Official Title: Improving Screening and Therapy Provision among Hispanics/Latinx at Risk for Chronic Kidney Disease

Protocol#: Pro00112455

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DUHS IRB Application (Version 1.15)

General Information

*Please enter the full title of your protocol:		
Improving Screening and Therapy Provision among Hispanics/Latinx at Risk for Chronic Kidney Disease		
***Please enter the Short Title you would like to use to reference the study:**		
Improving Screening and Therapy for Hispanic/Latinx at Risk for CKD * This field allows you to enter an abbreviated version of the Study Title to quickly identify this study.		

Standard Research Summary

Purpose of the Study

- Objectives & hypotheses to be tested

In order to attenuate inequities and improve identification of Hispanics/Latinx at risk for adverse CKD outcomes, it is essential that community partnerships are cultivated. Additionally, once Hispanics/Latinx at risk for adverse CKD outcomes have been identified, it is critical that the PCPs who care for them are equipped to provide optimal care, in order to prevent disease progression.

Our proposal will (1) Increase rates of screening and monitoring of CKD and CKD risk factors for Hispanic /Latinx community members in Durham by utilizing existing community resources and screening events and (2) Pilot test a PCP-facing
intervention to promote guideline concordant testing and evidence-based therapy provision for Hispanics /Latinx with T2D at community health centers, utilizing clinical champions and pharmacists. We anticipate our study will identify patients with CKD or CKD risk factors and establish feasibility of our pilot

intervention, which we plan to ultimately apply on a large scale to reduce inequities and improve clinical outcomes among Hispanics/Latinx.

Background & Significance

- Should support the scientific aims of the research

BACKGROUND & SIGNIFICANCE
1. Hispanics/Latinx have 40% higher odds of end stage kidney disease (ESKD) development than non-Hispanic Whites, driven by disparities in chronic kidney disease (CKD) risk factors. Hispanic/Latinx individuals are 17% more likely to have T2D than non-Hispanic Whites, with more than 50% of Hispanics in the US estimated to develop T2D during their lifetime. Additionally, only about 52% of Hispanics/Latinx with hypertension have their blood pressure well-controlled, and among Hispanic/Latinx patients with CKD, the rate of controlled blood pressure drops to about 18%. As T2D and hypertension are the two most common risk factors for the development CKD and ESKD, it comes as no surprise that Hispanics/Latinx are disproportionately burdened by advanced CKD compared to non-Hispanic Whites. The reason for disparities in CKD risk factors and the development of advanced CKD in Hispanics/Latinx is multifactorial and extends beyond biology alone, and includes modifiable socioeconomic, neighborhood, psychosocial, and behavioral factors. Issues related to access, documentation, and medical mistrust contribute to disparities in the Hispanic/Latinx community. However, there is strong evidence that community and academic partnerships strengthen recruitment from the community itself, and racial and ethnic minorities are then more likely to engage in research. It is therefore essential that research in the Hispanic/Latinx population include community partnerships integral to building trust and improving health. Therefore, there is a critical need to identify Hispanic/Latinx individuals who have CKD or CKD risk factors in order to develop and implement interventions to attenuate the significant adverse outcomes among this growing population.

