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Advancing Kidney Health in Hispanic/Latino Communities in the US: Promotoras, Health Education, and Food Security

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By

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Abstract

Chronic Kidney Disease (CKD) is not only a public health concern that affects the health of people living in the United States, but also a global health concern affecting millions worldwide. Diabetes is the leading cause of CKD and when CKD is not managed, it can turn into a life-threatening condition known as End-Stage Renal Disease (ESRD) where life is not sustainable without dialysis or a kidney transplant. Although CKD is prevalent among all populations in the US, the Hispanic/Latino population suffers the most complications (Desai et al., 2019). In 1973, Congress extended Medicare services to people with ESRD no matter their age since thousands of people were suffering and dying from ESRD (Swaminathan et al., 2012). Nevertheless, the Hispanic/Latino population has remained at an increased risk of kidney disease progressing to ESRD compared to their white counterparts.

This project recommends that the Hispanic/Latino population receive culturally appropriate care to prevent kidney disease, and access to treatment through the services offered by Promotoras de Salud, or Community Health Workers (CHWs) in community health centers such as Federally Qualified Health Centers (FQHCs). These services would include health screenings, educational classes, and promotion of preventive health services. In addition, Promotoras de Salud/CHWs could connect people to food pantries and enroll low-income Latino families into SNAP, thereby reducing food insecurity and its associated risk of chronic conditions like CKD/ESRD.

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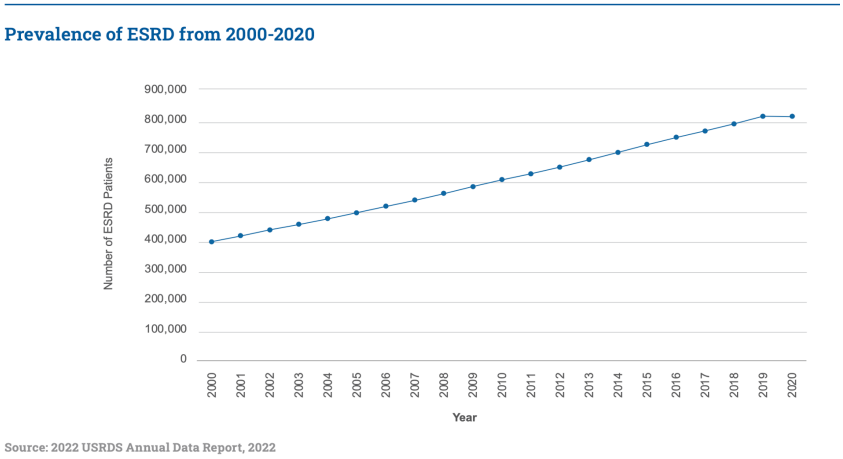
Introduction

The National Kidney Foundation estimates that 37 million Americans are affected by chronic kidney disease (CKD), or 1 in 7 adults. An estimated 807,000 of them have ESRD, the last stage of CKD. Moreover, of those suffering from CKD, an estimated 90% of them do not know they have kidney disease (*Kidney Disease: The Basics*, 2023b).

While 1 in 3 adults in the US are at risk of developing kidney disease, some demographic groups are at higher risk than others. For example, Hispanics/Latinos are at an increased risk of kidney disease progressing to ESRD compared to their white counterparts, with the leading causes of kidney disease being diabetes and hypertension (American Kidney Fund, *Race, Ethnicity, and Kidney Disease*, 2023). There are numerous complications that come with chronic kidney disease, such as coronary artery disease, anemia, malnutrition, mineral and bone disorders, and depression. ("Treat Complications & Comorbidities," 2022). Considering that public knowledge about CKD remains low in the US, an intervention that could be implemented is a combination of CKD education and access to healthy food.



To decrease the likelihood of individuals within the Hispanic/Latino population developing CKD, policy changes, outreach, and education, including the importance of preventive measures, should be implemented, targeted, and tailored to this community. The

purpose of this paper is to offer recommendations that increase awareness and reduce the incidence of CKD cases among the Hispanic/Latino population in the US. The two recommendations are as follows:

> **Recommendation 1***: Promotoras de Salud could be integrated into community health programs like Federally Qualified Health Centers (FQHCs) within local communities to enhance the success of health education programs when targeting the Hispanic/Latino community that may be at risk for kidney disease.*
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> **Recommendation 2***: The Supplemental Nutrition Assistance Program (SNAP) is a federally funded food assistance program by the United States Department of Agriculture (USDA) for low-income families. Access to SNAP for the Hispanic/Latino population could be expanded through Promotora/es de Salud/CHWs outreach in the community to help enroll low-income Latino families eligible for SNAP.*

Background

The human kidneys filter waste and excess fluid from the body that is released during urination. Although the body may show initial symptoms that the kidneys are failing, often, these symptoms are missed, and people are not made aware until the disease has progressed to the last stage (*Chronic Kidney Disease Basics | Chronic Kidney Disease Initiative | CDC*, n.d.). Unfortunately, kidney disease is ranked as the 8th highest cause of mortality, the 10th highest cause of years of life lost, and the 10th highest cause of disability-adjusted life years in both sexes combined within multiple regions in the world (*Pan American Health Organization, Burden of Kidney Diseases*, n.d.-b). The risk factors for kidney disease vary and many are predisposed to this disease simply by their race, ethnicity, low socioeconomic status, and age. For instance, an analysis that was done by the National Health and Nutrition Examination Survey

found that of the 14,000 adults that were examined, the presence of poverty was linked to 35% greater odds of these adults having too much protein in their pee, a sign of kidney disease (Nicholas et al., 2015). Because there is a lack of awareness and recognition of kidney disease, as well as the result of poverty and lack of access to healthcare, the number of people dying from this disease has increased over the years, with an estimated total of 1.2 million deaths worldwide (Carney F. Ellen, 2020). In the US alone, kidney diseases accounted for 13.1 deaths per 100,000 population in 2019 (Pan American Health Organization, Burden of Kidney Diseases, n.d.-b).

