



Facilitating Medical Care for Latinx Individuals at Risk for CKD: A Pilot Intervention

Tessa K. Novick, Francisco Barrios, Michelle Osuna, Caroline Emery, Daniel Ramirez, Laura Palau, Sanjana Ravi, Michelle Lubetzky, Evelyn Cruz, Deidra C. Crews, and Lilia Cervantes

Rationale and Objective: Latinx individuals are at a higher risk for kidney failure than non-Latinx White individuals; however, they are less likely to receive pre-kidney failure medical care. The objective of this study was to determine the feasibility and acceptability of a community health worker (CHW) intervention that facilitated access to medical care for Latinx individuals.

Study Design: Single-arm prospective study.

Setting and Participants: Latinx adults were found to have albuminuria or risk factors for kidney disease at community screening events in Austin, Texas.

Intervention: A 6-month CHW intervention that facilitated the following: (1) obtaining medical insurance; (2) medical care coordination with primary and nephrology care; (3) kidney disease education; and (4) connection with local resources to address health-related social needs.

Outcomes: Recruitment, retention, medical care linkage, and participant and CHW-reported satisfaction with the intervention.

Results: Of the 173 individuals who attended the 2 community screening events, 49 agreed to participate in the study, of whom, 51% were men with a mean \pm standard deviation (SD) age of

45 \pm 14 years, and all self-identified as Mexican or Chicano. The mean \pm SD estimated glomerular filtration rate (eGFR) was 110 \pm 21 mL/min/1.73 m² and 41% of the participants reported a urine albumin-creatinine ratio of \geq 30 mg/g. Among those enrolled, 28 of the 49 (57%) completed at least 1 CHW visit, and 20 of 49 (41%) completed the intervention. 7 individuals who needed assistance with insurance obtained insurance, and 15 of 20 (75%) scheduled an appointment with a primary care physician within 180 days. Participants reported that the US health care previously seemed inaccessible but gained insurance, the ability to navigate the system, and the ability to help others in their community to access medical care because of the program.

Limitations: Small sample size and a single community may limit generalizability.

Conclusions: We reported the acceptability of a CHW intervention. We encountered challenges with feasibility and identified strategies to overcome them. Studies are needed to test the effect of CHW interventions on outcomes and kidney health disparities.

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Visual Abstract included

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Correspondence to T.K. Novick (tessa.novick@austin.utexas.edu)

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Among Mexican Americans, who comprise the largest Latinx (gender-inclusive term; includes Hispanics, Latino/a) group in the United States, the age-adjusted prevalence of chronic kidney disease (CKD) is 13%–15%.¹ Unfortunately, the prevalence of CKD has increased over the past 2 decades.^{1,2} Compared with that in the non-Latinx White individuals, the prevalence of kidney failure is 50% higher in the Latinx population; however, Latinx individuals with kidney failure report lower non-dialysis-dependent access to medical care.^{3,4} Medical care deficiencies were more profound for Latinx individuals who are considered undocumented immigrants.⁵ Given the high morbidity and mortality rates associated with kidney failure and the opportunity to prevent the progression of CKD to kidney failure, interventions that connect this population with earlier medical care are much needed.

The National Kidney Foundation regularly conducts community screenings for kidney disease.^{6,7} Despite these efforts, many who are found to have kidney disease are unable to access health care until they present to the emergency department with symptoms of kidney failure.⁸

A community health worker (CHW) is a culturally and linguistically concordant individual that addresses community health priorities and helps individuals address barriers to care and navigate the medical system.⁹ Including a CHW in community screening events could optimize medical care connection for this historically difficult to reach population, but the feasibility and acceptability of such an intervention is unknown.

The purpose of this study was to assess the feasibility and acceptability of a CHW intervention that facilitated medical care linkage for Latinx individuals with albuminuria or risk factors for kidney disease at community screening events.

METHODS

Design

This was a prospective, single-arm study of a 6-month CHW intervention. Our objective was to assess study logistics; optimize the intervention; understand barriers and facilitators of recruitment, retention, implementation, and

PLAIN LANGUAGE SUMMARY

Latinx individuals are at a higher risk for kidney failure than non-Latinx White individuals; however, they are less likely to receive pre-kidney failure medical care. We piloted a community health worker intervention that connected people with risk factors or showed evidence of kidney dysfunction at community screening events with medical care. Our findings indicate the acceptability of the intervention. We encountered challenges with feasibility and identified strategies to overcome them.

dissemination; and gather evidence of study parameters to design an effective randomized controlled trial that tests the effect of the intervention on outcomes. The University of Texas at Austin Dell Medical School institutional review board approved this study (STUDY00001564).

