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A Needs Assessment: Improving Access to Cardiac Healthcare for Underserved Populations in a Community Clinic

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A Needs Assessment: Improving Access to Cardiac Healthcare for Underserved Populations in a Community Clinic.

A Scholarly Project Presented to the Faculty of the Nicole Wertheim College of Nursing and
Health Sciences

Florida International University

In partial fulfillment of the requirements
For the Degree of Doctor of Nursing Practice

By

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Abstract

Background: Cardiovascular disease (CVD), causing about 17.9 million deaths annually, disproportionately impacts underserved populations facing access barriers due to socio-economic challenges. The United Health Initiative (UHI) clinic, serving uninsured individuals, struggles to provide comprehensive cardiovascular services due to a shortage of specialists and resources, exacerbating health disparities and economic challenges for these populations.

Objectives: The objective of this quality improvement project was to identify gaps and challenges and to assess the availability and accessibility of CVS for UPs with cardiovascular disease. In addition, to analyze the impact of the needs assessment on service delivery.

Methodology: The project was conducted at the UHI Community Health Clinic in Miami, FL, targeting adult patients referred to a cardiologist in the past six months. A retrospective analysis of medical records was conducted, focusing on patients aged 18 or older who understood English or Spanish.

Results: Out of 23 patients, 13 participated, with females making up 69% of this group. Participants were evenly distributed across age groups 45-54, 55-64, and over 65 years, with 31% in each category. A significant 62% identified as African American. Analysis indicated substantial knowledge gaps and the necessity for improved access to cardiovascular services to mitigate health disparities among underserved populations. The study also shed light on demographic trends, referral patterns, and disparities in cardiologist consultations.

Conclusion: The study at UHI Clinic reveals difficulties in cardiac care access, especially for female and African American patients. Despite a small sample size, it highlights patients' trust in the clinic and systemic barriers like insurance and transportation issues. The increasing trend in cardiologist referrals and unmet consultations suggests gaps in referral and follow-up processes.

These findings emphasize the need for equitable healthcare and inform broader research and intervention strategies to enhance cardiology services and healthcare delivery.

Keywords: Cardiovascular Disease (CVD), Health Disparities, Underserved Populations
United Health Initiative (UHI) Clinic, Accessibility of Cardiovascular Services (CVS)
Quality Improvement Project, Healthcare Accessibility, Service Delivery Impact, Retrospective Analysis, Demographic Trends, Cardiologist Consultations, Systemic Barriers, Insurance Challenges, Transportation Issues, Equitable Healthcare.

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Introduction

As established in the above sections, CVD is a significant health concern. Specific populations are at a higher risk for developing CVD and experiencing poorer health outcomes, especially underserved populations (UPs) lacking health insurance. Access to health care services can be challenging for marginalized communities, including those from low-income backgrounds (LIBs), racial and ethnic minorities, and rural residents. These populations have higher cardiovascular risk factors, including HTN, diabetes, and obesity, and are more likely to experience adverse health outcomes, such as cardiac arrests and strokes.

One significant barrier to accessing specialized cardiac care services for UPs is the lack of health insurance coverage. Approximately 28 million individuals in the US lack health insurance and are less likely to receive recommended care (Teisberg et al., 2020). Even among insured individuals, there are significant disparities in access to specialized cardiac care services, with UPs facing challenges related to transportation, language barriers, and cultural differences. Researchers and healthcare providers have recognized the disparities in health outcomes and access to care based on income, race, ethnicity, and geography for decades.

In the US, the Affordable Care Act (ACA) of 2010 aimed to improve access to health care coverage and care quality for all Americans. The ACA included expanding Medicaid coverage to adults from LIBs, eliminating cost-sharing for preventive services, and providing subsidies for insurance premiums (Madu et al., 2021). In truth, the ACA has increased access to health care coverage for many people. Even so, there are still significant gaps in coverage for individuals from LIBs in states that have not expanded Medicaid. In particular, patients visiting community clinics are either not eligible for Medicare or Medicaid or not eligible for coverage through the ACA due to factors such as lack of information, difficulty with the instruction to apply, cost, and other perceived barriers (Kamimura et al., 2016). As a result, they cannot access specialized CVD care. The lack of access to specialized cardiac care services for UPs significantly affects their health care outcomes and costs. Patients with CVD who lack access to specialized care are more likely to experience complications and require hospitalization, resulting in increased healthcare expenses and adverse health outcomes. Furthermore, the lack of access to preventive care and managing cardiovascular risk factors for UPs can contribute to the development of more severe forms of CVD associated with higher mortality rates (Schultz et al., 2018).

Furthermore, there has been a recent emphasis on value-based care (VBC) and population health management, which aims to improve healthcare outcomes while reducing costs (Teisberg et al., 2020). This applies to community clinic patients because emphasizing VBC and population health management helps to improve health outcomes while reducing costs for this patient population by emphasizing preventative care, care coordination, and chronic disease management. The focus is on providing high-quality care that is patient-centered and coordinated across different healthcare settings. Value-based care seeks to shift the focus from volume-based care, where healthcare providers are remunerated for each service provided. Unlike volume-based care, value-based care facilitates providers' compensation for achieving better health outcomes and reducing costs. While the approach can potentially improve healthcare outcomes and reduce costs, there is concern that they have exacerbated disparities in healthcare access and outcomes. Value-based care initiatives are implemented without addressing the social determinants of health (SDHs). People who face barriers to accessing health care, such as individuals from LIBs, racial and ethnic minorities, and rural populations, may be left behind (Davis, 2020).

Problem Statement

The problem statement highlights the significance of the project and the need for further investigation. It incorporates different elements, including the background information, context, and the specific problem the PICO question addresses. The problem is centered on the lack of health care insurance for UPs living in poverty, lack of health insurance, and subsequent access to cardiology services. Despite advances in cardiology health care, UPs face significant barriers to accessing specialized cardiac care services due to insurance. The problem identification and background of the problem statement provide context for the project by discussing the prevalence of CVD and the disparities in health outcomes faced by UPs. The scope and gaps in knowledge will be identified by noting the number of individuals impacted and the need for further investigation into the effectiveness of undertaking a needs assessment intervention to identify challenges for accessing CVSs.

Problem Identification

CVD is the world's leading mortality cause, accounting for about 17.9 million deaths globally (World Health Organization (WHO), 2023). While CVD affects individuals across all socioeconomic backgrounds, it disproportionately impacts UPs, including those living in poverty or lacking health insurance. Urbich et al. (2020) suggest that UPs often face significant barriers to accessing specialized cardiac care services, such as transportation difficulties, language barriers, and lack of insurance, resulting in poorer health outcomes.

Limited access to specialized CVSs for UPs is a longstanding issue. In the United States, most UPs lack health insurance and are less likely to receive appropriate medical care for CVD, leading to increased morbidity and mortality rates (Graham, 2015; National Academies of Sciences, Engineering, and Medicine., 2017). Underserved populations (UPs) also have higher risk factors for CVD, including high blood pressure or hypertension (HTN), diabetes, and obesity, which can be managed with appropriate medical care (Vanzella et al., 2022). Despite the known benefits of early detection and management of CVD, UPs face significant challenges in accessing specialized cardiac care services, leading to disparities in health outcomes.

Access to specialized cardiac care services is particularly critical for individuals with CVD risk factors, such as HTN or diabetes, because they require frequent monitoring and management to reduce their risk of complications, such as heart failure (HF) or stroke (Francula-Zaninovic & Nola, 2018). However, UPs often lack access to preventive services and have lower medication adherence rates, leading to worse health outcomes. Vanzella et al. (2022) articulated that the lack of access to specialized cardiac care services for UPs has been identified as a significant public health issue. Various initiatives have been launched to improve access to care, including providing specialized care services in community clinics. Implementing specialized CVSs in community clinics may reduce barriers to care, such as transportation difficulties, and provide a more convenient and accessible option for UPs. However, the effectiveness of such initiatives in improving access to care and reducing disparities remains unclear.

Scope of the Problem

According to Vanzella et al. (2022), the WHO lists cardiovascular-related diseases as the leading mortality cause globally, with an annual rate of approximately 17.9 million. The data includes both low- and middle-income countries (LMICs), where access to cardiac care is often limited due to resource constraints. In the United States, heart disease leads to more deaths for both men and women, causing one in every four deaths (Madu et al., 2021). Additionally, data from the Centers for Disease Control and Prevention (CDC) (2023) reveals that CVD accounted for 655,381 deaths in 2018. Individuals from lower socioeconomic backgrounds, racial and ethnic minorities, and rural residents are more predisposed to disparities in access to cardiac care, resulting in worse health outcomes and higher mortality rates (CDC, 2023).

According to the CDC (2021), rural areas often have limited health care and preventive health service access, leading to disparities in managing and treating CVD. Addressing CVD in underserved populations (UPs) reduces health disparities and improves overall health outcomes. In 2017, the age-adjusted death rate due to CVD was 130.7 per 100,000 populations for non-Hispanic Black individuals, compared to 103.0 for non-Hispanic White individuals. The death rate due to stroke was also greater for non-Hispanic Blacks, at 45.0 per 100,000, compared to 35.4 for non-Hispanic White individuals (Niakouei et al., 2020). The prevalence of hypertension is more significant among non-Hispanic Blacks and Hispanics than non-Hispanic Whites. Between 2017 and 2018, approximately 58% of non-Hispanic Black adults had hypertension, compared to 46% of non-Hispanic White adults (Niakouei et al., 2020). Furthermore, UPs are more likely to lack access to preventative care and have higher rates of risk factors for CVD, such as smoking, physical inactivity, and poor diet. These disparities highlight the importance of addressing CVD in UPs and improving access to health care for these individuals.

Poor access to essential cardiac care also has high economic costs. According to Gheorghe et al. (2018), CVD and stroke cost the United States $351.2 billion in direct and indirect costs. These costs include costs related to hospitalizations, medications, and lost productivity. Similarly, the CDC (2023) terms chronic diseases, including CVD, as the leading root of disability in the US. The disease impacts individuals and their families and has high economic consequences. In 2018, the total costs of chronic diseases in the US were estimated to be $3.8 trillion, or 90% of the nation’s health care spending (CDC, 2023). These costs included Direct medical expenditures, such as inpatient stays, prescriptions, and physician visits, and indirect costs, such as productivity and wage loss due to illness and disability. It should be noted, however, that the costs of chronic diseases are not evenly distributed, with individuals from low-income backgrounds (LIBs) and racial and ethnic minorities unduly affected (Centers for Medicare & Medicaid Services (CMS), 2022). These groups are likelier to have limited access to healthcare services and experience worse health outcomes.

Efforts to address limited access to essential cardiac care have been ongoing. The ACA included provisions to increase health care coverage while also improving care quality for all Americans, including individuals from LIBs. Medicaid expansion also increased access to health care coverage for many individuals from LIBs, although not all states have expanded Medicaid. Gheorghe et al. (2018) stated that the ACA also included provisions to encourage the development of accountable care organizations and other VBC models to enhance healthcare outcomes while lowering costs. These approaches incentivize providers to prioritize preventative care and population health management, which can help address healthcare access and outcomes disparities.

Other than policy efforts, the health care systems had advanced various initiatives to address the problem at the community level. For example, community health centers and free clinics provide low-cost or free healthcare services to UPs, including those with low incomes (Joynt Maddox et al., 2020). These facilities also offer outreach programs to help address language and cultural barriers and connect people with necessary resources.

Consequences of the Problem

The consequences of the lack of access to specialized cardiac care services for underserved populations (UPs) are significant and far-reaching, affecting individuals, families, communities, and the economy. From an individual perspective, untreated or poorly managed

CVD can lead to various complications, including cardiac arrests, strokes, HF, and kidney disease. These complications can result in disability, lower quality of life (QoL), and premature death. Underserved populations are more likely to experience these adverse outcomes, leading to a higher burden of morbidity and mortality in these communities (Madu et al., 2021).