Diabetes is the number one leading cause of renal disease, and this means that diabetes prevention and management interventions must be implemented among populations most at risk such as the Hispanic/Latino population (Lora, 2009). Access to healthcare prevention and management interventions overall is limited among this population, however, and in addition to having a higher prevalence of diabetes, this population also exhibits poorer outcomes and self-management after being diagnosed (Fortmann et al., 2019). As a result, public health efforts could focus on reducing the burden of CKD in Hispanics/Latinos by focusing on the prevention and control of hypertension and diabetes.

According to the National Kidney Foundation, a person has CKD when they start to lose gradual kidney function. This occurs when the kidneys lose their ability to filter waste and fluid from the body. Due to the slow progression of the disease, many people are not made aware their kidneys are failing until the very last stage of CKD. ESRD, or kidney failure, is the complete loss of kidney function and the fifth and last stage of CKD, in which the body can no longer survive without dialysis treatment and/or a kidney transplant (*Kidney Disease: The Basics*, 2023b). Of the 805,000 Americans living with kidney failure in the US, more than 555,000 of them are on dialysis treatment, a 3–5-hour procedure where a machine removes blood from the body to filter

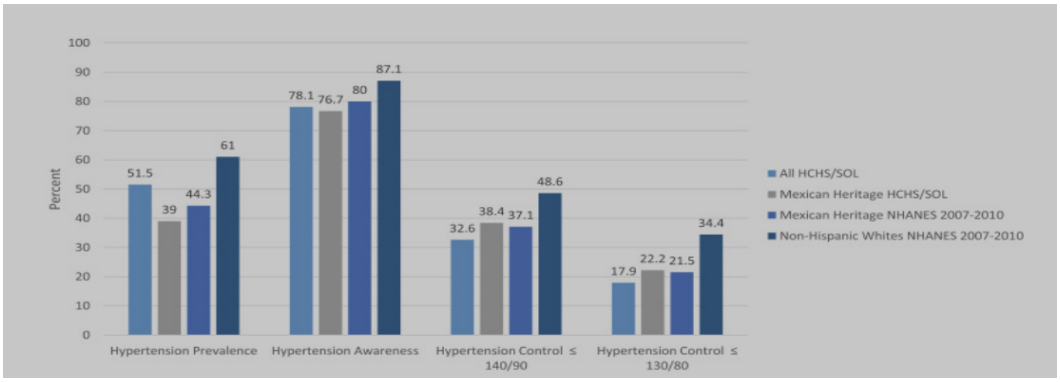
it through a dialyzer (American Kidney Fund, 2023b). After it is filtered, the clean blood returns to the body. Most patients on dialysis partake in hemodialysis, where they are assisted in dialysis centers by dialysis technicians at least 3-4 days out of the week (Professional, n.d.).

Measuring a person's kidney function can be done with a blood test known as the estimated glomerular filtration rate (eGFR) and a urine test known as the urine albumin-creatinine ratio (uACR). A GFR test measures how well a person's kidneys are filtering their blood by looking for levels of creatinine. The uACR test, on the other hand, is a test that shows whether a person has albumin, a type of protein, in the urine (*Kidney Disease: The Basics*, 2023b).

CKD is very common in the general population in the US, however, certain demographics in the country are more susceptible to developing ESRD from CKD. A study done by Desai et al., 2019, states that progression from CKD to ESRD is 50% higher in Hispanics compared to non-Hispanic whites even though the prevalence of CKD is similar or slightly higher among non-Hispanic whites compared to Hispanics. The same article notes that risk factors for developing cardiovascular diseases are more prevalent among Hispanics due to socioeconomic status that limits access to quality health care, a high comorbidity burden, and a higher risk of mortality (Desai et al., 2019).

A lack of awareness of hypertension, control, and treatment has been observed among Hispanics/Latinos compared to non-Hispanic whites (Aggarwal et al., 2021). Results from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL), a community-based longitudinal cohort study of Latinos with CKD, found that Hispanics/Latinos have lower rates of blood pressure control. The study compared rates with the National Health and Nutrition Examination Survey (NHANES) and concluded that the 1,774 of the Hispanics/Latinos with

CKD participating struggled with blood pressure control primarily because of a lack of health insurance and low educational attainment (Lora et al., 2020). The authors suggested that public health initiatives need to be culturally sensitive to help reach individuals with little to no educational background, as well as linguistically appropriate to reach targeted communities (Lora et al., 2020).



Graph depicting the hypertension prevalence, awareness, and control among HCHS/SOL and NHANES. (Lora et al., 2020).

Hispanics make up the fastest-growing minority group that resides in the US, with more than 57.5 million of them living in the country (Lora, 2009b). Of these 57.5 million Hispanics, at least 14% of them have CKD (Desai et al., 2019). A 2020 study reviewed the overall incident rates of Hispanics developing CKD (Ricardo et al., 2020). Of the 8,000 Hispanics/Latinos in this study, the highest rate of incidence for CKD was observed among Puerto Ricans (15.0 per 10000 person-years), and the overall incidence of CKD was 10.6 per 1000 person-years (Ricardo et al., 2020). The prevalence of CKD progressing to ESRD among Hispanics/Latinos is more than 30% higher even though Hispanic/Latinos and non-Hispanic white individuals have a similar prevalence of CKD (Rocio & Cervantes, 2021). Reasons for the higher incidence and prevalence rates among Hispanics/Latinos include reduced access to health and nutritional counseling.

The burden of having renal disease is not only a serious public health issue that affects more Americans each year but also an economic issue. In the US alone, the annual cost of treating Medicare beneficiaries with CKD is more than $87.2 billion; the cost of treating ESRD was more than $37 billion in 2019 (*Chronic Kidney Disease Basics | Chronic Kidney Disease Initiative | CDC,* n.d.). There is a drastic difference in expenditures when treating patients with CKD vs. patients that have ESRD. For instance, Medicare saves an estimated $250,000 per every kidney disease patient who *does not* reach ESRD (American Kidney Fund, *Kidney Failure in California*, 2021).