Setting and Participants

We recruited participants from 2 community screening events (in October 29, 2021 and February 25, 2022) at the Mexican Consulate in Austin, Texas (Fig 1). All individuals at the consulate on screening days were invited to be screened, such as consulate employees, and the events were promoted on social media and on a local Spanish-speaking radio station. Eligible participants were Spanish-speaking adults with at least 1 of the following: (1) measured blood pressure of $\geq 130/80$ mm Hg; (2) body mass index of >24 kg/m²; or (3) albuminuria of >30 mg/g on point-of-care testing. Participants were excluded from the study if they were younger than 18 years, not Latinx, lacked an address in Travis County (Austin, TX), or lacked decisional capacity. A participant was considered lost to follow up if they did not answer the CHW's call after 2 voicemail messages and 1 text message.

Intervention

The CHW intervention focused on the following 4 domains: (1) obtaining medical insurance; (2) medical care coordination with primary care, and if needed, nephrology care; (3) kidney disease education; and (4) connection with local resources to address health-related social needs and other barriers to care. We tentatively planned to provide 6 CHW visits for those with albuminuria (initial visit for assessment and goal setting, 2 visits to apply for insurance if needed and address barriers to care, and 3 visits for kidney disease education) and 3 visits for individuals without albuminuria (initial visit for assessment and goal setting, 2 visits to apply for or renew insurance if needed and address barriers to medical care).^{10,11} However, the actual number of encounters per participant depended on each individual's unique needs and was determined by the CHW and participant after the initial assessment. The initial visit was scheduled at the screening event, and we set a goal for this to occur within 14 days of

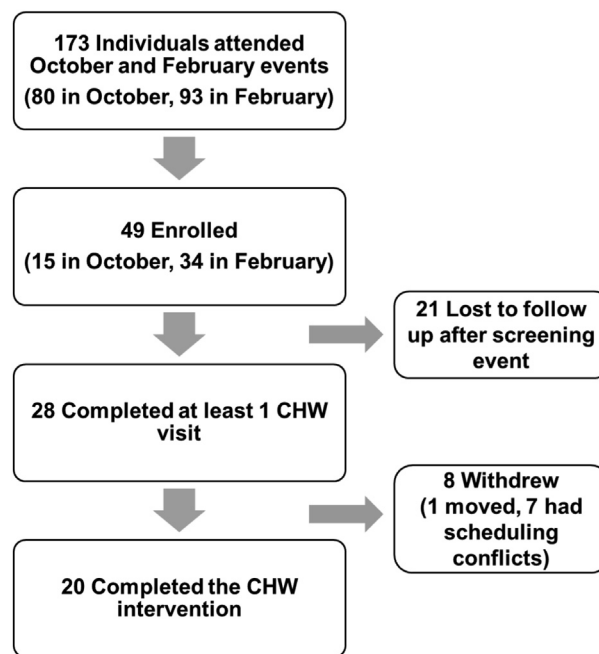


Figure 1. Study flow diagram. CHW, community health worker. Note: Participants were deemed lost to follow up if they did not answer the CHW's call after 2 voicemails and a text message.

enrollment. Participants were given the option to do visits over the telephone or in person in their home or in a clinic setting.

The CHW used Riñones, Tesoros, to provide kidney disease education. Riñones, Tesoros, is a toolkit developed for CHWs by the National Kidney Disease Education Program of the National Institutes for Health (Item S1).¹² It includes a training manual, flipchart, and script to use during education sessions, and additional materials to give to clients. All materials were available in Spanish and English.

CHW Training

The CHW was a bicultural member of the Latinx community who was fluent in Spanish. The principal investigator (PI) provided a half-day lecture on CKD to the CHW. The CHW was trained in motivational interviewing and navigator fundamentals. The CHW spent 5 hours shadowing a nephrologist in a clinic and visited an outpatient dialysis clinic to gain insight into important aspects of nephrology care. They had previous case management experience, such as knowledge of how to schedule appointments and apply for medical insurance and gather available health care resources for undocumented immigrants.

