

Regis University

ePublications at Regis University

Regis University Student Publications
(comprehensive collection)

Regis University Student Publications

Fall 2014

Hypertensive Black Men's Perceptions of a Nurse Administered Medication Protocol

Ophelia Thomas
Regis University

Follow this and additional works at: <https://epublications.regis.edu/theses>



Part of the [Medicine and Health Sciences Commons](#)

Recommended Citation

Thomas, Ophelia, "Hypertensive Black Men's Perceptions of a Nurse Administered Medication Protocol" (2014). *Regis University Student Publications (comprehensive collection)*. 191.
<https://epublications.regis.edu/theses/191>

This Thesis - Open Access is brought to you for free and open access by the Regis University Student Publications at ePublications at Regis University. It has been accepted for inclusion in Regis University Student Publications (comprehensive collection) by an authorized administrator of ePublications at Regis University. For more information, please contact epublications@regis.edu.

Regis University
Rueckert-Hartman College for Health Professions
Loretto Heights School of Nursing
Doctor of Nursing Practice Capstone Project

Disclaimer

Use of the materials available in the Regis University Capstone Collection ("Collection") is limited and restricted to those users who agree to comply with the following terms of use. Regis University reserves the right to deny access to the Collection to any person who violates these terms of use or who seeks to or does alter, avoid or supersede the functional conditions, restrictions and limitations of the Collection.

The site may be used only for lawful purposes. The user is solely responsible for knowing and adhering to any and all applicable laws, rules, and regulations relating or pertaining to use of the Collection.

All content in this Collection is owned by and subject to the exclusive control of Regis University and the authors of the materials. It is available only for research purposes and may not be used in violation of copyright laws or for unlawful purposes. The materials may not be downloaded in whole or in part without permission of the copyright holder or as otherwise authorized in the "fair use" standards of the U.S. copyright laws and regulations.

Hypertensive Black Men's Perceptions of a Nurse Administered

Medication Protocol

Ophelia Thomas

Submitted to Pamella Stoeckel RN, PhD, CNE in partial fulfillment of

NR706B Capstone Project

Regis University

August 13, 2014

Abstract

Hypertension in the elderly population is a serious problem with approximately 65 million hypertensive adults in the United States. One important factor contributing to uncontrolled hypertension in the elderly population is medication non-adherence. The director of a cardiology clinic in Southern Georgia noted that older Black male patients were not taking their blood pressure medication as prescribed and as result had uncontrolled hypertension. It was proposed that a nurse protocol with tools to address non-adherence was an approach to address this problem. This qualitative key informant study identified a purposive sample of 10 Black men 65-70 with a primary diagnosis of hypertension that was non-adherent in taking their hypertensive medication. The nurse conducted individual 45 minute teaching session with each participant that included tools to help them take their medication. A 15 minute follow-up phone call was done after one week. Participants were then interviewed about their perception of taking hypertensive medication. The interviews were recorded, transcribed, and coded for themes using constant comparative analysis. Six themes emerged: Medication Bottle Guides Medication Usage; Confusion about Side Effects; Reasons for Not Taking Medications; New Behavior; Unchanged Behavior, and Discovery of Other Problems. The overall result was that older Black men perceived that they were more adherent in taking their hypertensive medication following a nurse administered medication protocol.

Key terms: Hypertensive, uncontrolled hypertensive, medication compliance, medication adherence, hypertensive in black men, and medication adherence protocol

Copyright © 2014 by Ophelia Thomas

All rights reserved. No part of this work may be reproduced. Stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the author's prior written permission

Acknowledgments

I would like to take this opportunity to first give thanks to God for his grace and mercy; and to thank God for allowing me to be successful in this DNP program. Then, I would like to thank my family, my son Jockey Thomas, daughter Jockqulynn Thomas, and mother Fannie Mae Bradley who were always there with encouraging words and support at all times.

I would like to also thank my mentor, Dr. Linda Grimisely that assisted and advised me throughout this program. She was always there for me via phone, email or office visits.

A special thanks to my capstone chairs Pamella Stoeckel RN, PhD, CNE, who provided many hours of encouragement and support. Her feedback, guidance, and patience were extremely beneficial in completing this project.

I would like to thank my classmates from the DNP 2012 – 2014 program for all the assistance provided. However, I would like to give a special thanks to one special classmate Victoria Birkeland that would not let me give up when I felt that it was my only option. Finally, I would like to thank the entire Regis University DNP staff for their support and advice.

Hypertensive Male Patients' Perceptions of a Nurse Administered Medication Protocol Executive Summary

Problem

Hypertension in the elderly population is a serious problem with approximately 65 million hypertensive adults in the United States. One important factor contributing to uncontrolled hypertension in the elderly population is medication non-adherence. The director of a cardiology clinic noted that older Black male patients were not taking their blood pressure medication as prescribed and as result had uncontrolled hypertension.

Purpose

The purpose of this study was to determine if the introduction of a nurse administered medication protocol would support improved perceptions of taking hypertensive medication. The intention of this capstone project was to improve adherence of older Black males in taking hypertensive medication. The research question was: In Black men 65-70 with high blood pressure does implementation of a nurse administered protocol of medication self-administration affect patients' perception of their ability to take hypertensive medication?

Goals

Goals included development by the researcher of a nurse administered protocol that included developing a relationship with participants, introducing tools to help with taking medications, and a follow-up phone call after one week.

Objectives

Objectives for this capstone project included interviewing the participants following administration of the protocol to determine their perceptions of taking their hypertensive medications.

Plan

This capstone project used a qualitative key informant design that involved individual interviews with study participants. A purposive sample of ten Black men 65-70 with a primary diagnosis of hypertension who were non-adherent in taking hypertensive medication were identified at the cardiology clinic. The nurse conducted individual 45 minute teaching sessions with each participant that included introducing tools to help take hypertensive medication. A 15 minute follow-up phone call was done after one week. Face-to-face interviews were conducted at their next clinic visit. Interviews were recorded, transcribed, and coded for themes using constant comparative analysis.

Outcomes and Results

Six themes emerged from the research: *Medication Bottle Guides Medication Usage* showed that before the intervention participants primarily used their medication bottle as a guide for how and when to take their hypertensive medication; *Confusion about Side Effects* revealed that before the nurse intervention participants were unable to state the side effects of hypertensive medications. *Reasons for Not Taking Medications* exposed a variety of reasons why patients failed to take their medications such as not having time. *New Behavior* showed new behaviors developed after the nurse intervention including use of new tools to help with remembering when and how to take medication; *Unchanged Behavior* exposed that some behaviors remained the same as before the nurse intervention; and finally *Discovery of Other Problems* showed that some of the participants had other problems that affected their ability to take medication.

Table of Contents

I. Preliminary Pages	
A. Abstract	i
B. Copyright Page	ii
C. Acknowledgement	iii
D. Executive Summary	iv
E. Table of Contents	v
F. List of Appendices	vi
G. List of Tables	vii
II. Problem Recognition and Definition.....	2
III. Review of Evidence	7
IV. Project Plan and Evaluation.....	11
V. Project Findings	22
VI. Discussion	27
VII. Limitations, Recommendation & Implications	30
VIII. Summary	31
X. References	32
XI. Appendices	37

List of Appendices

Appendix A. SWOT	37
Appendix B. Driving/Restraining Forces	38
Appendix C. Resources.....	39
Appendix D. Hypertensive Medication Adherence Protocol	40
Appendix E. Sustainability	45
Appendix F. Budget	46
Appendix Timeframe	47
Appendix H. Logic Model	48
Appendix I. Measurement Tool	49
Appendix J. IRB Approval Letter	50
Appendix K. CITI Certificate	51
Appendix L. Letter of Consent from Agency	52

List of Tables

Table 1: Literatures Review Search Terms/Results	5
Table 2: Nurse Administered Protocol	20

Hypertensive Male Patients' Perceptions of a Nurse Administered Medication Protocol

Hypertension in the elderly population is a serious problem and cannot go untreated.

There are approximately 65 million adults in the United States that have hypertension, (Welch et al., 2011). The elderly population is rapidly growing and data shows that the prevalence of hypertension is increasing with age (Lionakis, Mendrinos, Sanidas, Favatas & Georgopoulou, 2012). According to Thomas-Kvidera (2005), addressing hypertension and heart failure continues to be a major challenge for healthcare providers even with the advances in the prevention and treatment of cardiovascular disease.

One important factor identified as a major contributor of uncontrolled hypertension in the elderly population is medication non-adherence. According to Klootwyk and Sanoski (2011), uncontrolled blood pressure remains substantially at 46% despite the use of antihypertensive medication. A cause of hypertension is poor adherence to medication regimens (Klootwyk & Sanoski, 2011). According to Esposito (1995), nursing protocols can assist patients in medication adherence. Tools can be used to improve self-administration of hypertensive medication (Kannampallil, Waicekauskas, Morrow, Kopren, & Fu, 2013).

Nurses cannot assume that patients are taking their medication as ordered. Literature suggests that poor adherence to medication regimens is common, which contributes to substantial worsening of disease, death, and increased health care costs (Osterberg, & Blaschke, 2005). In addition, Osterberg and Blaschke (2005) state that practitioners should always look for poor adherence and enhance adherence by emphasizing the value of a patient's regimen, making the regimen simple, and customizing the regimen to the patient's lifestyle. This study addresses how providers should intervene to improve medication adherence.

