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A Clinical Practice Guideline to Promote Medication Adherence Among Adult African Americans With Hypertension

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Abstract

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MSN, Walden University, 2015

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Project Submitted in Partial Fulfillment

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Abstract

Medication nonadherence represents one of the major barriers to achieving optimal health, particularly for African Americans (AAs). Poor adherence to medications is a significant problem that can lead to increased morbidity, mortality, and health care costs. Clinical practice guidelines (CPGs) provide current, evidence-based interventions for changing health behaviors to improve medication adherence (MA). The purpose of this project was to develop an evidence-based patient education CPG to address MA among AA patients with hypertension (HTN). The project site was a medium-sized health care clinic in the South Central United States with a high rate of uncontrolled HTN among AA patients. The medical director/CEO, two nurse practitioners, and a staff nurse at the project site served as content experts and evaluated the guideline using the Appraisal of Guidelines for Research and Evaluation (AGREE) model. Results from the AGREE II instrument showed domain scores that ranged from 98% to 100%, with all scores greater than the 75% benchmark. A 96% agreement rate from three out of the four expert panelists indicated that the expert panel agreed that the guideline was an effective tool that should be implemented in the project site. Three end users, nurses at the clinic, also reviewed the guideline for content and usability and reported that the guideline was a tool that would be easy to implement. Implementation of the guideline may bring about changes in health beliefs, values, and lifestyle that increase MA among AA patients with HTN. These changes may improve patients' blood pressure control and quality of life.

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Dedication

This project is dedicated to my husband, Dr. Kenneth Ekechukwu, and children for their inspiration and relentless support throughout this DNP journey.

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I would like to acknowledge my mentor and committee chairperson, Dr. Susan Hayden, and committee member, Dr. Lilo Fink, who have been a guiding light in the development and execution of this project, and Academic Adviser Bridgette Malchow for her continuous encouragement. I would also like to extend my gratitude to my preceptor, Dr. Edward Amakiri, for his selfless efforts. Through his example as a physician and a leader, I have learned the real role a doctorate-prepared nurse is capable of undertaking.

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Section 1: Nature of the Project

Introduction

African Americans (AAs) who have hypertension (HTN) suffer from earlier disease onset and experience greater disease severity than members of any other racial group; furthermore, AAs experience higher rates of premature cardiovascular mortality than any other group (Moss et al., 2019). Lifestyle changes, social support, and medication adherence (MA) have been found to lower mortality risk and recurrent events (Hald et al., 2019). MA is defined as "the extent that patients take medications as prescribed by providers, whereas nonadherence refers to the number of medication doses missed or not taken as prescribed, resulting in adverse health outcomes" (Abel & Greer, 2017, pp 165). MA is, therefore, achieved when a patient is faced with conflicting demands, able to overcome those demands, through limited supervision, continues to maintain an agreed-upon mode of treatment. The World Health Organization (WHO, 2003) outlined five dimensions that impact MA to include social/economic, therapy, patient, condition, and health system/health care team related. These factors impact various demographic groups and can contribute to inequalities, notably among AAs, in the effectiveness of care received.

According to Abel and Greer (2017), medication nonadherence (MNA) represents one of the barriers that minority groups, including AAs, face when attempting to achieve optimal health. Despite previous research about MA among various demographic groups, Hu et al. (2014) noted that there are few studies that address methods to improve MA among AA patients with HTN. The early prevention of cardiovascular disease through

diet improvements and exercise frequency together with MA has been determined to be beneficial (Benjamin et al., 2017). Hald et al. (2019) noted that implementing an effective MA intervention requires organized interdisciplinary strategies that emphasize MA and lifestyle changes. Although cardiovascular disease is the number one cause of death in the United States, there are strategies, such as lifestyle modifications and patient education, to curtail a patient's likelihood of death.

Aligned with the findings by Benjamin et al. (2017) and Hald et al. (2019), Ahuja et al. (2018) noted that HTN can be improved when individuals address lifestyle modifications to minimize modifiable MA risk factors. These factors are included in the WHO's five dimensions (Hu et al., 2014). Modifying risk factors may thereby result in a decrease in the likelihood of heart disease, stroke, and death. In hopes of improving MA among AAs, specifically related to HTN, I developed a clinical practice patient education guideline based on current, peer reviewed literature and WHO's five dimensions that affect MA. Positive social change may be observed after providers implement the newly developed guideline as they will have culturally relevant patient education to offer that may lead to increased MA and decreased HTN among AA patients. According to Ferdinand et al. (2017), MA can positively impact an individual's health beliefs, values, and lifestyle. Implementation of the project may improve AA patients' blood pressure control and, subsequently, enhance their quality of life. In this section, I provide an overview of the project, including the problem, purpose, nature, and potential significance of the doctoral project.

Problem Statement

The rate of uncontrolled HTN is high among AA patients receiving primary care at a private, medium-sized clinic in the South Central United States. At the clinic, 95% of AAs receiving services suffer from HTN, and less than half (43%) of these patients have their HTN under control, according to the medical director compared to a national average of 52.2% (Maraboto & Ferdinand, 2020). AA patients with HTN constitute 80% of patients who experience kidney, heart disease, and stroke related issues at the clinic. Furthermore, AAs constitute 60% of patients who experience HTN-related deaths, according to the medical director. Leadership at the clinic noted the increasing burden of HTN and MA among AA patients and, therefore, supported the development of a guideline that providers could follow to provide standardized patient education as a positive oversight of MA services. MNA, a major factor in AAs' high incidence of HTN, is related to the five dimensions outlined by WHO (Goh et al., 2017; Maraboto & Ferdinand, 2020; Moss et al., 2019).

Quality patient care is central to nursing; therefore, being able to provide culturally sensitive, evidence-based MA education is important to nurses and is likely to influence job satisfaction (Laschinger et al., 2016). Teaching and coaching have been identified as key components of practice standards and competencies for nurses, and effective patient education has been linked to cost savings and improved patient outcomes (Page et al., 2019). The WHO five dimensions that affect MA identify poverty and lack of insurance coverage as primary factors that influence MNA (Pettey et al., 2016). In 2011, 27.6% of AAs lived in poverty, compared with 12.8% of Whites; furthermore, 19.5% of

AAs were without health insurance coverage, compared with 14.9% of Whites (Pettey et al., 2016). Also, the WHO health care system dimensions emphasize that nurses can help patients navigate through the health care system by providing education that is patient and family focused rather than health care provider focused, using plain language that is easily understood by the patient (Page et al., 2019). I sought to develop an evidence-based, culturally sensitive guideline that is a patient-focused, plain language teaching tool.

It is important for nurses to have a consistent standardized approach to teach AA patients with HTN including evidence-based information and regular assessments of provider understanding (Page et al., 2019). The new knowledge provided to nurses may promote an awareness and attitude change that could empower and support professional practice environments and influence nurses' quality of care. The newly developed guideline provides nurses with a teaching guide that addresses the WHO's (2003) five dimensions related to MA education with the expectation that they incorporate this new knowledge in their treatment plan for AAs with HTN. As a result of this project, nurses should be able to perform patient education needed at diagnosis, treatment initiation, and when there are any changes in plans of care, enabling nurses to provide their patients with standardized HTN MA education. Increased comprehension of HTN MA by nurses may improve their ability to deliver quality care meeting the primary objective of any health care facility. The delivery of quality health care and optimal patient outcomes are significantly associated with health care quality indicators such as mortality rates, failure to rescue, and patient satisfaction (Laschinger et al., 2016).

Knowledge, attitude, and practice are three evidence-based factors that can be used to understand nurses' behavior and behavioral changes in providing quality patient outcomes during their daily practice (Wu et al., 2020). Standardized guidelines not only increase nurses' knowledge (Wu et al., 2020) but should also improve the attitudes of nurses who work with patients with chronic diseases such as HTN. Increasing nurses' knowledge and skills related to HTN MA may reduce MNA among patients with HTN. Nurses at the project site may be able to better support patients in the delivery of optimal HTN MA services by implementing the newly developed guideline.

Purpose Statement

Though the literature supports an evidence-based, culturally sensitive educational intervention for MA (Abel & Greer 2017), the clinical site did not have culturally based teaching materials. The rate of nonadherence to HTN medications in 2009 was 36.17% for Black patients compared to 19.69% for White patients, with nonadherence rates for HTN the highest in comparison to other medical conditions (Pettey et al., 2016). AAs are two to three times as likely as Whites to die of preventable heart disease and stroke, both due to HTN and associated with MNA (Ferdinand et al., 2017). The practice-focused questions that I sought to answer through this project were the following: (a) Does the literature support the need for culturally based patient education to address MNA for AA patients with HTN? and (b) What evidence from the literature is available for the development of a guideline to address MNA in AA patients with HTN?

By increasing nurses' knowledge related to factors affecting MA in AAs through a standardized guideline, my intention for this project was to provide insight that may

improve patient outcomes. When individuals understand the importance of adherence to instructions for prescribed medications, they may be better able to control their health care and reduce associated burdens (Kim et al., 2016). The purpose of this capstone project was to develop a guideline patterned on the hand model (Goh et al., 2017) that emphasizes the WHO (2003) five interacting dimensions. This purpose mirrors the intent of a clinical practice guideline (CPG) project for the Walden University DNP student; according to Walden University's (2019) CPG manual, guidelines provide health care providers with the evidence and knowledge they need to deliver safe, effective care to specific populations.

Most effective MA improvement interventions for the general U.S. population involve a combination of educational materials along with careful assessment of the patient's characteristics and barriers to MA (Li et al., 2015). The guideline provides effective, culturally tailored, nurse-led education that was urgently needed for AA patients with HTN to enhance their MA and blood pressure control. Through the newly developed guideline, I addressed the identified gap by providing culturally sensitive evidence-based teaching materials, which has been identified as an effective method to obtain full benefits of evidence-based therapies (Kardas et al., 2019). Hughes and Vernon (2020) stated that culturally based education materials were vital to reaching vulnerable groups by providing quality, inclusive care, which was my intention in developing the guideline.

Nature of the Doctoral Project

To gather current, peer-reviewed literature to develop the guideline, I conducted an in-depth literature review to identify interventions to increase HTN MA among adult

AA patients with HTN in this medium-sized clinic setting in the South Central United States. The following databases and search engines were used: CINAHL, EBSCOhost, Google Scholar, Ovid Plus, ProQuest Nursing and Allied Health, and PubMed. Search terms that I used during the review of literature included *hypertension* AND *medication adherence* AND *African Americans* AND *culturally based education*. In addition, I reviewed organizational websites such as the CDC, the American Heart Association, the International Society of Hypertension, and Healthy People 2020.

The capstone project was aligned with Walden University's manual for CPG capstone projects, which supports the use of the AGREE II model (Anwer et al., 2018) for the development and evaluation of CPGs. Following Walden University's CPG manual, I identified the practice problem to be MNA among adult AAs with HTN that, in part, was related to the staff's lack of knowledge of evidence-based, culturally sensitive MA information. Based on the identified problem, I developed the following practiced-focused questions to address the problem: (a) Does the literature support the need for culturally based patient education to address MNA for AA patients with HTN? and (b) What evidence from the literature is available for the development of a guideline to address MNA in AA patients with HTN?

After an exhaustive literature search, I graded the collected evidence-based literature using the grading criteria for levels of evidence from Fineout-Overholt et al. (2010) and developed a literature matrix. I continued to search the literature and added to the matrix until the guideline was completed and approved. I developed an HTN MNA screening and prevention protocol based on the evidence from the literature to be re-

viewed by a panel of content experts using the AGREE II tool (Anwer et al., 2017; Brouwers et al., 2019). Once consensus was reached with the content experts, I presented the guideline to a group of end users to review for content and useability. Accordingly, no revisions were necessary, and I presented the approved guideline to the project site's management to be considered for implementation. Through the project, I provided an evidence-based protocol for the prevention of HTN MNA in the target setting. Implementation of the guideline may improve the quality of life for AA patients with HTN by decreasing mortality and benefit the project site by reducing resources spent on HTN MNA and its associated complications.

CPGs have been shown to be effective in addressing multiple issues across various settings (Diezel et al., 2017), providing a positive impact by helping clinicians to be better prepared, capable, and more deliberative when providing care to patients of different patient demographics. Ozan et al. (2019) stated that a majority of nurses who used CPGs reported that their use led to saved time in clinical practices by facilitating access to practical and up-to-date information. CPGs focused on management of HTN in AAs should be practical to impact the public health of this high-risk population (William et al., 2016). The guideline, therefore, should provide nurses at the project site with a common language and directions for evidence-based practices for educating AAs on MA related to HTN. Implementation of the guideline may improve the quality of

of life for AA patients with HTN by decreasing mortality and benefit the project site by reducing resources spent on HTN MNA and its associated complications.