Data Collection**Baseline measures**

During enrollment, we collected information on demographics, English-language proficiency, health literacy, health-related social needs, and baseline serum creatinine concentration and urine albumin-creatinine ratio. We used

the 4-item BRIEF Health Literacy screening tool to assess health literacy, which has been used with Spanish speakers.¹³⁻¹⁶ To assess for English-language proficiency, we asked participants, “How well do you speak English?”¹⁷ (answers: very well, well, not well, or not at all), and defined limited English-language proficiency as responses of “not well” or “not at all.” We used the Accountable Health Communities Health-Related Social Needs screening (AHC-HRSN) tool to evaluate for housing and food insecurity and challenges with transportation and home utilities.¹⁸ All survey instruments were translated into Spanish. Participants completed the questionnaires on their own or with the assistance of a research staff, depending on their preference.

We measured serum creatinine concentration using capillary venous samples by using the Abbott iSTAT creatinine point-of-care machine. We used the creatinine-based CKD Epidemiology Collaboration 2021 equation to estimate the glomerular filtration rate.¹⁹ We measured the urine albumin-creatinine ratio (≤ 30 , 31-300, and >300 mg/g) using the Siemens Clintek Status+ analyzer.

Outcomes

The primary outcomes were feasibility and acceptability. We assessed feasibility by tracking recruitment and retention, intervention implementation, and intervention delivery. This included the following: (1) the number of individuals who attended the screening events; (2) the number of individuals who enrolled in the intervention; (3) the number of participants who were lost to follow up or withdrew and their reasons for withdrawing; (4) the percentage of participants who completed at least 1 CHW visit and all agreed-on subsequent CHW visits; and (5) the average number of visits and content.

Medical care linkage was determined as the percentage of participants who obtained or renewed their insurance if needed; scheduled primary care visits, or established primary care (among those without primary care at baseline); and scheduled nephrology visits among those with indications for nephrology care. The enrolled participants who received the kidney disease education, Riñones, Tesoros, completed a pre-education and posteducation quiz on kidney disease knowledge.

We assessed the acceptability through semistructured interviews with a subset of participants after they completed their visits with the CHW (Item S2). A bicultural research coordinator (MO) conducted the interviews in Spanish over the telephone. The interviews explored participants' experience with health care before the program, anything they gained from the program, and their recommendations for improving the intervention. The research coordinator and the PI (MO and TKN) conducted a semistructured interview with the CHW in person to assess CHW acceptance (Item S3).

Each participant provided written informed consent, and the University of Texas at Austin Dell Medical School Internal Review Board approved the study protocol.

Statistical Analyses

We calculated the means with SD for continuous data and numerical counts with a percentage for categorical variables. SPSS data analysis software was used for the quantitative analysis.

We conducted thematic analysis on data from semistructured interviews. The interviews were audio recorded and were transcribed and translated from Spanish to English by using a commercial transcription/translation company (Datagain). Three members of the research team (TKN, MO, and CE) coded each transcript and added codes in an iterative process. Codes were named, defined, and reviewed as a team and merged into thematic categories. We used the Dedoose software for a thematic analysis of qualitative data.

RESULTS

Participant Characteristics

In total, 49 participants enrolled and 20 completed the intervention (Table 1). The mean \pm SD age of the participants was 45 ± 14 years. Of the 49 participants, 25 (51%) self-identified as male sex, all (100%) self-identified as Mexican or Chicano, and 24 (49%) had no medical insurance. The mean \pm SD eGFR was 110 ± 21 mL/min/1.73 m², and 20 of the 49 (41%) reported a urine albumin-creatinine ratio of >30 mg/g. Over one-third were unemployed; 20 (41%) reported an annual income of $< \$25,000$; 29 (59%) reported limited English proficiency; 27 (55%) exhibited low-level health literacy, and health-related social needs were common in all.