Type 2 diabetes is the leading cause of CKD, which can eventually become ESRD if left untreated. Diabetes diagnoses among the Hispanic/Latino population is also much more prevalent compared to non-Hispanics. In 2018, the US Department of Health and Human Services reported that Hispanics were 70 percent more likely than non-Hispanic white adults to receive a diabetes diagnosis by a physician, and 1.3 times more likely than non-Hispanic whites to die from diabetes (*Diabetes and Hispanic Americans - the Office of Minority Health*, n.d.-b). Due to the high prevalence of diabetes in the Hispanic/Latino population, this demographic has been reported to be twice as likely to end up in the hospital for emergency treatment of ESRD, in comparison to non-Hispanic whites (*Diabetes and Hispanic Americans - the Office of Minority Health*, n.d.-b).

The Hispanic/Latino population is at a high risk in comparison to other demographics in developing chronic health conditions like ESRD, CKD, and type 2 diabetes in large part because of widespread health disparities experienced by this community. Healthy People 2030 defines health care disparities as health outcomes that contribute to an individual's capacity to attain good health and well-being that is linked to economic, social, and/or environmental disadvantage

(Reduce the proportion of adults with chronic kidney disease — CKD-01 - Healthy People 2030 | health.gov). Healthcare disparities can be viewed through racial, ethnic, and socioeconomic lenses, affecting the health status of patients. For example, community members that are below the poverty level are less likely to seek out recommended care to help reduce CKD risk factors, as well as follow recommended treatment goals due to the lack of access and accessibility caused by the burden of poverty (Pereira & Cervantes, 2021). As a result, regardless of whether this population is aware of the health of their kidneys, their options for exercising healthy choices or health care are generally limited. A qualitative study that included 15 Hispanic/Latino patients who received hemodialysis for ESRD reported participants had little to no awareness of their kidney condition until just before or after they commenced dialysis. Furthermore, they expressed dissatisfaction with the quality of the education they received, stating that it was not adapted to their cultural background (Novick et al., 2021).

Research has revealed that social determinants of health including educational, economic, and occupational status are a predictor of the onset of morbidity and mortality. According to research published by the American Diabetes Association, individuals with lower socioeconomic status (SES) are at an increased risk of developing type 2 diabetes mellitus (T2DM), facing more complications, and having a shorter life expectancy compared to those with a higher SES, with the converse of this relationship also being true (Hill-Briggs Felicia et al., 2021). The risk of CKD and its progression to ESRD among the Hispanic/Latino population with low SES is much higher compared to their white counterparts with higher SES, as explained by Crews et al., 2014. Crews et al found that ethnic and racial minorities suffer from advanced and progressive ESRD, CKD, and the incidence of them acquiring ESRD is three times higher compared to whites. Disparities addressed in the study include discrimination, low educational attainment, and low

median household income (Crews et al., 2014). Hispanics/Latinos that are socioeconomically disadvantaged inevitably also suffer from a lack of evidence-based care, structural barriers to care, and unemployment, which all contribute to the progression of CKD/ESRD (Nicholas et al., 2015b).

Federal

Medicare Coverage

Medicare is health insurance for people 65 and older, people under 65 with certain disabilities, and people with permanent ESRD, or permanent kidney failure (Centers for Medicare and Medicaid Services). In 1973, Congress extended Medicare coverage for the thousands of Americans needing dialysis treatment to survive (Swaminathan et al., 2012). In the early 1970s, only about 16,000 patients required dialysis treatment (Swaminathan et al., 2012); that number has now risen to more than 800,000 patients needing this life-saving treatment in the US. Providing these services was and continues to be groundbreaking as dialysis treatment is too costly without insurance coverage.

CDC Chronic Kidney Disease Initiative

Established in 2006, the Centers for Disease Control and Prevention (CDC) took part in creating the federal Chronic Kidney Disease Initiative. The CKD Initiative has helped provide public health strategies to advance kidney health such as preventing and controlling risk factors for CKD, raising awareness of CKD and its complications, promoting early diagnosis and treatment of CKD, and improving the outcomes of people living with CKD (CDC, CKD Initiative, 2022). Initiative activities include surveillance, epidemiology, and health outcome tracking that document CKD and its risk factors in the US population over time. CDC administers this in collaboration with the National Institute of Diabetes and Digestive and

Kidney Diseases of the National Institutes of Health (NIH/NIDDK) to help support the Longitudinal Study of Markers of Kidney Disease for early diagnoses. This public health analysis has made it mandatory to incorporate dialogue and coordination among numerous agencies about the effects of kidney disease.

Federal

National Kidney Foundation

The National Kidney Foundation (NKF) has also supported methods for increasing the quality of life among patients with either CKD and/or ESRD. NFK is a national voluntary health organization in the US that offers education, support, and resources to individuals and families affected by CKD (Du Yan et al., 2022). The NKF also offers an existing online community across the world to patients and their loved ones battling CKD/ESRD and through these communities, people can share their personal experiences, communicate, and ask questions for support. Although NFK offers health education and a means for patients to be in community with one another online, offering more proactive strategies for early CKD detection is also needed.

Interpersonal/Community

National Kidney Disease Education Program (NKDEP)

According to a training manual for community health workers that was developed by the National Institute of Diabetes and Digestive and Kidney Diseases, the National Kidney Disease Education Program (NKDEP) was created to help reduce the number of people who develop CKD, especially among those who are at a higher risk of developing CKD/ESRD. NKDEP developed the campaign *Riñones, Tesoros (Kidneys, Treasures) Education Program for Community Health Workers,* a campaign to help educate Hispanics living with diabetes about CKD. The program was introduced both in Spanish and English and the CHWs provided toolkits

with training manuals, educational sessions, and additional materials that they deemed were important for kidney health education. This Hispanic outreach initiative aimed to educate Hispanics with diabetes about the risk factors for kidney disease, how the kidneys work, living with kidney disease, as well as the different treatment options if diagnosed with kidney failure. Kidney health education in this campaign also promoted healthy and nutritious foods that either can help in preventing CKD or changing unhealthy eating habits of CKD patients to stop the progression to ESRD. Nutrition education in this campaign emphasized to the participants to choose and prepare food with less sodium, eat the right amount of protein, promote cooking food at home instead of always buying out, choosing foods with less phosphorus, choosing food with the right amount of phosphorus, and drinking lots of water (National Institute of Diabetes and Digestive and Kidney Diseases, 2014).