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Clinicians are becoming more accepting of guidelines such as the one developed for this project because they provide easy access to evidence-based recommendations that facilitate health care providers' daily work (Huygen et al., 2019). The guideline, if implemented as a standard of care, could have a positive impact by providing culturally based, evidence-based protocols locally, and then regionally, nationally, and internationally. Historically, CPGs have been used as expert testimony in cases of litigation and malpractice (Huygen et al., 2019); ideally, the newly developed guideline will reach this same level of acceptance.

Significance

The stakeholders who may be impacted by this project include the medical director, the director of nursing, nurse practitioners (NPs), nurses, and patients at the project

site. The medical director and the director of nursing may be impacted by the potential benefits of improved patient outcomes and increased staff satisfaction, both leading to financial savings for the facility. The project site NPs and the nurses may have increased knowledge and resources for assisting AA patients manage HTN and be better prepared to address barriers to MA in AAs with HTN. Increased quality of care and improved patient outcomes, which should follow the implementation of guideline, often lead to increased job satisfaction (Gurdogan & Alpar, 2016). Patients may benefit through improved quality of care and health and increased knowledge related to self-care (Maraboto & Ferdinand, 2020).

The capstone project contributes to the field of nursing by adding evidence-based MA knowledge that may assist nurses in providing quality care to ethnic minorities in settings similar to the project site. The project highlighted the importance of identifying the factors that contributed to MNA and provided strategies for improvement through standardized patient education. Some researchers have theorized that effective patient-nurse relationships, including quality of education in HTN disease management, contribute to increased MA among minority patients (Sun et al., 2020). Improving nurses' knowledge of MA and HTN control and management methods plays an important role in reducing the damaging effects of HTN. The project offers necessary evidence-based MA HTN information, support, and resources that may be beneficial for nurses to use when educating their patients. According to Gurdogan and Alpar (2016), lack of adequate skills and knowledge about providing evidence-based disease management in nurses' daily

practice leads to fatigue, absenteeism, and job dissatisfaction, along with the potential for unsafe patient care.

The project is transferable to any clinical setting where AA patients with HTN are cared for as the modifiable risk factors are the same; it can be easily modifiable for other minorities or disease processes with appropriate barriers added or changed. Nonadherence to medications among patients with chronic diseases has been shown to constitute a major barrier to treatment success (Jaam et al., 2018). In addition to complications, MNA also results in increased medical costs (CDC, 2020, Ferdinand et al., 2017). Thus, it is imperative that health care providers teach patients about their chronic disease and the complications associated with MNA so the patient can benefit fully from treatment.

For decades, the Walden University academic community has been known for being an active instrument of positive social change through the activities of its diverse worldwide community of career professionals. The tenet of social change has been shown to foster population health, welfare, and peace (Vieira et al., 2015). The project may promote positive social change through the dissemination of knowledge and initiatives, reduced social and health inequalities, and improved HTN MA among adult AA patients. Improving HTN treatment adherence may prevent HTN-related complications such as renal failure, cardiovascular disease, and death among AAs and is necessary to improve patient outcomes and quality of life for this population (Pettey et al., 2016). The positive social change implications of increasing AA patients' MA include potentially changing patients' health beliefs, values, lifestyle, and socioeconomic status, which may improve blood pressure control, patient outcomes, and quality of life. The project may affect AA

patients' socioeconomic status by enabling them to remain productive in employment and maintain an active social life and well-being.

Summary

Enhancing MA among AA patients with HTN is an effective and efficient way to improve patient-specific health outcomes. The gap in practice identified for this capstone project was that, though the literature supports an evidence-based, culturally sensitive educational intervention for MA (Abel & Greer, 2017; Ditzel et al., 2017), the clinical site did not have one in place. To address this practice gap, I developed a CPG using peer-reviewed evidence to address MNA in AA patients with HTN. Increasing knowledge and skills for the nurse and promoting culturally based HTN information and lifestyle modifications may significantly improve quality of life for AA patients with HTN. Other potential implications include motivating health care providers and decreasing the financial burden associated with uncontrolled HTN (Ferdinand et al., 2017). In Section 2, I address the models that informed the project, discuss the project's relevance to nursing practice, describe the local setting, and discuss my role as the DNP student.

Section 2: Background and Context

Introduction

The rate of uncontrolled HTN is high among AA patients receiving primary care at a private, medium-sized clinic in the South-Central United States. At the clinic, 95% of AAs receiving services suffer from HTN, and less than half (43%) of these patients have their HTN under control, according to the medical director, compared to a national average of 52.2% (Maraboto & Ferdinand, 2020). In 2019, when the project was initiated, AA patients with HTN constituted, 80% of patients who experienced kidney, heart disease, and stroke related issues at the clinic. Leadership at the clinic admitted the increased burden of HTN and MNA among AA patients and, therefore, supported the development of a guideline for providers to deliver standardized patient education to provide positive oversight of MA.

Poor adherence to prescribed medications has been identified as a barrier in controlling chronic illnesses, including HTN (Maraboto & Ferdinand, 2020; Moss et al., 2019). MNA, a major driving force behind AAs' high incidence of HTN, is related to the five dimensions outlined by WHO (Goh et al., 2017; Maraboto & Ferdinand, 2020; Moss et al., 2019). For the selected site, as well as on a national level, a gap in practice has been identified in regard to MNA among patients with HTN; little effort has been made to ensure that nurses address the educational needs of AA patients with HTN. With greater MA knowledge and skills, nurses may more routinely address MNA factors in patients with HTN (Goh et al., 2017).

The practice-focused questions that underpinned this capstone project were as follows: (a) Does the literature support the need for culturally based patient education to address MNA for AA patients with HTN? and (b) What evidence from the literature is available for the development of a guideline to address MNA in AA patients with HTN? The purpose of this capstone project was to develop a guideline based on the hand model (Goh et al., 2017) that emphasizes the WHO (2003) five interacting dimensions. The use of the guideline may better prepare nurses at the clinic to assist AAs with HTN, which may result in improved MA. In this section, I provide more information on the AGREE II tool and the hand model, both of which served as the foundation of the guideline. Furthermore, I review the relevance of the project to nursing practice, discuss the local background and context, and describe my role as the DNP student.

Concepts, Models, and Theories

I used the AGREE II (Anwer et al., 2018) model to develop and evaluate the guideline for the project. To answer the practice-focused questions, I needed to understand the core of the problem and complex network of barriers and factors influencing MA among AA patients with HTN (see Jaam et al., 2018). The hand model (Goh et al., 2017) was instrumental in developing an appropriate guideline to address MNA in AAs with HTN.

The AGREE II Model

The AGREE Enterprise first published the AGREE II model in 2003 (Amer et al., 2020). It was updated to AGREE II in 2017 and is considered to be the gold standard for the quality assessment or critical appraisal of CPGs (Amer et al., 2020). The AGREE II

model is an internationally validated tool (Amer et al., 2020), used to translate evidence into practice that should be used to identify the process for a successful change process, especially when using evidence-based practice (Flynn et al., 2020). The AGREE II tool is easy to use and readily available on the AGREE Enterprise website (Brouwers et al., 2018). It has been cited in more than 1,013 articles as well as endorsed by several health care organizations (Amer et al., 2020). An important benefit of AGREE II is its role in identifying elements that must be addressed by CPGs to improve their quality, and thereby, ensure their expected trustworthiness, including a positive impact on health care outcomes (Amer et al., 2020). The AGREE II tool has also been shown to be useful in assessing dissemination including the targeted distribution of information and materials to a specific clinical practice audience in health care (Flynn et al., 2020).

Flynn et al. (2020) reported that the American Academy of Otolaryngology–Head and Neck Surgery Foundation who used two independent reviewers to appraise the organization's CPGs using the AGREE II instrument reported a strong interrater mean reliability of 0.852 and a 95% confidence interval (CI) of 0.802 – 0.902. The review provided an overall mean score of the CPGs of 85.2% (95% CI, 83.4%-87.0%) of the maximum points possible. Anwer et al. (2018) noted that the resources provided by the AGREE Trust, including the AGREE II instrument, were successfully used by clinicians to evaluate the large number of published type 2 diabetes mellitus CPGs to identify those with high methodological quality and applicability. Similarly, the tool was used by Amer et al. (2020) to evaluate the quality of evidence-based CPGs for the management of pregnant women with sickle cell disease; the researchers determined that three evidence-based

CPGs presented superior methodological quality. The AGREE II tool was also used by Medina et al. (2020) to validate the effectiveness of guidelines to address depression in European adults; Medina et al. stated that the study provided support for the high quality of the guidelines reviewed but also raised some concerns regarding editorial independence and the applicability of the guidelines, areas that should be the focus of improvement in future versions of these guidelines. Numerous CPGs have been identified, using the AGREE criteria, as high-quality and trustworthy. Using the resources provided by the AGREE trust, including the AGREE II tool, the content experts from the project site evaluated the newly developed guideline to identify the methodological quality and applicability of the guideline.

Hand Model of Medication Adherence

The hand model of MA (Goh et al., 2017) was appropriate for this project because it includes the five interacting dimensions that affect MA (Hu et al., 2014) and has been used effectively in promoting MA (Goh et al., 2017). In a systematic review of the barriers affecting MA in patients with rheumatic disease, Goh et al. (2017) found that the five categories presented in the hand model were helpful for clinicians to better visualize factors that affect treatment adherence. In the WHO's (2003) five interacting dimensions, the thumb represents the patient factors, the index finger represents the therapy factors, the middle finger represents the condition factors, the ring finger represents health system factors, and the pinky finger represented socioeconomic factors. Using the hand model for recalling the various dimensions affecting MA, nurses should be more prepared to

provide culturally based, quality care to AA patients with HTN, thereby reducing the patient's likelihood of morbidity and mortality (Spies et al., 2018).

Dillion et al. (2019) showed improved adherence to antihypertensive treatment after the implementation of the WHO's five dimensions based on the hand model. The authors assessed the determinants of treatment intentions in an Irish community pharmacy. The authors indicated that intervention strategies such as reducing the number of daily doses, reminder interventions for forgetful patients, and behavioral approaches to modify patient beliefs improved MA. Similarly, the guideline developed for this project may motivate nurses at the project site to change their existing practices to increase knowledge among AA patients with HTN regarding MA. This may improve the quality of patient care offered.

Relevance to Nursing Practice

The CDC (2020) reported that HTN costs the United States between $131 billion and $198 billon each year to include health care services, medications to treat HTN, missed days of work resulting from MNA, and associated morbidity. AA patients are more likely than any other ethnic groups in the United States to have uncontrolled HTN, leading to increased cardiovascular disorders and socioeconomic burdens, disproportionate to other ethnicities (Williams et al., 2016). The American Heart Association (2021) forecast that continued increasing prevalence of cardiovascular health disparities among non-Hispanic Blacks will continue to increase with a 10% projected rise in the prevalence of HTN by 2030. Also, Al-Ganmi et al. (2020) noted that, over the same time frame, the direct health care costs associated with HTN are expected to surpass $200 million among

all cardiovascular diseases (e.g., heart failure, stroke, cardiomyopathy, pulmonary heart disease, dysrhythmias, and coronary heart disease), which will result in HTN substantially being the most expensive aspect of all cardiovascular disease.

The CDC (2020) reported that HTN rates increased from one in two (116 million) adults to nearly half of all Americans in 2020, and the primary cause was MNA. The implications of MNA can be consequential. In 2017, HTN was the primary cause of death for 472,000 Americans, which equated to 1,300 HTN-related deaths each day (CDC, 2020). The consequences that are attributed to nonadherence to medications are numerous (Harsha et al., 2019), including accelerated progression of the disease, avoidable complications, increased hospitalization and disability, reduced productivity, a lower quality of life, as well as elevated mortality, all of which eventually greatly increases health care costs. Harsha et al. (2019) recommended the WHO dimensions of MA to be a supporting benchmark in improving nonadherence.

According to James et al. (2014), the Eight Joint National Committee Guidelines for the Management of HTN in Adults recommendations proposed special recommendations for HTN management designed for AAs 18 years and older. Based on the rising prevalence of HTN in the United States, particularly among AAs, Healthy People 2000, Healthy People 2010, and Healthy People 2020 objectives have included target outcomes of increasing antihypertensive MA and decreasing the prevalence of HTN (Department of Health and Human Services, 2016). These goals include increasing the proportion of patients following the recommended lifestyle modification guidelines and increasing the proportion of patients with controlled HTN. Studies on the progress toward meeting

Healthy People 2020 goals for the management of HTN showed that, although progress had been made with regards to the entire US population, there has been little progress in the prevalence of HTN among AA patients (DHHS, 2019).