Feasibility

There were 173 individuals who attended the 2 community screening events (80 and 93 attended the first and second events, respectively). Of the 93 who attended the second event, 61 (66%) met the eligibility criteria (Table S1). Of the 49 who agreed to participate, 28 completed at least 1 CHW visit. There were 7 individuals who subsequently withdrew from the study owing to scheduling conflicts, and 1 withdrew after moving to another state. There were 13 of the 28 (46%) participants who completed the first CHW visit within 14 days, and 20 of the 28 (71%) completed the agreed-on number of CHW visits within 180 days (Table 2).^{20,21} The number of visits varied, and some participants required longer visit times than others. The initial CHW assessments usually lasted 60-90 minutes, and subsequent visits were <30 minutes. Most of the visits took place over the telephone. Increases in COVID-19 cases during the study period led some individuals to be hesitant to meet in person.

Care Linkage and Knowledge

All 7 individuals without insurance were able to obtain insurance during the intervention, and all 20 participants

Table 1. Participant Demographics

Demographics	Total Enrolled n = 49	Completed Intervention n = 20	Dropped Out/Lost to Follow up n = 29
Age, mean ± SD	45 ± 14	51 ± 18	41 ± 8.7
Male, sex (%)	25 (51)	10 (50)	15 (52)
Mexican background, n (%)	49 (100)	20 (100)	29 (100)
^a Serum creatinine mg/dL, mean ± SD; range	0.7 ± 0.3; 0.4-2.0	0.8 ± 0.4; 0.4-2.0	0.7 ± 0.2; 0.4-1.1
Estimated glomerular filtration rate mL/min/1.73 m ² , mean ± SD; range	110 ± 21; 34-134	103 ± 25; 34-129	114 ± 16; 65-134
^b Urine albumin/creatinine mg/g, n (%)			
<30	28 (57)	7 (41)	21 (72)
30-300	17 (35)	7 (41)	8 (28)
>300	3 (6)	3 (18)	0 (0)
Family member with kidney disease, n (%)	9 (18)	5 (25)	25 (86)
Previously told of a kidney problem, n (%)	9 (18)	3 (15)	23 (79)
^c English language proficiency, n (%)			
Very good	6 (12)	2 (10)	4 (14)
Good	14 (29)	4 (20)	10 (34)
Not well	15 (31)	7 (35)	8 (28)
Not at all	14 (29)	7 (35)	7(24)
Uninsured, n (%)	24 (49)	11 (55)	16 (55)
Unemployed, n (%)	19 (39)	8 (40)	7 (24)
Education level, n (%)			
No school	1 (2)	1 (5)	0 (0)
Primary	6 (12)	4 (20)	2 (7)
Secondary	26 (53)	11 (55)	15 (52)
More than secondary	16 (33)	4 (20)	12 (41)
Annual income, n (%)			
<\$25,000	20 (41)	9 (45)	11 (38)
\$25,000-\$50,000	14 (29)	5 (25)	9 (31)
\$50,000-\$100,000	6 (13)	9 (0)	6 (21)
Prefer not to respond	9 (18)	6 (30)	3 (10)
^d Health Literacy, n (%)			
Inadequate (2-12)	27 (55)	12 (60)	15 (52)
Marginal (13-16)	12 (25)	5 (25)	7 (24)
Adequate (17-20)	10 (20)	3 (15)	7 (24)
^e Housing insecurity, n (%)	5 (10)	3 (15)	2 (7)
^f Food insecurity, n (%)	13 (27)	5 (25)	5 (17)

Abbreviations: eGFR, estimated glomerular filtration rate; SD, standard deviation.

^aSerum creatinine values were available for 45 of total enrolled participants and 15 of participants who completed the intervention.

^bUrine albumin-creatinine ratio data were available for 48 of total participants and 17 of participants who completed the intervention.

^cEnglish language proficiency was measured using questions from the US Census.

^dHealth literacy was ascertained using the BRIEF health literacy screening tool, with scores ranging from 2-20 (2-12: inadequate health literacy, 13-16: marginal health literacy, 17-20: adequate health literacy).

^eHealth-related social needs were ascertained using the Centers for Medicare and Medicaid Services health-related social needs screening tool. Housing insecurity data were available for 33 participants, and data on food insecurity, utility needs, and transportation needs were available for 34 participants.

who completed the intervention obtained primary care appointments. There were 25 participants who completed the knowledge pretest, for whom the average score was 50%. There were 9 participants who also completed the posttest, with an average score of 100%. The average increase in score between the pretest and posttest was 40%.

