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Spotlight on Success: New Mexico Community Health Representative Program Reduces Risk of Chronic Kidney Disease for Rural Zuni Indians

A recent study of community health representatives (CHRs)[i] provides valuable evidence to support the use and integration of CHRs to prevent chronic kidney disease (CKD) among American Indians.[1] The study, The Impact of Community Health Representative-Led Patient Activation and Engagement on Home-Based Kidney Care, was funded by the Patient-Centered Outcomes Research Institute (PCORI) and is included in their portfolio of community health worker-related research studies.

In this study, conducted in rural New Mexico, CHRs who were themselves Zuni community members visited patients' homes every other week to engage and educate them on healthy lifestyles and management of CKD risk factors, and to monitor their health outcomes. As detailed below, the CHRs improved patients' skill, knowledge, and confidence in managing their health and helped patients reduce their body mass index (BMI) and improve control of blood sugar (HbA1c).

These study results affirm previous research that found that using CHRs and other community health worker models can be instrumental in helping patients manage chronic disease and improve their health outcomes.[2] These results also support the integration of CHRs into health care delivery and payment systems at sufficient scale to involve them in population health interventions, not just disease management.

Other states should look at this evidence and consider implementing and sustainably funding CHRs and other community health worker models to assist patients at elevated risk for chronic illnesses like CKD.

CHRs and other community health worker models can be instrumental in helping patients manage chronic disease and improve their health outcomes.

[i] CHRs are a type of community health worker that have worked for decades in American Indian communities. CHRs started receiving federal funding through the Indian Health Service in 1968, when Congress established the Community Health Representative Program.

Overview of the Study

Participants	Intervention	Outcomes Measured	Results
Zuni Indians living in the Zuni Pueblo in rural New Mexico with multiple risk factors for CKD. • 58% male • Aged 21–80 • Average age: 47	**Group 1:** Usual care provided by the Indian Health Service plus the Home-based Kidney Care (HBKC) intervention for 12 months. **Group 2:** Usual care provided by the Indian Health Service.	• Patient Activation Measure (PAM) • Body mass index (BMI) • Blood pressure • HbA1c • Cholesterol • Urine albumin/creatinine ratio • High sensitivity C-reactive protein level • Short-form 12 mental health survey score • Sensitivity analyses • Health-related quality of life	Compared to patients who received usual care, participants in the HBKC intervention had, on average, 4% lower BMI, 13% lower HbA1c levels, and 49% lower high-sensitivity C-reactive protein levels after the intervention. All of these factors contribute to significantly reduced risk of CKD. Average patient activation levels for HBKC participants increased by 15%, 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. Within the context of this study, the positive correlation between patient activation and clinical measures of CKD suggests that CHRs can improve patient activation, and that improved activation translates into improved health outcomes. HBKC participants were no more likely than those who received usual care to stop participating in the study, which indicates that the intervention was well received by patients.

Chronic Kidney Disease as a Health Equity Issue

CKD disparities among American Indians: An estimated 17% of American Indians have CKD, compared to an estimated 5% of whites.[3] This disparity is especially important because fewer American Indians donate organs compared with other populations.[4] This means that American Indians with CKD may have more limited access to kidney transplants, making disease prevention even more critical. American Indians also face barriers to getting on the national transplant waiting list,[5] which results in fewer matches for kidney transplants to prevent and cure CKD.

CKD among Zuni Indians: Zuni Indians are over 2.5 times more likely than the general population to have CKD.[6] Given the smaller pool of available kidney transplants for Zuni Indians, it is imperative that patients lower their risk of CKD.

Geographic barriers among Zuni Indians: Zuni Indians live in relatively isolated rural areas where transportation to the nearest clinic or Indian Health Service (IHS) facility is a barrier to care. In addition, Zuni Indians cultural preference is to receive health care in their homes. The home-based care the CHRs provided accommodated this preference, was culturally competent, and was especially useful in reaching this rural population.