The economic implication is that patients lacking access to specialized care are at higher risk of experiencing complications and requiring hospitalization, resulting in higher healthcare costs. It should be noted that the burden of CVD in UPs can also result in lost productivity and economic opportunities, as individuals may be unable to work or care for their families due to the adverse effects of the condition (Urbich et al., 2020).

From a societal perspective, poor cardiac care services can lead to significant health disparities and exacerbate existing inequalities in health care. Urbich et al. (2020) and Vanzella et al. (2022) acknowledge that UPs are more likely to experience cardiovascular risk factors, including HTN, diabetes, and obesity, and are less likely to receive recommended care for CVD. The unequal distribution of disease burden and access to care contributes to health inequities and perpetuates social and economic disparities.

Besides the economic and social consequences, the lack of access to specialized cardiac care services also has political implications. Access to health care is a fundamental human right, and governments are responsible for ensuring that all individuals have access to appropriate and timely care. Failure to access specialized cardiac care services to UPs can result in political unrest and dissatisfaction with government policies and programs.

Knowledge Gaps

While a considerable body of literature examines the disparities in access to specialized cardiac care services for underserved populations (UPs), several knowledge gaps exist. There is a lack of research examining the barriers to accessing specialized cardiac care services for UPs lacking health insurance coverage in community clinics (Agrawal et al., 2020). While there is some research on the barriers to accessing specialized cardiac care services for UPs, most studies primarily focus on racial and ethnic minorities and do not specifically examine the role of health insurance coverage in access to care (Agrawal et al., 2020; Madu et al., 2021). Identifying the barriers to accessing specialized cardiac care services for UPs lacking health insurance coverage is crucial in developing targeted strategies to address this issue.

Also, while several studies have examined the impact of various interventions, such as telehealth and patient navigation, on improving access to specialized cardiac care services for UPs, few studies have been conducted to investigate the long-term viability of these interventions. Agrawal et al. (2020) reported that patient navigation is a technology that guides patients from UPs in the healthcare system and helps them address barriers preventing them from accessing needed care. Agrawal et al. (2020) accentuate that determining the long-term sustainability of interventions is essential, especially for underserved immigrant populations, in ensuring that the efforts to improve access to care are effective in the long term and result in meaningful improvements in health outcomes for UPs.

There is limited research examining the cost-effectiveness of interventions to enhance access to specialized cardiac care services for UPs. While some researchers, such as Gheorghe et al. (2018), examined the cost-effectiveness of interventions to facilitate access to care, the focus is often on high-income populations. It does not explicitly examine the cost-effectiveness of interventions for UPs lacking health insurance coverage. Understanding the cost-effectiveness of various interventions is critical to ensure that efforts to improve access to care are sustainable and feasible in resource-limited settings.

Most importantly, studies have examined the disparities in access to specialized cardiac care services for UPs. Still, few studies, such as that by Vanzella et al. (2022), examined the impact of these disparities on health outcomes for UPs. Understanding the impact of disparities in access to care on health outcomes is essential in highlighting the importance of addressing this issue and developing targeted strategies to improve access to care.

Proposal Solution

Previous interventions have been implemented to address CVD care access for underserved and non-insured patients (Ndejjo et al., 2021). However, many of these interventions have failed due to structural, financial, or other issues impacting their effective implementation. Based on the identified knowledge gaps, a proposed solution is to undertake a needs assessment to understand underlying barriers and possible structural issues within the underserved population (UP). A needs assessment involves a systematic approach to understanding specific patient populations' barriers when accessing care and developing targeted interventions to address those barriers (Wu, 2019). The needs assessment will explore possible collaborations between care providers, civic organizations, and policymakers. By bringing together these different stakeholders, it is easier to develop innovative solutions that leverage existing resources and infrastructure to improve access to care. Garira (2020) indicates that a needs assessment can help to raise awareness about a health issue, such as lack of access to cardiology health care for vulnerable, underserved patients with CVD lacking health insurance, and creating awareness helps to build momentum for broader policy changes that address the underlying structural inequalities contributing to health disparities.

Garira (2020) also indicates that a needs assessment involves several critical steps, including assembling a team of healthcare professionals, researchers, and community advocates to oversee the needs assessment. In this case, the team will include individuals with cardiology, public health, health policy, and community engagement expertise. Needs assessments require the completion of a literature appraisal to identify issues impacting a population. Thus, a comprehensive collection of data on access to cardiology health care for vulnerable, underserved cardiac patients lacking health care insurance is necessary. The data collection will involve analyzing existing health data to identify disparities in access to cardiology health care, conducting patient surveys to understand their experiences and challenges in accessing care, collecting health data that show how many patients have cardiologist referrals and how many need further evaluation because they have been unattended by a cardiologist, survey the health care providers who make the referral for cardiologists, and holding interviews with them to understand the barriers they face in providing care to the population. The findings from the data will pinpoint the key barriers impacting access to care, as well as any promising interventions implemented in other settings.

A needs assessment also involves analyzing the data collected and identifying patterns, trends, and themes to determine the specific barriers a specified population faces. The analysis of the current issue will reveal the specific barriers to accessing care, including significant geographic barriers such as limited cardiology clinics in the community. Based on these needs assessment findings, the team will develop a set of targeted interventions to address those barriers. For instance, developing a network of community health clinics that provide cardiology services at a reduced cost or are accessible to uninsured patients can be proposed to address the identified problem.

Livergant et al. (2021) recommend that a needs assessment intervention be evidence-based, effectively improving access to care for marginalized populations. By systematically identifying the barriers that vulnerable, underserved cardiac patients lacking health care insurance face in accessing cardiology health care and developing targeted interventions to address those barriers, the intervention can improve health outcomes and curtail care spending for this population.

Literature Review

The development of evidence-based practice involves assessing research findings to identify effective approaches for managing specific health issues. This process entails reviewing existing scholarly work, particularly interventions, and their effectiveness. This study includes a review of the evidence base supporting the project, including the search strategy used to find relevant literature. By examining the literature on cardiology healthcare services for uninsured and underserved individuals in the community, the goal is to emphasize the importance of implementing evidence-based changes.

Search Strategy

The research question was defined based on the PICO format to generate the articles reviewed. The keywords and phrases were identified based on the PICO, including UPs, cardiology care, access to health care, health insurance, and community health care. A comprehensive search of several databases, including PubMed, CINAHL, Cochrane Library, and Google Scholar, was completed using different search strings as follows: vulnerable populations OR “underserved populations”; cardiology OR cardiology care OR cardiac care AND health care access OR health care insurance; needs assessment OR community health care. The search was restricted to English-language articles published between 2018 and 2022.

Inclusion and Exclusion Criteria

The inclusion criteria were articles focused on access to cardiology health care services for uninsured and underserved individuals in the community. The exclusion criteria were articles focused on other healthcare services or populations, articles not published in English, and articles published before 2018. A total of 32 articles were identified, and after a careful screening process, 12 articles met the inclusion criteria. These articles were then further analyzed and synthesized to provide relevant information on access to cardiology health care services for uninsured and underserved individuals in the community. The literature search strategy was systematic and comprehensive, and the inclusion and exclusion criteria ensured that only relevant articles were selected for analysis.

Summary of the Literature

The burden of chronic diseases in underserved populations (UPs) is prevalent, as the literature highlights. The articles emphasized the significant burden of chronic diseases, particularly congenital heart disease (HD), in underserved low-income immigrant and resettled refugee populations (Agrawal et al). The literature highlights the need for specialized care programs tailored to these populations. Chronic diseases have a significant burden on UPS (Agrawal et al.). Agrawal et al. (2020) revealed a significant burden of congenital HD in low-income immigrants and resettled refugees, with innocent murmurs being the most common diagnosis. This actuality highlights the importance of outreach clinics and referral services in providing specialized care to UPs. Agrawal et al. (2020) conducted a retrospective chart review study to analyze the pediatric patients’ cardiac needs and diagnoses of low-income immigrants and resettled refugees. The study included 366 patients, of which 61% were male, and the innocent murmur was the most common diagnosis, followed by simple and complex congenital HD. Acquired HD was only present in 5% of the patients, and no significant complications were reported during the study period. The authors emphasize the importance of outreach clinics and referral services in providing specialized care to UPs. Similarly, the literature reported HF as a chronic and costly condition affecting millions of people in the US.

Following these outcomes, more reviewed data emphasized the need for tailored cardiac care programs for immigrant and resettled refugee populations (Agrawal et al.). Furthermore, chronic illness presents significant challenges in the United States, with health and economic costs linked to these conditions being significant (CDC, 2023). Gheorghe et al. (2018) recommend continued research and public health efforts to avoid and manage chronic diseases and to minimize the disease burden on communities. The article revealed the economic burden of CVD and HTN in LMICs to be significant, emphasizing the need for policy and research objectives to develop and improve this field (Gheorghe et al., 2018). These findings are further supported by the CDC (2023), highlighting the health and economic costs of a terminal illness. The CDC (2023) concluded that chronic illness presents significant challenges in the United States and emphasizes the need for continued research and public health efforts to prevent and manage chronic diseases and propose policies to reduce the economic burden of the illness to underserved populations (UPs). Urbich et al. (2020) reported the financial burden of CVD. In their systematic review, Urbich et al. (2020) evaluated the quality of published research on the costs of HF in the US and synthesized the data. The study found that hospitalizations were the primary driver of HF-related costs, with significant variability observed within subgroups. Although the study provides valuable information on the economic burden of HF, differences in study design and reporting standards made it challenging to compare cost estimates.

Owing to the high cost of care, the literature also reported on how the federal government and other agencies have made efforts to ensure that populations have access to care. Davis (2020) provides an overview of how the ACA has impacted health care through the example of value-based care. The author postulates that the ACA has shifted health care focus from volume-based care to value-based care, prioritizing patient outcomes and cost-effectiveness. It is reported that VBC is one of the key ways the ACA has impacted health care. Continued efforts to expand VBC and address remaining barriers to implementation will be crucial for further improving healthcare delivery and outcomes. Similar findings are reported by Joynt Maddox et al. (2020), who focused on the Value in Healthcare Initiative (VHI) and its goal of improving the value of cardiovascular (CV) care in the US. The initiative's collaborative approach, patient-centered tools, and focus on prevention are all geared toward enhancing the quality and efficiency of CV care. The emphasis is on providing resource kits, policy recommendations, and survey results. It emphasizes the initiative's potential to serve as a model for improving healthcare value in other specialties and contexts. Teisberg et al. (2020) also proposed a framework for implementing value-based health care to enhance patient value to support the need for value-based care. The article emphasizes the importance of identifying and comprehending a patient segment with constant needs, providing a comprehensive solution tailored to those needs, measuring the outcomes of health services and their impact on patients, and continually improving the delivery of health services to enhance patient value. The proposed framework addresses several challenges facing the healthcare system, such as rising costs, uneven quality, and limited access to care, a critical aspect of the needs assessment.

Further evidence suggests approaches for optimizing CVSs. For instance, Livergant et al. (2021) indicated that setting up a community of practice (CoP) in the community health navigator (CHN) group to facilitate the exchange of knowledge and best practices can help in cost navigation. They reported the need for a well-maintained web platform featuring "an encrypted discussion forum, a community resource listing, a calendar of events, and semi-annual

CHN conferences” to help establish a formal CoP that could connect primary care centers across regions using digital communication methods (Livergant et al., 2021). The researchers identify several strategies and elements of healthcare CoPs and offer guidance for risk factors that might be mitigated and assets that could be leveraged for the intervention.