Williams et al. (2016) determined that AAs are especially susceptible to HTN and its associated organ damage that can lead to adverse cardiovascular, cerebrovascular, renal outcomes, and CPG strategies on how to treat HTN MA, specifically in AAs, are needed. Ferdinand et al. (2017) identified MNA in low-income AAs who reside in the Southeastern US areas reported poverty as a driving force contributing factor to the increase. Abel and Greer (2017) found no association between spiritual/religious beliefs and adherence in Black women but that women who developed a trusting relationship with their provider were more likely to be adherent to medications. These researchers explored the behavioral beliefs, geographic distribution of preventable death from cardiovascular disease and stroke and disparities in health outcomes associated with nonadherence to antihypertensive medications in AA patients diagnosed with HTN, concluding further studies were needed to examine MA in AA patients with HTN. According to Fernandez-Lazaro et al. (2019) and Williams et al. (2016), a patient's perceptions about the need to take prescribed antihypertensive medications can impact their MA. A better understanding about the medication-taking decisions of patients with HTN is needed to give nurses insight into their role in improving MA, informing the development of evidence-based interventions to improve medication management, and improving health outcomes (Meraz, 2020). Through the project, I provided nurses with the knowledge to care for people with MNA and included recommendations about providing information and ad-

vice, regarding prevention, diagnosis, treatment, and long-term management. In achieving effective long-term MA, the associated adverse effects of increased morbidities such as renal failure with or without subsequent renal replacement therapies, heart failure or stroke, and increased health care costs can also be decreased (Fernandez-Lazaro et al., 2019).

Nurses are the contact point between the patient and the medical system. They have the perfect opportunity to fill the gaps of patient knowledge about HTN and lifestyle changes that could help reduce HTN (Sun et al., 2020). Therefore, the guideline developed for this project provides nurses with evidence-based, culturally based patient education to assist them to address the factors that impede MA as well as ways to promote the management of MNA. In the past, the approach to educating patients about HTN has lacked a uniform strategy. Even though there was much known about how to prevent HTN, there was no culturally based, standardized method for making certain the evidence based HTN information reached the patients.

Local Background and Context

The practice setting where this project was implemented is a privately owned, medium-sized clinic located in the South Central United States. The project site staff is comprised of one physician who was also the CEO, two NPs, one director of nursing, four registered nurses, a secretary, five medical assistants, and two laboratory technicians. The facility serves the health care needs of many surrounding counties, most with people disproportionately economically and health care impacted. Many of the patients are people of Color and minorities with about 80% being AAs. Since 2017, 70% of the

clients in this facility exhibited chronic diseases attributed to MNA with about two-thirds occurring among AA patients with HTN. By reducing MNA, the project site should be in a better financial state to continue to run, even without the Medicaid expansion. The mission of this community oriented clinical facility is to provide safe, comprehensive, high-quality care in a manner that is culturally based and respectful. The clinic's strategic vision is to remain viable in the community by providing needed care services to a diverse patient population with complex health care needs. The clinic provides care to patients who are insured, underinsured, noninsured, and private payers. The DNP project supports the mission and vision by implementing a protocol that decreases MNA among AA patients with HTN and increases positive patient outcomes along with financial stability for the project site.

AA patients with HTN at the target setting comprise 80% of the total patients who experience kidney, heart disease and stroke related issues. HTN among the AAs treated at the clinic has reached an alarming rate, where less than half (43%) of the 95% of AA patients who receive HTN treatment have their HTN under control, according to the medical director. Consequently, about 57% of AA patients with HTN in this facility did not meet the expectations of more than half to lowering their HTN. Project site leadership admitted the increasing burden of HTN and MNA among AA patients, and, therefore, supported an education intervention as positive oversight of MA services. It has been determined that 83% of health care resources in the United States are consumed by individuals with chronic disease, resulting in substantial geographic variations that exists in chronic disease incidences, prevalence, and mortalities (Kim et al., 2016). With the high

rate of uncontrolled HTN and under and non-insured patients seen at the clinic, this facility is substantially impacted.

Role of the DNP Student

With over 9 years of experience as an advanced practice nurse with an extensive clinical background in critical care, cardiology, and community health nursing, I saw firsthand that patients with uncontrolled HTN have multifactorial difficulties in maintaining adherence to prescribed HTN medications. In my daily practice I treat the consequences of uncontrolled HTN comorbid conditions such as arrhythmias, strokes, myocardial infarctions, and heart failure. The project site, where I completed my clinical hours for the MSN program, had no specific guidelines to teach evidence-based culturally sensitive education to AA patients with HTN.

My role throughout the project was to develop a guideline to provide evidence-based, culturally sensitive HTN knowledge and tips to the nurses at the project site, who in turn teach AA patients with HTN the importance of MA. First, I reviewed and graded the literature and developed a guideline based on current best practices; I revised the guideline based on input from the expert panel's AGREE II evaluations. Once consensus was reached by the expert panel, I presented the guideline to a group of end users (providers) to evaluate for content and useability. I anticipate the guideline should serve to positively influence the system with policy changes that support MA for AA patients with HTN and, over time, improve patient outcomes. Consequently, I believe that the guideline should have a significant impact on reversing the health disparities and thereby contribute to better quality health outcomes for AA patients with HTN.

Summary

MA is effective in improving HTN among AA patients preventing their progression to chronic conditions such as stroke, cardiovascular events, and chronic kidney disease (Chandler et al., 2019). Unfortunately, despite the benefits associated with MA, many patients are not compliant with their medication regimen due to various factors (i.e., specifically those patient, therapy, condition, health system, and socioeconomic-related factors addressed in the hand model; WHO, 2003). To improve MA among AA patients with HTN at the selected project site I created a guideline guided by the hand model (Goh et al., 2017) to incorporate the WHO's (2003) five interacting dimensions in a standardized guideline for patient education. In Section 3, I address the practice-focused questions that I sought to answer in this project. I also discuss the sources of evidence, participants, procedures, and protections and provide a summary of the analysis.

Section 3: Collection and Analysis of Evidence

Introduction

The problem that I addressed in this DNP CPG project was that, in the target clinical practice setting, nursing staff lacked knowledge available on the national HTN MA guidelines and therefore did not routinely apply evidence-based practice HTN MA guidelines in patient management. Leaders at the project site were struggling to develop an appropriate evidence-based educational intervention to increase HTN treatment adherence among AA patients, according to the medical director. Revising a guideline to be more culturally sensitive to increase nurses' knowledge related to factors affecting MA in AAs, the long-term goal of this DNP Capstone project was to improve patient outcomes. The newly developed, culturally sensitive guideline provides a patient focused, plain language teaching tool to provide nurses with a culturally based, standardized approach to teaching AA patients with HTN, providing evidence-based culturally sensitive information to improve MNA.

With current evidence-based knowledge, nurses should develop an awareness and attitude change that should empower and support professional practice environments, influence nurses' quality of care, and improve patient outcomes. Providing an evidence-based guideline is paramount in improving HTN treatment adherence to prevent HTN-related complications. I developed a guideline modeled based on the WHO's (2003) five interacting dimensions affecting MA. I used the hand model (Goh et al., 2017) to illustrate the dimensions and teach the clinical staff the culturally specific dimensions to address and remind clinicians the dimensions of MA in daily practice. In this section, I ad-

dress the practice-focused questions that anchored this project and discuss the sources of evidence, participants, and procedure. I conclude the section by providing a summary of the analysis.

Practice-Focused Questions

The rate of uncontrolled HTN is high among AA patients receiving primary care at a private, medium sized clinic in the South-Central United States. At the clinic, 95% of AAs receiving services suffer from HTN, and less than half (43%) of these patients have their HTN under control, according to the medical director. Little effort has been made at the project site, to date, to ensure that nurses address the HTN educational needs of AA patients with HTN. There was no culturally based, standardized guideline to address MNA in AAs, which represents a gap in practice. Research shows that MA knowledge and skills increase nurses' abilities to more routinely address MNA factors in patients with HTN (Goh et al., 2017). The practice-focused questions that underpinned this capstone project were as follows: (a) Does the literature support the need for culturally based patient education to address MNA for AA patients with HTN? and (b) What evidence from the literature is available for the development of a guideline to address MNA in AA patients with HTN?

The purpose of this capstone project was to develop a guideline patterned on the hand model (Goh et al., 2017) that emphasizes the WHO (2003) five interacting dimensions affecting MA to better prepare nurses at the clinic to assist AAs with HTN to improve MA. This purpose mirrors the intent of a CPG project for the Walden University DNP student; according to the Walden University manual for CPGs, guidelines provide

health care providers with the evidence and knowledge they need to deliver safe, effective care to specific populations.

Sources of Evidence

I continued an ongoing extensive literature search using the following databases and search engines: Medline, CINAHL, EBSCOhost, Ovid Plus, Google Scholar, and PubMed. I also searched the CDC and American Heart Association websites. My aim was to identify interventions that increase MA among adult AA patients with HTN. Initial search terms included *HTN, MA, African Americans,* and *patient health education.* After reviewing articles, additional articles were found in the reference lists of the obtained articles. Reading these articles prompted a search for additional literature using the terms *Blacks, heart disease, high blood pressure* (*BP*), *adherence, nonadherence, medication regimen,* and *HTN management.* Search criteria included literature within 5 years, peer reviewed, and written in English. I narrowed the search to elements of MA among AAs using WHO's (2003) five interacting dimensions on MA and the hand model to increase nurses' knowledge to promote positive habit-forming behaviors among AAs with HTN.

Narrowing the search decreased the 3,240 articles initially found to eight. These studies provided recommendations for MA in regard to AAs and prevention of HTN. I selected three protocols based on their potential usability within the project site and reviewed them for inclusion in the guideline. I also reviewed information on evidence-based, culturally sensitive practice used in similar ethnic minority health care settings to revise the protocol to fit the needs of my chosen project facility. The selected literature

was organized in a literature matrix (see Appendix A) and graded using criteria from Fineout-Overholt et al. (2010; see Appendix B).

Participants

The medical director/CEO, the two NPs, and a staff nurse served as content experts and reviewed and evaluated the newly developed guideline using the AGREE II tool (see Amer et al., 2020). These professionals were chosen because they care for AA patients with HTN who are treated at the facility. The medical director/CEO has over 10 years of experience in caring for patients with HTN and related risk factors. The NPs are an appropriate choice as contents experts due to their knowledge of disease treatment and prevention as well as experience creating protocols and standards within the facility. Each family NP has 8 years of experience in primary care caring for patients with HTN. The staff nurse, who is also a HTN educator with approximately 6 years of experience in the primary care clinic, takes care of patients including AA patients with HTN. This nurse was also a benefit to the project as she supervises the care team and is able to assist with buy-in of the members of management, quality, and floor staff. The medical director/CEO and the staff nurse are both AAs and understand cultural sensitivity in treating AAs because of their proximity to the community.

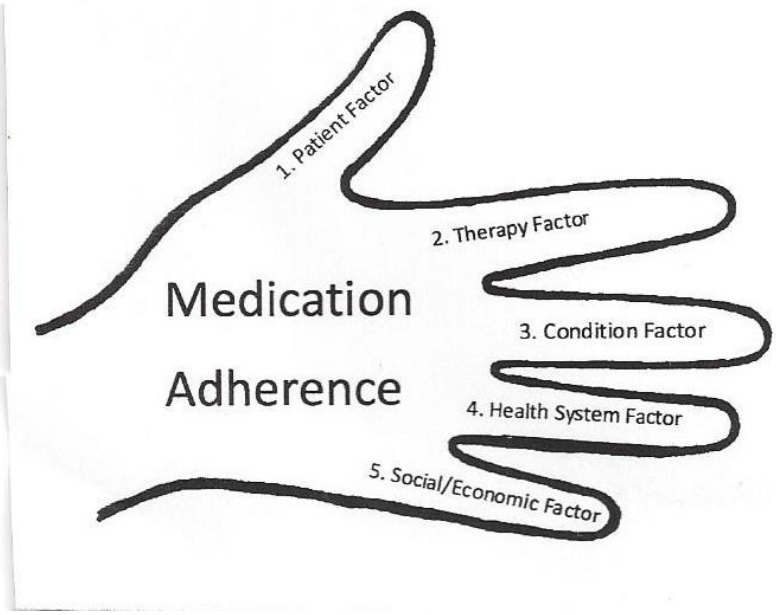
The end users, nurses in the clinic who are to use the newly developed guideline to teach AA patients with HTN, reviewed the guideline for usability and content. These nurses have hands-on knowledge of the problems faced by AA patients with HTN. Their expertise and proximity to AA patients with HTN made them qualified to evaluate a tool to use to teach AA patients with HTN how to best manage their MNA problems.