2. Early screening and utilization of effective therapies for CKD is highly variable. Optimal CKD care includes both evidence-based screening and provision of effective therapies to attenuate the long-term sequelae of CKD and CKD risk factors. The National Kidney Foundation (NKF) recommends that for patients in high risk groups, which includes diabetes, high blood pressure, age 60 years or older, or family history of kidney failure requiring dialysis or transplantation, that those patients undergo annual screening with a simple urine albumin test. The American Diabetes Association (ADA) also recommends an annual check for urine albumin for patients with T2D, and in those with CKD or with urine albumin-to-creatinine ratios (UACR) >300mg/g, they recommend monitoring twice annually to help guide therapy. Hispanics /Latinx are more likely than non-Hispanic Whites to develop albuminuria prior to showing serologic signs of kidney disease; therefore, early detection is critical in this population.17 In addition to serological testing of kidney function in those with CKD, UACR testing is also required for risk stratification per the Kidney Disease Improving Global Outcomes (KDIGO) guidelines. Unfortunately, recent evidence suggests that the prevalence of urine albumin testing in patients with CKD risk factors is unacceptably low, with one recent national study noting only 21% of individuals with hypertension or T2D receiving UACR testing.19 Further, longstanding evidence-based therapies for T2D complication prevention, such as renin-angiotensin-aldosterone system (RAAS) inhibitors, which reduce albuminuria and mitigate progression to ESKD, are less frequently prescribed to racial and ethnic minorities than to non-Hispanic Whites. Newer therapies such as sodium-glucose co-transporter 2 inhibitors (SGLT2is) and glucagon-like peptide-1 receptor agonists (GLP-1 RAs), have shown dramatic cardiovascular and renal benefit in patients with T2D (and in those without T2D).27-41 Unfortunately, one recent study suggests patients with CKD, for whom the potential benefit is highest, are less likely than patients without CKD to be prescribed these newer agents. 42 Furthermore, if high-risk individuals aren't identified as having CKD or CKD risk factors due to lack of screening, there is no way that primary care providers (PCPs) can optimize therapy for these individuals. Therefore, effective interventions must both identify high-risk Hispanics/Latinx and educate PCPs on updated evidence-based therapy guidelines to reduce the negative clinical outcomes in this vulnerable patient population.

INNOVATION AND RELEVANCE TO REACH EQUITY THEME
The innovation of this study directly aligns with the REACH equity theme of "developing and testing interventions to reduce racial and ethnic disparities in health by improving the quality of patient-centered care in the clinical encounter across setting, diagnoses, stages of illness, and throughout the life course." First, this is the first study to examine a community-academic partnership to enhance the patient-centeredness of kidney care for Hispanics/Latinx in North Carolina. Second, this is one of the first studies proposing an implementation intervention to improve testing and prescribing during the clinical counter with the specific goal of reducing inequities experienced by Hispanic/Latinx individuals. Finally, the data generated and trust built from the

successful implementation of this project will directly contribute to the development and implementation of a larger, clinical encounter intervention to increase provision of evidence-based testing and therapy among Hispanics/Latinx with or at risk for CKD and reduce adverse clinical outcomes.

Design & Procedures

- Describe the study, providing details regarding the study intervention (drug, device, physical procedures, manipulation of the subject or the subject's environment, etc.). Discuss justifications for placebo control, discontinuation or delay of standard therapies, and washout periods if applicable. Identify procedures, tests and interventions performed exclusively for research purposes or more frequently than standard of care. Include alternative therapies, concurrent therapies discontinued per protocol, risk benefit ratio, and use of tissue/specimens. Discuss monitoring during washout periods if applicable. Include brief description of follow-up, if any.

Specific Aim 1: Increase rates of CKD screening and monitoring for Hispanic/Latinx community members in Durham, NC.

In order to identify people with CKD (i.e. albuminuria) or CKD risk factors, such as T2D, hypertension, and /or elevated body mass index (BMI) we will utilize an existing NKF framework and a well-known, community-based Hispanic/Latinx outreach organization (El Centro Hispano) and the community screening events they conduct for Hispanic/Latinx individuals in the community.

Data Source: Hispanic/Latinx Individuals at El Centro Hispano-coordinated community health screening events

Study Design & Participants: Working with El Centro Hispano and NKF of North Carolina, we will build upon existing North Carolina (NC) screening frameworks to engage Hispanic/Latinx individuals in Durham, North Carolina. El Centro Hispano organizes patient-centered health-screening events for Hispanics/Latinx at different locations throughout the Durham community (e.g. churches, community centers, embassies). These events offer routine screening for blood pressure and BMI (and at times, hemoglobin A1Cs) performed by certified healthcare workers or nursing students. Study participants will be recruited from those attending the screening events so no further recruitment or recruitment materials are required. The study will be introduced to the attendees by El Centro clinical staff at the events. Those interested in participating or learning more about the study will be "handed off" to the study team go over the informed consent, answer any questions and conduct the consent process.

In total, we plan to enroll ~150 Hispanic/Latinx participants from 3-4 community screening events organized and hosted by El Centro Hispano Hispano, who has also agreed to provide bilingual community health workers and equipment needed to perform hypertension and BMI screenings on Hispanic/Latinx individuals who come to the events, at no cost to the study team. Individuals who choose not to sign the informed consent will receive the BMI and BP screenings and information typically provided at these community events.