Other findings focused on CVD patients’ aspects that might exacerbate the lack of access. For instance, Vanzella et al. (2022) aimed to determine the preferences and information needs of people with CVD from marginalized populations. The findings suggested that UPs have unique needs in four main areas: CVD information, primary and secondary prevention, management, and medical practices. The study suggests that healthcare providers tailor their communication strategies and materials to meet the specific needs of UPs. Wu (2019) also emphasized the significance of recognizing the supportive care needs of patients with chronic illnesses and their caregivers. The article highlighted the importance of detecting various care wants, particularly mental needs, early on to prevent psychological deterioration and enhance long-term QoL. Wu (2019) noted that nurses could investigate numerous evidence-based “care needs assessments, interventions, and evaluations in chronic patients” p. e49). These findings strengthen the role played by healthcare professionals in identifying patients in need.

The literature also highlighted critical concepts for CVD issues and the needs assessment. For instance, Madu et al. (2021) discussed social determinants of health (SDHs) as a theoretical and conceptual framework to explain health inequalities and health inequities related to CVD. The researchers review the literature on how social factors impact health disparities and imbalances in vulnerable communities, specifically concerning CVD. The authors conclude that SDHs play a crucial role in health inequalities and health inequities related to CVD, particularly in vulnerable populations, and recommend strategies that could reduce these inequities and promote CV health. Garira (2020), on the other hand, used Systems Theory as a framework to examine the educational system's effectiveness in Zimbabwe, emphasizing the need for different levels to work harmoniously towards the same systemic goals. The study's findings indicate that Zimbabwean primary schools lack a structured School Self-Evaluation (SSE) framework and often rely on informal methods to assess education quality, such as observation and assessment of student work. Garira’s (2020) study highlights the necessity of developing an SSE framework tailored to Zimbabwean primary schools. Such a framework would enable schools to assess their strengths and weaknesses, devise improvement plans, and monitor their progress toward their goals.

The literature review highlights the importance of collaboration, patient-centeredness, prevention, and addressing SDHs to enhance the quality and efficiency of healthcare delivery. The articles also suggest potential strategies and frameworks that could help address several healthcare system challenges. The selected studies also shed light on different aspects of caring for patients with HF and CVD, emphasizing the need to consider patients’ unique needs and preferences to improve care plans and nursing interventions, an area that the needs assessment will explore and connect to the larger project.

Purpose/PICO/Objectives/ SMART Goals

The project is intended to undertake a needs assessment intervention for accessing CVSs in community settings. The needs assessment will help to determine how to improve access to cardiology health care for the vulnerable population. A needs assessment intervention is needed to identify the barriers that underserved community care clinic patients face and determine how to improve access to cardiology health care in the community. The following PICO question will guide the project.

Population: CVS patients

Intervention: Needs assessment

Comparison: No comparison

Outcome: Improved knowledge of the CVS need

SMART Goals

The SMART acronym was employed to structure the formulation of the target objectives. SMART signifies that each objective should be specific, measurable, attainable, realistic, and time-bound.

S. Identifying gaps and challenges in delivering comprehensive CVSs.
M. Determining the need for hiring cardiologists or cardiac nurse practitioners on-site or off-site
A. Examining the availability and accessibility of CVSs and equipment
R. Evaluating the impact of the needs assessment on the delivery of cardiology services.
T. Conduct and finalize the evaluation of the needs assessment's impact on service delivery within a 2-month period after the needs assessment report is published.

Definition of Terms

Community-Based Healthcare Settings

Community-based healthcare settings refer to facilities that provide primary and preventive care services to individuals within their community (Lopez et al., 2022). These settings aim to deliver cost-effective, accessible care to individuals who may not have access to traditional healthcare settings.

Underserved Populations (UPs)

Underserved populations (UPs) have limited access to health care, education, employment, and other essential resources due to various factors such as poverty, discrimination, and lack of adequate infrastructure (Niakouei et al., 2020). In the US, the population incorporates persons living in rural areas, low-income households, ethnic and racial minorities, and people with disabilities. Examples of challenges encountered by such populations may include language and communication barriers and limited physical or cognitive abilities (Neimann, 2017).

Minority Populations

Minority populations refer to underrepresented groups based on race, ethnicity, or culture. In the US, minorities include Blacks, Hispanics, Native Americans, and Asian Americans. They are regarded as minorities because they often experience health disparities due to various factors such as poverty, discrimination, and lack of access to health care (Niakouei et al., 2020).

Evidence-Based Practice (EBP)

It is an approach that emphasizes applying best practices from research to make informed decisions about patient care (Ravaghi et al., 2023). EBP emphasizes the integration of professional expertise and best-available research to provide high-quality, individualized patient care.

Cardiovascular Diseases (CVDs)

Cardiovascular diseases (CVDs) are conditions impacting the heart and blood vessels, including coronary artery disease, heart failure (HF), stroke, and peripheral arterial disease, among others (Lopez et al., 2022).

Organizational Needs Assessment (ONA)

An Organizational needs assessment (ONA*)* is a systematic and data-driven process that helps identify gaps in resources, services, and infrastructure that may prevent healthcare facilities from delivering comprehensive services (Ravaghi et al., 2023). It is used to identify areas for improvement and develop effective strategies for delivering quality care.

Quality Improvement (QI)

Quality improvement (QI) is a systematic approach to continuously improving healthcare processes, systems, and outcomes. Data is used to identify improvement areas, advance and implement interventions, monitor progress, and make necessary adjustments to achieve desired outcomes (Agency for Healthcare Research and Quality (AHRQ), 2019).

Conceptual Underpinning and Theoretical Framework

A theoretical framework that addresses the critical determinants of health outcomes for CVD is needed to guide the needs assessment. The Social Ecological Model (SEM) is a suitable framework to guide this project. Saquib (2018) articulates that SEM provides a comprehensive understanding of the varied factors impacting CV health at different levels, including personal, interpersonal, organizational, community, and federal.

At the individual level, the SEM recognizes the role of lifestyle behaviors, such as healthy eating and non-sedentary lifestyles, in developing and managing CVD. At the interpersonal level, the SEM acknowledges the need for social support and the influence of family and peers on health behaviors. At the organizational level, the SEM highlights the role of healthcare systems and the availability and accessibility of health services (Saquib, 2018). At the community level, the SEM recognizes the impact of social and physical environments on health outcomes, including the availability of healthy food options and opportunities for physical activity. In contrast, at the policy level, the SEM acknowledges the role of government policies and regulations in shaping health behaviors and access to health care services.

Using the SEM as a theoretical framework, the needs assessment project can assess the various factors impacting the delivery of comprehensive CVSs to the underserved population; this will identify the barriers to providing such services at different levels. The project will survey patients to help identify barriers and challenges that underserved populations face in accessing cardiovascular services and assess which factors prevent patients from getting a medical appointment to see a cardiologist. The project will also use the SEM model to assess the accessibility of CVSs in the facility and identify gaps or areas for improvement in service delivery.

Methodology

Setting UHI Clinic

The primary goal of this quality improvement (QI) project is to undertake a needs assessment at the United Health Initiative (UHI) clinic to improve access to cardiovascular services (CVSs) for UPs, particularly those with limited access due to socioeconomic and cultural barriers. A needs assessment is essential for identifying the gaps in resources, services, and infrastructure that limit access to needed healthcare services. One such needed service is with underserved populations (UPs) with cardiovascular disease (CVD) in low-socioeconomic community-based healthcare settings (Garira, 2020). The UHI clinic provides services to uninsured populations at no cost or a low cost. Different specialists, including pulmonologists, gynecologists, psychiatrists, neurologists, and allergy specialists, alongside sports medicine and pain management specialists, volunteer based on need and availability (UHI Community Care Clinic, 2023). However, it is challenging to find cardiologists serving to volunteer or at a low cost. Such system factors and a need for CVD resources mean they cannot achieve quality and health prevention for CVD patients. This needs assessment project aims to generate factors to help develop effective strategies to address the identified gaps in delivering comprehensive cardiac services in a community-based healthcare setting. The SMART goals and outcomes for the needs assessment include identifying the gaps and challenges in delivering comprehensive CVSs, determining the need for hiring cardiologists or cardiac nurse practitioners on-site or off-site, examining the availability and accessibility of CVSs within the community, equipment needed, and evaluating the impact of the needs assessment on the delivery of CVSs. The success of the needs assessment for delivering comprehensive CVSs depends on the effective collaboration and coordination of various stakeholders, including healthcare providers, administrative staff, health IT professionals, and their patients.

The UHI Community Care Clinic in South Florida is located at Miami Gardens, is a nonprofit organization operating with a 501(C)3 status (UHI CommunityCare Clinic, 2023). The clinic has been offering free primary and specialty care to patients from low-income backgrounds (LIBs) and residents of South Florida without insurance since 2008. This clinic is dedicated to providing health care services to residents facing barriers to medical care. The UHI operates under the regulations and guidelines set forth by the US Internal Revenue Service (IRS) (Wang, 2021). This designation signifies that the clinic is recognized as a tax-exempt charitable organization, and such status allows the clinic to receive tax-deductible donations from individuals, corporations, and other entities that support its mission. The clinic partners with various organizations, including the Medical Alumni Volunteer Export Network (MAVEN) Project, The Health Foundation of South Florida, The Miami and CVS Health foundations, Florida Blue, and the Florida Association of Free and Charitable Clinics (UHI CommunityCare

Clinic, 2023). The clinic also has a student-faculty collaborative clinic (SFCC), which partners with students and faculty from the Herbert Wertheim College of Medicine and the Nicole Wertheim College of Nursing and Health Sciences of Florida International University. The SFCC plays an essential role in educating the UHI clinic's patients.

The UHI Clinic in Miami will be the focus of the DNP project. The facility operates under the United Health Initiative (UHI), a nonprofit organization to enhance healthcare access and outcomes for Underserved populations (UPs). The clinic offers many health services, including primary care, behavioral health, dental, and vision services (UHI CommunityCare Clinic, 2023). Their aim is to target patients lacking health insurance, administer immediate services, or make phone appointments (UHI, 2023). Their Primary care services are offered through appointments from Mondays to Thursdays, regular hours. On Fridays, the clinic is open until 2:30 pm and is open on two Saturdays a month, on which primary care is delivered until noon. Such care covers diabetic care, sick visits, children’s vaccinations, and hypertension interventions. Other types of specialty care are provided based on needs and availability. They incorporate pulmonology, cardiology, gynecology, sports medicine, allergies, psychiatry, neurology, and pain management through referred patients. Telemedicine was also adopted in 2020, and the facility handled 3500 patients during its brief closure following the impact of COVID-19 (UHI, 2023).

The clinic also provides health education and wellness programs to promote healthy lifestyles and prevent chronic diseases like CVD. The clinics accept all patients, irrespective of their ability to pay, and they offer discounted rates for uninsured or underinsured persons. The facility has a team-based care approach, meaning patients receive care from professionals from different disciplines (UHI CommunityCare Clinic, 2023). The approach ensures that patients are administered comprehensive, coordinated care that targets their healthcare needs.

Previously, patients receiving care at the clinics had access to comprehensive cardiovascular care, including diagnosis, treatment, and management of heart disease. However, the UHI clinic no longer offers CVSs. The facility is not fully equipped to administer restorative care to underserved CVD patients. Also, because there are no cardiology specialists on site, including a cardiac nurse practitioner, patients are only provided with ECGs, labs, and referrals. Since the patients are not insured, they do not have the resources to meet their CVD care needs.