Procedure

After conducting an extensive literature review, I organized and graded pertinent articles using criteria from Fineout-Overholt et al, (2010) and placed them in literature matrix. In developing the guideline, I incorporated the WHO's (2003) five interacting dimensions on MA. I illustrated the dimensions using Goh et al.'s (2017) hand model for the nurses to teach AA patients with HTN. The five fingers demonstrate each of the five WHO dimensions (see Figure 1).

Figure 1

Hand Model of Medication Adherence (based on Goh et al., 2017)



Note. Adopted from "A systematic review of the barriers affecting medication adherence in patients with rheumatic diseases". by H, Goh., Y, H. Kwan, Y, Seah, L. L. Low, W. Fong, & J. Thumboo, 2017. *Rheumatology International*, *37*(10), 1619–1628.

https://doi.org/10.1007/s00296-017-3763-9 (The Hand Model figure is a copyright of Springer, 2017. All Rights Reserved)

You forwarded this message on Wed 7/6/2022 7:50 PM

KH

Kwan Yu Heng (Guan Yuheng) <yuheng@u.duke.nus.edu>
To:

- Beatrice Ekechukwu

Tue 5/31/2022 3:11 PM

Sure! I'm happy to approve

Thank you
Regards
Yu Heng
Sent from my iPhone

On 31 May 2022, at 23:51, Beatrice Ekechukwu <beatrice.ekechukwu@waldenu.edu> wrote:

- External Email -

Dear Yu Heng Kwan,

I hope this mail finds you well. I am a DNP Candidate at Walden University completing my dissertation on "Clinical Practice Guideline to Promote Medication Adherence Among Adult African Americans". I want to reproduce the figure of the hand model illustrated in your article
"Goh, H., Kwan, Y. H., Seah, Y., Low, L. L., Fong, W., & Thumboo, J. (2017). A systematic review of the barriers affecting medication adherence in patients with rheumatic diseases. *Rheumatology International*, *37*(10), 1619–1628"
I am requesting you to grant approval to reproduce the hand model figure to use in my paper.
Thank you

Beatrice Ekechukwu

I adopted the recommendations from the literature reviewed to develop a current, peer-reviewed, evidence-based practice guideline that may be used to deter MNA among AA patients with HTN at the project setting. The newly developed guideline was evaluated by an expert panel using the AGREE II tool (see Appendix B). After the AGREE II scores were received from the expert panel, I revised the guideline based on their recommendations. After consensus was reached with the expert panel, the guideline was further evaluated by a group of end-users for useability and content. Once all agreed as to the quality of the guideline, I presented it to the project site administration for final approval with the intention of the guideline being implemented after graduation.

Protections

I obtained a written agreement from the project site and approval from Walden University's Institutional Review Board (no. 06-15-21-0464476) to conduct the project. These authorizations provide assurance that all ethical standards were met. As no patient data were collected, the project did not present any identifiable risks of ethical concern. Also, the AGREE II website collected no identifying data; thus, the reviews remained anonymous. Throughout the narrative, I use general terms to refer to the participating project site, thus keeping the actual site anonymous as well. All electronic files will be maintained on a password-protected computer that only l have access to and deleted after 5 years.

Analysis and Synthesis

Using the literature review matrix, l organized the collected sources of evidence and developed a guideline to addressed MNA in AAs with HTN. The literature was graded using grading criteria from Fineout-Overholt et al. (2010). I created an account on the AGREE website (www.agreetrust.org) and directed the content expert panel to the website to evaluate the newly developed guideline. Once the panel completed the AGREE II tool, the domain scores were calculated and interpreted through the website, and I was provided individual domain scores and reviewers' comments along with an overall assessment report. This assessment from the AGREE website enabled me to critique the allocated percentages of each domain and identify any limitations. Once the panel completed the AGREE II tool, I reviewed the findings, and all scores were above the benchmark of 75%; no recommendations were made nor revisions needed. I reviewed the results from the end users, and, based on the findings, I developed a final report. Summary evaluations from the content experts were also reviewed, providing me with an evaluation of the process, the project, and my leadership throughout the process.

Summary

A gap in practice was identified in that there was no culturally based, standardized guideline to address MNA in AAs with HTN. MA knowledge increases nurses' abilities to address MNA factors more routinely in patients with HTN (Goh et al., 2017). The practice-focused questions that underpinned this capstone project were as follows: (a) Does the literature support the need for culturally based patient education to address MNA for AA patients with HTN? and (b) What evidence from the literature is available

for the development of a guideline to address MNA in AA patients with HTN? To gather current, peer reviewed literature to develop a guideline, I conducted an in-depth literature search for evidence-based culturally sensitive literature related to reducing MNA among AA patients with HTN. I selected culturally appropriate, nurse-led interventions tailored towards AA patients with HTN to address culturally sensitive issues and concerns, making the newly developed guideline more specific for the AA community. Written agreement from the project site administration was secured as well as written Institutional Review Board approval from Walden University to assure ethical compliance during the project. After I developed an evidence-based guideline, I asked the expert panel to evaluate it for quality using the AGREE II tool. The end users reviewed the guideline for usability and content, and I presented it to administration in a final report. In Section 4, I focus on the outcome of the project. In the section, I discuss the findings, offer recommendations, and consider the strengths and limitations of the project.

Section 4: Findings and Recommendations

Introduction

The gap in practice identified for this capstone project was that, although the literature supports an evidence-based, culturally sensitive educational intervention for MA (Abel & Greer, 2017), the clinical site did not have one in place. I developed a CPG to address this gap. The literature supports the need for culturally based patient education to address MNA for AA patients with HTN (Pettey et al., 2016). I used peer-reviewed evidence to develop a guideline to address MNA in AA patients with HTN. Sources of evidence were obtained from the Walden University Library and professional organizations addressing MNA. I narrowed the literature search to elements of MA among adult AAs using WHO's (2003) five interacting dimensions on MA and the hand model. Doing so decreased the 3,240 articles that were initially found to eight; from these studies I reviewed recommendations for MA in regard to AAs and prevention of HTN. I selected three protocols based on their potential usability within the project site and reviewed the interventions for inclusion in the guideline.

The content expert panelists evaluated the newly developed guideline for rigor and clarity using the AGREE II instrument. Also, the end users evaluated the newly developed guideline for content and usability, while the content expert panelists provided feedback on the process, the project, and my leadership through a summary evaluation. In this section, I will discuss the findings and the implications, offer recommendations, and consider the strengths and limitations of the project.

Findings and Implications

Using the AGREE II website, the four expert panelists evaluated the newly developed guideline. Ideally, 50% and above is the acceptable score considered for each domain, though any domain that scores under 75% should be reviewed (Brouwers et al., 2019). Table 1 shows the results.

Table 1

AGREE Domain Report

%						Overall Assessment 1	Overall Assessment 2
Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6		
100	100	100	100	97	98	96	Yes - 3 Yes, with modifications-0 No-0

None of the expert panelists provided comments about the contents of the newly developed guideline, so I am unable to review what might be missing in Domains 5, 6, and 7 and why the overall assessment was only a 96%.

Domain 5, applicability, pertains to the likely barriers and facilitators to implementation, strategies to improve uptake, and resource implications of applying the guideline (items 18-21) and was scored 97%. Items 18, 19, and 20 were rated 6 out of a possible 7 points. Item 18 asked if the guideline describes facilitators and barriers to its application. There are no foreseeable barriers, but a statement is included in the CPG that as barriers are identified, they should be addressed. A willing staff and administration may encourage the use of the guideline. Item 19 (The guideline provides advice and/or tools on how the recommendations can be put into practice) was not addressed as there are no

tools needed. The guideline is the only tool that will be needed for implementation. I will provide advice on its use when I review the new tool to the staff.

The concern on Item 20, the potential resource implications of applying the recommendations have been considered, is similar to that for Item 19. The only resource that staff will need will be copies of the guideline for the staff along with the included patient handouts. I discussed this issue with administration, and it does not pose a problem. Editorial independence is concerned with the formulation of recommendations not being unduly biased with competing interests (Items 22-23) and was scored at 98%. Item 22, which was scored at 6 out of a possible 7 points, was addressed by including a statement that I did not seek external funding. I was the sole developer and there were no outside interests involved.

The Overall Assessment 1 score of 96% was above the 75% threshold, indicating that the panelists were in full support of the guideline being implemented without revisions. This was also corroborated by the Overall Assessment 2 score of 3 “Yes with no modifications” and 0 with modification, an indication of the acceptance of the newly developed guideline in its entirety. Three end users (nurses) were asked to provide feedback as to the content and usability of the newly developed guideline. The three nurses confirmed that the guideline was well written and not too long and would be easy to implement at the project site. In addition, the three nurses reported that the newly developed guideline will be a good resource to use to teach culturally sensitive MA education about HTN and, hopefully, AA patients with HTN will engage in self-monitoring and improve their self-efficacy and health outcomes related to HTN. The panelists and end users con-

firmed that this was the first time they have come across a CPG that was specific for AA patients with HTN.

Finally, the summative evaluation completed by the content experts supported that the guideline tool was warranted because it will be the first culturally sensitive tool specifically developed for AAs with uncontrolled HTN due to MNA. The summative evaluation further substantiated that the process was organized, my leadership was organized and conducive for easy completion of the evaluation, and I displayed patience when I was guiding them through the AGREE website. This guideline is an educational tool that should ensure that evidence-based information is available for teaching AA patients with MNA and can be used for other ethnic populations with modification. It may, thus, foster a positive social change in self-care practices, quality of life, and a sense of empowerment.

Recommendations

The recommended implementation for this newly developed guideline will occur after graduation from Walden University when the guideline will be presented to the project site's management for potential implementation. The project, when fully implemented, will become an effective and efficient way to improve patient specific health outcomes to enhance MA among AA patients with HTN. It is my hope that this newly developed guideline will become the standard of care and part of the project site's manual for AA patients with HTN education and MA implemented to improve quality of life. The project substantiates the notion that literature does support the need for culturally based patient education to address MNA for AA patients with HTN and peer reviewed

evidence from the literature was available for the development of a guideline to address MNA in AA patients with HTN (see Abel & Greer, 2017). The guideline was developed specifically for the AA patients with HTN to improve MNA but can be used in similar ethnic minority settings and chronic conditions such as diabetes with modifications specific to the population and disease process. It is my upmost desire that this newly developed guideline will make a difference in the lives of the AA population, particularly AA patients with HTN.

Strengths and Limitations of the Project

Although the AGREE II tool has been adopted widely as the reference tool to be used to evaluate CPG quality, this is the first time, to my knowledge, that it has been used specifically for AA patients with HTN in a resource-constrained clinical setting. This project provided a ready resource of appropriate information needed to aid AA patients with HTN in making informed decisions regarding their care. The newly developed guideline was developed based on culturally relevant, evidence-based resources Another strength of the project was the positive feedback received from the expert panelists and their willingness to use this tool. An evidence-based, culturally sensitive teaching tool was developed. Hence, providers at the project site have a standardized teaching tool that they can use to empower AA patients with HTN to improve their MNA, increasing self-care practices and improving patient outcomes

A limitation of the project is that because the project site is constrained by financial and staffing problems, the zeal to vigorously implement the guideline might be lagging. Nurses at the project site faced with limited time as well as insufficient coverage for

their patients may not devote adequate time to use the guideline to teach or to even review the guideline. Time constraints on my part were another limitation because I am currently paying for this terminal degree out of pocket and am also financially strained. Family commitments coupled with financial obligations were often neglected due to work overload and sleepless nights to complete the DNP degree. However, through the review of the available literature, I obtained valuable knowledge that I will use throughout my career. With the completion of this project and the DNP program, I feel better prepared to be a spokesperson and advocate for the reduction of MNA, especially among adult AA patients with HTN. I am also more aware of the barriers and health disparities that AAs and other minority groups face in receiving quality health care. I hope to address these barriers, myths, and fears in future projects. In addition to integration of this guideline as a decision support tool in electronic health records at the project site to achieve quality improvement, dissemination and implementation can be enhanced using point-of-care technology such as mobile device application that provides a multilayered presentation for point-of-care use. I will maintain frequent communication with the project site to monitor the progress and evaluate the implementation, comparing the adherence rates, and, over time, reviewing the incidence of HTN among AA population, anticipating a decrease. Positive social change will be seen with improved MA and decreased HTN among AAs in the clinic and supported through the validity of this guideline.