Policy Recommendations

Payers and providers should implement similar interventions for patients who are in the early stages of CKD. In the early stages of CKD, lifestyle changes that address risk factors can prevent the need for kidney dialysis and transplant. These treatments are not an option for patients with late-stage CKD/end-stage renal disease, who must undergo dialysis or receive a kidney transplant. By addressing risk factors and engaging patients, CHRs can prevent CKD from advancing to a stage that, in addition to being potentially life-threatening, is more costly to treat.[7]

Medicaid-funded providers and programs should not limit CHR interventions to patient populations already diagnosed with CKD or other chronic conditions. They should use CHRs in communities that are at risk of developing these chronic conditions. For example, primary care medical homes can use CHRs as needed to help patients connect with primary care providers to address the early indicators of CKD and prevent symptoms from developing or worsening. Medicaid programs can support use of CHRs by making CHR/CHW services reimbursable as a covered Medicaid benefit. State options for covering services are described in Families USA's July 2016 report, How States Can Fund Community Health Workers Through Medicaid to Improve People's Health, Decrease Costs, and Reduce Disparities.[8]

The positive results of this study are a testament to the value of CHRs in providing culturally competent care that improves health outcomes for a population that experiences grave health disparities and has limited resources

The success of this community-based intervention demonstrates that CHR programs can use community resources to effectively activate patients and prevent CKD and other chronic illnesses.

Health systems in areas where the number of licensed clinicians is limited should recruit and train community members as CHRs to help patients manage their chronic conditions. Community input can be a valuable component of program design and staff recruitment for community-based interventions. The research design for this study incorporated substantial input from the community and built on existing community relationships, especially in recruiting CHRs. Researchers for this study collaborated with the Zuni tribal council and Zuni Indian Health Service to create a tribal advisory panel focused on training community members as CHRs and providing culturally appropriate outreach and treatment for patients. The success of this community-based intervention demonstrates that CHR programs can use community resources to effectively activate patients and prevent CKD and other chronic illnesses.

Congress and the Department of Health and Human Services should continue IHS funding for CHRs. Funding for CHRs through IHS has been available since 1968, when Congress established the Community Health Representative Program.[9] Today, there are more than 1,600 CHRs serving 250 tribes. However, in recent years, the president's budget has called for eliminating the CHR program.[10, 11] The positive results of this study are a testament to the value of CHRs in providing culturally competent care that improves health outcomes for a population that experiences grave health disparities and has limited resources.

Endnotes

[1] Vallabh Shah, et al., *Impact of Community Health Representative-Led Patient Activation and Engagement on Home-Based Kidney Care* (Patient-Centered Outcomes Research Institute, 2019), https://doi.org/10.25302/4.2019.AD.12115532.

[2] Catherine Franklin et al., "Interprofessional Teamwork and Collaboration Between Community Health Workers and Health Care Teams," *Health Services Research and Managerial Epidemiology*, March 2015, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5266454/.

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[4] "Organ Donation and American Indians/Alaska Natives," Department of Health and Human Services, page last modified September 15, 2017, https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=42.

[5] 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, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3706512/.

[6] 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, https://cjasn.asnjournals.org/content/clinjasn/2/3/509.full.pdf.

[7] "Healthcare Expenditures for Persons with ESRD," in *2018 USRDS Annual Data Report, volume 2: ESRD in the United States*, 2018, https://www.usrds.org/2018/download/v2_c09_ESRD_Costs_18_usrds.pdf.

[8] Ellen Albritton, *How States Can Fund Community Health Workers Through Medicaid to Improve People's Health, Decrease Costs, and Reduce Disparities* (Washington, DC: Families USA, July 2016), https://familiesusa.org/wp-content/uploads/2019/09/HE_HST_Community_Health_Workers_Brief_v4.pdf.

[9] "About Us," Indian Health Service, accessed September 13, 2019, https://www.ihs.gov/chr/aboutus/.

[10] *Justification of Estimates for Appropriations Committee: Fiscal Year 2019* (Rockville, MD: Department of Health and Human Services, 2018, https://www.ihs.gov/sites/budgetformulation/themes/responsive2017/display_objects/documents/FY2019CongressionalJustification.pdf.

[11] *Justification of Estimates for Appropriations Committee: Fiscal Year 2020* (Rockville, MD: Department of Health and Human Services, March 22, 2019, https://www.ihs.gov/sites/budgetformulation/themes/responsive2017/display_objects/documents/FY2020CongressionalJustification.pdf.

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