The UHI clinic's strength is its dedication to serving uninsured patients, particularly those who pay out of pocket and immigrants. Patients who qualify for services at the clinic include individuals who meet the 200% federal poverty level. They get different services, including psychiatric care, otolaryngology, pediatric care, optometry care, primary care, imaging, and lab work. These services are offered mostly free by a diverse pool of practitioners who are highly qualified. The staff and low-cost care can be leveraged to support the success of the program structure. The literature indicates that healthcare organizations can support change initiatives by leveraging their workforce, resources, and other stakeholders (Agrawal et al., 2020). For example, lowly-charged services can encourage populations to seek CVSs without worrying about the high cost of care. Also, the expertise of highly trained and qualified staff and their diversity can be used to develop training programs and educational materials for patients to promote self-care and culturally sensitive care. Despite the facility's strengths, the potential lack of specialized CVD services offered, dated technologies, and a limited number in the care team are weaknesses. This drawback implies that patients risk not receiving the highest comprehensive care for their CVD needs. The lack of resources for CVD prevention and treatment suggests there is a necessity to conduct an assessment. This lack signifies a risk of their patient's needs not being met.

Participants

The proposed site for the Needs Assessment Quality Improvement project was set at UHI Community Health Clinic in Miami, FL. This clinic has been offering high-quality care to underserved populations through a multidisciplinary team of providers. The study's recruitment process was initiated after receiving the necessary permission from the UHI clinic administrator, as documented in a formal letter. As part of the research protocol, the DNP student conducted a detailed retrospective analysis of the clinic's medical records. The aim was to identify a subset of adult patients who had been referred to a cardiologist in the past six months. The study was specifically designed to include individuals 18 or older who could understand English or Spanish, ensuring that communication barriers would not impede their complete comprehension of the study and subsequent informed consent. Conversely, the research parameters set clear boundaries on participation; those who did not meet the age requirement of being at least 18 or who could not communicate in the specified languages were systematically excluded from the study to maintain a uniform participant demographic and to ensure that the collected data would be relevant and applicable to the population of interest.

Description of Approach and Project Procedures

The Quality Improvement (QI) project is a Needs Assessment that was conducted in 2 phases at a community health clinic UHI. The first phase included chart review conducted by a Doctor of Nursing Practice (DNP) student. Recruitment efforts included contacting patients either by telephone or email that was sent to their individual emails with an anonymous link leading to the Qualtrics survey.

Instruments

The survey was developed by the DNP scholar in English and Spanish, which let patients select their preferred language. The survey was for both chart review and participants that were contacted. This survey gathered demographic information, including gender, ethnicity, and age, the length of time patients had been attending UHI along with a custom cardiology profile. The cardiology profile aimed to provide insights into various aspects, such as the frequency of cardiologist referrals at associated facilities, patients' adherence to cardiology appointments, the rate at which these consultations resulted in actual cardiologist visits, the predominant reasons for referrals from UHI, and barriers encountered in securing a cardiology consultation, their referral year and the length of time since patients last saw a cardiologist, and diagnosis. This approach to data collection, which included chart review, and questionnaires would provide a holistic view of the gaps in resources and services that could impede the provision of comprehensive cardiovascular care to underserved groups.

Once the surveys were completed, both electronically and on paper, the information was consolidated into the Qualtrics platform for analysis. The extensive data collection effort, which included aspects such as the referral year and the time since the last cardiology consultation, was used to guide targeted strategies. These strategies aimed to facilitate the delivery of cardiology services and enable the UHI clinic to develop interventions that align with their community's specific needs and preferences. Ultimately, the goal was to enhance both the accessibility and the quality of cardiovascular care for their patients.

Protection of Human Subjects

Institutional Review Board (IRB) approval was obtained from UHI and Florida International University. All investigators involved in the Needs Assessment completed the

Collaborative Institutional Training Initiative Program (CITI) training. The Florida International University's Institutional Review Board (IRB) approved the project before the initiation of the intervention. The project was unlikely to involve any risk that could impact the participants' psychological, physical, social, and economic well-being. The possibility of a confidentiality breach and legal risk was considered very unlikely since data collection was conducted through an anonymous one-time survey via Qualtrics. Participants were informed that their involvement was voluntary and that they could withdraw at any time. Informed consent was obtained from all study participants prior to inclusion. Participants received a consent form explaining the purpose of the study, the procedures involved, and the risks and benefits of participation. The consent form also included information on confidentiality and data storage. Participants were able to ask questions before completing the consent form to clarify any misunderstandings.

Data Collection

For the Quality Improvement (QI) project at a community health clinic, an in-depth data collection initiative was undertaken to enhance the understanding of cardiovascular service provision and identify barriers to cardiology care. The process began with a carefully designed survey to capture demographics and specific cardiology profiles of patients referred to cardiologists. The DNP student spearheaded a meticulous chart review of the past six months, identifying potential participants based on predefined criteria. Telephone calls and email outreach were the primary method of contact. The survey options were versatile, allowing completion via phone for immediate response, through an anonymous email link to a Qualtrics survey, or in-person at the clinic for those requiring assistance. Beyond basic demographic data, the survey was extended to capture the length of the patient’s relationship with UHI, referral diagnoses, and the time elapsed since their last cardiology consultation. Following an educational session to inform stakeholders about the project, the DNP scholar collected informed consent before participants completed the survey using a tablet or with the scholar's assistance. The comprehensive data collection, encompassing electronic and paper responses, was entered into Qualtrics. This created a robust dataset to inform targeted improvements to the clinic's cardiovascular service delivery, aiming to address the unique needs of their patient community. After the surveys were completed, the DNP student in charge of the project ensured all questionnaires were securely gathered and kept. All data, whether submitted electronically or on paper, was then organized for entry into the Qualtrics system for analysis, with the DNP student overseeing the protection and privacy of the information throughout the process.

Data Management and Analysis Plan

The data management and analysis for the Quality Improvement project, were securely recorded into a spreadsheet on a password-protected laptop, with only the DNP student having access. Survey data, collected anonymously via a secure server, were managed to maintain participant confidentiality. The collected data comprised measurable quantities and narrative insights from open-ended survey questions.

The student organized the data, into relevant categories before to analyze the quantitative elements, using frequency distribution tables and bar charts to reveal patterns and trends. Descriptive statistics outlined the central tendencies within the data, while qualitative responses required a narrative analysis to extract themes and insights.

The analyzed data were then scrutinized to identify and prioritize the needs of the underserved populations, focusing on factors affecting cardiovascular care. The student crafted conclusions and actionable recommendations from these insights. These were consolidated into a report with the project's findings, including the strengths and weaknesses of current services.

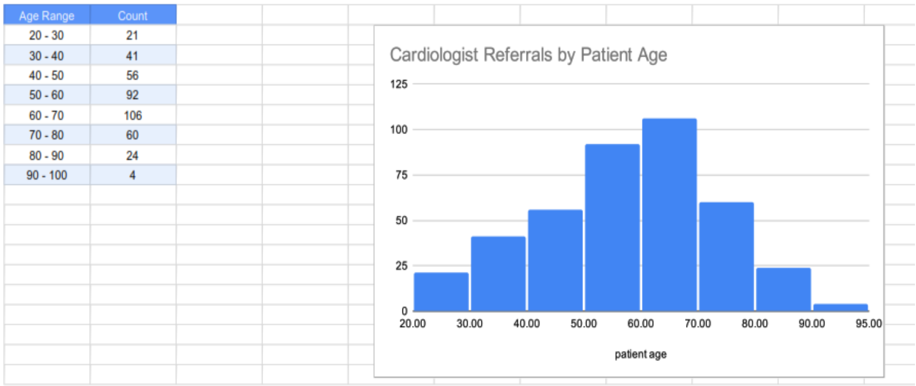
Results

Phase 1-Chart Review

Data from the chart review was from January 2023 to June 2023. The total number of reported cardiology referrals for this time frame was 404. See Figure 1. The data indicates the distribution of cardiology referrals among different age groups. The number of referrals increased with age, from 20 to 70 years, with the highest number in the 60-70 age range at 106 referrals and referrals to individuals between 50 and 60 years following closely behind at 92 referrals. The number of referrals among patients older than 70 years is comparatively lower than in younger populations.

Figure 1

Cardiologist Referrals



Age Range	Count
20 - 30	21
30 - 40	41
40 - 50	56
50 - 60	92
60 - 70	106
70 - 80	60
80 - 90	24
90 - 100	4

Phase 2- Participants Demographics

The sample who met the inclusion and exclusion criteria was 23 participants. A total of 13 patients were able to be contacted and agreed to complete the survey. Most participants were contacted by phone and one patient completed the survey by email, bringing the total number of participants who completed the study to 13. Among this group, 69% (n = 9) were identified as female. See Table 1. Interestingly, an equivalent percentage of participants, approximately 31%

(n = 4), fell within two specific age categories: 45 to 54 years, 55 to 64 years, and those aged above 65 years. Additionally, it's important to note that a significant majority of the participants, 62% (*n* = 8) self-identified as African American.

Table 1

Demographic (N = 13)

Participants	*n*	%
Gender		
Male	4	31%
Female	9	69%
Age		
25-34 years old	1	7%
45-54 years old	4	31%
55-64 years old	4	31%
65+ years old	4	31%
Ethnicity		
Hispanic or Latin	3	23%
Africa American	8	62%
Other	2	15%

Patient Length of Time at UHI

UHI Clinic's patient length of time (LoT) attending the clinic, shows varying lengths of association. See table 2. A few of patients, (15%) had a LoT for either 7-12 months or 1-3 years. The majority, however, had longer relationships with the clinic, with 39% being patients for 4-6 years and 23% for 7-10 years. A long-standing commitment to the clinic is demonstrated by one patient who has been associated with the clinic for over 15 years, accounting for 8% of the sample. This distribution reflects a diverse range of patient engagements, from relatively new to very well-established relationships with the UHI Clinic.

Cardiologist Consultations

Analyzing cardiologist consultations by gender shows that only 31% of the total referred patients, comprising both males and females, saw a cardiologist (See table 2). The majority (69%) did not receive a consultation. Notably, while 33% of referred female patients were seen by a cardiologist, the rate for male patients was lower at 23%. This suggests a gender-based difference in accessing specialist cardiac care. However, despite the relatively higher consultation rate among females, the overall low rate of consultations for both genders indicates significant gaps in the referral-to-consultation process, pointing towards broader systemic challenges in ensuring that referred patients receive necessary specialist care.

Cardiologist Referral Seen by Year

Over the years 2018 to 2023, the UHI Clinic's data on cardiologist referrals shows varying outcomes (see table 2). In each year from 2018 to 2021, every patient referred (2 in 2018 and 1 in each subsequent year) did not see a cardiologist, resulting in a 0% success rate for these consultations. A notable change occurred in 2022, where out of 3 referrals, 1 patient (33%) successfully saw a cardiologist, but 2 (67%) did not. In 2023, the number of referrals increased to 5, yet only 1 patient (20%) managed to consult a cardiologist, while the majority, 4 patients (80%), did not have a consultation. This pattern shows a gradual increase in the number of referrals over the years but a persistently low percentage of these referrals leading to actual cardiologist consultations.

Last Seen by Cardiologist

The data on the duration since patients at the UHI Clinic last saw a cardiologist reveals a diverse range of intervals (see Table 2). A total of 38% of patients, amounting to 5 individuals, have never had a consultation with a cardiologist. In contrast, 3 patients, making up 23% of the total, had their most recent cardiologist visit within the last six months. The longer intervals show that 1 patient (8%) had their last visit between 1 and 2 years ago, another (also 8%) between 2 and 3 years, and yet another one (8%) between 3 and 4 years ago. Additionally, 2 patients, representing 15% of the group, had their last cardiologist consultation more than 5 years ago. This range in durations indicates that while some patients have had recent interactions with a cardiologist, a significant proportion have had prolonged gaps or no interaction at all with cardiac specialists.