Problem Recognition and Definition

Statement of Purpose

The purpose of this study was to determine if the introduction of a nurse administered medication protocol would support improved perceptions of taking hypertensive medication by Black male patients with hypertension. The intention was to improve adherence of taking hypertensive medication by Black men age 65-70 with uncontrolled hypertension. The intervention for this study was identified as a protocol. The development of a nurse administration medication protocol was proposed as a means of addressing the problem of non-adherence in taking hypertensive medication by older Black men.

Problem Statement

This research study grew out of an issue at a Cardiology Internal Medicine office where Black men 65-70 years old were treated for hypertension. It was noted by the cardiologist that patients were not taking their blood pressure medication as prescribed. Although, instructions on taking medication were given to patients in the office by the physician, patients continued to acknowledge that they were not taking their medication and their blood pressure remained high. Uncontrolled blood pressure has detrimental consequences for overall health. Older Black men risk coronary artery disease and possible heart attacks so the problem needed to be addressed.

PICO

This project employed a Population-Intervention-Control Group-Outcome (PICO) format for development of the research question to be investigated:

P-Population: Black males 65-70 with hypertension

I-Intervention: Protocol of medication self-administration by the nurse

C-Comparative: None

O-Outcome: Affect men's perceived ability to take hypertensive medications

Research Question: In Black men 65-70 with high blood pressure does implementation of a nurse administered protocol of medication self-administration affects patients' perception of their ability to take hypertensive medication?

Project significance, Scope, and Rationale

This study addressed the issues of medication adherence for Black men 65-70 years old with uncontrolled hypertension in a cardiology clinic. Patients were identified in the clinic as being non-adherent in taking their hypertensive medication. This is a common problem in many clinics in the US. A medication administration protocol was developed by the nurse researcher from a review of the literature. The protocol was geared towards the success of improving medication adherence by a high risk patient population. The nurse administered hypertensive medication protocol was designed to develop a relationship with each patient and to assist patients in remembering how and when to take their medication. The significance of this study was that it addressed non-adherence in the cardiology clinic and the needs of a high risk group of elder's patients.

The principal investigator for this project was a master's prepared DNP student who had experience working with hypertensive patients and was familiar with the clinic setting. The rationale for the capstone project was to assist hypertensive patients in taking their medication. The study had implications for working with older hypertensive patients who are non-adherent.

Theoretical Foundation

Three theoretical frameworks supported this project; Dorothy Orem's Self-Care Deficit Theory, Albert Bandura Social Learning Theory and Malcolm Knowles Adult Learning Theory. Dorothea Orem's Self-Care Deficit Theory was chosen because it was a self-care model that

provided structure as it relates to the nurses role in assisting a client in maintaining a functioning level of self-care (Orem, 2001). Orem's Theory focused on self-care, self-care deficit, and nursing system which related to this study in which patients were taught to self-medicate for hypertension. Self-care was defined as the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health, and well-being (Orem, 2001). Orem (2001) explained that self-care deficit expressed the value of the relationship between two other concepts: self-care agency and therapeutic self-care demand. In this study patients lacked the ability to take medications independently and as a consequence had uncontrolled hypertension. Orem's theory described the nursing system as an "action system" and sequence of actions performed for a purpose (Parker and Smith, 2010). The nurse administered protocol was initiated to assist the patient in self-care. According to Harper (1994), Orem's theory aimed to guide and instruct persons in self-care actions to sustain life, health, and recover from disease or injury as well as cope with their effects. The strength of Orem's Self-care Deficit Theory in this study was that it supported the development of actions to help participants be more self-sustaining

Bandura's Social Learning Theory also had relevance to this study. Bandura (1977), stated that observational learning can have a powerful effect, and that the effect was enhanced when observers believed that the person demonstrating the behavior was similar to them; described as a "similar other." His theory involved an actual individual demonstrating or acting out a behavior. In this study the nurse nurtured relationships with the participants in order to help them observe, participate, and practice new skills in taking their hypertensive medications.

Malcom Knowles Theory of Adult Learning (1984) also addressed this study. In attempting to document differences between the ways adults and children learn, Knowles

popularized the concept of andragogy called the art and science of helping adults learn. He contrasted it with pedagogy or the art and science of teaching children. Knowles suggested five ways that adult educators should design education for the adult learner: 1) set a cooperative climate for learning in the classroom 2) assess the learner's specific needs and interests 3) develop learning objectives based on the learner's needs, interests, and skill levels 4) design sequential activities to achieve the objectives 5) work collaboratively with the learner to select methods, materials, and resources for instruction and 6) evaluate the quality of the learning experience and make adjustments, as needed, while assessing needs for further learning.

According to Knowles because adults need to know why they are learning something, effective teachers explain their reasons for teaching specific skills. Adults learn by doing so effective instruction focuses on tasks that adults can perform, rather than on memorization of content. Because adults are problem-solvers and learn best when the subject is of immediate use, effective instruction involves the learner in solving real-life problems. These principles applied directly to this study that deals with teaching patients skills to be adherent in taking hypertensive medication.

Literature Selection

In completing the systematic review of literature the researcher used the Regis University online library to find literature related to the topic. Supportive literature for this capstone project was included from four databases: ProQuest, CINAHL, Cochrane, and Google Scholar. The key search terms used included: hypertensive, uncontrolled hypertensive, hypertensive medication adherence hypertensive in black men, hypertensive medication compliance, habit forming, hypertensive protocol, medication adherence protocol, and hypertensive medication management. A key search term "hypertensive" was searched in CINAHL and resulted in 7,877

articles. The search was narrowed by adding other search terms such as medication adherence, black men, medication compliance, and protocol with a total of 258 articles. Key search terms were repeated in Google Scholar with a total of 643 additional articles.

A total of 98 articles were reviewed for this study because they directly related to the capstone project. Forty-four articles of those articles were applicable and used in this study. The articles' abstracts were read to identify applicability to the project problem statement. Table 1

Literature Review Search Terms and Results

Search Terms	Total of Results
Hypertensive (Date Range 2000-2014)	7,877
Uncontrolled Hypertensive (Date Range 2000-2014)	171
Hypertensive Medication Adherence (Date Range 2000-2014)	118
Hypertensive in Black Men (Date Range 2000-2014)	30
Hypertensive Medication Compliance	110
Habit Forming (Date Range 2000-2014)	303
Hypertensive Protocol (Date Range 2000-2014)	116
Medication Adherence Protocol (Date Range 2000-2014)	209
Hypertensive management protocol	15
(Date Range 2000-2014)	45 articles used

Reasons for choosing key terms are described to explain their relevance to the study. "Hypertensive" was a broad key term used to describe a condition of the body when the blood pressure becomes very high. The Center for Disease Control and Prevention (CDC) (2014)

contends that hypertensive is the force of blood pushing against the walls of the arteries that carry blood from your heart to other parts of the body. Other key terms used to conduct the literature review included “uncontrolled hypertensive” which was searched to understand the relationship of medication non- adherence to uncontrolled hypertensive conditions. Further search of key terms including “medication compliance.” These terms helped define the degree to which patients followed medication regimens because it was known that patients do not take their medications as prescribed. Another area that was investigated was “forming a new habit.” A final key term searched was “medication adherence protocol.” The process of development of a medication protocol was important for the researcher to utilize as part of preparing the intervention for this capstone project.

Scope of Evidence

Inclusion criteria for this capstone project included the broad areas of nursing, pharmacy, and education defined using Houser’s Level of Evidence II-VI. Exclusion criteria included non-English speaking resources. The scope of evidence revealed multiple scholarly, peer reviewed journals related to this capstone project. There were 8 qualitative studies and 12 quantitative studies reviewed that related to hypertensive medication protocol. Qualitative studies focused on education, relationship building, and healthcare providers support for patients. The literature identified a variety of interventions that helped people with hypertension take their medications, and had the potential to improve patient outcomes (Bobrow et al., 2014). Of the quantitative studies it was noted that the results of a randomized controlled trial testing efficacy of text-messaging showed that this intervention supported patients in their treatment adherence and improved blood pressure control ((Bobrow et al., 2014).

Review of Evidence

Background of the Problem

Antihypertensive medication adherence continues to be a challenge for healthcare providers in managing hypertension. According to American Heart Association (2013), 77.9 million (1 out of every 3) adults have high blood pressure. Leung et al., (2012), contended that “over half of patients do not adhere to their prescribed medications, resulting in over \$100 billion spent on avoidable hospitalizations” (p. 20). It was noted that inadequate blood pressure control and poor adherence to treatment remained among the major limitations in the management of hypertensive patients, particularly in patients at high risk of cardiovascular events (Parati et al., 2013). Despite the availability of various treatment plans, it was noted that uncontrolled blood pressure was a problem due to non-adherence (Leung et al., 2012). When barriers to adherence were identified, healthcare providers were encouraged to develop interventions to increase adherence and improve patient’s health outcome.

Studies determined that hypertensive medication adherence in the elderly was a challenge for healthcare providers who developed and managed programs for this population. Along with the increase of average life expectancy, the literature identified an increase of incidence of chronic diseases. This produced a direct effect on elderly patients faced with treatment regimens that often involve long-term drug therapy. MacLaughlin et al. (2005) noted that medication adherence was difficult for many patients, particularly for elderly patients. Developing a working relationship between patient and caregiver was described as involving honest discussion about medication adherence (MacLaughlin et al., 2005). The literature stated that a method of assessing medication adherence in the older population was through interviews using open-end, non-threatening, and nonjudgmental questions to connect with patients (MacLaughlin et al., 2005).