Summary

The project's findings and implications focused on the expert panelists' evaluation using the AGREE II instrument. All six domains received high scores (97% to

100%) that resulted to overwhelming support of the guideline. Summation evaluations by the panelists recognized the need for the culturally based education intervention and favored application at the project site, seeing it as paramount. The gap in practice was addressed and the panelists agreed that patient education using the guideline is an effective tool nurses will use to teach AA patients with HTN to improve MA and enhance their quality of life. Increasing MA should be maximized by providing a culturally sensitive, evidence-based teaching tool to address the fears, myths, and misinformation that have been found to add to the health disparity for AA patients with HTN. In Section 5, I will focus on my self-analysis and summary of the final DNP project, including challenges, solutions, and insights gained on the scholarly journey

Section 5: Dissemination Plan

I plan to present the guideline to the project site management and then to the nurses at the project site after graduation. After explaining the new education tool, I anticipate that the nurses will be better able to offer culturally sensitive MA interventions to all their AA patients with HTN and convey high confidence that the benefits outweigh the harms. The guideline was developed to improve patient outcomes; however, CPGs require active dissemination and innovative implementation strategies (Brouwers et al., 2019; Ozan et al., 2019). I will share the newly developed guideline in doctors' offices and community clinics where AA patients with HTN are often seen for their yearly or routine visits. Disseminating the newly developed guideline in the surrounding community may affect the local population, especially AAs. To have a larger impact, I plan to present the guideline at regional, national, and international professional meetings. Additionally, I will query pertinent journals, beginning with the Texas Nurses Association's *Nursing Flash*, a monthly online newsletter, concerning disseminating the project.

Analysis of Self

Evidence-based practice remains a priority for modern health care (Flynn et al., 2020). The importance of the guideline dissemination remains a priority to me, the project site, nurses, AAs, and all stakeholders. The journey to my DNP has prepared me to advance nursing practice and translate evidence into practice. I have also sharpened my clinical skills and developed several skills and propsensities. These include constructive coping skills for dealing with difficulties (intense writing and revisions); a deep interest and engagement in clinical study (literature review and guideline development); and

warmth with regards to relating with colleagues, stakeholders, and patients. Initially, my computer competency was not very strong, which sometimes delayed my progress, but I have improved along the way. I developed this guideline so that I can create an awareness of, and provide resources on, the importance of MA, especially to AA patients with HTN, by providing a standardized guideline for nurses to educate AA patients with HTN to make informed decisions about their care to avoid HTN complications.

Practitioner

As a DNP student conducting the project, I was able to perform in the role as a practitioner, including as a scholar and project manager. As a practitioner, I used my educational background and clinical experiences to review evidence-based practice guidelines, identify the problem that the project was focused on, and develop a guideline that nurses at the project site may use to enhance AA patients' education related to MA. I found that possessing the skill of translating evidence into practice was one of the ways that a DNP-prepared nurse fosters bridging the gap of research and practice and translating evidence into practice. As a practitioner, one of my strengths was my ability to research the literature and find meaningful articles for the project. On the other hand, the weaknesses encountered were accurately applying the appropriate grade level to each article, developing the literature matrix, and computer proficiency. I sought assistance from the Walden Library and my peers. I spent time translating the actual grading tool for similarities between grading Level 1 and Level 7 articles and spent more time practicing on the computer to minimize these weaknesses.

It became evident during my literature search that cultural differences affect health beliefs and patient education (see Pettey et al., 2016). Addressing these disparities may positively impact outcomes and enhance learning among AA patients with HTN. Throughout the project, my focus was to provide the guideline as a resource for nurses to have an evidence-based tool to teach their patients how to make wise choices in maintaining MA to minimize HTN risk factors. In my role as practitioner, I developed a guideline to bridge the gap between research and practice. I will seek employment as a clinical nurse educator in the hospital to become a spokesperson for chronic disease management and culturally sensitive MA educational interventions.

Scholar

Though expected, the road to this terminal degree (DNP) has been one full of barriers yet filled with great experiences and determination. As a scholar, I focused on my courses, learning everything to facilitate my understanding of the often-complex provisions of the perspectives of culturally sensitive MA education to a health disparity population. My role as a scholar in the DNP program involved translating evidence-based research to create a guideline. Participating in scholarly discussions helped me to understand how to solve problems and develop educational tools that providers can use to adopt culturally sensitive knowledge to improve practice, particularly for a population that is characterized by health disparities. Throughout this project, I identified and overcame many personal and professional barriers, which I had to navigate sometimes singled-handedly. Professionally, time management hindered the progress of the project,

especially conflicting schedules with the project chair. Residing in different time zones exacerbated time management.

Project Manager

As the project manager of this project my role was to develop an evidence based guideline and provide assistance to the expert panel members as they navigated the AGREE II website. Through the project development process, I was responsible for planning, organizing, and directing the completion of the project while ensuring the project was efficiently managed. In my lead role, I used my DNP acquired skills and knowledge and ensured that a productive, culturally sensitive educational intervention tool was developed to help nurses deliver quality evidenced-based MA education. As a project manager for the project, I was able to communicate clearly and effectively with the panelists, nurses, and stakeholders in ensuring that the entire vision and scope of the project were understood as well as articulate the project's goal in a way that everyone could quickly and easily understand. As a project manager, I was able to choose the four professionals (content experts) who are qualified to perform an appraisal of the guideline using the AGREE II instrument. Despite the hurdles encountered, I got a sense of fulfillment with the newly developed guideline, the end product for nurses at the project site. Nurses at the project site will now have access to an evidence-based guideline specific to AA patients with HTN for teaching them about MA and addressing culturally sensitive barriers. Thorough supervision from the Chair did not only help me to complete the project but also provided me with satisfaction with the overall research experience.

Overall Reflections

As stated earlier, I found the process of completing my DNP challenging, not only academically, but physically and emotionally, but the efforts were rewarding. Initially, I did not fully understand the rigorous process of completing a terminal degree. While completing the highly challenging but required courses, some courses lacked clarity which resulted in constantly reaching out to the instructors and other academic resources for assistance. Sometimes, the clarification took longer than expected for me to devote full energy to my course work. Also, the project was time-consuming, increasing my anxiety. While working on my project, my sister-in-law passed away from COVID-19 which delayed me from paying regular attention to my project. However, revisions of this scholarly project and learning how to navigate the AGREE website to aid the panelists were the most significant challenges I faced.

I gained new insights on the importance of seeking early guidance, such as writing in the template instead of creating a new document with each revision, which would have fostered a quicker completion of my DNP project. Also, personal obligations, such as taking care of family responsibilities and working while trying to complete school, were very demanding and stressful. Making the necessary revisions and completing the literature matrix represented significant academic challenges I faced during the DNP program. In addition, navigating through and understanding the AGREE II tool was not an easy task to accomplish and also posed a challenge. Finally, through the DNP program and the project, I can make a difference in the lives of patients, nurses, and providers by ensuring that clinical practices are based on scientific methodologies.

Summary

MNA represents one of the barriers that AAs face when striving for optimal health. Poor adherence to medications is a significant problem that can lead to increased morbidity, mortality, and health care costs. AA patients with HTN constitute 80% of patients who experience kidney, heart disease, and stroke related issues at the project site. The purpose of this capstone project was to develop a guideline patterned on the hand model (Goh et al., 2017) that emphasizes the WHO (2003) five interacting dimensions affecting MA to prepare nurses at the project site to better assist AAs with HTN to improve MA. AAs are two to three times as likely as Whites to die of preventable heart disease and stroke, both HTN casualties and associated with MNA. The guideline provides effective, culturally tailored, nurse-led education that was urgently needed for AA patients with HTN to enhance their MA and blood pressure control. The supporting literature supported the need for nurses to know the significance of culturally related barriers that AA patients with HTN have about HTN. Guidelines such as the guideline are becoming more readily accepted by clinicians because they provide easy access to evidence-based recommendations that facilitate health care providers' daily work. Through the newly developed guideline, I addressed the identified gap by providing culturally sensitive evidence-based teaching materials, which has been identified as an effective method to obtain full benefits of evidence-based therapies. Culturally sensitive education will always remain imperative for solving the problems of MNA among AA patients with HTN, and it is, therefore, one of my responsibilities, as an advanced NP, to assist nurses and clients in promoting and enhancing quality individual care. Finally, the evaluations from

the expert panelists concluded that this newly developed guideline would positively impact nurses with culturally sensitive knowledge to teach AA patients with HTN.

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Appendix A: Literature Review Matrix

Citation	*Purpose*	*Research Method*	*Research Finding*	*Recommendation*	*Strengths*	*Weaknesses*	*Level of evidence*
Center for Disease Control and Prevention (CDC). (2020). Cost effectiveness of high blood pressure interventions. http//www.cdc.gov/chronicdisease/program-impact/pop/high-blood-pressure.htm	***Determine the cost effectiveness of cost applied to HTN interventions***	***Systematic review study***	***HTN determined to affect so many Americans and is a key risk factor for heart disease and stroke, which remains our nation's costliest health conditions. AAs (56%), Hispanics (48%) are highly impacted compared to Whites (46%), and expanding the use of team based care, increasing community health workers together with increasing self-measured blood pressure monitoring are effective strategies***	***Increasing the use of community health workers to connect people with the services and lifestyle programs***	***Resulted to the public health interventions that cost less than $50,000 per QAL, which are widely considered cost-effective***	***Used costs measured in 2010 US dollars, 2015 US dollars, 2014 US dollars, 2014 and 2016 US dollars, and 2008 US dollars. Older cost estimates are likely to be underestimates***	***V***

Ferdinand, K. C., Yadav, K., Nasser, S. A., Clayton-Jeter, H. D., Lewin, J., Cryer, D. R., & Senatore, F. F. (2017). The Journal of Clinical Hypertension, 19(10), 1015–1024. https://doi.org/10.1111/jch.13089	***The study was designed to determine whether patient engagement strategies, consumer directed healthcare, patient portals, smart applications and text messages, digital pill boxes, pharmacist led engagement***	***A retrospective review study***	***Blacks are two to three times as likely as White to die of preventable heart disease and stroke. Declines in mortality from heart disease have not eliminated racial disparities. Control and effective treatment of hypertension, a leading cause of cardiovascular disease, among blacks is less than in Whites and remain a challenge. One of the driving forces behind this racial/ethnic disparity is medication nonadherence whose cause is embedded in social determinant.***	***Enhancing adherence is potentially an effective and efficient means of improving US health outcomes and addressing health disparities. All the new and emerging strategies and technologies must also be designed to ensure cultural acceptability, accessibility, and clinical effectiveness across the diverse populations served***	***A strength of this study was analyzing data and comparing them with graphs and figures***	***Although sociodemographic characteristics or clinical diagnoses were statistically associated with adherence, the combination of these characteristics was not sufficiently accurate to allow clinicians to predict whether their patients will be adherent to treatment***	***I***
Goh, H., Kwan, Y. H., Seah, Y., Low, L. L., Fong, W., &	***The study aimed to systemati-***	***A systematic review of***	***Cost of medication was found to be a profound issue that***	***The study recommended facilitated future focused re-***	***The study used a wide variety of study designs,***	***A weakness of the study was that this was***	***I***