Consent will be obtained digitally via iPad and stored securely in RedCap. An electronic copy of the signed consent will be emailed to the participant.
For participants without an email address, a paper consent will be provided and a signed copy given to them for their records.

For screened participants who sign an informed consent form, El Centro Hispano will leverage their existing relationships with nursing students to perform point of care HbA1C tests in order to identify participants with diabetes or pre-diabetes. The study will supply the funds for these tests. An additional screening test will also be provided for consented participants to identify those with proteinuria (protein in the urine). This is done using a urine dipstick tests, which will be provided by NKF of NC as part of their kidney education awareness program.

The NKF of NC is a local NKF affiliate serving individuals in the state of NC and focused on increasing awareness about kidney health. Their programs have targeted groups who face higher risk of kidney disease, including Hispanics/Latinx. Dr. Diamantis, primary mentor, has been Chair of the NKF of NC Medical Advisory Board since 2018. The NKF of NC has an established partnership with the University of North Carolina entitled the Kidney Education Outreach Program (KEOP), to screen patients for urinary signs of kidney damage.

All consented participants will be provided language-concordant information on kidney health, that have been created by the National Kidney Foundation (attached to this proposal) and are publicly available. For those with an abnormal result on a screening test, additional targeted materials will be provided (e.g.

blood pressure and kidney health) and will also be provided a recommendation to make an appointment with a PCP and options on how to do so (including with community-based health centers such as Lincoln Community Health Center (LCHC) and Duke Outpatient Clinic (DOC).

The influx of patients with T2D to DOC and LCHC from our screening events will directly relate to Aim 2 of this proposal (Figure 1).

Specific Aim 2: Modify and pilot test a provider-facing intervention to promote guideline concordant testing and evidence-based therapy provision for Hispanic/Latinx and non-Hispanic Black individuals with T2D.

We will leverage available educational resources (e.g. ADA, NKF) to inform the development of an intervention to support PCP's at the clinical encounter that integrates thorough patient education with involvement by key clinical stakeholders (e.g. clinical and pharmacy champions) to optimize T2D care for Hispanics/Latinx at the clinical encounter.

Study Population: Approximately 50 PCPs at DOC (Durham, NC) who care for Hispanic/Latinx patients with CKD and/or CKD risk factors.

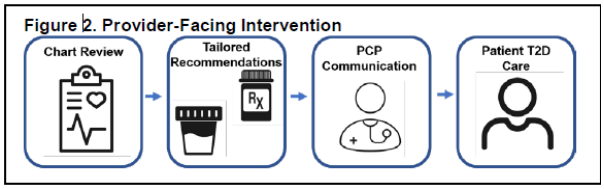
Intervention Cohort: PCPs caring for ~200 Hispanic/Latinx and non-Hispanic Black patients with T2D. These providers will receive study team feedback on optimal T2D screening and management.

Study Setting: The DOC will serve as our recruitment site for this aim. The DOC is a primary care clinic in Durham, NC that has a long and illustrious history as an ambulatory practice site for internal medicine (IM) physicians and their patients. DOC has 79 PCPs who see approximately 20,000 visits per year, including 5,000 unique patients. DOC's patient population consists primarily of racial and ethnic minorities.

Study Design: Pre and post comparison of the study intervention versus 3-month baseline data at the PCP level for Hispanic/Latinx patients with T2D.

Study Intervention: The study intervention is designed to support PCP's standard of care services and will not include any new activities or guidelines outside of standard of care practices that would require approval from the clinics. This support includes providing PCP's with available educational resources (ADA, NKF) for their patients, pharmacy champions and clinical champions to conduct thorough patient chart reviews in order to make recommendations for medications and tests as part of their standard of care services.

The study intervention consists of four steps (Figure 2): Chart Review, Tailored Recommendations, PCP Communication and Patient T2D Care.



I. Chart Review: We will perform biweekly queries of the EHR to identify patients with T2D and self-reported Hispanic/Latinx ethnicity or non-Hispanic Black race who have an upcoming appointment at DOC.