CHW-Reported Feasibility of Intervention Delivery

Overall, the CHW reported being able to obtain medical insurance and primary care for all who needed it and

concluded that there were no action plan items they could not address. The CHW recommended providing a tentative education plan for each session and a checklist of essential educational items to complete to give the CHW more structure while allowing for flexibility and individualization. The CHW reported they did not have the training to answer detailed medical questions and felt a team approach that included a registered nurse, a social worker, and a dietitian who saw each participant would provide more comprehensive education and care. The CHW reported needing to be available during nights and

Table 2. Intervention Feasibility

Outcome/Measure	
Retention (n = 49)	
Completed at least one CHW visit, n (%)	28 (57)
Completed agreed on number of CHW visits, n (%)	20 (41)
Completed follow-up interview, n (%)	13 (27)
Implementation (n = 28 who completed at least one CHW visit)	
Initial assessment completed within 14 days of enrollment, n (%)	13 (46)
Completed all visits within 180 days, n (%)	20 (71)
Intervention dose (n = 58 CHW visits)	
Number of CHW visits per participant, mean \pm SD; range	2.15 \pm 1.45; 1-6
Location of CHW visits, n (%)	19 (33)
In person	39 (67)
Telephone	
Care Linkage (n = 20 who completed the intervention)	
^a Obtained insurance if needed, n (%); (n = 7) (3 new applications and 4 renewals)	7 (100)
Scheduled primary care appointments, n (%); (n = 20)	15 (75)
Primary care at follow-up among those without primary care at baseline, n (%); (n = 4)	4 (100)
^b Scheduled nephrology visits if needed, n (%); (n = 2)	2 (100)

Abbreviations: CHW, community health worker.

^aThis includes individuals who needed to enroll in insurance and those with insurance that had died and needed to be renewed.

^bNephrology appointments were only obtained if needed, and need for nephrology appointment was determined by the primary investigator, a nephrologist. For individuals with 3+ albuminuria, or risk of kidney failure $\geq 3\%$ within 5 years using the Kidney Failure Risk Equation, the CHW helped participants request nephrology referrals from their new primary care providers. The Kidney Failure Risk Equation was calculated on participants with eGFR of ≤ 60 mL/min/1.73 m².^{20,21}

weekends owing to participants' work schedules and recommended including a second CHW with different availability to accommodate participants' needs and prevent burnout.

The CHW identified barriers that persisted despite connections to medical care. For example, primary care providers did not consistently address albuminuria or abnormal kidney function, and the CHW had to request nephrology referrals for those who needed them, as determined by the PI. Participants sometimes relied on the CHW to effectively communicate their needs during medical appointments. For example, participants sometimes denied having anything they wanted to discuss or forgot to mention what they wanted their provider to address. Many could not afford the medications despite obtaining insurance. Participants were often unsure of how to take medications, how to request refills, how to schedule follow-up appointments, and how to connect with specialists, which sometimes necessitated follow-up with the CHW after the program was over.

Participant Acceptability and Program Recommendations

Many participants reported that before the program, medical care was inaccessible (Table 3). Not only did they not know where to go or how to obtain services, but also they suspected that, if they went to clinics, they would be turned away. They reported an inability to take time off from work unless it was an emergency, and they suspected clinics would be closed during times when they were not working. Many described a cultural belief that natural remedies were healthier than prescribed medications or that medications from Mexico were more effective. Because they could not access medical care, they tended to rely on natural remedies or medications they brought or obtained from Mexico.

Participants identified the benefits of the program. The CHW helped them obtain health insurance, establish a medical home, and motivated them to take care of their health and address things they had delayed in addressing. The CHW often expedited appointments. After learning how to navigate the system, participants were encouraged and were able to help family and friends establish medical care.

Participants made program recommendations and identified ongoing challenges despite medical care connections. They reported that the community screening component of the program promoted engagement and that being told they had a medical problem motivated them to seek care. They recommended that screening locations should vary to capture more people and suggested that they occur at churches, parks, and schools. They recommended the number of visits and visit frequency be set by the participant because participants would be less likely to enroll if the visit burden was too high and they felt they could not meet the program requirements. They also recommended the visit location be determined by the participant because some noted discomfort inviting a female CHW into their home with numerous male roommates, and a few expressed concerns about health care workers entering their homes during the COVID-19 pandemic.