Systematic Review of the Literature

Based on the literature reviewed, adherence to antihypertensive medication regimens was an essential health behavior to control blood pressure (BP) effectively, and reduce older adults' risk for severe cardiovascular diseases (Ruppar, Dobbels & Geest, 2012). Patients with hypertension aged 70 and over were found to use their medicines less regularly than members of other age groups which significantly affected their health (Karakurt & Kasikci, 2012). Although effective drug therapy was available to treat hypertension, according to Lewis, Schoenthaler, and Ogedegbe (2012), the problem of poor medication adherence was more pronounced in hypertensive Black men. A couple of factors that contributed to non-adherence were the patient's perceived lower susceptibility to specific diseases, and those that had been diagnosed with hypertension for a longer time (Li, Kuo, Hwang, & Hsu, 2012). Studies also revealed that more objectives measures of adherence, such as pharmacy refill records; confirmed lower adherence rates for hypertensive Black men (Lewis, Schoenthaler, & Ogedegbe, 2012).

One of the most significant causes of uncontrolled hypertension was non-adherence to prescribed medication. According to Karaeren et al. (2009) in order to achieve higher adherence rates, it was important to improve the patient's knowledge about hypertension medications and understanding of the side-effects of medications. The authors contended that it was especially important to educate the patient about the significance or insignificance of side-effects of their medications (Karaeren et al., 2009).

Karakurt and Kasikci (2012) suggested that patients with hypertension should have necessary knowledge of their diagnosis in order to successfully address their illness. Suggested knowledge included: being able to define hypertension, evaluate risk factors, and understand the important of taking their medication. These approaches to the problem of understanding the

diagnosis of hypertension were considered when developing the nurse administered medication administration protocol.

Uses of different interventions, tools and protocols to address medication adherence was addressed in the literature. Krulish (2005) described different types of medication compliance aids. The author recommended a standardized approach in evaluating patients' ability to administer medication based on strengths and deficits. Tools recommended by Krulish (2005) included: medication lists, medication schedules, pill boxes, and telephone reminders. Using these tools according to the authors affected the participants' perceptions of their ability to take hypertensive medication and contributed to forming new habits.

According to Lally and Gardner (2013) supporting habit formation involved three main behaviors: focusing on strategies to initiate a new behavior, supporting context-dependent repetition of behavior, and facilitating the development of automaticity. The author further discussed techniques for disrupting existing unwanted habits such as restructuring the personal environment and initiating alternative responses to situational cues (Lally & Gardner, 2013). In further support of this, Lowman (2013) discussed how habits are formed and changed. Habit forming and habit changing occurred by altering the sequencing of steps that lead to desired outcomes. It involved changing the behavioral sequences that connected cues, routines, and rewards. Building effective relationships with the patients was an important aspect of improving medication adherence. O'Neill and Feldman (2009) stated practical ways to improve compliance which included developing a caregiver-patient relationship and prescribing fast-acting treatments.

The literature search revealed that Black men with hypertension were often non-compliant with taking their medications. Lewis, Schoenthaler, and Ogedegbe, (2012) confirmed

a serious problem of medication non-adherence by Black men with hypertension. Evidence also supported that medication adherence was a significant problem for older Black men. The statistical data noted that Black adult men were 4.30 and 2.45 times more likely to be non-adherent (Hyre, Krousel-Wood, Muntner, Kawasaki, & DeSalvo, 2007). This capstone study addressed topics addressed in the literature review.

Project Plan and Evaluation

Market/Risk Analyses

There were no major market risks or obstacles to completing this project. No conflicts of interest were identified by the researcher or the clinical staff. The director of the clinic was very supportive and gave full access to clinic patients. Participants in the study were living independently and signed consent to be in the study. There were no major issues that could endanger or put at risk the projects chances of success.

This study had potential to contribute to improvement in patient care. A major challenge identified by primary care providers in the past was achieving successful outcomes in lowering patients' blood pressure. According to Banegas (2006), the known benefits of lowering blood pressure (BP) in hypertensive patients were clear and contributed to improved overall health. Hypertensive medication adherence protocols were implemented to assist in lowering blood pressure and increasing patients' knowledge of hypertension. Hacıhasanoğlu and Gözümlü (2011) supported this overall approach in noting that nurses working in primary healthcare use both educational and counseling services to improve patient adherence and to lower the blood pressure of their patients.

Project Strengths, Weaknesses, Opportunities, and Threats

The strengths, weakness, opportunities, and threats of this project were assessed to determine factors that would contribute to the outcome of this capstone project (see Appendix A). According to Pickton and Wright (1998) SWOT analysis involved the collection and portrayal of information about internal and external factors which had, or may have had, an impact on the project.

Determination of project strength was based on the particular qualities of the researcher. Some of the strengths possessed by the researcher included: excellent clinical skills; knowledge about hypertension, excellent communication skills; experience working with elder high risk patients; highly regarded reputation in the community; and strong working relationship with the clinic physician and staff. The weaknesses of the project were: the time constraints to complete the study; patients' accessibility to the healthcare facility; literacy rate for the population in the community, and patients' additional problems with cognition, vision and depression.

Several opportunities were identified for this project including; this was a community with a large population of Black men with uncontrolled hypertension; there were physicians in the community who supported the initiation of medication adherence protocols; and a growing number of patients in the community enrolled in Medicare Part D plans with strong medication therapy management programs. Threats to this project included: many uninsured patients in the community; lack of coverage for medications; lack of patient education; lack of accessibility to healthcare facilities; and lack of implementation of medication protocols by pharmacists.

Driving/Restraining Forces

A significant driving force of this study was the strong support of the medical director of the clinic. He provided the clinic as a base for the research. Other driving forces included that the

researcher was a skilled nurse with experience working with patients with hypertension. She was highly motivated to work with this population and had a caring approach to older patients.

Restraining forces included that patients in this study were elderly with limited income and social support. Often patients had difficulty finding transportation to and from the clinic. Patients were unfamiliar with the tools that were presented to them and had limited vision and dexterity to use the tools (See Appendix B).

Need, Resources, and Sustainability

Implementation of the medication adherence protocol met the demand to provide tools and education in assisting hypertensive patients with adherence to medication administration (see Appendix C). The protocol fulfilled the following needs that were important to its customers:

Accessibility: This protocol was useful in primary care and in home health settings and could be used in surrounding rural counties.

Customer service: Providing a protocol to help customers improve adherence was a way of providing outstanding customer service for an underserved population.

Competitive pricing: Customers using the clinic were not charged extra to receive the protocol from the nurse researcher. The tool, including the pill box used to improve adherence was provided free of charge.

Many antihypertensive medications were available to treat patients with hypertension, yet two-thirds of patients continued to have uncontrolled hypertension (Bennett et al., (2009). Patients in this study were prescribed hypertensive medication by the clinic physician. The issue of adherence did not involve patients' accessibility to obtaining medication, but instead addressed the issue of taking the medication as prescribed.

Resources used for this project included personnel, time, and equipment. Personnel were comprised of the clinic physician, office manager, and clinic support staff. The time involved in the study was approximately 70-80 hours of researcher time that involved reviewing medical records and conducting the teaching sessions and interviews. A nurse administered hypertensive protocol was a resource developed and implemented by the researcher (see Appendix D). Equipment used in the study included: a computer, tape recorder, tapes, and a printer. Other resources used were educational brochures, pill dispensers, blood pressure tracker charts, office space and a transcriptionist. Resources were sufficient and easily implemented to conduct the nurse administered protocol.

Several factors were identified for sustainability of this project following the successful implementation of the protocol:

1. Orientation of staff to the protocol
2. Mentoring the staff in use of the protocol
3. Following up on the patient adherence and B/P readings
4. Quarterly update and training for staff to keep caregivers aware of changes in hypertensive treatment
5. Openness of staff to suggestions for improvement (see Appendix E)

Feasibility/Risks/Unintended Consequences

Feasibility of this study was determined by the willingness of the clinical staff to provide support to the nurse researcher. Clinical staff including the medical director expressed full support of the project and provided information to initiate the study. Places to meet with and interview participants at the clinic were provided. The hypertensive medication protocol was explained to clinic staff and served as a means of teambuilding.

There were minimal risks to participants and clinic staff in the carrying out of this project. Patient safety was the primary consideration in implementing the protocol. The nurse researcher assessed for unintended consequences throughout the study and none were identified.

Stakeholders and Project Team

The stakeholders for this study included the cardiology clinic where the research took place and public and private insurers in the larger community. The specific team for this project included the nurse researcher, the clinic physician, the patients in the study, and the clinic staff. Consultants for the study were the clinical mentor and the nurse researcher's capstone advisor.

Cost-benefit Analysis

A cost-benefit analysis was conducted for this capstone project. Costs included the time spent by the researcher and patients implementing the project. There was no cost to the participants to receive the teaching, follow-up phone call, and interview. All meetings were set up at the convenience of participants. Benefits included one-to-one teaching from the nurse and free tools to aid in taking hypertensive medication. Tools that were given to participants included: Pill dispensers, medication tracker chart, blood pressure tracker chart, and educational brochures. Educational brochures were developed from downloading information from websites, and some information obtained from the local health department. Overall costs related to the implementation of the capstone project were determined to be minimal.

Benefits to participants included free tools to aid in taking hypertensive medication. Tools that were given to patients included: pill dispensers, medication tracker charts, blood pressure tracker charts, and education brochures. Benefits included the potential for improvements in medication adherence, improved blood pressure readings, and improved patient quality of life. (See budget in Appendix F)

Mission Vision Statement

The mission statement was to improving hypertension medication adherence for Black men 65 – 70 years of age. The vision was to implement a nurse administered hypertensive medication protocol.