Community

Kidney Disease Screening and Awareness Program

Founded in March 2008 by Li-Li Hsiao, MD, Ph.D., the Kidney Disease Screening and Awareness Program (KDSAP) is a registered program at Harvard College with two main objectives: student career development and community outreach (*Our Story*, n.d.). KDSAP is a student-run organization that enables students to participate in community outreach to help raise public awareness and promote early detection of CKD. Community outreach activities include student-run monthly kidney health screenings in communities that are known to be marginalized and/or underserved. KDSAP not only involves student participation, but it also involves physician volunteers and community members to get services out to the communities. These services are free of charge and are an essential component to communities in need, as KDSAP provides kidney screening and health education. Kidney health screenings primarily take place at

churches, elder homes, homeless shelters, community centers, and other medically underserved communities. Due to its strong commitment to providing health education and preventative services to medically underserved communities, KDSAP has grown and gained national and international attention, with chapters located in several states and locations in the US (*Our Story*, n.d.).

Method

This literature review for this project selected peer-reviewed articles that addressed the at-risk Hispanic/Latino population in the US or those who already have CKD/ESRD. The literature review focused on peer-reviewed journals and articles retrieved from PubMed and Google Scholar published between 2007-2023. The search also included databases such as the Centers for Disease Control and Prevention (CDC), US Department of Agriculture, National Kidney Foundation, National Institute of Diabetes and Digestive and Kidney Diseases, World Health Organization (WHO), and The American Kidney Fund. Keywords for the search included chronic kidney disease (CKD), end-stage renal disease (ESRD), kidney disease among Hispanics/Latinos in the US, diabetes and diabetes prevention, community health workers (CHW), food insecurity, food insecurity and disease prevalence, health disparities among the Hispanic/Latino population, CKD progression, and disease self-management. To narrow the search, only English articles are used, and the targeted population is Hispanic/Latino adults in the US.

Recommendations

1. ***Promotoras de Salud could be integrated into community health programs, such as Federally Qualified Health Centers (FQHCs) in local communities to enhance the success of health education directed to the Hispanic/Latino population with kidney disease.***

Promotoras/es de Salud are trusted individuals that have a strong connection to their communities as they provide education, health, and social resources in Spanish-speaking communities (*MPH Salud*, 2021). The Health Resources and Services Administration recognizes CHWs as members of the community who work or volunteer to provide health care services in urban and rural settings, and who usually have similar backgrounds to the communities they serve (Health Resources and Services Administration, 2007). Promotoras/es de Salud are important for the community because they can help overcome barriers that the Hispanic/Latino community face regarding lower acculturation and health literacy in achieving overall health and wellbeing. Promotoras/es are community healthcare workers that extend healthcare services to hard-to-reach communities with goals of achieving self-management interventions for chronic health conditions. CHWs, or Promotoras, are agents of change that help deliver culturally competent care and reduce health disparities. However, since CHWs are yet to be recognized as part of the professional workforce (i.e., medical assistants, social workers, certified dieticians, etc.), funding CHWs can be limited, which then affects communities that are in desperate need of their services.

CHWs, or Promotoras, are essential in educating and promoting healthy lifestyles to the Hispanic/Latinos community through outreach, relationship building, cultural mediation, and culturally appropriate education and information (MPH Salud, 2021). Research has shown that

CHWs aid in kidney health disparities among the Latinx community. In Cervantes et al., 2022, the authors explain how CHWs not only work on educating patients with low health literacy, but they also may also accompany patients to important appointments, support them in social challenges, and provide emotional support. Cervantes et al., 2022 also suggest that CHWs help to improve kidney disease knowledge and decision-making by way of decreasing language barriers, reducing medical mistrust, connecting patients to the care they need, helping patients navigate the healthcare system, as well as screening patients for potential kidney disease/failure.

A study done by Campos et al., 2018 suggests that self-management behaviors and glucose control levels have been improved among Hispanics/Latinos with diabetes after having participated in a CHW-led intervention. This study was a randomized controlled study that tested the effectiveness of CHWs in reducing multiple coexisting medical conditions as well as psychological barriers faced by Latinos with diabetes. The intervention that the CHWs used was a "culturally tailored diabetes self-management and healthy lifestyle curriculum called 'Journey to Health'/El Camino a la Salud," in which these health workers were trained in CHW core competencies, group process, motivational interviewing, and empowerment theory and approaches, as well as having knowledge about diabetes (Campos et al., 2018). This intervention was six months long. CHWs were part of 11 two-hour group meetings/classes that met every two weeks, assisting in phone calls as needed, two 60-minute home visits once a month, and going with the participant to a doctor's checkup.

CHWs are frontline public health workers that should be recognized by local communities, as they have a good understanding of the people they serve within diverse communities. As just one example, the Center for Well-being is a nonprofit in Sonoma County founded in 1994 that provides clinical services and community programs with help and

assistance from CHWs. These CHWs help to provide the community with tools, resources, and knowledge to control diabetes, high blood pressure, and other health issues (Nutrition Education California, Community Education, Center for Well-Being, 2023). The Center for Well-Being offers training for anyone in the community that is interested in becoming a CHW as these trainings encompass effective communication, outreach and advocacy, teaching and facilitation, trauma-informed care, service coordination and navigation, and so much more. A study that was done by the Hearts of Sonoma County Initiative to reduce cardiovascular disease risk in 2019 illustrates how CHWs were utilized within the clinical component. Some of the results from this study, conducted by Allen et al., 2019, saw better blood pressure control among the 1,751 participants, as well as conducting 1,729 blood pressure screenings, and referring 441 of these individuals to clinical providers for any follow-ups needed. Apart from blood pressure screenings, the CHWs in this study also conducted a preventative media campaign to promote community-based education and helped schedule appointments for patients that needed that direct service.