Queries will identify:
1. if the patient is prescribed a RAAS inhibitor (yes/no),
2. if the patient is prescribed an SGLT2i or GLP-1 RA (yes/no), and
3. if the patient has guideline concordant UACR testing (yes/no).

Chart Reviews: During the biweekly query, patients being seen by a PCP will undergo medical chart review by the study's Clinical and Pharmacy champions in order to make tailored care recommendations for medications and/or tests that may be needed as part of the standard of care services to be provided at their upcoming clinic visit with their PCP.

II. Tailored Intervention: Clinical champions and study team will work together with our pharmacy champions to:
1. generate individualized recommendations for safe and effective medication doses for identified patients coming to clinic
2. determine which patients meet standard of care criteria for an updated UACR and make recommendations for UACR test to be done at their upcoming visit.

III. PCP Communication: We anticipate that direct verbal or written communication between the clinical champion and PCP will be the method in which to optimally communicate tailored recommendations and PCP's plans to integrate recommendations into patient's upcoming clinic visit. Communications will include:
1. individualized medication recommendations for safe and effective doses for treating T2D in Hispanic /Latinx patients as determined by the study's pharmacy champion.
2. patients meeting criteria for an updated UACR, as identified by the clinical champion and recommendation to order UACR for patient's upcoming visit (notably as standard of care.)
3. PCP's questions and/or response to recommendations and decisions whether or not to implement the recommendations in the patient's standard of care to be provided at upcoming clinic visit and who will place the orders.

IV. Patient T2D Care: Patients identified in the biweekly query will receive the following as standard of care at their clinic visit with their PCP:
1. Patients who are 'yes' to all three queries (see above) will receive language concordant educational materials from the PCP (provided by study team and leveraging existing materials on T2D and DKD from the ADA and the NKF).
2. For patients who are not on a RAAS inhibitor and/or either a SGLT2i or GLP-1 RA, we will cross-reference their clinical data with updated guidelines to determine individual eligibility for such therapies (*notably, therapy recommendations may be subject to change if UACR results are updated).

Selection of Subjects

- List inclusion/exclusion criteria and how subjects will be identified.

Aim 1:
Inclusion Criteria: Age 18 or older at time of screening and self-identifying as Hispanic/Latinx ethnicity.
Exclusion Criteria: Inability to be reached by telephone.

Aim 2:
Study Population: PCPs at DOC (Durham, NC) who care for Hispanic/Latinx and non-Hispanic patients with T2D

Patient Inclusion Criteria:
-Age 18 or older at time of screening
-At least one PCP visit at DOC between January 1, 2021-June 30, 2023
-Self-identifying as Hispanic/Latino/Latino/Latinx or non-Hispanic Black
-Diagnosis of T2D at last PCP visit defined by a) ICD-10 code or b) HbA1C ≥6.5 or c) diabetes medication use

Patient Exclusion Criteria:
-Type 1 diabetes

Subject Recruitment and Compensation

- Describe recruitment procedures, including who will introduce the study to potential subjects. Describe how you will ensure that subject selection is equitable and all relevant demographic groups have access to study participation (per 45 CFR 46.111(a) (3)). Include information about approximately how many DUHS subjects will be recruited. If subjects are to be compensated, provide specific prorated amounts to be provided for expenses such as travel and/or lost wages, and/or for inducement to participate.

Aim 1: Study participants will be recruited during community screening events organized and hosted by El Centro Hispano as part of their community health outreach services. We anticipate ~150 participants to be recruited from 3-4 screening events scheduled during the course of the study. El Centro Hispano's clinical staff will introduce the study to event attendees an those interested in participating or learning more about the study will be "handed off" to the study team who will review the informed consent with each person individually and confidentially, allowing them to ask questions before deciding whether to consent or not.

Aim 2: PCPs at DOC who care for racial and ethnic minorities with T2D will be recruited to participate in the provider-facing intervention. Since the intervention follows the "standard of care," we will not consent PCPs.

Participants in Aim 1 of the study will be compensated with a gift valued at no more than $10.

Consent Process

- Complete the consent section in the iRIS Submission Form.