Process/outcomes Objectives

The objectives for this proposed project were (see Appendix G):

1. Obtain written permission to conduct the study in the cardiologist's office including approval to utilize medical files to develop a purposive study sample by September 9, 2013.
2. Submit for IRB approval from Regis University by November 20, 2013 to receive approval by end of February 2013.
3. Identify a purposive sample of 10-20 men (or a number that reaches saturation of data) with a primary diagnosis of hypertension and complete written permission documentation from the prospective participants by December 2, 2013.
4. Develop and implement a Protocol of medication self-administration by the nurse researcher by December 22, 2013
5. Set up participant meetings with the nurse researcher to present the hypertensive medication protocol. Free tools will be provided and a follow-up phone call and final interview will be set up by February 2014.
6. Interview participants at their next clinic visit about their perceptions of the protocol. Record and transcribe interviews by April 1, 2014.
7. Determine themes from data gathered to determine patients perceptions regarding use of the skills checklist to impact medication self-administration by April, 20, 2014

Logic Model

The Logic Model chosen for this capstone project was a picture of how the project would work (see Appendix H). The Logic Model addressed the nursing outcome measures as it related to improving the hypertensive medication adherence by Black men 65-70 in a cardiology clinic. The Logic Model in this research identified the resources that were used, the outputs from the activities; short and long term goals have been identified, and what impact the study has on the identified participants at the cardiology practice.

Appropriate for Objectives and Research Design

This study used a qualitative key informant approach. Merlo, Goodman, McClenaghan, and Fritz (2013) contended that qualitative research provided a unique opportunity for patients to express opinions and provide valuable insights into intervention processes. A qualitative method was appropriate for this study as the purpose of the study was to explore perceptions of patients with the particular diagnosis of taking hypertension who were taking hypertensive medication. The key informant design was appropriate for this study and was used to identify knowledgeable individuals that could provide insight into this experience.

Population Sampling Parameters

The nurse researcher used a purposive sampling technique by first obtaining permission from the clinic director to use office records to identify participants for the study. Criteria for inclusion included: the participants needed to be Black men 65-70 years old seen in the cardiology clinic in a rural area with a primary diagnosis of hypertension taking medication for high blood pressure (types of medications varied). Participants could have secondary diagnoses. High blood pressure was defined as systolic above 140 and diastolic above 90. Participants had to be able to read, write, and speak English. They could not have any form of dementia, and had

to have an adequate level of psychomotor skills. Ten participants were identified. The participants signed consent forms giving permission to participate in the study.

Setting Appropriate for EBP project

The setting of a rural cardiology clinic in the south was appropriate for this capstone project. The office saw a large population of older Black men with hypertension. The clinic director identified the need to address non-adherence in taking hypertensive medication by this population of patients. The clinic was appropriate setting to obtain patients' assessment information and was an appropriate place to meet and interview them. The convenience of teaching and interviewing participants at a place that was familiar allowed them to feel more comfortable in sharing and learning from the nurse researcher. The time frame for completing the capstone project was reviewed and outlined based on the IRB approval (see Appendix I).

EBP Design Methodology and Measurement

The methodology used for this capstone project was the key informant qualitative method. According to White (2012) key informant interviews provide the researcher with impressions given by expert spokespersons. The key informant approach gathers rich, varied, and textured words from informants selected for their specialized knowledge and unique perspectives on the topic. The investigator dialoged with the participants to gain understanding of their experience of taking hypertensive medication following the nurse administered hypertensive protocol. Open-ended questions were used with relevant follow-up questions to explore participants' thoughts and feelings (see Appendix J).

Protection of Human Rights

Institutional Review Board (IRB) approval was approved as an "Exempt" study on January 24, 2014 from Regis University (see Appendix K). The CITI course was completed by

the nurse researcher on November 18, 2012; the reference # 9195518 (see Appendix L).

Information was provided to the provider from the cardiologist practice where the study was performed; a letter of intent was submitted and then signed on September 9, 2013 by the provider (see Appendix M).

The implementation of the protocol was conducted either in the physician's office or the participant's home where information shared was in a confidential manner. After thorough explanation of the project, all ten participants signed an informed consent prior to participating in the project. Participants were assured of confidentiality and anonymity related to their participation in the study and could withdraw at any time. None of the participants withdrew. Information gathered from all 10 participants had no identifiers. Only the nurse researcher, the transcriptionist, and the researcher capstone chair viewed the results of the interview questions. All data collected will remain secured in a locked cabinet and on a password protected computer for 3 years.

Trustworthiness

The aim of trustworthiness in a qualitative study is to support the argument that the inquiry's findings are "worth paying attention to" (Lincoln & Guba, 1985, p.290). The researcher set aside biases about the topic at the beginning of the study. Four issues of trustworthiness were addressed: credibility, transferability, dependability, and confirmability. For credibility the help of the capstone mentor and chair were used as peer debriefers (Lincoln & Guba, 1985). The peer reviews were experienced doctorally-prepared qualitative researchers who reviewed the research process and the resulting codes and themes. They provided observations, and suggestions, and posed questions throughout the study. To address transferability/dependability/confirmability a complete audit trail including field notes and data

analysis information was kept in a password protected file. This information provided a “paper trail” that could provide other researchers with the ability to transfer the conclusions of this inquiry to other cases, or to repeat, as closely as possible the procedures of this project. The audit trail also included a reflexive journal and extensive field notes used to establish rigor (Lincoln & Guba, 1985).

Data collection and Treatment Procedure/Protocol

The method of data collection in this study was individual face to face interviews conducted either in the in the clinic or in the participant’s homes. Additionally the researcher made telephone contacts. The participants signed consent documents giving permission to participate in the study. One hour individual teaching sessions were set up with the nurse, with a follow-up phone call at one week to answer questions. Forty-five minute face-to-face interviews were conducted at the next clinic visit. Two open-ended questions were asked; what was your perception of taking your blood pressure medication before receiving the nurse administered protocol? What is your perception of taking your blood pressure medication after the nurse administered protocol? All interviews were digitally recorded with permission from the participants.

The hypertensive medication protocol was developed by the nurse researcher from a thorough review of the literature. In particular the protocol built on information obtained from the Agency for Healthcare Research and Quality (AHRQ). Information from (AHRQ) was discussed by Krulish (2005) in an article “Oral Medication”. Information also was used from other literature related to education by Esposito (1995). Thus, (Kannampallil, Waicekauskas, Morrow, Kopren, & Fu, 2013), identified tools that can be used to improve self-administration of hypertensive medication.

The first step of the protocol was the initial assessment of the patient's knowledge of their illness, medication regimen and adherence. Teaching tools and brochures were given to provide education regarding medication and hypertensive. A second step was the education of the patient. The nurse researcher met with each participant, and reviewed their past regimen and gave supplemental information about side-effects and explanation of new tools to support consistent taking of medication. A third step was the evaluation of learning and observation of the patient using the new tools. A fourth step was a follow-up phone call after one week to assess progress of each participant and answer questions. Each participant was interviewed at their next office visit about their perceptions of the nurse administered protocol (See Table 2). A detailed review of the protocol is provided in the appendix.

Steps	Hypertension Medication Administration Protocol	Tasks
Step 1	Risk Assessment and Teaching tools	<ul style="list-style-type: none"> • Obtain medication history and provide education regarding medication • Assessment and development of relationship
Step 2	Education	<ul style="list-style-type: none"> • Participant education regarding self/administration • Documents and tools given
Step 3	Evaluation	<ul style="list-style-type: none"> • The participant self-administers • The participant knowledge of hypertension medication

		<p>prescribed</p> <ul style="list-style-type: none"> • Self- recording of blood pressure
Step 4	Follow Up Phone call	<ul style="list-style-type: none"> • Check in on progress • Questions

Data Analysis

The process of data analysis for this capstone project included transcribing the interviews and grouping the responses by questions. The data was reviewed multiple times by the researcher with notes made about the content. Common ideas and concepts were identified through line by line coding as per Creswell's (1998) process of open coding. Codes were refined. Themes and subthemes emerged from two broad categories. Major categories with themes were identified through a process of constant comparative analysis to identify similarities and differences (Patton, 2002).

Project Findings and Results

Study participants were from a cardiology practice in the Southern Georgia. Participants were 10 Black men age 65-70; all diagnosed with hypertension. Three of the participants were diagnosed with hypertension for four years or less, and seven were diagnosed with hypertension for over 10 years. Based on information obtained from the cardiology clinic, all men were non-adherent in taking their hypertension medication. Nine of the participants were functionally independent. One participant required assistance from his mother with taking medication and meals preparation. Participants were interviewed about their perceptions of taking hypertensive medication. The data from the study revealed two broad categories: perceptions of taking hypertensive medication before the nurse intervention, perceptions of taking hypertensive

medication after the nurse intervention. Themes for each category are presented as they emerged from the interviews.

Perceptions of Taking Medication before the Nurse Intervention

Bottle Guides Medication Usage

An important theme that came from the participants interviews was the importance of the medication bottle as a guide for how and when to take hypertensive medication. They expressed that the *Bottle Guides Medication Usage*. They used the label on the bottle to determine how and when to take their medication. Only two of the ten participants knew the names of their medication. A participant stated, “No, I don’t know the name [of the medication], but I can show you the bottles and which one I take.” Another participant stated “Yes, [I know the medication], if I am looking at the bottles, but I cannot just name them.” Before the nurse intervention it appeared that the medication bottle was particularly significant in helping all participants know the names and when to take their medication. Some participants also stated that they knew to take their medications when they ate. A participant expressed “I take my medicine with food.” Another said, “I don’t ever take my medicine until I eat. I have to have something in my stomach.” Additional cues to knowing when and how to take their medication included the time of day such as morning or evening and the color of the pills. The majority of the participants however identified their medicine bottle as the main guide for knowing when and how to take their hypertensive medications.