Recall of Cardiologist's Name

In the conducted survey involving 13 patients, only 4, representing 31%, confirmed that they had consulted with a cardiologist. Despite this, there was a notable gap in recall; none of the four could remember the cardiologist's name. This resulted in two patients leaving the response section blank, one explicitly stating "unknown," and the other admitting to having forgotten the name.

Table 2

Survey results

UHI Patient Length	*N* = 13	%
7-12 months	2	15%
1-3 years	2	15%
4-6 years	5	39%
7-10 years	3	23%
15 years or more	1	8%
Seen by Cardiologist	Yes	No
	n (%)	*n* (%)

Male	3 (50%)	6 (50%)
Female	1 (25%)	3 (75%)
Total	4	9

Cardiologist Referral Seen by Year

	n (%)	*n* (%)
2018	2(100%)	0 (%)
2019	0 (0%)	1 (100%)
2020	0 (0%)	1 (100%)
2021	0 (0%)	1 (100%)
2022	1 (33%)	2 (67%)
2023	1 (20%)	4 (80%)
Total	4	9

Last time seen	*n*	%
Never seen	5	38%
0-6 months	3	23%
1-2 years	1	8%
2-3 years	1	8%
3-4 years	1	8%
> 5 years	2	15%

Recall cardiologist name	Yes	No
	n (%)	*n* (%)
	0 (0)%	4 (100%)

Barriers to Cardiologist

Results indicate that consultations for referred patients at the UHI Clinic of the patients surveyed, the 9 patients (69%) were faced insurance issues, making it the most significant barrier to accessing cardiac care (see table 3). Transportation challenges are encountered by 2 patients, accounting for 15% of the total. Additionally, another 15% of the patients, which also amounts to 2 participants, were hindered by various other unspecified barriers. These results illustrate the different types of obstacles patients face in seeking cardiologist services.

Table 3

Barriers to Care

Barriers	*n*	%
Insurance	9	69%
Did not Answer	2	15%
Transportation	1	8%
Other	1	8%

Referral Diagnoses

Participant were categorized based on their ethnicity and respective referral diagnoses. See table 4. Within the "Other" ethnic group, two distinct diagnoses were recorded: one patient with chest pain and another with both hypertension and high cholesterol, totaling two patients in this category. For the Hispanic ethnicity, three patients were recorded with varied combinations of hypertension, high cholesterol, diabetes, and chest pain. The most extensive data set is from the African-American group, with eight patients exhibiting a range of diagnoses. The diagnoses include combinations of hypertension, abnormal EKG, abnormal lab results, chest pain, high cholesterol, diabetes, and a history of cardiovascular diseases. A noteworthy observation is the prevalence of hypertension and high cholesterol across multiple ethnicities, particularly among African Americans.

Table 4

Ethnicity-Based Referral Diagnosis Distribution.

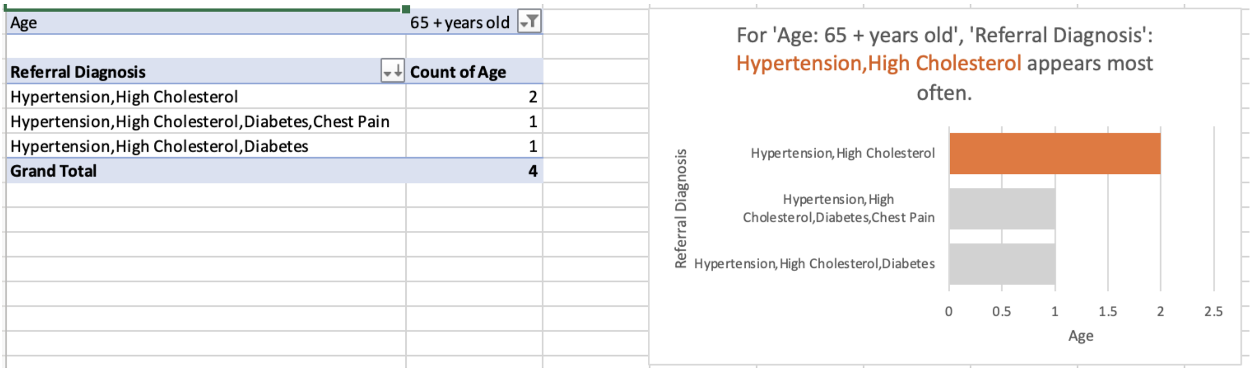
Ethnicity	Referral Diagnosis	*N* =13
Other	Chest Pain	1
	Hypertension,High Cholesterol	1
Total Other		2
Hispanic	Hypertension	1
	Hypertension,High Cholesterol	1
	Hypertension,High Cholesterol, Diabetes, Chest Pain	1
Hispanic or Latin Total		3
African American	Hypertension, Abnormal EKG, Abnormal Lab	1
	Hypertension, Chest Pain	1
	Hypertension, Chest Pain, Abnormal EKG	1
	Hypertension, High Cholesterol	1
	Hypertension, High Cholesterol, Diabetes	1
	Hypertension, High Cholesterol, Hx Cardiovascular disease	2
	Other	1
African America Total		8

Diagnosis Distribution for Patients Aged 65 and Older

A total of 4 participants from the 13 aged 65 and older (Figure 1) indicated their most prevalent referral diagnosis was a combination of hypertension and high cholesterol. One patient was diagnosed with hypertension, high cholesterol, diabetes, and chest pain. Another patient's diagnosis included hypertension, high cholesterol, and diabetes. The accompanying bar graph illustrates that the diagnosis of hypertension combined with high cholesterol is the most frequent among this age group. Overall, the data underscores the prominence of hypertension and high cholesterol as health concerns for individuals aged 65 and above.

Figure 1

Referral Diagnosis Distribution Patients Aged 65 and Older.



Age	65 + years old
Referral Diagnosis	**Count of Age**
Hypertension,High Cholesterol	2
Hypertension,High Cholesterol,Diabetes,Chest Pain	1
Hypertension,High Cholesterol,Diabetes	1
Grand Total	**4**

Discussion

The needs assessment, focused on investigating the gaps in cardiac healthcare access for underserved populations at a community clinic, our data analysis further highlighted the significant influence of demographic factors, particularly gender, and ethnicity, on healthcare access and diagnostic patterns at the UHI Clinic. Most participants were female and identified as African American, with a notable concentration in the 45-64 age group, where hypertension was the most prevalent diagnosis. Also, most of the patients had been associated with the UHI Clinic for 4 to 6 years, underscoring the community's heavy reliance on the clinic for their ongoing healthcare needs.

Despite an increase in cardiologist referrals, a concerning gap existed between these referrals and actual consultations. Many participants had never consulted with a cardiologist, primarily due to insurance-related barriers. It is particularly concerning that a substantial proportion of respondents had never had the opportunity to consult with a cardiologist despite their evident health concerns. This, coupled with the trend of extended waiting periods between cardiologist visits, underscores systemic challenges in healthcare access.

Furthermore, while the data showed increased cardiologist referrals over the years, actual consultations with cardiologists did not exhibit a proportional increase. Such discrepancies highlight potential constraints in ensuring that patients can access a cardiologist either within or outside the UHI Clinic. It emphasizes the necessity of a comprehensive understanding of these barriers to ensure that patients not only receive referrals but also timely and essential cardiac care.

Also, cardiovascular health emerged as a central area of concern, with predominant diagnoses including hypertension, high cholesterol, and a history of cardiovascular diseases. These findings highlight the pressing need to proactively address these critical health issues, considering their significant impact on mortality worldwide. However, despite the evident need for specialized care, barriers to accessing cardiologist services persisted, with insurance-related complications being the most prevalent.

An investigation into the availability of cardiologists and cardiology nurse practitioners in neighboring areas such as Miami was done. The purpose was to determine whether the difficulty in accessing a cardiologist was primarily due to a shortage of healthcare providers or if other factors played a significant role in this challenge. This comprehensive analysis allowed us to develop targeted strategies to address the specific barriers to cardiac healthcare access faced by underserved communities. These barriers could include provider availability, socioeconomic factors, transportation issues, or systemic healthcare challenges.

Our findings revealed that in Miami, Florida, there are 328 cardiologists, many of whom specialize in Adult Congenital Heart Conditions, general Heart Conditions, and Interventional Cardiac Procedures. Additionally, there are a number of prominent hospitals in the area including Mount Sinai Medical Center, Jackson Memorial Hospital, and South Miami Hospital (Best Cardiologists and Heart Medicine Doctors in Miami, FL, 2023 n.d.), indicating that there is not a shortage of the specialized providers or healthcare facilities. The presence of these medical experts is crucial in delivering vital heart care services to the local community. The Bureau of Labor Statistics (2022) reports that Florida is one of the states with the largest number of employed cardiologists. For the local community, these medical experts offer vital heart care services (*Cardiologists*, n.d. 2023).

Additionally, cardiologist nurse practitioners constitute a significant portion of the cardiologists' specialties in the area, playing a vital role in providing comprehensive cardiac treatment, especially for patients with limited financial resources. Although the precise number is unknown, cardiologist nurse practitioners make up a sizable portion of the cardiologists in Miami. These specialized medical professionals are critical to providing comprehensive cardiac treatment and are thus indispensable in meeting the demands of patients with limited financial resources.

The result of this project has shed light on several critical challenges faced by the underserved community at the UHI Clinic in accessing cardiac healthcare, and the research on cardiologists' availability emphasizes the urgent need to disseminate this projects data to explore potential solutions for these pressing needs. The dissemination of this project's results will raise awareness and encourage collaboration for the introduction of initiatives to overcome these obstacles and ensure that patients receive timely and essential care, addressing these challenges.

Looking for philanthropic programs or aid efforts to guarantee that those in need have access to cardiology services. It has been found there are charitable programs and assistance initiatives where patients from low-income groups can access cardiology services. In Miami-Dade County, low-income and uninsured patients can apply for financial assistance through various programs, including the Jackson Memorial Hospital, Mount Sinai Medical Center, and Baptist Health’s financial assistance programs (Florida Health Justice Project, 2023). Other clinics, such as JTCHC - Flamingo Medical Center - Hialeah Community Health Center, also offer free cardiology services (Florida Health Justice Project, 2023; Free Clinic Directory, 2023).

Limitations

The study at UHI Community Health Clinic, aimed at evaluating cardiology service needs, provides valuable initial insights, though it encounters some methodological challenges. A significant limitation was the timeframe for the chart review, which was limited to the months from March to June. This narrow window may not fully capture the variability and full spectrum of cardiology service needs throughout the year, which could affect the thoroughness and accuracy of the findings.

Additionally, the study's sample size, though modest, with 23 patients contacted and 13 survey respondents, marks an important first step in understanding the clinic's requirements. However, the language barrier also presents a limitation. By restricting participation to English or Spanish speakers, the study potentially overlooks the needs of a significant portion of the clinic's diverse patient population. This exclusion could lead to a skewed understanding of the cardiology service requirements, underscoring the importance of including a broader linguistic range in future research.

The low response rate, particularly for email communications, suggests a need for more effective outreach strategies. This could involve addressing technological barriers or revising the survey approach to engage a wider patient audience more effectively.

To overcome these challenges, future studies should consider extending the data collection period to cover a full year, thereby capturing a more comprehensive view of cardiology needs. Additionally, expanding the linguistic inclusivity of the study would help achieve a more accurate and representative understanding of the clinic's patient population.

While this study at UHI Community Health Clinic lays the essential groundwork for assessing cardiology services, its limitations in the timeframe and language inclusivity provide crucial learning points for future research. Addressing these areas will enable a more detailed and encompassing understanding of healthcare needs, paving the way for improved service delivery and patient care in similar healthcare settings.