Essential CHW characteristics noted were empathy, trustworthiness, and demonstrating knowledge about kidney disease and medical care navigation. They also wanted providers to understand and respect their cultural traditions and beliefs.

Community Health Worker Acceptability and Program Recommendations

The CHW suggested ways to optimize CWH training. They recommended going through the educational material they were expected to use in detail, then providing the opportunity for role play with a nephrologist. This would allow them to become comfortable with the material, ask questions, and build confidence about correctly providing the education. They recommended including experiential

Table 3. Themes and Subthemes with Illustrative Quotations: Participant Follow-up Interviews

1. Immigrants From Mexico Identify Health Care Barriers	
The health care system is inaccessible and difficult to navigate	“When you arrive here, they don’t tell you, ‘Hey, this insurance is accepted in this and that place, or there are insurances that can be accepted and others that can’t...’ Nobody explains anything to you... I didn’t know if, for example, I could go to [the local federally qualified health center] and ask there. I didn’t even know if they were going to let me in, you know? I mean it was like a lot of this fear that later, after going in, they would say to me, ‘Let’s see, are you part of here?’ and I would say, ‘No, I’m not.’ ‘Oh well, you can’t come in,’ or something like that.”
Cultural practices influence engagement	“Well, you see, since I use natural products, like I said, I didn’t take medication for a whole year.”
2. Participants describe several gains because of the program	
Learned how to navigate health care system	“So, (the CHW) was the one who... encouraged me to be able to see a doctor. And not only for the kidney issue, but there have also been other things that I am already taking care of thanks to her. She got me to check my medical insurance, my IDs, and everything to be able to see a doctor. I think that if it had not been for her... I would still be postponing, because it is very difficult when you first arrive, to understand that that sometimes it is...it is just to go to a place and ask.”
Secured insurance and faster appointments	“I had an appointment four months away to get my kidneys checked. I told her about it, and I told her that was a long time because I’m in pain every day. And she told me she was going to get an appointment for me. And well, in a week, she got a new appointment for me that was sooner.”
Gained personal and community empowerment to manage their medical care	“Yeah because two people already asked me about it. I gave one person the little card that (the CHW) gave me... he told me his kidneys were still in bad shape like mine.”
3. Participants made program recommendations	
Community screening events that increase personal and community awareness promote engagement	“So, then they did that test, a new test and it came out that I had a high protein level. It wasn’t too bad, but I did have protein and so, that’s why... I went over to the clinic.”
Intervention elements such as time invested, topics addressed, and the education provided must be individualized and flexible	“I mean, because sometimes... because of work... that makes it kind of hard for people. I don’t think it’d be good, like, to have more visits if, at the end of the day, I won’t be able to... If I have to cancel too many times... If I’m supposed to be somewhere, well, I have to try and show up. Even if it’s just once or twice, I have to try to attend, right? I wouldn’t get anything out of agreeing to four or five times if, at the end of the day, I’m gonna cancel them.”
Empathy, reliability, and knowledge about kidney disease and care navigation are important traits for the individual providing the intervention	“...She was really great with me, she encouraged me a lot because that counts a lot, sometimes I’ve found people that do everything just too quickly, like they say, they’re in a rush and you are left with that and well, she talked to me and she told me that this program she was participating in was for people who got very sick because there hadn’t been a program that was able to help them.”
Understand, respect, and celebrate individuality and cultural differences	“The thing is...they don’t understand. They’re just doing their job. They don’t understand the person. I’ve come to understand that’s how they all work. And the doctors and everybody. They don’t understand people because you can’t treat me the same way you treat a gringo. Because each, each person’s body is different.”

learning opportunities on navigating the medical system and community resources. For example, they could be given practice scenarios and be asked to describe what they would do in various situations (eg, if a participant needs transportation, then the CHW walks them through the necessary steps to help them find transportation). In addition to understanding CKD, the CHW reported a need for more education on risk factors, such as hypertension and diabetes, so they might be better prepared to answer

participant questions. They also requested additional time to shadow in a nephrology clinic.