Confusion about Side-Effects

A second theme that emerged before the nurse intervention was *Confusion about Side-Effects*. Of the 10 participants in this study, none were able to state a clear understanding of the side effects of their hypertensive medications. One participant stated “Yes, all these medicines

have some problems, the doctors just keep on giving us all this medicine that cause all of us to have other problems.” Some of the participants knew they experienced side effects but were not sure what to do about it. One participant stated “The water pill makes me go to the bathroom if I take it at night.” Another participant noted that “They [medications] make me have dry mouth sometimes.” Some acknowledged side effects and reported them but continued taking the medication. A participant reported “One of the pills that I take makes me feel sleepy –I told the doctor when I was there last he did not change it, but I still am taking the medicine.” A different perspective was offered by another participant who stated “Some of this medicine was making me feel bad and I stopped taking the medicine until I got in to see the doctor.” It was acknowledged that participants received written information about side effects but it was not clear if they read or understood the information. A participant expressed “Yes, at the VA, they give me a piece of paper that that have this information.” Another participant stated “Yes, the pharmacist gives me a sheet on it.” They expressed minimal understanding of medication side effects.

Reasons for Not Taking Medications

A third theme noted before the nurse intervention was *Reasons for Not Taking Medications*. Participants acknowledged not taking their hypertensive medications and gave a variety of reasons for why they failed to do so. One participant stated “It is different time [each day] because sometimes I don’t get out of bed until late. So I just wait until I can get me something to eat.” Another participant clearly stated “No, sometimes, I feel that I really don’t need it [my medication], then I go to Wal-Mart and take my blood pressure and it be up. Then I go back to take my medicines.” One respondent stated, “It depends on how I am feeling when I

get up, I am going to tell you the truth nurse, sometimes I feel so bad when I wake up and I will not take any medicine, I stay in bed.”

Participants acknowledged that they sometimes did not take their medications on time. One stated “No, you want me to tell the truths don’t you, I miss taking it a lot, but I am going to get better.” Another stated “I really don’t have a time [to take my medications].)” “Sometime I skip taking my medication, for example, today be Thursday and I will have missed Wednesday.” One person stated that “I fall asleep and forget.” Only one participant stated that they took their medication on schedule. Several participants also stated that they did not take their medication on time because they had problems reading or seeing small print instructions on the medication bottles. One participant stated “Yes, I had that surgery on my eyes; I can still see it [the medication label] some though.” Another commented that “Yes [I have trouble seeing], I don’t know why they make the writing so little.” Eight out of ten participants were able to see the small print instructions on the medicines bottles with the help of reading glasses.

Perceptions of taking Medication after the Nurse Intervention

New Behavior

The theme of *New Behavior* was noted after the nurse met with each study participant following the nurse administered protocol. New behaviors were identified that influenced the way they took their medications. Participants were able to clearly state the time to take their medication. One participant stated “I take it [medications] once a day, once in the morning time about 6 o’clock every morning.” Another said “I take it, ah, around 9 in the morning, between 9 and 10, and then I take it between 9 and 10 in the evening. It is important that I take the medication to stay healthy.”

The new behavior of using the pill container was noted with statements such as “what I have done is use the pill container you gave me... I set everything up in there; the first thing in the morning I get it.” They stated “I look at the container and take it from the container.” The participants also expressed using the medication chart to record taking their medication. One participant stated “I have a chart that you left with me, I use that chart to know what day it is and when to take my medication-it helps me for the next day.” Another stated “I record every day; I see the calendar by my bed.”

An additional new behavior was reading the pamphlets given to them by the nurse and asking questions. They expressed new understanding about the way they take their medication. Quotes included: “I learned that the medication is to be taken as the doctor prescribed and it is not to be changed until talking with doctor.” Another participant said “If I miss, I don’t double up and take two pills instead of one, like I use to do. I just make sure that I take the next dose.”

Unchanged Behavior

There were participant behaviors that remained unchanged after the nurse intervention. Participants that received help taking their medication previously continued to require help. “My mama let me know when to take my medicine.” *Unchanged Behavior* included that the medication bottle continued to play an important role in patients taking their medication. A participant stated “I look at the bottles and put them in the container and follow that each time.” Some vague reasons for not taking medication persisted. One participant stated “Ah, ah, I try to take my medication, but sometimes I just feel so bad, I don’t know if it really works or not.” Another participant responded when asked what is difficult about taking your medication, that “Nothing difficult, just sometimes I just don’t want to take it.”

Discovery of Other Problems

A final theme that emerged following the nurse intervention involved *Discovery of Other Problems* that could affect patients' ability to take their hypertensive medication. Some participants shared significant discouragement with their progress and gave comments such as "I am tired of taking so much medication" and "I don't know if it [my medication] is even working, my blood pressure is always up when I go to the doctor's office." Underlying feelings were revealed in statements such as "Nothing helps, I just know that I need to take it and I take it."

Discussion

This study revealed how 10 Black men 65-70 with hypertension perceived a nurse administered protocol on taking hypertensive medications. Before the nurse protocol, participants in the study indicated that they used their medication bottles as their primary guide for hypertensive medication usage. This finding was surprising in that participants were not newly diagnosed patients and were expected to have past knowledge of their medications from previous visits to the clinic and pharmacy. The importance of the design and readability of the medication label was emphasized by their focus on the information on the bottle. In addition it was found that participants were not able to recall the name of their hypertensive medications or when to take them. They also expressed limited understanding of the side effects of medication even though they were given written information by the clinic and the pharmacy. A concerning finding was that previous to the nurse protocol, patients expressed experiencing side-effects but had not reported them to their health care provider. These findings confirm a need for further patient education and align with Orem's Theory of Self-Care Deficit.

The majority of participants in the study acknowledged not adhering to their medication regimen before the nurse protocol. The literature confirmed similar findings noting that older patients with hypertension had a low adherence rate (Uzun et al., 2009). Participants gave many

reasons for not taking their hypertensive medication including “sometimes I don’t need it.” “It depends on how I feel.., and “the writing on the bottle is so small.” These findings were supported in the literature that stated that patients diagnosed with hypertension for a longer period of time fail to take their medication (Li, Kuo, Hwang, & Hsu, 2012). The small print on the medication bottles was an issue for the participants in the study. This finding was also noted by Cardarelli et al., (2011) who expressed the need for improving standardize medication labels with clearer text, larger font, and warning labels that would address safety measure for the older adults who rely on their medication bottles.

Participants did not take their medications on time for a variety of reasons. In many cases it was evident that they did not understand the importance of taking medications consistently. As a consequence some of the participants believed that their medication was not needed or not working. Hong, Oddone, Dudley, and Bosworth, (2006) supported this finding in stating that hypertension was an asymptomatic disease, thus causing a problem for antihypertensive medication adherence in some patients. It was also noted that participants did not take their hypertensive medication because of experiencing side-effects. The literature confirmed that side-effects of hypertensive medication play an important role in the asymptomatic disease, and that the treatment may make individuals feel worse than the actual disease (Hong, Oddone, Dudley, & Bosworth, 2006). Suggestions for addressing this problem include carefully reviewing medication side-effects at every clinic visit and asking if patients have experienced any new effects.

Perceptions of taking hypertensive medication after the nurse intervention included that participants reported changes in their understanding of when and how to take their medications. Patients were more specific about the names of their medications and were clear about when they

should be taken. The teaching session with the nurse provided a face-to-face encounter that personalized the patient experience and initiated a nurse-patient relationship. Establishment of a nurse-patient relationship was shown to be a means to improve medication adherence.

Schoenthaler, Allegrante, Chaplin, and Ogedegbe (2012) supported this finding by stating:

The quality of patient-provider communication has been identified as an important and potentially modifiable factor associated with improved patient outcomes. Patient-provider communication that is characterized by shared decision making and patient centeredness is associated with better self-reported adherence in patients with chronic diseases p. 372

Participants continued to use medication bottles as guides after the nurse protocol but they also used tools that were shared by the nurse. They spoke of using the pill container and the medication record as a means of confirming that they were taking their medication in the appropriate dose and at the right time. In addition, most of participants reported that interaction with the nurse helped increase their awareness of the importance of taking their hypertensive medication as prescribed. The concepts of Bandura's Social Learning Theory served as a framework utilized by the nurse in helping the participants observe, participate, and practice new skills to better adhere to taking their hypertensive medications.

Some of the participants' behaviors remained unchanged after the nurse's intervention. One participant expressed that his mother continued to manage his medication for him. Another participant in this study expressed that even though taking his medication was not difficult he did not always take it as prescribed. Some of the reasons were non-specific and vague. The literature noted that non-adherence of hypertensive medication in Black men could be related to psychosocial factors. Cené, et al., (2013) supported continued investigation and intervention into

the numerous psychosocial factors impacting the lives of Black men that adversely impact their ability to adhere to therapy. Findings confirmed that nurses should consider additional factors when working with patients that are non-adherent in taking medication

An important finding of the study was the discovery that participants had other health problems that caused non-adherence and serious health issues. One of the participant's words revealed a depression that needed further assessment. It is proposed that by establishing a trusting relationship with patients they will reveal more about themselves. Nurses should be attentive to these additional issues that contribute to non-adherence. The literature supported the idea that development of a trusting relationship between the patient and healthcare provider leads to obtaining an accurate assessment of adherence that would most likely yield the most honest and accurate patient responses (Martin, Williams, Haskard, & Dimatteo, 2005).