Thumboo, J. (2017). A systematic review of the barriers affecting medication adherence in patients with rheumatic diseases. **Rheumatology International, 37***(10), 1619-1628*	*cally review the literature for the factors associated with medication adherence in the rheumatic patient population*	*the literature using the hand model and based on the World Health organizations (WHO) five interacting dimensions on medication adherence*	*will affect adherence to medication, as most of the patients would require the use of these medications for a long period, if not throughout their remaining lifespan. Education with the goal of providing clear and comprehensible information to patients to allow them to make informed healthcare decisions*	*search in unexplored dimensions*	*including but not limited to case control studies, cohort studies, cross sectional studies and qualitative studies. These include 79% of quantitative studies*	*a systematic review and not a meta-analysis of the various effects of factors on adherence*	
Hald, K., Larsen, F. B., Nielsen, K. C., Meillier, L. K., Johansen, M. B., Larsen, M. L., Christensen, B. &Nielsen, C. V. (2019). Medication adherence, biological and lifestyle risk factors in patients with myocardial infarction: A ten-year follow-up on socially differentiated cardiac rehabilitation. **Scandi-**	*The study aimed to establish a strong evidence that medication adherence and lifestyle changes are essential in patients undergoing secondary cardiovas-*	*A prospective cohort study*	*The study found strong evidence that medication adherence and lifestyle changes are essential in patients undergoing secondary cardiovascular disease prevention. Cardiac rehabilitation (CR) increased medication adherence and improved lifestyle changes. Patients with cardiac diseases and a low educational level and patients*	*The study recommended that there should be no socially differentiated intervention to improve medication adherence or biological and lifestyle risk factors. Equality in health would improve quality health outcomes. General practitioners should manage to support the long-term second-*	*A strength of the study is that most of the data are retrieved from government (Danish) registers, which can be assumed to provide an almost complete follow-up. Also, another strength is that even though the study did not show any con-*	*A weakness of the study is the external validity, which can be difficult to apply the results to countries without free access to health care and countries which do not offer reimbursement of medicine costs. Another weakness is that the*	*IV*

navian Journal of Primary Healthcare, 37*(2), 182-190. https://doi.org/10.1080/02813432.2019.1608046*	*cular disease prevention, also that cardiac rehabilitation (CR) increases medication adherence and improves lifestyle changes*		*with little social support are less responsive to improve medication adherence and to adapt lifestyle changes*	*ary cardiovascular disease prevention in all patients regardless of social status*	*vincing effect of the intervention, it did show that it is possible to tailor a long-term secondary cardiovascular disease prevention which improves equality in health*	*data was based on yearly survivors and there could be a selection bias in the deaths. It is also possible that the socially vulnerable patients included in the study were different than the socially vulnerable patients who were not referred to or did not participate in CR*	
Hu, D., Juarez, D. T., Yeboah, M., & Castillo, T. P. (2014). Interventions to increase medication adherence in African American and Latino populations: A literature review. Hawai'i Journal of Medicine and Public Health, 73*(1), 11-*	*Investigate the effectiveness of interventions to improve medication adherence in ethnic minority populations using a literature search*	*Systematic review of the literature*	*Interventions directed at patients from racial and ethnic minority backgrounds should take into consideration the patients' cultural beliefs and values. Since many patients come from cultural backgrounds whose perspectives on medicine differ from the Western bio-medical*	*Studies which address the cultural needs of minority populations may lead to improvements in the health care of minority groups and contribute significantly to closing the health care gap.*	*The strength of this study is the literature review of wide variation in methodology and design, including the types of interventions used, the ethnicities and conditions of the sample populations, the methods used to measure ad-*	*A weakness of the study is that the studies included in the review varied in their definitions of adherence as an outcome is a further hindrance in the comparison of interventions. Most of the studies in-*	*V*

18	*from January 2000 to August 2012 and conducted through PubMed/Medline, Web of Science, The Cochrane Library, and Google Scholar*		*model, the impact of a patient's health beliefs, values, communication style, native language, lifestyle, social structure and support, and socioeconomic status must be taken into consideration when applying an intervention to improve adherence. The study found that an intervention that worked for individuals of one ethnicity would not be as effective for individuals of a different background. Similarly, culturally sensitive interventions can more effectively address patient beliefs regarding their conditions, therapy, and values while appropriately encouraging better compliance*		*herence, and types of analyses performed with their results*	*cluded in this review ended their patient assessments when the intervention period ended, thus long-term impacts of most of the interventions used are not available in the existing literature*	
Kardas, P., Cieszyński, J.,	*To determine*	*A retrospective*	*Primary non-adherence to medi-*	*The study recommended that an e-*	*The use of e-prescription has*	*The study was only possible*	*III*

Czech, M., Banaś, I., & Lewek, P. (2019). Primary non-adherence to medication and its drivers in Poland: Findings of the analysis of the e-prescription pilot. Polish Archives of Internal Medicine, 130*(1), 1-18*	*the prevalence and drivers of primary nonadherence in Poland.*	*data analysis study from all e-prescriptions issued in Poland in 2018*	*cation was described as when a patient does not fill a prescription and often leads to suboptimal patient outcomes, lost productivity, and increased net costs. The study found that a high percentage of prescriptions issued in Poland are never filled, and that E-prescriptions allow the identification and analysis of drivers of this phenomenon*	*prescription system, an innovative e-health solution currently implemented in Poland, can provide unique opportunity to study primary nonadherence. Further studies combining e-prescription data with clinical data, both at the individual and national level, could shed even more light on the study of primary nonadherence.*	*been known to be rising recently, both in Europe and worldwide, and multi area benefits include health, economic, social, patient-oriented and other. A landmark health benefits included reduced medication errors, better medicine accessibility and, most importantly therapy that increased monitoring of adherence. The economic benefits include efficiency gains for healthcare professionals, better transparency, reduced frauds, and printing costs*	*to analyze the primary nonadherence, that is studying the act of obtaining/not obtaining a particular e-prescription and the number of doses a patient took or skipped was also not measured. Also, the study could not analyze the exact reasons behind the primary nonadherence, which could have been diverse, such as disbelief in diagnosis or physician, drug characteristics*	
Kim, S., Shin, D. W., Yun, J. M., Hwang,	*The study evaluated*	*Cohort random-*	*The study found that poor medication adherence was associ-*	*The study recommended the need*	*The strength of this study is the*	*Measurement of medication adherence was*	*IV*

Y., Park, S. K., Ko, Young-Jin. & Cho, B. (2016) Medication adherence and the risk of cardiovascular mortality and hospitalization among patients with newly prescribed antihypertensive medications. **Hypertension**, *506-512, DOI: 10.1161/HYPERTENSIONAHA.115.067*	*the effect of antihypertensive medication adherence on specific cardiovascular disease mortality (ischemic heart disease [IHD], cerebral hemorrhage, and cerebral infarction).*	*ized study*	*ated with higher mortality and a greater risk of hospitalization for specific cardiovascular diseases, emphasizing the importance of a monitoring system and strategies to improve medication adherence in clinical practice. Also, it found an association between medication adherence and disease-specific mortality (IHD, cerebral hemorrhage, and cerebral infarction), all-cause mortality, and the first hospitalization for CVD among patients newly treated with antihypertensive medication*	*and importance to increase the awareness of health professionals about the need to improve compliance with therapy, because the consequences of poor adherence to antihypertensive medication extend beyond health prevention and involve the cost of CVD prevention and the economic sustainability of national health services*	*application of 3 levels of adherence, whereas previous studies referred to 2 levels that used a cut-off value of 0.8. The division into 3 levels of medication adherence is useful for analyzing the trend of CVD risk. Another strength is the use of a time-dependent Cox proportional regression model in order to take into account the fact that medication adherence might change overtime during the follow-up period*	*indirectly from administrative claims data. Direct approaches are more robust and accurate than indirect methods. A formal diagnosis of hypertension was not available. There was a lack of clinical information on the severity of hypertension*	
Maraboto, C., & Ferdinand, K. C. (2020). Update on hypertension in African-Americans. **Pro-**	*The purpose of the study is to improve understanding of*	*Descriptive review study to improve understanding of*	*Uncontrolled hypertension (HTN) in the U.S. has been recognized as particularly prevalent and devastating among black*	*The study recommended future projects designed to further elucidate the details of the pathogenesis of*	*The in-depth knowledge gained through the review provided an important approach to address*	*Non-inclusion of a representative sample of African Americans in large randomized*	*VI*

gress in Cardiovascular Diseases*, 63(1), 33–39. https://doi.org/10.1016/j.pcad.2019.12.002*	***the underlying pathophysiologic mechanisms and identify the optimal approach to deliver the best care for African American patients.***	***the underlying pathophysiologic mechanisms and identify the optimal approach to deliver the best care for African American patients***	***individuals, who disproportionately suffer the consequences of this condition to a greater extent compared with persons in other racial/ethnic groups*** ***AA individuals are known to develop HTN at an earlier age compared to whites and have, on average, 7 mmHg higher SBP than whites. more likely to have resistant HTN than whites or Hispanics. Also, AAs exhibit greater morbidity and mortality from complications of HTN, including HF, stroke, and end-stage renal disease (ESRD), with the estimation that uncontrolled HTN accounts for ~50% of the excess stroke risk among blacks compared with whites.***	***HTN in the black population and the best way to approach this condition***	***barriers that specifically affect HTN control. Also, the review study obtained data from large population***	***controlled trials was observed in most of the review and some of the reviews only ~5% of the included patients were black, which limited the general applicability of these results***	

Moss, K. O., Still, C. H., Jones, L. M., Blackshire, G., & Wright, K. D. (2019). Hypertension self-management perspectives from African American older adults. **Western Journal of Nursing Research**, 41*(5), 667–684. https://doi.org/10.1177/0193945918780331*	*The purpose of the study was to find a better understanding of the self-management preferences of the vulnerable population would lead to the enhanced design of culturally acceptable interventions*	*Descriptive qualitative analysis mixed study*	*Hypertension has been described as a major cause of the disproportionately high rates of coronary heart disease, stroke, heart failure, and chronic kidney disease, and heart disease remains the number one cause of death in the United States. Compared with other racial and ethnic groups, African Americans are disproportionally impacted by hypertension, suffering earlier onset and greater severity of the disease, including premature cardiovascular mortality, compared to the general population. By 2035 the total direct cost of hypertension could increase to an estimated US$220.9 billion*	*The study recommended the use of self-management education delivered in community-based settings with the use of community health nurses as potential to influence key change agents toward improving hypertension outcomes among African American older adults*	*Th study used a co-creation process, which has been used successfully in conducting businesses to improve processes with input from stakeholders* *Another strength of the study was that the principal investigator either had an established relationship with the participants or took the time to develop this relationship with them, which also fostered a trusting relationship between the team and study participants*	*The study has large size of the focus groups that was greater than eight per group, which may have limited the ability of some members of the groups to participate fully. Also, male participants were underrepresented as the gender makeup of the focus groups was not representative of African American male older adults in the city where this study took place.*	*III*
Page, C., Cordon,	*The pur-*	*A quasi-*	*Patient education*	*The authors of the*	*The study ap-*	*A weakness of*	*III*

C., & Wong, J. (2019, April 1). Evaluating the effectiveness of a mnemonic to guide staff when providing patient education to autologous hematopoietic stem cell transplant patients. **Canadian Oncology Nursing Journal, 29***(2), 123-140. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6516336*	*pose of this study was to explore whether a mnemonic memory aid, introduced during education on providing patient education, would help nurses to recall the steps involved in patient education at each visit*	*experimental non-equivalent time-series research approach using a convenience sample of participants A quasi-experimental non-equivalent time-series research approach using a convenience sample of participants*	*guideline has been recognized to provide effective patient education and linked to both cost savings and improved patient outcomes. The study found that patients who participated in educational programs had better symptom control and improved self-management Also, the study noted that when information is provided to patients, it has a positive impact not only on the patient experience, but also on clinical outcomes such as: decreased symptoms, decreased length of hospital stay, improved patient knowledge, and increased patient satisfaction*	*study recommended the replication on the use of mnemonics at other centers as well as in other areas of health care continuing education to assess the overall usefulness for mnemonics in staff education*	*proach was repetition of information and retrieval of information over time has shown to increased when there was repetition of the information. In addition, continuing this chart audit beyond the three- to six-week time period could have measured for sustained retention of the education*	*the study was that the education did not encompass the entire staff, and capturing 45 of the 75 staff providing care to these patients, could have had an effect on the charting results. While 36 nurses received the educational intervention during the study, it was difficult to assess if one of these nurses was caring for the patient at the time that the patient required an educational intervention*	
World Health Organizations (WHO) (2003) Adherence to Long-term thera-	*The main objective of the project is to im-*	*Review of the literature*	*The report found that poor adherence to treatment of chronic diseases is a*	*The study recommended that summarizing the existing knowledge on*	*The report was produced by diverse group of international*	*The report is not population, ethnic or regional spe-*	*VII*

pies: Call for action. https://www.who.int/chp/knowledge/publications/adherence_full_report.pdf	***prove worldwide rates of adherence to therapies commonly used in treating chronic conditions.***		***worldwide problem of striking magnitude. The impact of poor adherence grows as the burden of chronic disease grows worldwide. The consequences of poor adherence to long-term therapies are poor health outcomes and increased health care costs. Improving adherence also enhances patients' safety. Adherence is an important modifier of health system effectiveness. Adherence is simultaneously influenced by several factors. Health professionals need to be trained in adherence***	***adherence will serve as the basis for further policy development; increase awareness among policymakers and health managers about the problem of poor rates of adherence that exists worldwide, and its health and economic consequences***	***experts in medication non-adherence***	***cific***	

Appendix B: Level of Evidence (based on Fineout-Overholt et al., 2010)

Levels of Evidence	Description of Evidence
Level 1	Evidence obtained from systematic reviews or meta-analyses of randomization-controlled trials
Level II	Randomized control trails
Level III	Evidence obtained from well-designed controlled trails without randomization, quasi experimental
Level IV	Evidence from well-designed case control or cohort
Level V	Systematic reviews of descriptive or qualitative studies
Level VI	Evidence obtained from a single descriptive or qualitative study
Level VII	Evidence obtained from the opinions of authorities and /or reports of expert committees

Note. Adopted from "Evidence-based practice, step by step: Critical appraisal of the evidence: Part I - An introduction to gathering, evaluating, and recording the evidence". by E. Fineout-Overholt., B. M. Melnyk., B. B. Stillwell, & K. M. Williamson, 2010, *Journal of Nursing*, 110(7), 47-52, http://w.w.w.ajnonline.com, Adapted with permission from Fineout-Overholt E, editor.