Implications for Advanced Nursing Practice

The implications of the results for clinical practice should be viewed systemically.

Demographic Insights:

The study's demographic composition, with a majority being female and African American, suggests that many healthcare strategies tailored for this particular demographic could be more effective. Advanced Practice Nurses (APRNs) who are currently working as cardiologist nurse practitioners and who make up a sizable portion of the cardiologists in Miami could work to ensure that outreach cardiology programs could be developed to bridge the gaps for these underserved patients**.** A large proportion of the study's participants have been long-term patients at the UHI Clinic, indicating a potential trust in the clinic's services. APRNs must ensure that they maintain this trust, possibly by providing continuous and consistent care tailored to the individual needs of long-term patients. Among those aged 55-64 years, hypertension, high cholesterol, and a history of cardiovascular disease are most prevalent. APRNs play a crucial role in leading interventions such as educating patients about lifestyle modifications, risk factor management, and the importance of regular health check-ups, with a special focus on tailoring these to the needs of specific age groups.

Insurance complexities have emerged as a significant barrier to accessing a cardiologist. APRNs can play a pivotal role in patient advocacy, helping patients navigate the intricate landscape of insurance approvals. Additionally, strategies could be developed to provide transportation assistance or leverage telehealth services to address transportation-related barriers. The apparent gender disparities in accessing cardiac care necessitate a more inclusive approach to healthcare. APRNs should ensure that both male and female patients are adequately informed and have equal access to cardiac care services. The increase in referrals in 2023 might indicate a rise in cardiovascular concerns among the patient population or perhaps an increased awareness of the importance of specialized care. APRNs should stay updated with the latest in cardiovascular care, ensuring they're providing the best possible guidance to their patients. While some patients have succeeded in accessing cardiac care, a significant portion has not. APRNs can act as liaisons, ensuring that patients referred to specialists complete their visits. They can also work on streamlining the referral process, possibly by integrating electronic health records or setting up direct communication lines with cardiologists. The data suggests that many patients haven't seen a cardiologist in a long time, or ever. APRNs can focus on increasing the frequency of patient check-ups, especially for those with cardiovascular risks. Regular follow-ups and reminders can be crucial in ensuring patients remain engaged in their healthcare journey. The data suggests there's a substantial number of patients in need of cardiology consultations. Advanced Practice Nurses (APRNs) with specializations in cardiology should be integrated into primary care settings to offer timely evaluations, especially for patients who have not had a consultation with a cardiologist for extended periods. It's crucial to educate patients about the importance of regular cardiology check-ups, especially for those with known cardiovascular risks. APRNs can take the lead in offering educational programs and resources to enhance patient knowledge and understanding.

The implementation of collaborative care models involving APRNs and cardiologists can streamline patient referrals, reduce wait times, and ensure that patients get timely consultations. This approach promotes team-based care, where APRNs can serve as the bridge between primary care providers and cardiologists. The fact that some patients couldn't recall or specify the cardiologist's name indicates potential gaps in record-keeping or patient communication. APRNs can work on systems to ensure that every consultation is well-documented and patients are provided with clear information about their healthcare team. To address the extended wait times and provide timely consultations, APRNs can spearhead the adoption of telemedicine in cardiology. This approach would allow patients to consult with cardiologists or advanced practice providers remotely, cutting down on in-person visit wait times. APRNs can implement a system where patients are reminded and encouraged to have regular cardiology consultations. Automated reminders or personal follow-up calls can be useful in ensuring that patients don't miss out on essential check-ups. Continuous quality improvement initiatives can be put in place to monitor and evaluate the effectiveness of interventions aimed at reducing wait times and improving patient care. Feedback from patients and staff can be used to refine and enhance these initiatives.

Dissemination of Findings

For the success and potential broader implications of our needs assessment, effective dissemination is paramount. Sharing our findings not only enlightens our peers and stakeholders about the current realities faced by patients at the UHI Clinic but also serves as a platform to advocate for necessary systemic changes in healthcare delivery.

Internally, a comprehensive report detailing the project's methodology, findings, and recommendations will be distributed to the entire staff at the UHI Clinic. This ensures that our team remains up-to-date with the patient demographics, their challenges, and potential avenues for improvement. A presentation will also be arranged during a formal staff meeting, ensuring that every member understands the gravity of the study's results and the changes required for a more patient-centered approach.

Further broadening the scope of our dissemination efforts, we plan to share our results in a peer-reviewed academic journal, targeting publications such as The Journal of Clinical Cardiology or Healthcare Access and Policy. Also, reaching out to community health local meetings or hospitals in the area that become aware of the problem and provide assistance to UHI. The rigor and depth of our study make it a suitable contender for scholarly platforms, where healthcare professionals and researchers worldwide can access and possibly adapt our findings for their settings. Additionally, to disseminate the needs assessment data with local healthcare systems to increase their awareness of UHIs cardiology needs.

Additionally, to foster wider discussions and gain insights from peers, we are aiming for a poster presentation at notable healthcare conferences. One such event that matches our research domain is the National Cardiology and Healthcare Access Symposium, which would be a suitable platform to engage with professionals in the field and obtain feedback on our findings.

Sustainability of Insights

To foster sustainable benefits from the study conducted at the UHI Clinic, a strategic approach focusing on education and continuous evaluation is essential.

The key component is the initiation of an educational program strategically designed to inform cardiologist Advanced Practice Registered Nurses (APRNs) in the community about the significant challenges and barriers that patients face in accessing cardiology services. This initiative emphasizes the complexities encountered by patients, especially in terms of insurance and healthcare system navigation. The aim is to not only educate cardiologist APRNs about these issues but also to empower and motivate them to be both able and willing to provide their services or care to this patient group. The overarching goal is to bridge the gap in the demand for and access to cardiology services, thereby improving patient access to specialized care and effectively addressing a critical need within the healthcare system.

Additionally, the study underscores the importance of making providers in various healthcare centers aware of the need for cardiology services. By highlighting the urgency and the challenges involved after referring patients to cardiologists, the educational program can help streamline patient care and ensure timely access to specialized services.

Furthermore, to maintain the relevance and effectiveness of these initiatives, periodic assessments will be incorporated into the clinic's operations. Regular evaluations will allow the clinic to track the progress of these educational efforts and continuously adapt to new challenges and changing patient needs. This ongoing assessment process ensures that the clinic remains responsive and proactive in addressing the healthcare needs of its community.

In essence, the UHI Clinic's sustainable approach is centered around an impactful educational program and a commitment to ongoing evaluations. These measures are geared towards enhancing the understanding and responsiveness of the local healthcare system to the needs of patients, particularly in the realm of cardiology services. This approach promises to bring long-term improvements in patient care and health outcomes within the clinic's community.

Conclusion

The vital importance of timely and adequate cardiac care cannot be understated, especially in an era where cardiovascular diseases are among the leading causes of morbidity and mortality globally. Our in-depth data analysis, while focused on a limited sample size of 13 participants and chart review, provides an assessment of the patient demographics and the complexities of accessing cardiac care at the UHI Clinic.

A substantial majority of our participants were females, and over 60% identified as African American. This dominance of females and African Americans within the sample reinforces the need for healthcare strategies that consider gender and racial disparities, ensuring that all patient groups receive equitable care. An insightful observation from our study underscores the longevity of patient association with UHI Clinic, with many being affiliated for 4 to 6 years. This suggests trust and dependency on the clinic, emphasizing its role in providing consistent and reliable healthcare to its cohort.

While hypertension emerged as a predominant diagnosis, especially in the age group of 55-64, it's alarming to note the challenges faced by patients in accessing cardiologist services. Barriers such as insurance complications and transportation were highlighted, with a significant gender disparity in accessing cardiac care also becoming evident. The majority facing challenges were female, pointing to possible systemic issues that need addressing.

The data from the year-wise distribution of cardiologist referrals indicates a need~~.~~ With an increasing number of referrals in recent years, a large proportion of these patients have not, to this date, consulted a cardiologist. This, combined with the revelation that nearly 40% have never seen a cardiologist, points towards potential shortcomings in the referral and follow-up processes. There's an undeniable urgency to streamline healthcare access, ensure timely cardiac care, and address the barriers that patients face.

This comprehensive analysis underscores several critical takeaways. Firstly, while the UHI Clinic seems to have garnered long-term trust from its patients, there are evident challenges in ensuring these patients receive the necessary specialist care. Secondly, systemic barriers, especially insurance complications, hinder a significant number of patients from seeking specialist consultations. Lastly, the gender disparities in accessing cardiac care need to be delved into further, ensuring that all patients, regardless of gender, receive equitable care.

In conclusion, the findings from our project illuminate the intricate web of challenges faced by patients at UHI Clinic in accessing cardiac care. While our sample size is modest, the results provide a foundation for larger-scale studies and potential interventions. Advanced practice clinicians and healthcare administrators must recognize and address these gaps, striving for improvements in patient care, timely interventions, and an inclusive healthcare system. By harnessing these insights, there's an opportunity to improve the cardiology referrals at UHI Clinic to influence broader healthcare practices, optimizing patient outcomes and bettering the healthcare system at large.

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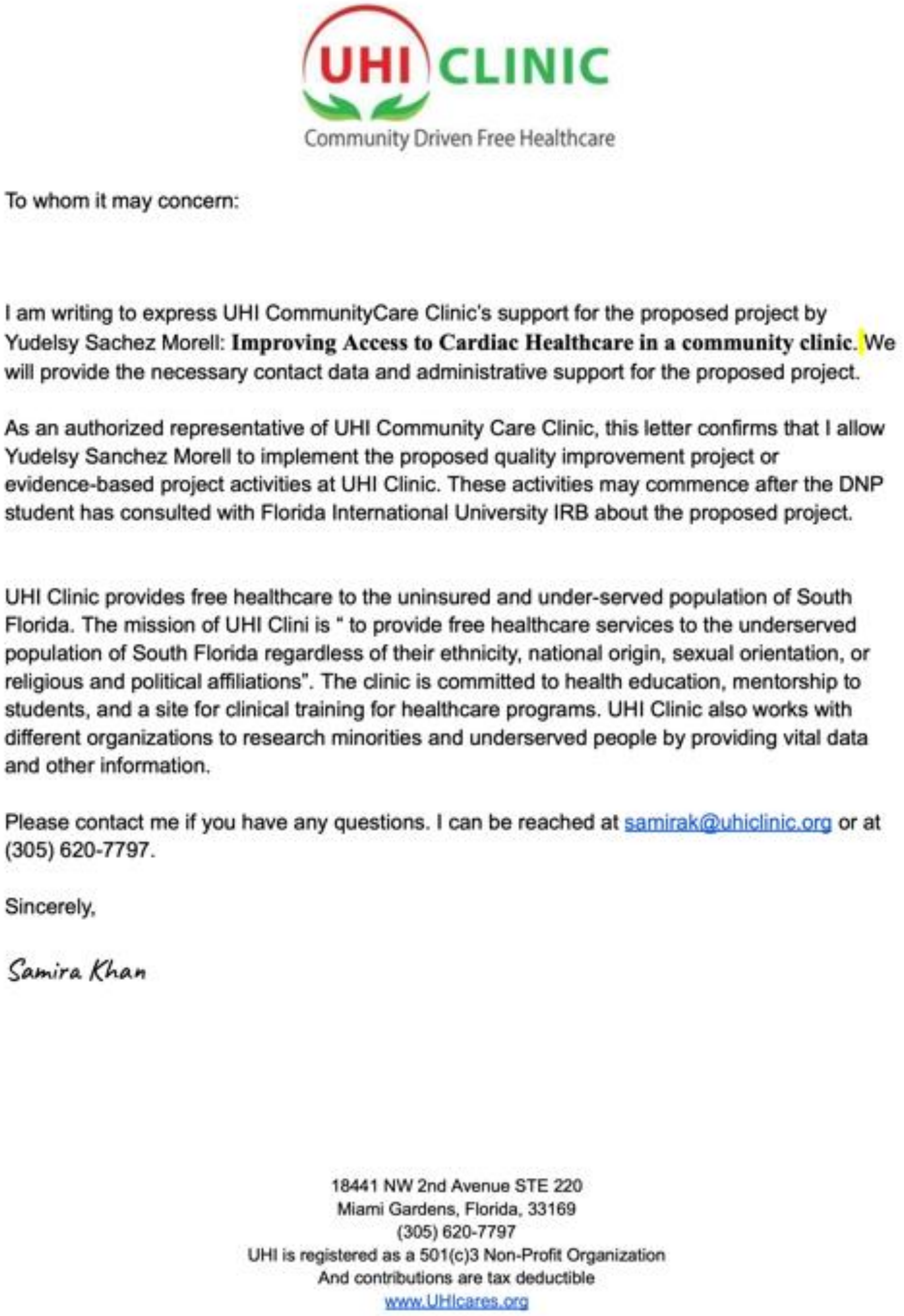
Appendix A: Site Letter of Approval



UHI CLINIC
Community Driven Free Healthcare

To whom it may concern:

I am writing to express UHI CommunityCare Clinic's support for the proposed project by Yudelsy Sachez Morell: **Improving Access to Cardiac Healthcare in a community clinic**. We will provide the necessary contact data and administrative support for the proposed project.