Participants said that they appreciated the face-to-face time with the nurse during this study, and many expressed that they would like to have more visits to discuss their medications and health related issues. Participants perceived that they were listened to and that they gained new knowledge about their disorder. In summary, the establishment of a relationship with the nurse provided a means of introducing new tools that helped with adherence to taking hypertensive medication in older Black men.

Limitations, Recommendation Implications for Change

A limitation of this study was that the sample size was small with only ten participants. A larger sample size of the same population in a variety of clinics both urban and rural would be helpful in addressing the needs of this high risk population. Further research is needed to determine psychosocial factors that affect adherence to hypertensive medication by older Black

men. In addition, future study should be done to include a more diverse sample of older Black women with hypertension.

Summary

In conclusion, results from this study indicated that participants perceived that their behavior in taking their hypertensive medication was changed following the nurse administered hypertensive protocol. Findings of the study revealed that the protocol, which included initiation of a nurse-patient relationship, produced a significant difference in participants' knowledge of their illness and medication regimen. Patients shared that they had more confidence in naming their medication and were able to identify side-effects. They used new tools including the pill box, and medication record when taking their medication. Participants stated they had increased adherence in taking their hypertensive medication following the nurse administered protocol. It was revealed that unchanged behavior and additional health issues played a role in adherence. The capstone project provided new insight into how a sample of high risk Black elders viewed the implementation of a protocol intended to improve adherence to hypertensive medication. The results addressed a need in this cardiology practice, but provided insight into how a protocol could be utilized in other settings to enhance medication adherence for hypertensive patients.

Acknowledgment

The researcher thanks the patients for participating in this study. The researcher also expresses gratitude to Robert V Glover MD Cardiologist, Internal Medicine Albany, Georgia; and special thanks go to Dr. Glover's generous supportive office staff.

References

- American Heart Association, (2013). Statistical Fact Sheet High blood pressure. Retrieved from http://www.heart.org/idc/groups/heart-public/@wcm/@sop/@smd/documents/downloadable/ucm_319587.pdf
- Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice-Hall.
- Banegas, J. (2006). Control of high blood pressure in primary health care. *American Journal Of Hypertension*, 19(2), 146.
- Bennett, H., Laird, K., Margolius, D., Ngo, V., Thom, D. H., & Bodenheimer, T. (2009). The effectiveness of health coaching, home blood pressure monitoring, and home-titration in Controlling hypertension among low-income patients: protocol for a randomized controlled Trail. *BMC Public Health*, 9456-461.
- Bobrow, K., Brennan, T., Springer, D., Levitt, N. S., Rayner, B., Namane, M., & ... Farmer, A. (2014). Efficacy of a text messaging (SMS) based intervention for adults with hypertension: protocol for the StAR (SMS Text-message Adherence support trial) randomised controlled trial. *BMC Public Health*, 14(1), 1-17.
- Cardarelli, R., Mann, C., Fulda, K., Balyakina, E., Espinoza, A., & Lurie, S. (2011). Improving accuracy of medication identification in an older population using a medication bottle color symbol label system. *BMC Family Practice*, 12142.
- Cené, C., Dennison, C., Powell Hammond, W., Levine, D., Bone, L., & Hill, M. (2013). Antihypertensive medication nonadherence in black men: direct and mediating effects of depressive symptoms, psychosocial stressors, and substance use. *Journal Of Clinical Hypertension (Greenwich, Conn.)*, 15(3), 201-209.
- Center for Disease Control and Prevention (CDC), 2014. High Blood Pressure Fact Sheet.

Retrieved from:

http://www.cdc.gov/dhdsr/data_statistics/fact_sheets/docs/fs_bloodpressure.pdf.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.

Esposito, L. (1995). The effects of medication education on adherence to medication regimens in an elderly population. *Journal Of Advanced Nursing*, 21(5), 935-943.

Hacihasanoğlu, R., & Gözümlü, S. (2011). The effect of patient education and home monitoring on medication compliance, hypertension management, healthy lifestyle behaviours and bmi in a primary health care setting. *Journal Of Clinical Nursing*, 20(5/6), 692-705.

Harper, D. (1984). Application of Orem's theoretical constructs to self-care medication behaviors in the elderly. *Advances In Nursing Science*, 6(3), 29-46.

Hong, T., Oddone, E., Dudley, T., & Bosworth, H. (2006). Medication barriers and anti-hypertensive medication adherence: the moderating role of locus of control. *Psychology, Health & Medicine*, 11(1), 20-28

Hyre, A., Krousel-Wood, M., Muntner, P., Kawasaki, L., & DeSalvo, K. (2007). Prevalence and predictors of poor antihypertensive medication adherence in an urban health clinic setting. *Journal Of Clinical Hypertension (Greenwich, Conn.)*, 9(3), 179-186.

Kannampallil, T. G., Waicekaskas, K., Morrow, D. G., Kopren, K. M., & Fu, W. (2013). External tools for collaborative medication scheduling. *Cognition, Technology & Work*, 15(2), 121-131.

Karaeren, H., Yokuşoğlu, M., Uzun, Ş., Baysan, O., Köz, C., Kara, B., & ... Uzun, M. (2009). The effect of the content of the knowledge on adherence to medication in hypertensive patients. *Anatolian Journal Of Cardiology / Anadolu Kardiyoloji Dergisi*, 9(3), 183-188.

- Karakurt, P., & Kaşıkçı, M. (2012). Factors affecting medication adherence in patients with hypertension. *Journal Of Vascular Nursing*, 30(4), 118-126.
- Klootwyk, J. M., & Sanoski, C. A. (2011). Medication adherence persistence in hypertension management. *Journal Of Clinical Outcomes Management*, 18(8), 351.
- Krulish, L. (2005). M0780: oral medications. *Home Healthcare Nurse*, 23(2), 72-76.
- Lally, P., & Gardner, B. (2013). Promoting habit formation. *Health Psychology Review*, 7(sup1), S137-S158.
- Leung, L. B., Busch, A. M., Nottage, S. L., Arellano, N., Gliberman, E., Busch, N. J., & Smith, S. R. (2012). Approach to Antihypertensive Adherence: A Feasibility Study on the Use of Student Health Coaches for Uninsured Hypertensive Adults. *Behavioral Medicine*, 38(1), 19-27.
- Lewis, L., Schoenthaler, A., & Ogedegbe, G. (2012). Patient factors, but not provider and health care system factors, predict medication adherence in hypertensive black men. *Journal Of Clinical Hypertension (Greenwich, Conn.)*, 14(4), 250-255.
- Li, W., Kuo, C., Hwang, S., & Hsu, H. (2012). Factors related to medication non-adherence for patients with hypertension in Taiwan. *Journal Of Clinical Nursing*, 21(13/14), 1816-1824.
- Lincoln, YS. & Guba, EG. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.
- Lionakis, N., Mendrinou, D., Sanidas, E., Favatas, G., & Georgopoulou, M. (2012), May).
- Lowman, R. L. (2013). Habit forming, habit changing. *Psycritiques*, 58(2).
- Hypertension in the Elderly. *World Journal of Cardiology*, 4(5), 135-147. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3364500/pdf/WJC-4-135.pdf>
- MacLaughlin, E., Raehl, C., Treadway, A., Sterling, T., Zoller, D., & Bond, C. (2005). Assessing medication adherence in the elderly: which tools to use in clinical practice?. *Drugs & Aging*,

22(3), 231-255.

Martin, L., Williams, S., Haskard, K., & Dimatteo, M. (2005). The challenge of patient adherence. *Therapeutics And Clinical Risk Management*, 1(3), 189-199.

Merlo, A. R., Goodman, A., McClenaghan, B. A., & Fritz, S. L. (2013). Participants' Perspectives on the Feasibility of a Novel, Intensive, Task- Specific Intervention for Individuals With Chronic Stroke: A Qualitative Analysis. *Physical Therapy*, 93(2), 147-157.

O'Neill, J. L., & Feldman, S. R. (2009). Practical Ways to Improve Patients' Use of their Medications. *Current Medical Literature: Dermatology*, 14(4), 85-92.

Orem , D. E. (2001). *Nursing:Concept of practice* (6th Ed.). St. Louis: Mosby.

Osterberg, L., & Blaschke, T. (2005). Drug Therapy: Adherence to Medication. *The New England Journal Of Medicine*, 353(5), 487-497.

Parker, M. E., Smith, M. C. (2010). *Nursing Theories & Nursing Practice*. Philadelphia, PA: F. A. Davis Co.

Parati, G., Omboni, S., Compare, A., Grossi, E., Callus, E., Venco, A., & ... Panunzio, M. (2013). Blood pressure control and treatment adherence in hypertensive patients with metabolic syndrome: protocol of a randomized controlled study based on home blood pressure telemonitoring vs. conventional management and assessment of psychological determinants of adherence (TELEBPMET Study). *Trials*, 1422.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Pickton, D. W., & Wright, S. (1998). What's swot in strategic analysis?. *Strategic Change*, 7(2), 101-109.