Appendix C: Letter to the Panelists

Dear Expert Panelists,

My name is Beatrice Ekechukwu, a DNP student at Walden University. I am developing a clinical practice patient education guideline (CPPEG) for medication adherence (MA) among adult African Americans (AA) with hypertension (HTN) for a medium-sized medical facility in the South-Central United States; it will be appropriate for all providers caring for the AA with HTN and other patients from minority populations with minor adjustments to address their specific cultural needs. Improved health outcomes related to MA will bring about a positive social change in AA patients through a change in health beliefs, values, and lifestyle, thus improving quality of life and increased knowledge related to safe-care.

I am asking you to grade the newly developed CPPEG using the AGREE II tool, at the http://www.agreetrust.org link. This link will take you directly to the grading page, with a submission button at the end and a final response after your comprehensive feedback on the CPPEG, within 2 weeks, to allow me to analyze the findings and revise the CPPEG as needed. I selected you due to your knowledge, experience, and ability to speak on the importance of medication adherence among adult AAs with HTN. Upon receipt of your evaluation, I will send the summary evaluation to your email, asking you to evaluate the overall project, process, and my leadership.

Included in this email is the CPPEG along with information regarding the AGREE II instrument (both instructions and the grading sheet), also available on the website; the Disclosure for Anonymous Questionnaires that outlines information regarding ethics per the IRB of Walden, and a literature matrix outlining the evidence-based literature used in the development of the CPPEG.

Thank you for your time and effort in assisting me with this project. I look forward to your evaluations for a joint effort in providing the best care outcomes

among adult AAs with HTN. Kindly, feel free to reach out with any questions or concerns regarding the CPPEG or the AGREE II tool. Thank you again for your sincere effort in ensuring best patient outcome.

Beatrice C Ekechukwu, RN, BSN, MSN

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Appendix D: AGREE II Instrument (AGREE Next Steps Consortium, 2013)

Domain 1. Scope and Purpose

1. The overall objective(s) of the guideline is (are) specifically described.

2. The health question(s) covered by the guideline is (are) specifically described.

3. The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described.

Domain 2. Stakeholder Involvement

4. The guideline development group includes individuals from all the relevant professional groups.

5. The views and preferences of the target population (patients, public, etc.) have been sought.

6. The target users of the guideline are clearly defined.

Domain 3. Rigour of Development

7. Systematic methods were used to search for evidence.

8. The criteria for selecting the evidence are clearly described.

9. The strengths and limitations of the body of evidence are clearly described.

10. The methods for formulating the recommendations are clearly described.

11. The health benefits, side effects, and risks have been considered in formulating the recommendations.

12. There is an explicit link between the recommendations and the supporting evidence.

13. The guideline has been externally reviewed by experts prior to its publication.

14. A procedure for updating the guideline is provided. 55

Domain 4. Clarity of Presentation

15. The recommendations are specific and unambiguous.

16. The different options for management of the condition or health issue are presented.

17. Key recommendations are easily identifiable.

Domain 5. Applicability

18. The guideline describes facilitators and barriers to its application.

19. The guideline provides advice or tools on how the recommendations can be put into practice.

20. The potential resource implications of applying the recommendations have been considered.

21. The guideline presents monitoring or auditing criteria.

Domain 6. Editorial Independence

22. The views of the funding body have not influenced content of the guide-line.

23. Competing interests of guideline development group (AGREE Research Trust, 2018).

Note: Adopted from "The AGREE II instrument [Electronic version]." by AGREE Next Steps Consortium. (2013). Retrieved, from http://www.agreetrust.org

Appendix E: Panelist Results

A critical group appraisal of: Clinical Practice Patient Education Guideline on Medication Adherence among Adult African Americans using the AGREE II Instrument

Created with the AGREE II Online Guideline Appraisal Tool.

No endorsement of the content of this document by the AGREE Research Trust should be implied.

Co-Ordinator: Beatrice Ekechukwu Date: 30 January 2022

Email: bcekechukwu@yahoo.com

URL of this appraisal: http://www.agreetrust.org/group-appraisal/16558

Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	OA 1	OA 2
100%	100%	100%	100%	97%	98%	96%	Yes - 3 Yes with modifi-cations-0 No-0

Domain 1. Scope and Purpose				
	Appraiser2	Appraiser 1	Appraiser 3	Appraiser 4
Item 1	7	7	7	7
Item 2	7	7	7	7
Item 3	7	7	7	7
Domain 2. Stakeholder Involvement				
	Appraiser2	Appraiser 1	Appraiser 3	Appraiser 4
Item 4	7	7	7	7
Item 5	7	7	7	7
Item 6	7	7	7	7
Domain 3. Rigour of Development				
	Appraiser2	Appraiser 1	Appraiser 3	Appraiser 4
Item 7	7	7	7	7
Item 8	7	7	7	7
Item 9	7	7	7	7
Item10	7	7	7	7
Item11	7	7	7	7
Item12	7	7	7	7
Item13	7	7	7	7
Item14	7	7	7	7
Domain 4. Clarity of Presentation				

	Appraiser2	Appraiser 1	Appraiser 3	Appraiser 4
Item15	7	7	7	7
Item16	7	7	7	7
Item17	7	7	7	7
Domain 5. Applicability				
	Appraiser2	Appraiser 1	Appraiser 3	Appraiser 4
Item18	6	7	7	7
Item19	6	7	7	7
Item20	6	7	7	7
Item21	7	7	7	7
Domain 6. Editorial Independence				
	Appraiser2	Appraiser 1	Appraiser 3	Appraiser 4
Item22	7	6	7	7
Item23	7	7	7	7
Overall Assessment				
	Appraiser2	Appraiser 1	Appraiser 3	Appraiser 4
OA1	6	7	7	7

Created online at www.agreetrust.org 30 January 2022

Comments

Domain 1. Scope and Purpose

No comments found for this domain.

Domain 2. Stakeholder Involvement

No comments found for this domain.

Domain 3. Rigour of Development

No comments found for this domain.

Domain 4. Clarity of Presentation

No comments found for this domain.

Domain 5. Applicability

No comments found for this domain.

Domain 6. Editorial Independence

No comments found for this domain.

Created online at www.agreetrust.org 30 January 2022

Appendix F: Clinical Practice Patient Education Guideline on Medication Adherence Among Adult African Americans

Purpose

To better prepare nurses to assist AAs with HTN to improve MA through the hand model (Goh et al., 2019) and 5 interacting dimensions (WHO, 2003).

Procedure

- Education will begin during triage when AA patients with HTN who have MNA tendencies meet with any provider
- Education will be reinforced by all who have contact with the AA with HTN, especially those with identified MNA tendencies during the pre-registration visit
- The nurse will:
    - Provide information on the dangers of uncontrolled HTN
    - Provide information on MA
    - Encourage discussion of HTN and MA education
    - Answer HTN and MA related questions and clarify information as needed
    - Have the AA patient with HTN sign the form and provide a copy to the patient for further reference

Question

What information do nurses need to know in order to provide culturally sensitive education to AA patients to improve MA and control HTN?

Target Population

Nurses at the project site who are lacking adequate culturally sensitive knowledge and AA patients with HTN (18 years and older)

- AAs have a higher incidence of HTN related to MNA

Recommendations

- There is a lack of culturally based, standardized guideline to address MNA in AAs while the literature shows that culturally sensitive education can help AA patients with HTN improve MA (Page et al., 2019).
    - Poor adherence to prescribed medications has been identified as a barrier in controlling chronic illnesses including HTN (Maraboto & Ferdinand, 2020; Moss et al., 2019).
    - Hald et al. (2019) noted that implementing an effective MA intervention requires organized interdisciplinary strategies that emphasize MA and lifestyle changes
    - Culturally sensitive evidence-based teaching materials have been identified as an effective method to obtain full benefits of evidence-based therapies (Kardas et al., 2019).
    - The CPPEG will better prepare nurses to provide the AA patients with HTN with culturally relevant, standardized MA education that is so badly needed, and the patients deserve, increasing MA and decreasing HTN.

Key Evidence

- The occurrence of hypertension has reached an estimated 50 million Americans with two times greater prevalence for African Americans than Whites
- The CDC (2020) noted that nearly half of all Americans have HTN and the primary cause is MNA
- The rate of non-adherence to hypertensive prescription medication averaged 50% and has been estimated to range between 40% and 60% (Hu et al., 2014)
- CDC (2020) indicated that 69% of hospital admissions are due to MNA in chronic diseases
- Adherence to the use of antihypertensive drug therapy reduces the risk of stroke by an estimated 34% and the risk of ischemic heart disease by 21%. (Kim et al., 2016)
    - Failing to adhere to prescribed medication regimens contributes to an array of poor health outcomes
    - A high prevalence of hypertension medication nonadherence is seen in the South-Central United States
    - The national medication nonadherence rates, as provided by the US Census Bureau:
        - 28.9% for the South
        - 26.7% for the West
        - 24.1% for the Northeast
        - 22.8% for the Midwest (Kim et al., 2016)
    - Hald et al. (2019) recommended the WHO dimensions of MA to be a supporting benchmark in improving nonadherence
    - The CDC (2020) reported that HTN costs the nation between $131 billion and $198 billon each year to include healthcare services, medications to treat HTN, missed days of work resulting from MNA, and associated morbidity.
        - Non-adherence to medication costs an estimated $100 billion annually in both direct and indirect health care costs (Ferdinand et al., 2017).
        - AAs experience higher rates of premature cardiovascular mortality than any other group (Moss et al., 2019).
    - One of every four medical visits is related to patients not following the advice they were given
        - Nonadherence contributes to between 33% and 69% of medication-related hospital admissions each year
            - Annual deaths due to nonadherence to medication in the United States are estimated at 125,000 deaths (Ferdinand et al., 2017).

Guideline Monitoring

- The guideline should be reevaluated every 3 years or when new recommendations for culturally sensitive education for minorities are published.
- Barriers to the application of this guideline should be addressed as they arise by the nurses and before implementation.

This MAAAAA project did not request or receive any fund to the development of the CPPEG

CPPEG for Education regarding Medication Adherence among Adult African Americans

This guideline is to be used to teach culturally sensitive education to nurses who will in turn educate AA patients with HTN about how to improve their MA so that they can engage in meaningful dialogue and maintain a treatment regimen for positive outcomes including quality of life

- **What is MA?**
  - Medication adherence, or taking medications correctly, is generally described as the extent to which patients take medication as prescribed by their doctors. MA also involves factors such as getting prescriptions filled, remembering to take medication on time, and understanding the directions

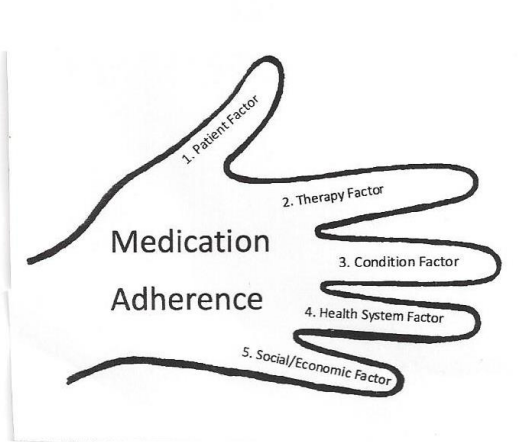
- **What is MNA?**
  - Medication nonadherence refers to the number of medication doses missed or not taken as prescribed, resulting in negative health outcomes

- **WHO 2003 5 interacting dimension affecting MA:**
  - Patient related factors
    - Inadequate knowledge and skills to manage the disease symptoms and treatments
    - Negative belief regarding the efficacy of the treatment
    - Misunderstanding of treatment instructions
    - Fear of dependence
    - Frustration with health care providers
  - Therapy related factors
    - Complexity of the medical regimen
    - Duration of treatment
    - Frequent changes of treatment
    - Side effects and the availability of medical support to deal with the side effects.
  - Condition related factors
    - Disease specific demands
    - Symptoms and impairments
      - Targets healthcare providers identifying and treating comorbidities affecting MA
        - Identify discrepancy in treatment effect by comorbidity
  - Health system/Healthcare related factors
    - Good patient-provider relationships
    - Poor medication distribution systems
    - Overworked health care providers
    - Lack of knowledge and training for healthcare providers on managing chronic diseases.