The first recommendation suggests CHWs be available and recognized in FQHCs or any community health center to better reach Hispanics/Latinos in need of kidney disease prevention and education. (See Appendix A.1 for a logic model for recommendation 1.) Community health centers such as FQHCs could help in the creation of health education campaigns to raise awareness about CKD/ESRD among the Hispanic/Latino community in the area. FQHCs serve as a safety net to the Hispanic/Latino community in need of health services and provide comprehensive primary care services to Medicaid and Medicare enrollees. The National Health Center Program Uniform Data System (UDS) reported that in 2021, FQHCs saw over 30,193,278 patients (*National Health Center Program Uniform Data System (UDS) Awardee*

Data, n.d.). Of these patients, 17,638,232 were racial and/or ethnic minority patients and 10,673,102 of them were of Hispanic/Latino descent. Due to limited resources and a high uninsurance rate, the Hispanic/Latino population often receives health services via FQHCs for their primary and preventive care services (Gómez et al., 2019). This is why CHWs could promote health education campaigns about kidney health in FQHCs, where CHWs and campaigns are paid through consistent grant funding (applied for on a yearly basis) and/or are included in the health agency's budget to account for CHW full-time equivalence (FTEs).

Part of the health education campaign administered by the CHWs could incorporate lessons both in Spanish and English about kidney health, the importance of taking care of the kidneys, how to do so, and options for care if kidney disease occurs. Screening for kidney disease among group participants is vital, and this could occur at least once a week using both GFR and uACR testing with the help of medical assistants and clinicians if needed.

Social media posts on Instagram, Twitter, Facebook, and any other common media applications, as well as publications such as infographics and brochures, could promote the health education campaign and target Hispanic/Latino community members interested in receiving these services. Utilizing social media is an effective way of communicating these services to target populations, as there is evidence suggesting media outlets have a positive impact on the community. Social media has the potential to remove physical barriers when it comes to advancing health education, and it offers a broad reach, low costs of communication, and efficiency in educating its audiences (Stellefson et al., 2020).

This recommended CHW-led programming and campaigning could be available throughout the year, with data reports being generated every three months that show how many participants are being enrolled, the number of screenings being done, how successful are the

lessons on kidney health, etc. Participants could take a pre-questionnaire about their knowledge of kidney health and kidney disease and every three months they could be followed up with either an in-person test taken at a health center or an at-home test administered online. At the end of the programming year, participants could take a post-questionnaire to help track the knowledge gained from the health education campaign. For participants that cannot physically make it to the sessions every week, the health campaign could be offered online as well.

In a study done by Silverman et al., 2018, the authors explained how CHWs are valuable to low-income communities that struggle with diabetes management. The CHWs in this study noted three of the biggest hurdles encountered in achieving optimal disease control were difficulty maneuvering the healthcare system, knowledge about diabetes management skills, and socioeconomic conditions. The CHWs aided the participants in this study by providing health education, connecting them to much-needed resources, being readily available whenever needed, etc. The health education campaign that will be administered through CHWs at the FQHCs should not only promote kidney education and disease management/screenings, but the campaign could also help participants understand the healthcare system to achieve optimal disease control.

The services that CHWs provide may be reimbursed through grants or state/local funds for a limited time; Medicaid coverage for the services these workers provide is limited to certain states. But often their services may go unpaid, and this can be detrimental not only to CHWs but also to the communities they serve. As of July 1, 2022, only 9 states in the US have Medicaid coverage for these public health workers; the states are California, Oregon, Nevada, North and South Dakota, Louisiana, Minnesota, Rhode Island, and Indiana (State Policies for Expanding Medicaid Coverage of Community Health Worker (CHW) Services, 2023b). When providing

CHWs a permanent space within the community to provide their services, there is potential to see a decrease in health disparities faced by many Hispanic/Latinos with CKD.

2. ***SNAP is a federally funded food assistance program by the United States Department of Agriculture (USDA) for low-income families. Access to SNAP for the Hispanic/Latino population*** *could be expanded through* ***Promotoras/es de Salud/CHWs outreach in the community to help enroll low-income Latino families eligible for SNAP.***

The progression of CKD has now become the fastest-growing non-contagious disease in the US; at least half of patients with type 2 diabetes and 33% of patients with type 1 diabetes will develop kidney disease (Thomas et al., 2015). These staggering statistics demonstrate that CKD and ESRD cases must be prevented by controlling diabetes and high blood pressure. US data from the CDC states that over the lifetime of US adults, their chance of developing type 2 diabetes is 40%, with Hispanic or Latino adults having a more than 50% chance while also experiencing an earlier onset of this chronic condition (Hispanic/Latino Americans and Type 2 Diabetes, 2022b). Although a person does not necessarily have to be considered obese to be diagnosed with type 2 diabetes, type 2 diabetes can lead to CKD and/or ESRD, and an inactive lifestyle (sedentary lifestyle), are two of the most common causes of diabetes. Offering easy access to healthier food options can help mitigate the onset of diabetes. As a result, CHWs could engage in an outreach campaign to help enroll all Latinos that are not in SNAP as SNAP benefits will help the community meet their nutritional needs and reduce food insecurity.