The CHW made recommendations to enhance Riñones, Tesoros, because they felt it included insufficient information on stages of kidney disease, hypertension, nutrition, and how to navigate to the health care system. The CHW felt the Kidney Disease: Improving Global Outcomes CKD stages heat map was a helpful educational resource because it helped participants understand their blood and

urine output test results, as did referring to eGFR as percent kidney function.²²

When asked how alike a CHW needs to be to the population they serve, the CHW reported having a shared experience was critical, whether that be the culture, race, and ethnicity or a medical diagnosis. In other words, being able to say we instead of you facilitated participant engagement. They did not feel it was essential for a CHW to have or be personally affected by kidney disease if they received sufficient kidney disease training. Experience working in clinical settings and familiarity with community resources were helpful but not essential if this were included in CHW training. They noted the potential for sex and age discordance to introduce implicit bias. They spoke of having a mission to help their community and said that this was essential for lasting job satisfaction.

DISCUSSION

To our knowledge, this is the first prospective culturally tailored CHW program focused on addressing barriers and medical care linkage for Latinx adults with evidence of kidney dysfunction or risk factors. Our findings reported its acceptability. We encountered challenges to feasibility. However, our findings contribute to the literature by highlighting potential solutions to challenges that can be addressed to improve feasibility.

Our findings support previous studies indicating CHWs are effective at connecting Latinx individuals with medical care and can facilitate early detection and management of chronic disease.²³⁻²⁵ In a study by Sullivan et al,²⁶ transplant recipients were trained to guide people receiving dialysis through the transplant evaluation process, and when compared with those who navigated transplant evaluation on their own, people who worked with a peer navigator completed more evaluation steps. Among Latinx individuals with kidney failure, Cervantes et al¹¹ showed that a peer navigator program that provided individualized support with advanced medical care planning was feasible and improved quality of life.

Our findings highlight potential retention challenges when conducting studies with Latinx individuals who were not connected with medical care. We lost contact with 21 individuals after the screening events. Many individuals shared smartphone numbers with other family members or were possibly hesitant to answer unknown numbers. Potential solutions include prioritizing rapport and trust-building at the time of recruitment, scheduling the first CHW visit at the screening event, providing appointment cards, having a system in place for visit reminders, making sure the participant stores the CHW's contact information on their smartphone, or providing participants with a smartphone that they could use to communicate with the CHW.

Eight participants withdrew from the study after their initial visit with the CHW. This was primarily because participants' work schedules prevented them from meeting

with the CHW during regular business hours, and the CHW was unable to meet during nights or weekends. Potential solutions include having a second CHW with night and weekend availability, securing 100% full time equivalency of a CHW's time during the duration of the study, and allowing participants to determine the number, location, and frequency of CHW visits. Establishing a community steering committee consisting of patients and other stakeholders who partner on the research will be critical for identifying strategies for successful recruitment, retention, dissemination, and implementation of this work.

Our findings reported that challenges remain despite medical care linkage, which need to be resolved before future studies could assess the effectiveness of a CHW intervention. For example, primary care providers did not consistently discuss kidney-related findings. This required the CHW to request education and specialty care. Potential solutions include giving participants a card that contains findings from the community screening event and clinical practice recommendations (ie, initiation of renin-angiotensin-aldosterone system blockade and/or nephrology referral for the 2 participants with indications to see a nephrologist) for them to bring to their appointment. Educating participants on how to effectively navigate the health care system could facilitate patient activation, a sense of self-efficacy, and self-management after the intervention. Participants often did not share their concerns or tell providers what was important to them without the CHW's coaching, despite language interpretation services. This could potentially be addressed by using provider training on detecting communication issues, such as withholding information because of a lack of trust, and on building rapport with Spanish-speaking individuals.

Our findings suggested that community screening events can be used to identify Latinx individuals with evidence of abnormal kidney function or risk factors who are not connected to medical care and are an effective setting for research recruitment and enrollment. However, we did encounter challenges with data collection in the community owing to inconsistent wireless internet during the first screening event, and therefore, do not have an accurate count of the number of people who were eligible. The technical issues were addressed before the second event, but backup data collection methods, such as collecting data on paper and electronically, can be considered when recruiting from community locations.

We found that teaching a participant how to navigate the medical system resulted in the dissemination of the information to other members of the community. This suggests that by helping a few individuals, a CHW intervention has the potential to reach a larger portion of the population. A community-wide effect should be considered when determining the appropriate outcomes to measure the effect of a CHW intervention.