- Socioeconomic related factors
  - ➢ Low level of education
  - ➢ Unemployment
  - ➢ Lack of effective social support
  - ➢ Poor socioeconomic status
    - ▪ Poverty
      - o 27.6% of AAs live in poverty, compared with 12.8% of White
        - o High cost of medication
        - o Long distance from treatment center
        - o High cost of transportation

  - ➢ Lack of insurance
    - 9.5% of AAs in 2011 were without health insurance coverage, compared with 14.9% of Whites

REMEMBER - You can use the 5 interacting dimensions affecting MA illustrated by the 5 Fingers



- What are the benefits of learning how to use a culturally sensitive education intervention?
  - Prompt discovery of MNA leads to early treatments
  - Learning of MNA leads to a decrease in healthcare costs
  - Early treatment of MNA leads to improved health outcome
  - Increase HTN knowledge for AA patients

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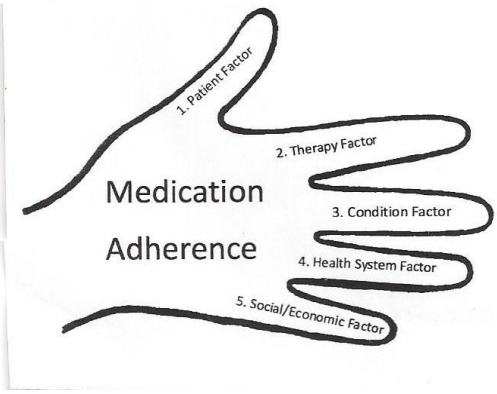
Patient Education on Medication Adherence and Hypertension



- THUMB: Patient related factors
  - Know your disease
    - Uncontrolled HTN is related to several complications
      - Such as heart attack, stroke, and kidney failure
      - Normal blood pressure is 120/80
      - HTN is a silent killer
      - Watch education video; *What is Hypertension?*
        - https://www.youtube.com/watch?v=rTWx1DE-kOM
    - HTN symptoms
      - Headache, dizziness, chest pain, difficulty breathing, trouble sleeping, irregular heartbeat, vision problem, extreme tiredness
      - Symptoms may not be present - hypertension is known as a silent killer.
      - Check your high blood pressure once or twice a day
        - Ask your doctor if you should check more frequently
  - Negative belief regarding the efficacy of treatment
    - Do you believe your medication is not working?
      - If NO
        - Talk to your provider about why you do not think it is working
          - **Continue to follow the directions of the provider**
          - Contact your provider to review your medication
      - You are going to need your HTN medication for the rest of your life
  - Be sure you understand treatment instructions
    - Take same time every day
    - Take even when you are feeling well
    - Take even if your blood pressure is in the normal range
  - Fear of dependence

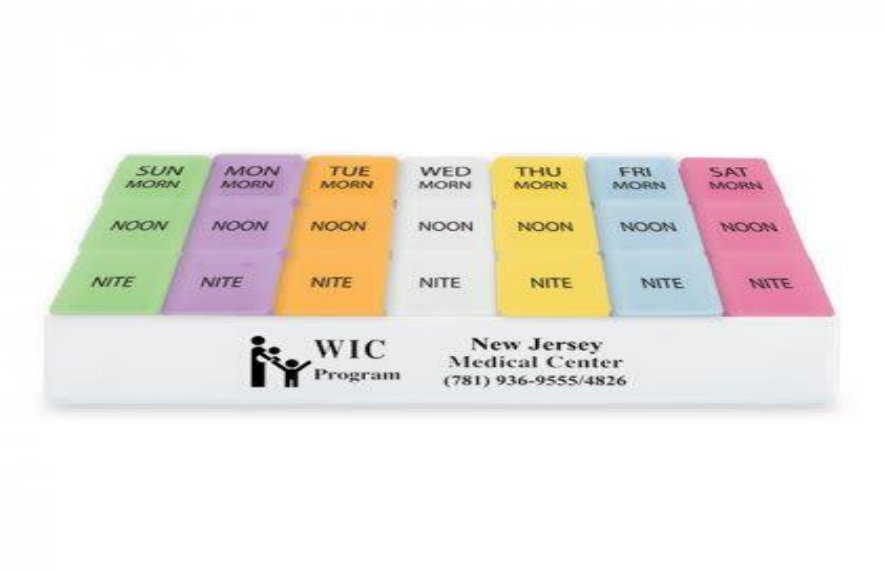
- Are you afraid of being addicted?
  - Anti-hypertensives (medications to treat high blood pressure) are NOT addictive
    - Nothing in it is habit forming
  - It does not cause a "high" which is what causes addiction
    - You WILL HAVE to take it as prescribed every day for the rest of your life
    - If you have any questions, call your provider
- Be mindful of side effects
  - Difficulty breathing
  - Lightheaded, dizzy, or passing out?
  - Headache?
  - Stomachache, nausea and vomiting, or diarrhea?
  - Dizzy when you first stand up (orthostatic hypotension)?
  - Slow heart rate?
  - Fatigue (too tired to carry out normal activities)?
  - Dry, nonproductive (not bringing up phlegm), frequent cough?
  - Tickling in throat?
  - Swelling
- If you NOTICE THESE PROBLEMS
  - See Appendage A
- Are you comfortable enough to ask your provider questions?
  - If NO
    - See Appendage B

- Index Finger: Therapy related factors
  - Is your medical treatment plan too complicated?
    - Are you taking too many medications?
    - Do you find prescription labels hard to read?
      - If YES
        - See Appendage C
  - Quality tracking
    - You can order pill organizers online (See fig. 1)
      - Make master list of all your medicines
        - Know what each medicine is for and what side effects to watch for
        - Know when you will run out of each medicine
        - Know what to do if you miss a dose
          - See Appendage G
      - Set an alarm on your watch to remind you when to take your medicine

      Have your health care provider answer all of your questions

about your medicines

Figure 2 Pill Organizer



May be purchased from Amazon and Walmart
Cost $5.99 to $9.99

- Take your medication as prescribed
  - Taking your medicine as prescribed is important for controlling your HTN and preventing your condition from worsening
  - Complications such as heart disease and kidney problems can be avoided when you take your medications regularly
  - A physical connection with your provider or pharmacist is an important part of your medication adherence
    - Talk to them regularly
- Side effect and the medical support to deal with the side effect
  - Do you have medication side effects such as diarrhea, dizziness, drowsiness, fatigue, heart issues (palpitations, irregular heartbeats), hives, nausea or vomiting?
    - If YES
    - Contact your provider
      - See Appendage A
    - If NO
      - **Continue to follow the direction of the provider**

- Middle Finger: Condition related factors
  - Uneasiness with HTN disease
    - Does HTN put you into associated problems?
      - Depression and anxiety

- Does this keep you from taking your medication?
  - Ask for help
    - Your provider can refer you to someone to help you with your depression
  - Understand that problems and complications happen
    - Ask for help
- Using counseling interventions
  - Are there available resources to help you with education and motivation to follow your treatment?
    - If NO
      - Set goals with your provider to achieve a realistic change from old to new habits
      - Ask for clear medicine information and necessary follow-up
      - Be patient with your provider and listen to his suggestions and recommendations
        - Ask questions when you don't understand

- Ring Finger: Health system/Healthcare related factors
  - Have a good relationship with your provider
    - Do you participate in your care?
      - If NO
        - Express your opinion
          - Tell your provider what you want
          - Share with your provider your thoughts on the treatment plan
        - Speak to your provider in a friendly manner.
          - Clarify issues with a friendly approach
            - Ask questions, and re-ask until you understand
            - Tell provider that you don't understand
        - Get clear instruction from nurses and physicians about methods to include taking your medication into your daily life
          - Keep asking until you understand
  - Difficulty getting medication as needed
    - Are you having problems paying for your medication?
      - If YES
        - Let your providers know which drugs have better coverage through your health insurance if you have it
        - Ask if there is a less expensive form of the medication
        - Request from your provider a lower-cost generic version
          - See Appendage D

- Affordable prices and reliable supply system
  - Does your provider provide you information on value-based-pricing and reimbursement?
    - If NO
      - Let your provider know which drugs have better coverage through your health insurance if you have it
      - Find out if you can switch your medicine to a lower cost generic version, a lower cost brand version, or a lower cost nonprescription medicine
        - See Appendage E

- Pinkie Finger: Socioeconomic related factors
  - Low income
    - Are you having difficulties getting financial assistance?
      - If YES
        - Discuss with your provider what options you have for lowering the cost of your medication confirming that you need all the medicines you have been pre-scribed.
          - See Appendage D
    - Do you understand your diagnosis and instructions?
      - If NO
        - Repeat medical instructions immediately after they are given
        - Have your concerns and questions written out and with you before you meet your provider
        - Stay focused during explanations
        - Involve interpreter if necessary
  - Out of work?
    - Does your high blood pressure prevent you from working?
      - If YES
        - Ask provider or social worker about assistance pro-grams
          - Example: The Partnership for Prescription Assistance call
            - 1-888-477-2669
          - See Appendage D
  - Long distance from provider's office
    - Discuss telehealth with the provider
    - Seek transportation assistance
      - See Appendage F
  - High cost of transportation to appointments?
    - See Appendage F
  - Financial difficulties

- Do you have trouble paying for your healthcare or medications?
  - If YES
    - See Appendage D

Patient Signature _____. Date: _____

Witness Signature _____ Date: _____

APPENDAGE A

Problem with Side Effects

If you notice side effects from your medications

- Call your provider
- You may need your dose adjusted
- **DO NOT STOP YOUR MEDICATION** until you have talked to your doctor
- Stand up slowly
- Increase your fluid intake

APPENDAGE B

Frustration with Providers

Not comfortable with the provider?

- Go with a family member or friend:
- Determine what you need out of your appointment ahead of time
    - Have it written down so you can refer to it
- State your deepest concern at the beginning of the visit
- Be concise
- Write down your expectations and questions
- Maintain regular doctor’s appointment

APPENDAGE C

Multiple Medication Doses

Is your medical regimen too complex?

- **Be aware of your** multiple dosing schedules
    - **Request** switching to longer-acting medications or medications that require fewer dose times per day
    - **Take your medications as prescribed to avoid complications**
        - **REMEMBER taking medication as prescribed is the goal**
    - Read your medication labels and instructions every time you take the medicine to avoid mistakes

APPENDAGE D

Financial Concerns

If you need help paying for your medications:

- Call your provider's office to ask if they have any samples of the medication available
- Call your pharmacy to ask if there are any patient assistance programs you may qualify
    - In some cases, Free Rx Coupons, free medications, or up to 80% off may be available to patients who meet certain criteria
- Contact the drug manufacturer (contact information often available on the medicine bottle or on the internet)
    - Some of these manufacturers offer financial assistance for those who qualify

APPENDAGE E

Insurance Coverage.

No insurance?

- Contact the case manager
    - Case managers in the facilities can help you find an affordable low-income insurance program you qualify for
        - Assisting with paperwork is a case manager's job
- Contact Medicaid
    - Have handy your information (full name, social security number, date of birth) before you call
        - 1-877-711-3662
- Medication assistance program
    - ATM Healthy Texas
        - 1-866-524-1408

APPENDAGE F

Transportation Problem

Lack of transportation to your providers?

- Contact your clinic
    - Some clinics can assist with free transportation, including picking you up at your home including bringing you to the clinic
- Request for telehealth information from your provider
    - Remember telehealth services can be available if you have access to a phone or a computer
        - This can provide you the comfort of seeing the physician from your home.

APPENDAGE G

Medication Tracker

Sample Table: How to Track Medication

Doses

WEEK ONE

Time	Medication	M	T	W	T	F	S	S	Dose: 3.125mg
Morning	Carvedilol	1	1	1	1	1	1	1	Take 1 tablet by mouth two times a day
Evening	Carvedilol	1	1	1	1	1	1	1	

Time	Medication	M	T	W	T	F	S	S	Dose: 25mg
Morning	Losartan	1	1	1	1	1	1	1	Take 1 tablet by mouth two times a day
Evening	Losartan	1	1	1	1	1	1	1	

WEEK TWO

Time	Medication	M	T	W	T	F	S	S	Dose: 3.125mg
Morning	Carvedilol	1	1	1	1	1	1	1	Take 1 tablet by mouth two times a day
Evening	Carvedilol	1	1	1	1	1	1	1	

Time	Medication	M	T	W	T	F	S	S	Dose: 25mg
Morning	Losartan	1	1	1	1	1	1	1	Take 1 tablet by mouth two times a day
Evening	Losartan	1	1	1	1	1	1	1	