Some of the challenges that the Hispanic/Latino population encounters when trying to enroll in SNAP benefits relate to immigration concerns, limited access/availability of culturally responsive and linguistically appropriate online services, as well as a digital divide and lack of

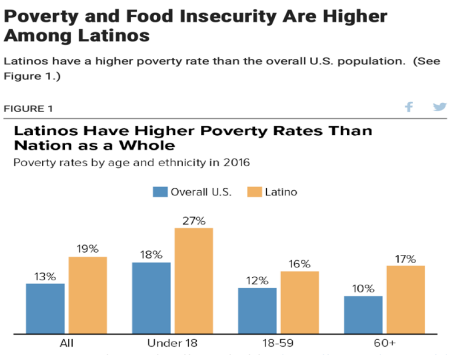
transportation to and from grocery stores (Gepp, 2018). This is why it is valuable for community health workers to assist this community by way of holding an outreach campaign initiative throughout local communities. In a study done by Gerardo et al., 2022, the authors explain how CHWs campaigned to help improve fruit and vegetable intake and physical activity in the Latino population. This campaign was a culturally tailored community-wide campaign known as *Tu Salud, Si Cuenta!* (Your Health Matters!), and one of the leading activities accomplished by the CHWs was paying home visits to help promote positive changes. The campaign aimed to reach low-income Latinos across 12 different locations between January 2014 and December 2017. *Tu Salud, Si Cuenta!* utilized the community-wide campaign components of mass and social media, policy improvements, social support and tailored health education, and motivational interviewing. This study had a large sample of 5,686 low-income Latino adults who all initially had low fruit and vegetable consumption, as well as low physical activity engagement; this group overall faced systemic inaccessibility to health promotion services (Gerardo et al., 2022). Some of the study results showed that for participants to engage in fruit/vegetable consumption and physical activity engagement, CHWs had to commit to 3-4 follow-up home visits and to tailoring health promotion interventions to the needs and assets of the community to induce health behavior changes.

The recommended outreach campaign, facilitated by CHWs, could take place near churches, in front of grocery store entrances, parking lots, community parks, recreational areas, back-to-school nights, and any other locations that the Hispanic/Latino population will not have trouble accessing by their own means. (See Appendix A.2 for a logic model for recommendation 2.) This initiative could prioritize enrolling this community in SNAP benefits, as well as promoting healthy and nutritious meals that can be made using SNAP purchases. The CHWs

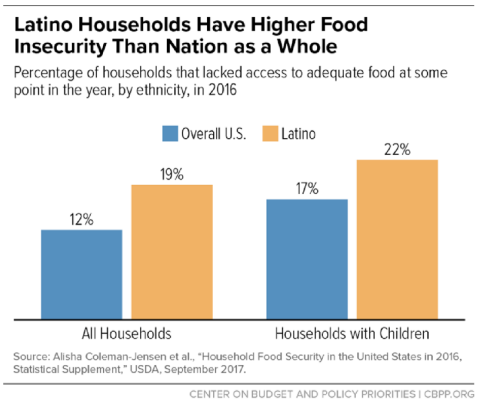
could administer cooking lessons and these lessons could promote traditional dishes that can be made with SNAP benefits to help inspire SNAP enrollees to cook more at home. Administering cooking lessons to people with type 2 diabetes has been proven to promote positive health outcomes including a decrease in intake of energy, fat grams, percentage of calories from fats, saturated fat grams, cholesterol, sodium, and carbohydrate grams (Archuleta et al., 2012).

Aside from cooking and nutrition education, CHWs could hold food pantries at least once a week in community centers where people can easily access them. Food that has been administered through food banks and food pantries has been shown to increase food security, food stability, and fruit and vegetable intake among adults with diabetes (Seligman et al., 2018). The same study concluded that food pantries provide diabetes-appropriate food and assist in chronic disease support (Seligman et al., 2018). Physical activity could also be promoted and CHWs could engage in holding workout classes with the community at least twice a week to help community members stay active.

Studies have shown that participation in SNAP benefits may help control diabetes, especially among older adults that struggle to keep up with their medications and other healthcare-related costs. In an article published by Pooler & Srinivasan, 2019b, the authors explain that not only do SNAP benefits help reduce food insecurity, but they also lead to the affordability of medications for older adults with diabetes since out-of-pocket food spending is reduced (Pooler & Srinivasan, 2018). This is especially important for the more than five million Hispanics/Latinos that are enrolled in SNAP and the four million Latinos eligible but not enrolled in SNAP since poverty and food insecurity are known to be higher among this demographic:



Center on Budget and Policy Priorities https://www.cbpp.org/about



A report conducted by the US Department of Agriculture in 2021 listed some of the barriers that participants have faced with SNAP benefits. Some of these barriers include a lack of nutrition knowledge, cooking skills, kitchen facilities, time to prepare meals, and affordability. Other barriers include a significant digital divide and a lack of transportation (Gearing et al., 2021).

Having CHWs out in the community and helping enroll eligible Hispanics/Latinos in SNAP benefits is an innovative way to help control and promote diabetes prevention within the community and limit the offset of CKD/ESRD. CHWs can not only assist in helping complete SNAP applications but can also engage in cooking classes and valuable lessons to get the Hispanic/Latino community excited about making nutritious meals at home. CHWs could be supported by renal dieticians, mostly representing dialysis centers since renal dieticians can help plan a diet for special needs. It is important to acknowledge that even if patients do not have CKD but are already diabetic their diet should be modified as soon as possible to prevent any further complications. Community members should not have to wait till they have CKD/ESRD to have information to change their eating habits, so it is pivotal for them to receive weekly lessons. Physical activity classes will also help the community stay active without having to have

a gym membership and this can promote community engagement as they will be surrounded by other community members.

Food insecurity has been associated with an increase in type 2 diabetes, especially within Hispanic/Latino families. Food insecurity is a risk factor for type 2 diabetes and is characterized by the lack of access to sufficient food to sustain an active and healthy lifestyle (Osborn et al., 2023). This same article explains that an increase in weight and insulin resistance is often attributed to irregular eating patterns, and these factors may cause type 2 diabetes. The SNAP program, funded by the USDA, is one of the federal food assistance programs that assist people facing hunger in the US, and although it is a great resource, SNAP needs to better outreach to community members that may face struggles when trying to fill out the application, as well as actually using their SNAP benefits to make good meals and partaking in physical activity.