Our study had several strengths, such as in-depth data that highlighted the challenges associated with working with Latinx individuals not connected to medical care and

its potential solutions. The study has some limitations. This intervention was made possible because there was a safety-net health insurance available for all Travis County residents (Austin). We do not have an exact number of individuals who were eligible to participate, and only 13 participants and 1 CHW were included in the qualitative component of the study owing to the aforementioned challenges. Single albuminuria and serum creatinine concentration readings were insufficient to make a diagnosis of CKD. The small sample size limits generalizability. However, the lessons learned about CHW medical care linkage interventions with historically difficult to reach populations were informative.

We reported that a CHW intervention that links individuals identified in the community with medical care is acceptable for Latinx adults with albuminuria or risk factors for kidney disease. Community partnerships and input are needed to address challenges associated with testing interventions in this population. Additional research is needed to test the effect of CHW linkage interventions on patient-centered and clinical outcomes because these may serve as a way to promote preventative care and address disparities in kidney disease in different communities.

SUPPLEMENTARY MATERIAL

Supplementary File (PDF)

Item S1. Links to Riñones Tesoros, the National Kidney Disease education program for community health workers.

Item S2. Participant follow-up interview guide.

Item S3. CHW follow-up interview guide.

Table S1. Eligibility Information From the Second Screening Event.

ARTICLE INFORMATION

Authors' Full Names and Academic Degrees: Tessa K. Novick, MD, MSW, MHS; Francisco Barrios, MD; Michelle Osuna, PhD; Caroline Emery, MS; Daniel Ramirez; Laura Palau, MD; Sanjana Ravi; Michelle Lubetzky, MD; Evelyn Cruz; Deidra C. Crews, MD, ScM; Lilia Cervantes, MD

Authors' Affiliations: Division of Nephrology (TKN, ML), and Department of Internal Medicine (TKN, FB, MO, CE, DR, LP, SR, ML), University of Texas at Austin, Dell Medical School, Austin, TX; Central Health, Department of Health Management Liasons, Austin, TX (EC); Division of Nephrology, Johns Hopkins University School of Medicine, Baltimore, MD (DCC); Division of General Internal Medicine and Hospital Medicine, University of Colorado, Anschutz Medical Campus, Aurora, CO (LC).

Address for Correspondence: Tessa K. Novick, MD, MSW, MHS, 1601 Trinity St, Health transformation building, 10.550, Austin, TX 78712. Email: tessa.novick@austin.utexas.edu

Authors' Contributions: Research idea and study design: TKN, LC, DCC; data acquisition: TKN, MO, LP, FB, DR, SR, ML, EC; data analysis/interpretation: TKN, MO, CE, EC, LC, DCC; statistical analysis: MO, CE; supervision or mentorship: LC, DCC. Each author contributed important intellectual content during manuscript drafting or revision and accepts accountability for the overall work by ensuring that questions pertaining to the accuracy or integrity of any portion of the work are appropriately investigated and resolved.

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Disclaimer: Dr Novick had full access to all data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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Is a community health worker intervention effective in facilitating medical care for Latinx individuals at risk for CKD?



METHODS		INTERVENTIONS		RESULTS	
	Prospective single-arm study		Obtaining medical insurance	FEASIBILITY	<ul style="list-style-type: none"> 57% completed at least one community health worker (CHW) visit 41% completed the full intervention
	Austin, Texas USA n = 49		Kidney disease education	ACCEPTABILITY	<ul style="list-style-type: none"> CHWs helped establish medical homes and address health concerns
	At least one of: <ul style="list-style-type: none"> - SBP \geq 130/80 - BMI $>$ 24 kg/m² - UACR $>$ 30 mg/g 		Connecting local resources	CARE LINKAGE & KNOWLEDGE	<ul style="list-style-type: none"> Many were able to obtain insurance & primary care appointments Knowledge scores increased by 40%
	6-month follow-up		Care coordination		

Conclusion: Community health worker interventions effectively connect Latinx individuals with kidney disease or CKD risk factors to medical care, emphasizing the importance of community partnerships and addressing challenges to reduce kidney disease disparities.

Reference: Novick TK, Barrios F, Osuna M, et al. Facilitating medical care for Latinx individuals at risk for CKD: a pilot intervention. *Kidney Medicine*, 2023.

Visual Abstract by Renz Pasilan, MD

@RenzPasilan