Ruppar, T. M., Dobbels, F., & De Geest, ., (2012). Medication Beliefs and Antihypertensive

- Adherence Among Older Adults: A Pilot Study. *Geriatric Nursing*, 33(2), 89-95.
- Schoenthaler, A., Allegrante, J. P., Chaplin, W., & Ogedegbe, G. (2012). The effect of patient–provider communication on medication adherence in hypertensive Black patients: Does race concordance matter?. *Annals Of Behavioral Medicine*, 43(3), 372-382.
- Stanley, M., & Nayar, S. (2014). Methodological rigour: Ensuring quality in occupational therapy qualitative research. *New Zealand Journal Of Occupational Therapy*, 61(1), 6-12.
- Thomas-Kvidera, D. (2005). Heart failure from diastolic dysfunction related to hypertension: guidelines for management. *Journal of the American Academy of Nurse Practitioners*, 17(5), 168-175.
- Welch, L. K., Olson, K. L., Snow, K. E., Pointer, L., Lambert-Kerzner, A., Havranek, E. P., & ... Ho, P. (2011). Systolic Blood Pressure Control After Participation in a Hypertension Intervention Study. *American Journal Of Managed Care*, 17(7), 473
- Wickersham, K., Colbert, A., Caruthers, D., Tamres, L., Martino, A., & Erlen, J. (2011). Assessing fidelity to an intervention in a randomized controlled trial to improve medication adherence. *Nursing Research*, 60(4), 264-269.
- White, J. (2010). Direct Observation and Key Informant Interview Techniques for Primary Data Collection During Rapid Assessments. Retrieved from <http://dmeforpeace.org/about>
- Zaccagnini, M. e., & White, K. W., (2011). *The Doctor of Nursing Practice Essentials*. Sudbury, MA: Jones and Bartlett.
- Zaccagnini, M. e., & White, K. W., (2014). *The Doctor of Nursing Practice Essentials*. Sudbury, MA: Jones and Bartlett.













Appendix A

SWOT Analysis

Strengths	Weakness
<ol style="list-style-type: none"> 1. Excellent Clinical Skills 2. Excellent Communication Skills 3. Experience provided by the patients 4. Strong relationships with area physicians 	<ol style="list-style-type: none"> 1. Large population of Black men with uncontrolled hypertension 2. Physician in community supportive of hypertensive medication adherence protocol 3. Growing number of patients in the community enrolled in Medicare Part D plan
Opportunities	Threats
<ol style="list-style-type: none"> 1. Time restraints 2. Unsure how to estimate cost for services 3. Patients accessibility 4. Team support 5. Literacy rate 6. Patient cognition, vision, and depression 	<ol style="list-style-type: none"> 1. Many uninsured do not have third-party coverage for medication 2. Lack of education for many of the patients 3. Accessibility to healthcare facility 4. Implementation of medication protocol by pharmacist

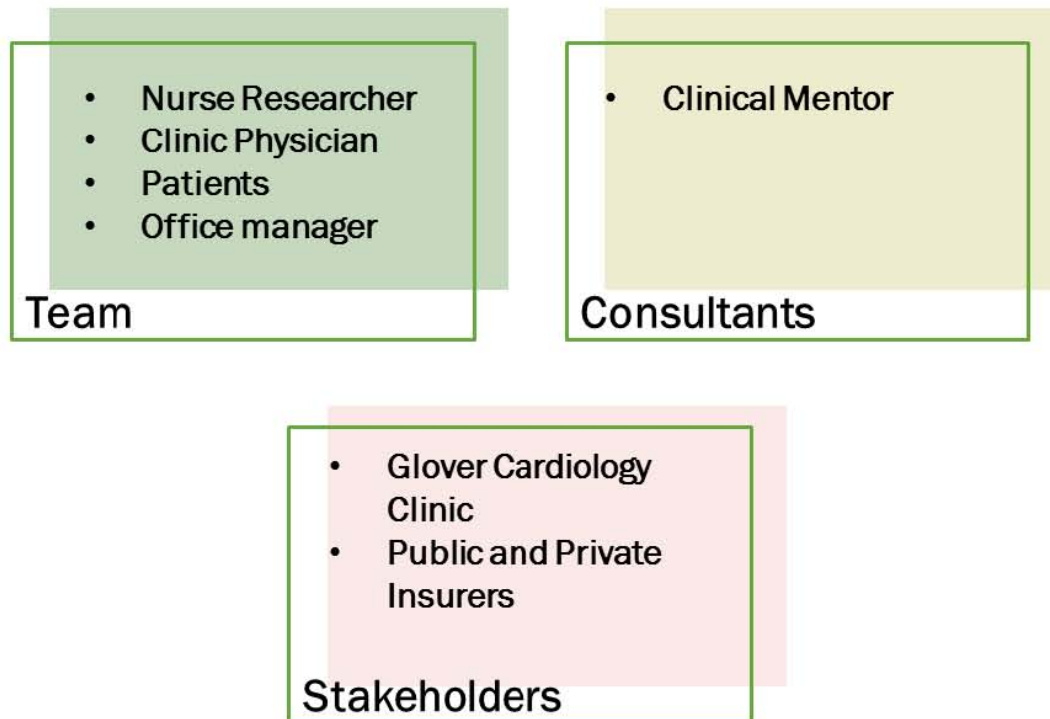
Appendix B

Driving Forces/Restraining Forces

What Forces Affect the Nurse Involvement in Patient Education for Medication Adherence?			
Driving Forces			Restraining Forces
Emotional commitment			Lack of commitment
Powerful nurse			Powerless nurse
Educated, have training			Lack of training
Skillful nurse, having high knowledge level			Lack of knowledge in alternative approaches
Positive attitudes			Negative attitude, intention is not in work
Patient focused philosophy; individual orientation, patient-centeredness			Organization-centered values

Appendix C

Resources



Appendix D

Hypertension Medication Administration Protocol

This protocol has been developed for a Rural Cardiology Practice to be utilized by the nurse as part of the proposed project for hypertension medication self-administration for Black men 65-70. It is also developed to be part of a treatment plan to, promote self- adherence, and ongoing follow-up to improve patient's outcomes. The protocol is based on information obtained from Agency for Healthcare Research and Quality (AHRQ) developed by Krulish (2005). Information related to education was taken from an article by Esposito (1995). Also, (Kannampallil, Waicekauskas, Morrow, Kopren, & Fu, 2013), identified tools that can be used to improve self-administration of hypertensive medication.

Purpose

The purpose of this protocol is to determinine men's perceived ability to take hypertensive medications after receiving a protocol of medication self-administration by the nurse. The hypertension protocol adherence is for patients with uncontrolled hypertension in from a Cardiology Practice, in Southwest Ga.

Patient Requirements

- Male patients 65-70 can speak and write English
- Systolic above 140 and diastolic above 90
- On prescribed antihypertensive therapy
- Review of medical history and additional diagnosis
- Must be accessible by phone at home
- Scheduled for blood pressure checks at the clinic within the next month

Nurse Protocol

- Review of prescribed medications including name, amount, time
- Determine what the patient knows about his self-administration medication regimen and provide education
- Review and assess of the patient knowledge before the nurse intervention from the protocol
- Step by step review of self-administration process including use of provided medication box, and recording self-administration each day
- Return demonstration of process of self-medication until process is done correctly
- Schedule phone call in one week

Evaluation

- Phone call to the patient in one week to answer questions and schedule a clinic visit to check blood pressure and conduct an interview

- Interview the patient about their perception of their ability to self-administer hypertensive medication
- Review recordings of self-administered hypertensive medication for two weeks at the office visit





Major Outcomes

- Improving adherence to self-administer of hypertensive medication in patients with high blood pressure
- Improve self- recording of daily hypertensive medication
- Improve patients self-perception of understanding how to take hypertensive medication

Study ID#: _____

Managing Medicines Assessment

Purpose: To establish a plan to assist the participants in managing their medication; for a successful plan, the participant needs to answer the questions below.

Check in the box		Y or N
	Do you know the name of your medicines?	
	Do you know much and how often do you take your medicines?	
	Do you understand the instructions related to your medications?	
	Do you understand the side effects of your medicines?	
	What time of the day you take your medicines?	
	Are there any concerns about side effects?	
	Do you always remember to take my medicines at the right time?	
	Do you have trouble reading or seeing small print instructions on medicine bottles?	
	Do you have trouble holding the small pills or opening the packaging or the medicine bottles?	
	Do you have trouble paying for my medicines?	

The Researcher will write down any concerns here: _____

Letter of Consent

My name is Ophelia Thomas. I am a student at Regis University. My contact information is: 108 Travis Lane, Leesburg Georgia and my phone number is 229-886-7253. I am conducting a research study entitled "Hypertensive Black Men's Perceptions of a Nurse Administered Protocol".

I am asking you to participate in this study because you have been diagnosed with hypertension that is uncontrolled at this time. Your participation is voluntary. Choosing not to participate will not affect your access to any goods or services. There are no direct benefits to participating in the study.

I will be conducting the study by asking you to discuss how you are taking your prescribed hypertensive medication(s) and discuss any problems you may have in taking your hypertensive medication(s). Participation in this study will take approximately 35 to 45 minutes on each interview. There is no cost to participate in this study.

I will not be collecting any data that can link you to the answers you provide. Your anonymity and the confidentiality of your responses will be protected as much as possible. If you are uncomfortable answering any question, you may choose to not answer that question or to stop your participation and have any notes, recordings, or hard copy answers destroyed. To further protect the confidentiality of your responses, I will be collecting a signed consent permitting me to collect the data you provide.

Should you have any questions or concerns about participation in this study, you may contact me using the information in the first paragraph. My faculty Advisor is Dr. Pamella Stoeckel at pstocke@regis.edu; phone: 303-458-4975. You may also contact the Chair of the Regis University Institutional Review Board for human subjects participation by telephone at 303-346-4206; by mail at Regis University, Office of Academic Grants, 447 Main, Mail Code H-4, 3333 Regis Blvd., Denver, CO, 80221; or by e-mail at irb@regis.edu with questions or concerns, or if you feel that participation in this study has resulted in some harm.