A food bank is a non-profit organization that collects and distributes food to community organizations and charities like shelters, soup kitchens, and food pantries. Food banks can also collaborate with restaurants, grocery stores, and other food donors to gather food surplus that goes to waste if not donated (*Join Me in Ending Hunger*, n.d.). Food that is stationary among food banks and food pantries unfortunately goes bad, since many families in need of food assistance do not have the means or capacity to travel to these locations. This is why CHWs could hold pantry hours throughout the community to disperse food that oftentimes becomes perishable in food pantries that are inaccessible to the community.

SNAP is 100 percent federally funded, and in 2021 the government spent $111 billion in implementing the food assistance program (*About | Center on Budget and Policy Priorities*, n.d.). Even though this investment in a food assistance program seems a lot and very expensive for taxpayers, SNAP protects the overall economy. As noted in a report done by the US

Department of Agriculture, "…an increase in SNAP expenditures may be relatively effective at raising economic output compared to other policies available…an additional $1 billion increase in SNAP spending would increase total economic activity by $1.79 billion" (Canning & Stacy, 2019). SNAP is one of the 16 food assistance programs administered by the USDA, and better outreach needs to be done to Hispanics/Latinos to increase participation in the SNAP program as this will bring the availability of food to Hispanic/Latino communities at risk of diabetes.

Discussion and Implications

CHWs are health professionals, an important healthcare resource not only because they focus on communities in need, but because they emphasize and model culturally competent and culturally humble care when serving vulnerable populations. CHWs are members of the health care team and deserve recognition because they bring cultural awareness much needed in successful public health programs. It is important for any healthcare worker to provide culturally competent care as this has been shown to help improve health outcomes and quality of care, as well as contribute to the eradication of racial and ethnic health disparities. CHWs are loved by communities not only because they serve hard-to-reach populations, but because in practicing cultural competence, CHWs are promoting better access to appropriate healthcare, and honor the communities' cultural beliefs, behaviors, and specific needs.

Hispanic/Latino community members that are diagnosed with CKD/ESRD and/or are diabetics need special care when trying to better their quality of life, and it is essential for CHWs to be present in their lives, as CHWs can share familiar backgrounds, share the same language, and may have been raised in the same neighborhoods, etc. CHWs help promote the importance of trauma-informed in the healthcare setting and as a result, bring awareness to the importance of practicing cultural humility. It is not enough to only practice cultural competence when serving

communities in need, as this can, unfortunately, bring stigma and foster implicit racist attitudes and behaviors (Lekas et al., 2020).

Cultural humility can help health providers better understand the root causes of health disparities that put many Hispanics/Latinos at risk of chronic health conditions such as diabetes, CKD, and ESRD. As defined by Lekas et al., 2020, "Cultural humility refers to an orientation towards caring for one's patients that is based on: self-reflexivity and assessment, appreciation of patients' expertise on the social and cultural context of their lives, openness to establishing power-balanced relationships with patients, and a lifelong dedication to learning." Although CHWs may already be culturally competent and practice cultural humility with the communities they serve, for future research, policy, and/or programmatic next steps, cultural competency, and cultural humility training should be implemented in this group for better reporting.

If CHW services are mandatory in FQHCs or any other community health centers, a limitation that can come from this is CHWs not attaining the adequate certification needed to provide services if said certification is deemed required. In the state of California, there is yet to be a standardized training curriculum or requirements for CHWs, but there is a training requirement that must be completed which varies depending on who is offering the training (Understanding California's Community Health Worker/Promotor Workforce: CHW/P Training Programs - California Health Care Foundation, 2023). Another limitation is that there is no guarantee that Hispanic/Latino community members will have transportation options to and from the FQHCs to receive CHWs' services; this is an important reason why CHWs provide their services out in the community, away from health centers so that community members can be most easily accessed. Nevertheless, it is important for CHWs to have a specific and permanent location where their services can always be promoted and received by the community.

A limitation of the second recommendation is that if the cooking lessons and/or physical activity classes take place outdoors, safety measures must be accounted for. This is especially true for CHWs leading these classes, as they carry a great responsibility in meeting community members where they are. Ensuring that the nutritional lessons and physical activity classes are being administered in safe areas in the community should be prioritized for the health and safety of the CHWs and the Hispanics/Latinos taking part in these classes.

Conclusion

The growing prevalence of CKD and ESRD is a public health concern that is affecting millions across the US and is affecting the Hispanic/Latino population at disproportionate rates. The progression of CKD to ESRD is faster among the Hispanic/Latino population; this can be attributed to a lack of kidney disease awareness and food insecurity among this population. This is why community health programs to help with screening, kidney disease education, and an outreach campaign could be implemented at the community level to raise awareness about kidney disease and its complications. Research continually finds that the Hispanic/Latino population often struggles to control blood pressure, resulting in hypertension, diabetes, and eventually CKD/ESRD. This population is also in need of more assistance when it comes to applying to food assistance programs that they are eligible for but are often not enrolled in due to barriers they experience. CHWs are an essential workforce in effectively serving this population. CHWs can not only provide kidney disease awareness/screening but will also promote healthy eating and help to remedy some of the food insecurity in this population, leading to reduced kidney disease complications among the Hispanic/Latino community.

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Appendices

Appendix A.1

Logic Model for Recommendation 1

Problem Statement	**Resources**	**Activities**	**Outputs/Short-term Outcomes**	**Long-term Outcomes**
There is a need for culturally competent kidney health education for the Hispanic/Latino population. CHWs could be integrated with public health providers to better target minority populations.	FQHCs and other community organizations could integrate Promotoras/CHWs into the public health team given adequate funding.	-Kidney health educational seminars -Screening for kidney disease via blood and urine tests -Infographics, brochures, social media posts about services will be distributed	-Increase awareness and knowledge of culturally competent care that will create positive change -Will show better health outcomes for marginalized communities	-Detect and/or prevent kidney disease -Will improve quality of life among the Hispanic/Latino population living with CKD/ESRD -Will provide a cohesive community among Hispanic/Latino patients

Appendix A.2

Logic Model for Recommendation 2

Problem Statement	**Resources**	**Activities**	**Outputs/Short-term Outcomes**	**Long-term Outcomes**
In an outreach effort to low-income Latino families, Promotoras/CHWs can connect eligible families to nutrition resources. Food insecurity is a contributing factor to chronic health conditions.	-Food pantries/Food banks -Renal dieticians to assist with meal lessons -CHWs -Funding from local community partnerships and the USDA	-Outreach events will take place in churches, parks, grocery stores, etc. -Will hold cooking classes as well as physical activity classes -Will assist families on enrolling in SNAP benefits	-Increase health literacy -Increase physical activity and meal planning	-Will help promote diabetes prevention by healthy eating -Will reduce food insecurity -Can help reduce obesity

Appendix B.