Subject's Capacity to Give Legally Effective Consent

- If subjects who do not have the capacity to give legally effective consent are included, describe how diminished capacity will be assessed. Will a periodic reassessment occur? If so, when? Will the subject be consented if the decisional capacity improves?

Aim 1: Only subjects attending community screening events who have the capacity to give consent will be eligible to participate in this study.
Aim 2: PCPs are provided recommendations that follow the standard of care. No consents are necessary since there is no contact between the study team and patients and PCPs can choose whether or not to follow the recommendations

Study Interventions

- If not already presented in #4 above, describe study-related treatment or use of an investigational drug or biologic (with dosages), or device, or use of another form of intervention (i.e., either physical procedures or manipulation of the subject or the subject's environment) for research purposes.

See #4:

Risk/Benefit Assessment

- Include a thorough description of how risks and discomforts will be minimized (per 45 CFR 46.111(a) (1 and 2)). Consider physical, psychological, legal, economic and social risks as applicable. If vulnerable populations are to be included (such as children, pregnant individuals, imprisoned persons or cognitively impaired adults), what special precautions will be used to minimize risks to these subjects? Also identify what available alternatives the person has if he/she chooses not to participate in the study. Describe the possible benefits to the subject. What is the importance of the knowledge expected to result from the research?

UACR testing will provided by the study as an additional screening tool to the standard of care tests being conducted. This test requires a urine sample collection that will be offered to all consenting participants. The potential loss of confidentiality may be a risk of this procedure and every effort will be made to protect confidentiality, as with all study patient data.

Costs to the Subject

- Describe and justify any costs that the subject will incur as a result of participation; ordinarily, subjects should not be expected to pay for research without receiving direct benefit.

The study is only identifying patients who are eligible for an updated UACR, per standard of care guidelines and recommending that the PCP order the test at the patient's next clinic visit with them. The PCP will make the decision whether or not to order the updated UACR as part of standard of care practices for the patient's next visit.

Data Analysis & Statistical Considerations

- Describe endpoints and power calculations. Provide a detailed description of how study data will be analyzed, including statistical methods used, and how ineligible subjects will be handled and which subjects will be included for analysis. Include planned sample size justification. Provide estimated time to target accrual and accrual rate. Describe interim analysis including plans to stop accrual during monitoring. Phase I studies, include dose escalation schema and criteria for dose escalation with definition of MTD and DLT.

Aim 1:
Statistical Analysis: Descriptive statistics will be used to report the proportion of participants who successfully attended a PCP visit, have a pending PCP visit, or attempted to schedule a PCP visit, characterizing the
screening population by sociodemographic data, known health status, lifestyle behaviors, and family history. Mean values and prevalence rates for all categorical variables will be examined using Fisher's exact test, with Independent Student's t-test used for all continuous variables.

Aim 2:
Statistical Analysis: Our primary analysis will compare rates of UACR testing and evidence-based T2D therapy by PCP cluster in the intervention and baseline time periods. Paired Student's t-test will be used to determine differences in testing and prescribing rates by study arm at 3 months post-intervention compared to 3 months pre-intervention among all PCPs who agree to participate in the intervention. At study completion, we will ask all study PCPs to complete a user experience survey to determine their perceived value of the study activities, suggestions for intervention improvement (with focus on facilitated integration into the clinical encounter), perceptions regarding the clinical benefit for their Hispanic/Latinx patients with T2D, and interest in further refining the intervention for use in a future hybrid effectiveness-implementation trial. Geocoded patient data are extracted from Duke's Clinical Research Data Mart (CRDM). CRDM supports data provenance and reproducibility by providing access to curated Duke patient data through reproducible SQL queries.

Data & Safety Monitoring

- Summarize safety concerns, and describe the methods to monitor research subjects and their data to ensure their safety, including who will monitor the data, and the frequency of such monitoring. If a data monitoring committee will be used, describe its operation, including stopping rules and frequency of review, and if it is independent of the sponsor (per 45 CFR 46.111(a) (6)).

PCP's and PI will review patient data and test results to monitor the outcomes of their routine screening and intervention in Aim 1 and 2. The PI will be responsible for monitoring any safety concerns, including loss of confidentiality of study data. The PI will also be responsible for reporting any adverse events to the IRB.