Sincerely,

Ophelia Thomas

Informed Consent

Project Title- "Hypertensive Black Men's Perceptions of a Nurse Administered Protocol"

Project Summary- A qualitative phenomenological research study to assess black men 65-70 with high blood pressure perception of their ability to take hypertensive medication after implementation of the nurse protocol of medication self-administration which will be assessed during the spring semester, 2014.

By signing below you are agreeing that: (1) you will use the self-administration hypertensive medication protocol, (2) you are taking part in this research study voluntarily.

Participants Information

Participant Name (Print)

Date

Participant's Signature

Contact Information for my:

Name - Ophelia Thomas

Phone -229-436-0853 (H) 229-886-7253 (C)

email-ophelia2@msn.com

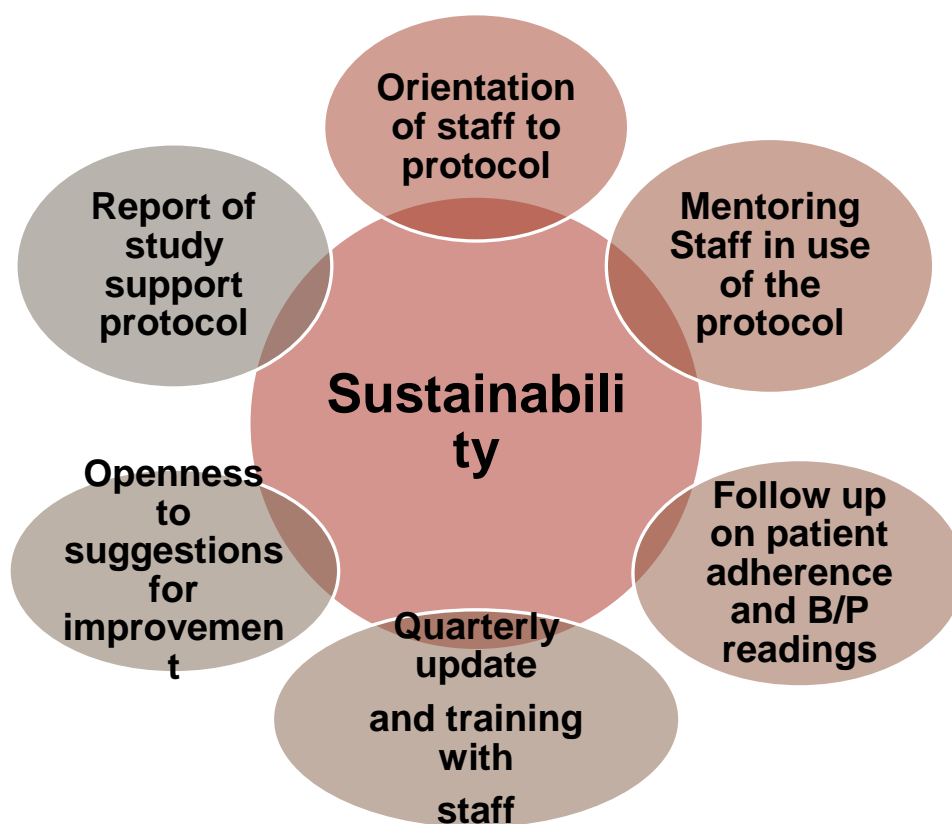
Glover Cardiology Practice

Albany Georgia

229-432-1818

Appendix E

Sustainability



Appendix F**Budget**

Pill Dispenser Box	\$100.00
Medication tracker	\$0.00
B/P tracker Chart	\$0.00
Brochures	Free
Tape Recorder/tapes	\$50.00
Transcriptionist	\$100.00
Total	\$250.00

Pill Dispenser Box	\$100.00
Medication tracker	\$10.00
B/P tracker Chart	\$10.00
Brochures	Free
Tape Recorder/tapes	\$50.00
Transcriptionist	\$100.00
Total	\$270.00

Appendix G

Timeframe for Capstone Project

Permission to Conduct Project	September 9, 2013
Developed Protocol	December 2013
Submitted to Regis University IRB	November 20, 2013 Approval February 6, 2014
Written Permission from Participants	February 2014
Interviews began with the participants	February 10, 2014
Final interviews with participants	April 1, 2014
Determined Themes	April 20, 2014

Appendix H

Logic Model/Conceptual Model

RESOURCES	ACTIVITIES	OUTPUTS	SHORT & LONG-TERM OUTCOMES	IMPACT
<i>In order to accomplish the Set of activities we will need the following:</i>	<i>In order to address our problem or asset we will accomplish the following activities:</i>	<i>We expect that once accomplished these activities will produce the following evidence of service delivery:</i>	<i>We expect that if accomplished these activities will lead to the following changes in 1-3 then 4-6 years:</i>	<i>We expect that if accomplished these activities will lead to the following changes in 7-10 years:</i>
Computer Equipment to enter program data Tape recorder Physical location to provide patient care Educational brochures Healthcare Physician Healthcare Policy Support of clinical staff Pill dispensers Medication tracker chart Blood pressure tracker chart	Training/ Education Development of process to implementation of project Volunteers to assist with project Assessment of patients' needs	Utilization of services 10 participates in the program # of hours of services provided Patients baseline data	Increase the knowledge of illness within one year of implementation of the program To increase understanding of prescribed hypertensive medication 75% to 80 % Black men 65-70 improved perception of medication adherence	Decrease mortality Improve healthcare management Decrease Chronic Illness Improve overall quality of healthcare of Black men 65-70 from the rural communities

Appendix I

MEDICATION RECORDING CALENDAR

February 2014						
S	M	T	W	T	F	S
						1 Time: Time:
2 Time: Time:	3 Time: Time:	4 Time: Time:	5 Time: Time:	6 Time: Time:	7 Time: Time:	8 Time: Time:
9 Time: Time:	10 Time: Time:	11 Time: Time:	12 Time: Time:	13 Time: Time:	14 Time: Time:	15 Time: Time:
16 Time: Time:	17 Time: Time:	18 Time: Time:	19 Time: Time:	20 Time: Time:	21 Time: Time:	22 Time: Time:
23 Time: Time:	24 Time: Time:	25 Time: Time:	26 Time: Time:	27 Time: Time:	28 Time: Time:	

Record the time of day on the calendar that you take your medication and bring the calendar in on your



visit to the doctor's office

Appendix J

IRB Approval Letter



Academic Grants

3823 Regis Blvd., Suite 104
Durham, Colorado 80202-1004
303-465-4326
303-465-4328 FAX
info@regis.edu

IRB REGIS UNIVERSITY

February 6, 2014

Cynthia Thomas
108 Travis Lane
Locustburg, GA 31763

RE: IRB #14-019

Dear Ms. Thomas:

Your application to the Regis IRB for your project, "Hypertensive Black Men's Perceptions of a Nurse Administered Protocol," was approved as an exempt study on January 24, 2014. This study was approved per exempt study categories 45CFR46.101.3(a)(1 and #2).

The designation of "exempt" means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the current application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,

Patsy Cullen

Patsy McGuire Cullen, PhD, PNP-BC
Chair, Institutional Review Board
Professor & Director
Director of Nursing Practice & Nurse Practitioner Programs
Lorette Heights School of Nursing
Regis University

cc: Dr. Pamela Stouckel

REGIS UNIVERSITY

Appendix K

CITI Training Certificate

Human Research Curriculum Completion Report
Printed on 11/19/2012

Learner: Ophelia Thomas (username: othomas)

Institution: Regis University

Contact

Department: Nursing

Information

Email: ophelia2@msn.com

Social Behavioral Research Investigators and Key Personnel:

Stage 1. Basic Course Passed on 11/18/12 (Ref # 9195518)

Required Modules	Date Completed	
Introduction	11/18/12	no quiz
History and Ethical Principles - SBR	11/18/12	4/5 (80%)
The Regulations and The Social and Behavioral Sciences - SBR	11/18/12	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	11/18/12	5/5 (100%)
Informed Consent - SBR	11/18/12	5/5 (100%)
Privacy and Confidentiality - SBR	11/18/12	5/5 (100%)
Regis University	11/18/12	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator



Appendix L

Letter of Consent from Agency



ROBERT V. GLOVER, JR., M.D., F.A.C.C.

Cardiology
1911 E. Duval Road
Apt. 600, Suite 3120
Tallahassee, FL 32310
Telephone (904) 432-1518
Fax (904) 432-1600

Letter of Agreement

December 18, 2013

To Regis University Institutional Review Board (IRB):

I am familiar with Ophelia Thomas' research project entitled **Hypertensive Black Men's Perceptions of a Nurse Administered Protocol**. I understand Glover Clinic's involvement will be to provide a place to conduct this qualitative study involving participants' 65-76 with hypertension. Participants will be identified, the protocol will be carried out by the nurse researcher, and participants will be interviewed and the interviews recorded.

I understand that this research will be carried out following sound ethical principles and that participant involvement in this research project is strictly voluntary and provides confidentiality of research data, as described in the proposal.

Therefore, as a representative of Glover Clinic, I agree that Ophelia Thomas' research project may be conducted at our agency/institution.

Sincerely,

Robert V. Glover MD
Cardiologist, Internal Medicine
1-229-432-1518
1911 Duval Road
Tallahassee, FL 32310