MPH Foundational Competencies

Foundational Competency	Description of how used for Capstone
Evidence-based Approaches to Public Health	
1. Apply epidemiological methods to the breadth of settings and situations in public health practice	Identified from research data that the Latino population is much more likely to go more rapidly from CKD to ESRD.
2. Select quantitative and qualitative data collection methods appropriate for a given public health context	
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software as appropriate	
4. Interpret results of data analysis for public health research, policy and practice	From the analysis of research data, proposed policies that would include the use of Promotoras/CHWs for the Hispanic/Latino population.
Public Health & Health Care Systems	
5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings	
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels	
Planning & Management to Promote Health	
7. Assess population needs, assets and capacities that affect communities' health	
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs	
9. Design a population-based policy, program, project or intervention	
10. Explain basic principles and tools of budget and resource management	
11. Select methods to evaluate public health programs	
Policy in Public Health	
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence	
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes	

14. Advocate for political, social and economic policies and programs that will improve health in diverse populations	
15. Evaluate policies for their impact on public health and health equity	
Leadership	
16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making	
17. Apply negotiation and mediation skills to address organizational or community challenges	
Communication	
18. Select communication strategies for different audiences and sectors	
19. Communicate audience-appropriate public health content, both in writing and through oral presentation	Outlined, drafted, and finalized Capstone paper including a literature review, recommendations and implications on a current public health problem. Created a slide deck based on the Capstone paper and delivered an oral presentation at Health Professions Day in front of an interprofessional audience.
20. Describe the importance of cultural competence in communicating public health content	Discussed Cultural Competency and Cultural Humility in the Discussion and Implications section of the paper. Described the importance of healthcare providers being trained in cultural competency/humility and how this can aid in eradicating health disparities among marginalized populations in the US.
Interprofessional Practice*	
21. Perform effectively on interprofessional teams	
Systems Thinking	
22. Apply systems thinking tools to a public health issue	

Health Policy Leadership Concentration Competencies

Competency	Anticipated FW Activity
1. Apply economic concepts to understand the effect of changes in policies at the government, health systems, and public health sectors	
2. Synthesize economic concepts to assess equity and efficiency in making health policy recommendations in underserved communities	Addressed the economic impact that CKD/ESRD diagnoses have had on the US economy. Mentioned that economically speaking, it is more expensive for the US to treat ESRD than CKD. Also mentioned how essential Medicare coverage has been for the lives of people with ESRD. Demonstrated why expanding SNAP benefits to eligible Hispanics/Latinos is also benefiting the overall US economy.
3. Formulate efficient health policy change recommendations through the analysis of proposed health policy	One of the recommendations that was proposed in the paper could help target the Hispanic/Latino population. Demonstrated why it is essential for this population to be better outreached for food

initiatives that could affect health outcomes of vulnerable populations	accessibility and demonstrated the importance of committing to an outreach campaign to promote SNAP enrollment.
4. Develop recommendations to improve organizational strategies and capacity to implement health policy	Mentioned the importance of implementing Promotoras de Salud (Community Health Workers) within Federally Qualified Health Centers (FQHCs) year-round to provide sustainable health education for Hispanic/Latino populations in need of these services. FQHCs are safety nets for the Hispanic/Latino population, as it is known that this population receives its primary care from FQHCs since these health centers are easily accessible.
5. Analyze policy options to address environmental health needs at the local, state, and federal levels	

Apply epidemiological methods to the breadth of settings and situations in public health practice	Identified from research data that the Latino population is much more likely to go more rapidly from CKD to ESRD.
Interpret results of data analysis for public health research, policy and practice	From the analysis of research data, proposed policies that would include the use of Promotoras/CHWs for the Hispanic/Latino population.
Communicate audience-appropriate public health content, both in writing and through oral presentation	Outlined, drafted, and finalized Capstone paper including a literature review, recommendations and implications on a current public health problem. Created a slide deck based on the Capstone paper and delivered an oral presentation at Health Professions Day in front of an interprofessional audience.
Describe the importance of cultural competence in communicating public health content	Discussed Cultural Competency and Cultural Humility in the Discussion and Implications section of the paper. Described the importance of healthcare providers being trained in cultural competency/humility and how this can aid in eradicating health disparities among marginalized populations in the US.
Synthesize economic concepts to assess equity and efficiency in making health policy recommendations in underserved communities	Addressed the economic impact that CKD/ESRD diagnoses have had on the US economy. Mentioned that economically speaking, it is more expensive for the US to treat ESRD than CKD. Also mentioned how essential Medicare coverage has been for the lives of people with ESRD. Demonstrated why expanding SNAP benefits to eligible Hispanics/Latinos is also benefiting the overall US economy.
Formulate efficient health policy change recommendations through the analysis of proposed health policy initiatives that could affect health outcomes of vulnerable populations	One of the recommendations that was proposed in the paper could help target the Hispanic/Latino population. Demonstrated why it is essential for this population to be better outreached for food accessibility and demonstrated the importance of committing to an outreach campaign to promote SNAP enrollment.
Develop recommendations to improve organizational strategies and capacity to implement health policy	Mentioned the importance of implementing Promotoras de Salud (Community Health Workers) within Federally Qualified Health Centers (FQHCs) year-round to provide sustainable health education for Hispanic/Latino populations in need of these services. FQHCs are safety nets for the Hispanic/Latino population, as it is known that this population receives its primary care from FQHCs since these health centers are easily accessible.