Scavini et al., “The Burden of Chronic Kidney Disease Among the Zuni Indians: The Zuni Kidney Project,” *Clinical Journal of American Society Nephrology* 2, (2007): 509–516, accessed September 13, 2019, <https://cjasn.asnjournals.org/content/clinjasn/2/3/509.full.pdf>.

³⁰ Meghan Jernigan et al., “Knowledge, Beliefs, and Behaviors Regarding Organ and Tissue Donation in Selected Tribal College Communities,” *Journal of Community Health* 38, no. 4 (August 2013): 734–740, accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3706512/>.

³¹ “Healthcare Expenditures for Persons with ESRD,” in *2018 USRDS Annual Data Report, Volume 2: ESRD in the United States*, accessed September 13, 2019, https://www.usrds.org/2018/download/v2_c09_ESRD_Costs_18_usrds.pdf.

³² *Hospitals Closings Likely to Increase* (Health Resources and Services Administration, September 13, 2019), accessed September 13, 2019, <https://www.hrsa.gov/enews/past-issues/2017/october-19/hospitals-closing-increase.html>.

³³ Alex Kacik, “Nearly a Quarter of Rural Hospitals Are on the Brink of Closure,” *Modern Healthcare*, February 20, 2019, accessed September 13, 2019, <https://www.modernhealthcare.com/article/20190220/NEWS/190229999/nearly-a-quarter-of-rural-hospitals-are-on-the-brink-of-closure>.

³⁴ Darrell J. Gaskin et al., “Residential Segregation and the Availability of Primary Care Physicians,” *Health Services Research* (April 2012), accessed September 13, 2019, <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1475-6773.2012.01417.x>.

³⁵ Joseph P. Williams, “Code Red: The Grim State of Urban Hospitals,” *U.S. News and World Report*, July 10, 2019, accessed September 13, 2019, <https://www.usnews.com/news/healthiest-communities/articles/2019-07-10/poor-minorities-bear-the-brunt-as-urban-hospitals-close>.

³⁶ Janice L. Clarke et al., “An Innovative Approach to Health Care Delivery for Patients with Chronic Conditions,” *Population Health Management*, 28, no. 1(2017), accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5278805/>.

³⁷ Julie Gassaway et al., “Effects of Peer Mentoring on Self-Efficacy and Hospital Readmission After Inpatient Rehabilitation of Individuals With Spinal Cord Injury: A Randomized Controlled Trial,” *Archives of Physical Medicine and Rehabilitation* 98, no. 8. (August 2017): 1526–1534, accessed September 13, 2019, <https://www.ncbi.nlm.nih.gov/pubmed/28342829>.



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