As an authorized representative of UHI Community Care Clinic, this letter confirms that I allow Yudelsy Sanchez Morell to implement the proposed quality improvement project or evidence-based project activities at UHI Clinic. These activities may commence after the DNP student has consulted with Florida International University IRB about the proposed project.

UHI Clinic provides free healthcare to the uninsured and under-served population of South Florida. The mission of UHI Clini is " to provide free healthcare services to the underserved population of South Florida regardless of their ethnicity, national origin, sexual orientation, or religious and political affiliations". The clinic is committed to health education, mentorship to students, and a site for clinical training for healthcare programs. UHI Clinic also works with different organizations to research minorities and underserved people by providing vital data and other information.

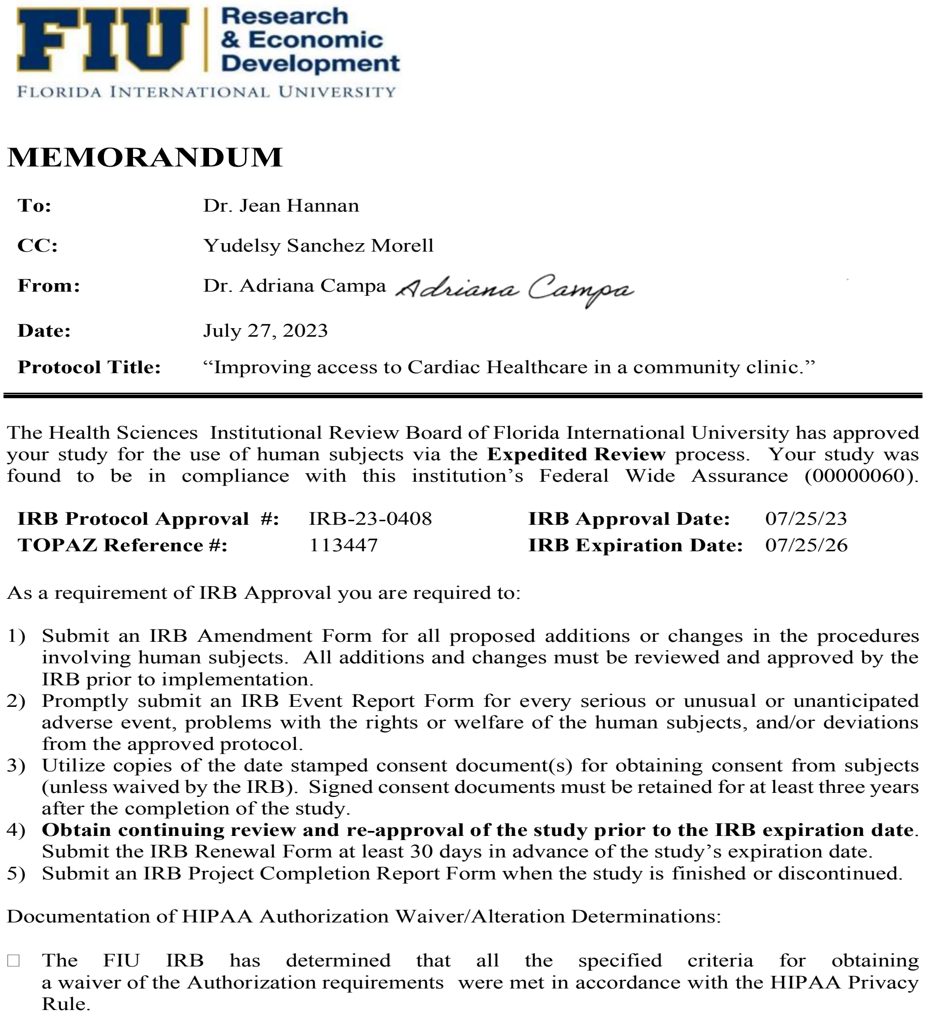
Please contact me if you have any questions. I can be reached at samirak@uhiclinic.org or at (305) 620-7797.

Sincerely,

Samira Khan

18441 NW 2nd Avenue STE 220
Miami Gardens, Florida, 33169
(305) 620-7797
UHI is registered as a 501(c)3 Non-Profit Organization
And contributions are tax deductible
www.UHIcares.org

Appendix B: IRB Approval Letter



Research & Economic Development
FLORIDA INTERNATIONAL UNIVERSITY

MEMORANDUM

To: Dr. Jean Hannan
CC: Yudelsy Sanchez Morell
From: Dr. Adriana Campa Adriana Campa
Date: July 27, 2023
Protocol Title: "Improving access to Cardiac Healthcare in a community clinic."

The Health Sciences Institutional Review Board of Florida International University has approved your study for the use of human subjects via the **Expedited Review** process. Your study was found to be in compliance with this institution's Federal Wide Assurance (00000060).

IRB Protocol Approval #:	IRB-23-0408	**IRB Approval Date:**	07/25/23
TOPAZ Reference #:	113447	**IRB Expiration Date:**	07/25/26

As a requirement of IRB Approval you are required to:

1) Submit an IRB Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved by the IRB prior to implementation.
2) Promptly submit an IRB Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
3) Utilize copies of the date stamped consent document(s) for obtaining consent from subjects (unless waived by the IRB). Signed consent documents must be retained for at least three years after the completion of the study.
4) **Obtain continuing review and re-approval of the study prior to the IRB expiration date**. Submit the IRB Renewal Form at least 30 days in advance of the study's expiration date.
5) Submit an IRB Project Completion Report Form when the study is finished or discontinued.

Documentation of HIPAA Authorization Waiver/Alteration Determinations:

☐ The FIU IRB has determined that all the specified criteria for obtaining a waiver of the Authorization requirements were met in accordance with the HIPAA Privacy Rule.

Appendix C: Participant Inform Consent in English

FIU IRB Approval:	7/25/2023
FIU IRB Expiration:	7/25/2026
FIU IRB Number:	IRB-23-0408

ADULT CONSENT TO PARTICIPATE IN A QUALITY IMPROVEMENT PROJECT

A need assessment for improving access to cardiac healthcare in a community clinic.

Things you should know about this study:

- ☐ **Purpose:** The purpose of the study is to identify the gaps and challenges in delivering comprehensive cardiovascular services and develop strategies to address these issues at UHI.
- ☐ **Procedures**: If you choose to participate, you will be asked to fill out a one-time survey.
- ☐ **Duration:** This will take 15-30 minutes without any time commitment or long-term follow-up.
- ☐ **Risks**: There is minimal time commitment to participating.
- ☐ **Benefits:** The main benefit to you from this research is improve access to essential cardiac healthcare services in the future.
- ☐ **Alternatives:** There are no known alternatives available to you other than not taking part in this study.
- ☐ **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY
The purpose of this study is to identify the gaps and challenges in delivering comprehensive cardiovascular services and to develop strategies to address these issues at UHI.

NUMBER OF STUDY PARTICIPANTS
If you decide to be in this study, you will be one of 23 people in this research study.

DURATION OF THE STUDY
Your participation will involve 15-30 minutes.

PROCEDURES
If you agree to be in the study, we will ask you to do the following things:

1. Complete a one-time survey.

RISKS AND/OR DISCOMFORTS
The study has the following possible risks to you: There is only minimal risk or discomfort affecting the participants, and it is a low time commitment. There are no physical or

Psychological risks that harm or endanger participants. There are no social, legal, or economic risks that affect participants.

BENEFITS

The study has the following possible benefits for you: Improve access to cardiac care services in the community. Raise awareness about cardiac health risk factors, leading to a reduction in the incidence of cardiovascular diseases. Detect early heart diseases, prevent their progression, and reduce complications.

ALTERNATIVES

No known alternatives are available to you except not participating in this study. Any new and significant findings developed during the course of the research that may be related to your willingness to continue participation will be provided to you.

CONFIDENTIALITY

The records of this study will be kept private and protected to the maximum extent permitted by law. In any reports we publish, we will not include any information that can identify you. Research records will be securely stored, and only the research team will have access to them. However, your records may be inspected by an authorized University or other agents who will also maintain the information confidential.

USE OF YOUR INFORMATION

- The information collected as part of the research will not be used or distributed for future research studies, even if identifiers are removed.

COMPENSATION AND COSTS

You will not receive any payment for your participation. There are no costs to you for participating in this study.

MEDICAL TREATMENT

Normally, FIU, its agents, or employees do not compensate or provide free medical care to human subjects in case of any injury resulting from participation in a research project. If you become sick or injured as a direct result of your participation in this study, please contact your regular healthcare provider. If you have insurance, your insurance company may or may not cover these costs. If you do not have insurance or if your insurance company refuses to pay, you will be billed. Funds to compensate for pain, expenses, loss of wages, and other damages caused by an injury are not routinely available.

RIGHT TO REFUSE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you withdraw from the study early. The researcher reserves the right to withdraw you without your consent at the time they consider to be in the best interest.

INVESTIGATOR CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues related to this research study, you can contact Yudelsy Sanchez Morell at (786)-804-2950, yudelsy.sanchez@live.com.

IRB CONTACT INFORMATION

If you wish to speak to someone about your rights as a subject of this research study or ethical issues related to this research study, you can contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had the opportunity to ask any questions I have about this study, and they have been answered. I understand that I will be provided with a copy of this form for my records.

________________________________	__________________
Participant's Signature	Date
________________________________	
Participant's Printed Name	
________________________________	__________________
Signature of Person Obtaining Consent	Date

Appendix D: Participant Inform Consent in Spanish

FIU IRB Approval:	7/25/2023
FIU IRB Expiration:	7/25/2026
FIU IRB Number:	IRB-23-0408

FLORIDA
INTERNATIONAL
UNIVERSITY

CONSENTIMIENTO DE ADULTO PARA PARTICIPAR EN UN PROYECTO DE MEJORA DE LA CALIDAD

Una evaluación de necesidades para mejorar el acceso a la atención cardíaca en una clínica comunitaria.

Cosas que debes saber sobre este estudio:

- **Propósito:** El propósito del estudio es identificar las brechas y desafíos en la prestación de servicios cardiovasculares integrales y desarrollar estrategias para abordar estos problemas en UHI.
- **Procedimientos:** Si decides participar, se te pedirá que completes una encuesta única.
- **Duración:** Esto tomará de 15 a 30 minutos sin ningún compromiso de tiempo ni seguimiento a largo plazo.
- **Riesgos:** La participación requiere un compromiso de tiempo mínimo.
- **Beneficios:** El beneficio principal para ti de esta investigación es mejorar el acceso a servicios esenciales de atención cardíaca en el futuro.
- **Alternativas:** No hay alternativas conocidas disponibles para ti, excepto no participar en este estudio.
- **Participación:** Participar en este proyecto de investigación es voluntario.

Por favor, lee cuidadosamente todo el documento antes de aceptar participar.

PROPÓSITO DEL ESTUDIO

El propósito de este estudio es identificar las brechas y desafíos en la prestación de servicios cardiovasculares integrales y desarrollar estrategias para abordar estos problemas en UHI.

NÚMERO DE PARTICIPANTES EN EL ESTUDIO

Si decides participar en este estudio, serás uno de los 23 participantes en este estudio de investigación.

DURACIÓN DEL ESTUDIO

Tu participación implicará de 15 a 30 minutos.

PROCEDIMIENTOS

Si aceptas participar en el estudio, te pediremos que realices las siguientes actividades:

1. Completar una encuesta única.

RIESGOS Y/O MOLESTIAS

El estudio tiene los siguientes posibles riesgos para ti: Existed un riesgo o molestia mínimo que afecta a los participantes, y es que se requiere un compromiso de tiempo bajo. No hay riesgos físicos ni psicológicos que perjudiquen o pongan en peligro a los participantes. No hay riesgos sociales, legales o económicos que afecten a los participantes.

BENEFICIOS

El estudio tiene los siguientes posibles beneficios para ti: Mejorar el acceso a los servicios de atención cardíaca en la comunidad. Crear conciencia sobre factores de riesgo de salud cardíaca, lo que lleva a una reducción en la incidencia de enfermedades cardiovasculares. Detectar enfermedades cardíacas tempranas, prevenir su progresión y reducir sus complicaciones.

ALTERNATIVAS

No se conocen alternativas disponibles para ti, excepto no participar en este estudio. Cualquier hallazgo nuevo y significativo desarrollado durante el curso de la investigación que pueda estar relacionado con tu voluntad de continuar la participación se te proporcionará.

CONFIDENCIALIDAD

Los registros de este estudio se mantendrán privados y se protegerán en la medida máxima permitida por la ley. En cualquier tipo de informe que publiquemos, no incluiremos ninguna información que pueda permitir identificarte. Los registros de investigación se almacenarán de forma segura y solo el equipo de investigadores tendrá acceso a ellos. Sin embargo, sus registros pueden ser inspeccionados por una Universidad autorizada u otros agentes que también mantendrán la información confidencial.

USO DE SU INFORMACIÓN

- La información recopilada como parte de la investigación no se utilizará ni distribuirá para futuros estudios de investigación, incluso si se eliminan los identificadores.

COMPENSACIÓN Y COSTOS

No recibirá ningún pago por su participación. No hay costos para usted por participar en este estudio.

TRATAMIENTO MÉDICO

Normalmente, FIU, sus agentes o empleados no compensan ni brindan atención gratuita a los sujetos humanos en caso de que se produzca alguna lesión como resultado de la participación en un proyecto de investigación. Si se enferma o se lesiona como resultado directo de su participación en este estudio, comuníquese con su proveedor médico regular. Si tiene seguro, es posible que su compañía de seguros pague o no estos costos. Si no tiene seguro, o si su compañía de seguros se niega a pagar, se le facturará. Los fondos para compensar el dolor, los gastos, la pérdida de salarios y otros daños causados por una lesión no están disponibles de manera rutinaria.

DERECHO A RECHAZAR O RETIRARSE

Su participación en este estudio es voluntaria. Usted es libre de participar en el estudio o retirar su consentimiento en cualquier momento durante el estudio. No perderá ningún beneficio si decide no participar o si abandona el estudio antes de tiempo. El investigador se reserva el derecho de retirarlo sin su consentimiento en el momento en que él/ella considere que es lo mejor.

INFORMACIÓN DE CONTACTO DEL INVESTIGADOR

Si tiene alguna pregunta sobre el propósito, los procedimientos o cualquier otro problema relacionado con este estudio de investigación, puede ponerse en contacto con Yudelsy Sanchez Morell al (786)-804-2950, yudelsy.sanchez@live.com.

INFORMACIÓN DE CONTACTO DE IRB

Si desea hablar con alguien sobre sus derechos como sujeto de este estudio de investigación o sobre problemas éticos relacionados con este estudio de investigación, puede ponerse en contacto con la Oficina de Integridad de la Investigación de FIU por teléfono al 305-348-2494 o por correo electrónico a ori@fiu.edu.

ACUERDO DEL PARTICIPANTE

He leído la información de este formulario de consentimiento y acepto participar en este estudio. He tenido la oportunidad de hacer todas las preguntas que tengo sobre este estudio y se me han respondido. Entiendo que se me entregará una copia de este formulario para mis registros.

________________________________ __________________
Firma del Participante Fecha

____
Nombre Impreso del Participante

________________________________ __________________
Firma de la Persona Obteniendo Consentimiento Fecha

Appendix E: Invitation to Join the Cardiology Service Survey

Subject: Participate in Our UHI Clinic Cardiovascular Services Survey

Dear UHI Clinic Community,

We need your input! Help us enhance cardiovascular services at UHI Clinic by participating in a brief survey.

Purpose:

This survey aims to identify gaps and challenges in our cardiovascular care delivery and develop strategies for improvement.

Survey Details:

Duration: 15-30 minutes

Risks: Minimal time commitment

Benefits: Improve future cardiac healthcare access

Participation: Completely voluntary

Your participation can make a significant impact. Click here to take the survey:

English Survey Link: https://fiu.qualtrics.com/jfe/form/SV_9Nwm3YLFKxi3ZuC

Thank you for helping us improve UHI Clinic's cardiovascular services.

Sincerely,

Yudelsy Sanchez Morell FIU DNP Student
UHI Clinic

Appendix F: Invitación para Participar en la Encuesta sobre el Servicio de Cardiología

Asunto: Participa en Nuestra Encuesta de Servicios Cardiovasculares en UHI Clinic

Estimada Comunidad de UHI Clinic,

¡Necesitamos tu opinión! Ayúdanos a mejorar los servicios cardiovasculares en UHI Clinic participando en una breve encuesta.

Propósito:

Esta encuesta tiene como objetivo identificar las brechas y desafíos en la prestación de atención cardiovascular y desarrollar estrategias para su mejora.

Detalles de la Encuesta:

Duración: 15-30 minutos

Riesgos: Compromiso de tiempo mínimo

Beneficios: Mejorar el acceso futuro a la atención cardíaca

Participación: Completamente voluntaria

Tu participación puede tener un impacto significativo. Haz clic aquí para realizar la encuesta:

Spanish Survey Link: https://fiu.qualtrics.com/jfe/form/SV_1MlGBBS2WbST6qq

Gracias por ayudarnos a mejorar los servicios cardiovasculares en UHI Clinic.

Atentamente,

Yudelsy Sanchez Morell FIU DNP Student
UHI Clinic

Appendix G: Patient Questionnaire in English

1. How old are you?
    - 18-24 years old
    - 25-34 years old
    - 35-44 years old
    - 45-54 years old
    - 55-64 years old
    - 65 + years old
2. How do you describe yourself?
    - Male
    - Female
    - Prefer not to answer

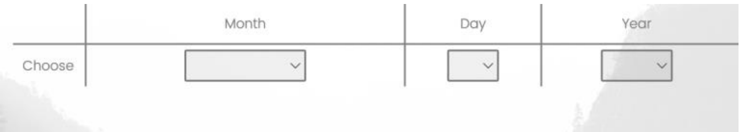
3. What is your ethnicity or race?
    - White
    - Africa American
    - Hispanic or Latin
    - Asian
    - Native American
    - Alaska Native
    - Native Hawaiian
    - Pacific Islander
    - Other

4. How long have you been a patient at UHI Clinic?
    - 0-6 months
    - 7-12 months
    - 1-3 years
    - 4-6 years
    - 7-10 years
    - 11-15 years
    - 15 years or more

5. Were you referred to a cardiologist?
    - Yes
    - No

6. If “ yes," what was the reason? Select all that apply
    - Hypertension
    - High Cholesterol
    - Diabetes
    - Obesity
    - Hx of any cardiovascular disease
    - Hx of cardiovascular accident
    - Chest Pain
    - Abnormal EKG
    - Abnormal Lab
    - Other

7. When were you referred to the cardiologist?



8. Were you able to see a cardiologist?
   - ○ Yes
   - ○ No

9. If "yes," how long did it take for you to get an appointment with the cardiologist?
   - ○ 1-3 months
   - ○ 4-6 months
   - ○ 7-9 months
   - ○ 10-12 months
   - ○ More than a year
   - ○ More than two years

10. What is the name of the cardiologist you were seen by?

11. When was the last time you saw a cardiologist?

    - ○ 0-6 months ago
    - ○ 7-12 months ago
    - ○ 1-2 years ago
    - ○ 2-3 years ago
    - ○ 3-4 years ago
    - ○ More than five years ago

12. If you were not able to see the cardiologist, what was the reason? Select all that apply.
    - ○ Problem getting time off from work.
    - ○ Transportation problem
    - ○ Language problem
    - ○ Insurance problem
    - ○ Other

13. Do you have any other concerns related to a cardiology referral that you would like to tell us?

Appendix H: Patient Questionnaire in Spanish

1-Que edad tienes?

- 18-24 años de edad
- 35-44 años de edad
- 45-54 años de edad
- 55-64 años de edad
- 65 + años de edad

2-Como se identifica?

- Hombre
- Mujer
- Prefiero no contester

3-Cual es su etnicidad o raza?

- Blanco
- Afroamericano
- Hispano o Latino
- Asiatico
- Nativo Americano
- Nativo Alaska
- Nativo Hawai
- Isleño del Pacifico
- Otro

4-Cuanto tiempo ha sido paciente de UHI Clinic?

- 0-6 meses
- 7-12 meses
- 1-3 años
- 4-6 años
- 7-10 años
- 11-15 años
- 15 años o mas

5-Fuiste referido a un cardiologo??

- si
- No

6-Si la respuesta anterior es "si", cuál es la razón? Selecciona todas las que le correspondan

- Hipertension
- Colesterol Alto
- Diabetes

- Obesidad
- Antecedentes de Enfermedad Cardiovascular
- Antecedentes de accidente Cardiovascular
- Dolor en el pecho
- Electrocardiograma (EKG) anormal
- Resultados de laboratorios anormales
- Otro

7-Cuando fuiste referido al cardiologo?

8- Pudiste ver un cardiologo?

- Si
- No
-

9- Si la respuesta es "Si", cuántas semanas le tomo obtener la cita con el cardiólogo?

- 1-3 meses
- 4-6 meses
- 7-9 meses
- 10-12 meses
- Mas de 1 año
- Mas de 2 años

10- Cual es el nombre del cardiólogo que lo vio?

11- Cuando fue la ultima vez que viste un cardiologo?

- Ultimos 0 a 6 meses
- Ultimos 7-12 meses
- Hace 1 a 2 años
- Hace 2-3 años
- Hace 3-4 años
- Mas de 5 años

12- Si la respuesta fue que no pudo ver al cardiologo, cual fue la razon? Selecciona todas las que le correspondan

- Problemas para obtener permiso en el trabajo
- Problemas de transporte
- Problemas de Idioma
- Problemas de Seguro
- Other

13- Tienes alguna otra inquietud relacionada con la referencia a un cardiólogo que te gustaría contarnos?