



# Interprofessional Faith-Based Prevention and Wellness Site Development: Targeting Access to Care in a Food Desert

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## Abstract

Health care disparities remain an obstacle for countless minorities. Cardiovascular disease (CVD), diabetes, hypertension, obesity, and mental health problems are significant public health problems. Strategies that address leading CVD risk factors such as hypertension (high blood pressure), high cholesterol levels, and smoking can reduce the burden of CVD. The purpose of this study is to increase health equity and decrease health disparity in the population that presents to a faith-based food pantry and clothing closet located in the Southeastern United States by the addition of a health, wellness, and prevention clinic. Furthermore, it aims to increase blood pressure control a goal of Healthy People 2020, by agreement to preventive services by advanced practice nurse practitioners and their students. The clinic offered health screenings to measure vital signs, body mass index, and lung and cardiac assessment; individual history; laboratory analysis of serum hemoglobin A1C and lipid profile and total cholesterol; and self-assessment mental health tools for alcohol, depression and anxiety. Participant education and guidance were provided with referrals to primary care. Sixty-three participants presented to the clinic over a 12-month period. The occurrences of hypertension and obesity matched national statistical prevalence.

**Keywords:** Hypertension; Type 2 diabetes; Cardiovascular Disease Prevention; Dyslipidemia; Depression; Anxiety; Substance Abuse

**Abbreviations:** HBCU: Historically Black college and university; WSSU: Winston-Salem State University; FNP: Family Nurse Practitioner; ANE: Adult Nurse Educator; CLS: Clinical Laboratory Sciences; RS: Rehabilitation Sciences; RN-BSN: Registered Nurse- Bachelor of Science in Nursing; CVD: Cardiovascular Disease; US: United States; BMI: Body Mass Index; PCPs: Primary Care Physicians; CAGE: Cut down Annoyed Guilt Eye-Opener; PHQ4: Patient Health Questionnaire 4; PHQ9 Patient Health Questionnaire 9.

## Introduction

A religious agency in the Southeastern United States partnered with a historically Black college and university (HBCU) Winston-Salem State University (WSSU) to broaden its service to the community and those who are underserved. The church facilitated providing a venue for preventive and wellness services for individuals who might not have access to services and health care. The agency also serves as an

avenue to allow hands-on patient encounters for graduate students to develop and demonstrate mastery in history gathering, assessment, diagnosis, and management of health conditions. The development of the clinical site continues to be beneficial for both the students and the agency, adding to its mission of caring for the needy and disparaged in the community. The establishment of the clinical site also expanded the service provided to those who frequent the food pantry and clothing closet by addressing their health care needs as well. The clinic is another way to serve the community and actively offer mission work, acting as a role model to the students, showing true altruism while allowing them to hone the aforementioned medical skills. Students experience holistic and integrated care services with exposure by facilitating referrals and managing preventive care with limited resources. The Family Nurse Practitioner (FNP), Adult Nurse Educator (ANE), Clinical Laboratory Sciences (CLS), and Rehabilitation Sciences (RS) faculty from the HBCU are facilitating screenings for hypertension (HTN), hyperlipidemia, diabetes, obesity, and mental health concerns in the population.

The second year adding ANE students will be instrumental in ensuring that clients understand chronic conditions and how to improve their health status based on laboratory values. ANE students will provide manageable recommendations for lifestyle modifications, which will ultimately improve clients' health status. Undergraduate Registered Nurse- Bachelor of Science in Nursing (RN-BSN) students will be involved to aid in gaining community care experience. These students will contribute by obtaining vital signs and basic health history such as current medications and allergies. Both the ANE and RN-BSN students are a new addition to the operations and structure of the clinic, as they were not included in the first year. Incorporating various types of students will further support students from each discipline in honing their craft in their respective disciplines. This clinical site is engaging all faculty and students involved with members of the underserved community. Students are mastering skills while ensuring access to health care is achieved with respect and compassion.

## Purpose and Rationale for the Study

### Background

Cardiovascular disease (CVD) is a significant public health problem and is the leading cause of death in the United States (US). Strategies that address leading CVD risk factors such as HTN (high blood pressure), high cholesterol levels, and smoking can greatly reduce the burden of CVD. About half of Americans (49%) have at least one of these three risk factors. Several other medical conditions and lifestyle choices can also put people at a higher risk for heart disease, including

diabetes, overweight and obesity, poor diet, physical inactivity, and excessive alcohol use. According to the Second Harvest Food Bank, 55% of Southeastern US households have at least one member living with HTN. Most people with high blood pressure have no signs or symptoms, even if the blood pressure readings reach dangerously high levels. Therefore, it is important for individuals to be screened by a health care professional to know their numbers as elevated blood pressure can lead to CVD. The study received funding in response to a community needs assessment on health-related issues in Southeastern US communities. The funding sources survey data revealed a need to establish a health, prevention, and wellness center intended for reduction of health disparities for minority and underserved populations. The Southeastern US county data reveal that 19.7% of its residents live in poverty [1-4]. The Second Harvest Food Bank (2017) reported that 55% of Southeastern US households have at least one member living with high blood pressure, which is an alarming statistic, and 33% of households have at least one member with diabetes. The role of the religious agency is to serve as a partner, supporting a center for provision of health screenings and preventive services as clinical experiences for graduate nursing and rehabilitation counseling students, as well as undergraduate CLS students. The religious agency has a well-established, longstanding food bank and clothing closet, which draws people into the church for assistance.

### Study Aims

Aim 1: We aim to increase access to health care for residents living in Southeastern US communities by offering health screenings and prevention services. Specifically, we plan to offer health screenings, including the measurement of vital signs (blood pressure, pulse, respiration, temperature), body mass index (BMI), and waist circumference; lung and cardiac assessment; individual history; laboratory analysis of serum HgA1C and lipid profile (HDL, LDL, and total cholesterol); and self-assessment tools (CAGE, DAST, PHQ4, and, if indicated, PHQ9 and GAD7) to identify abnormal levels, thereby identifying the health care needs of subjects to educate them regarding health-seeking alternatives to positively affect the health of Southeastern US communities. Aim 2: We aim to increase the proportion of persons with HTN whose blood pressure is under control using Healthy People 2020 Indicator Heart Disease and Stroke [5] (HDS-12).

### Educational Objectives

The objective is for clinical experiences at the site to assist FNP, ANE, CLS, and RS students to do the following:

- Provide primary health care including health promotion and disease prevention to improve health outcomes for patients and families at all economic levels.

- Develop collaborative relationships with other health care providers to improve quality of care and access to health care for diverse and underserved populations.
- Function as expert clinicians in managing acute and/or mental illness in a variety of settings.
- Utilize research findings, evidence-based practice strategies, technology, and creativity to improve the delivery and outcomes of health care.
- Use ethical principles, standards of safe advanced nursing practice, and caring relationships to promote health and/or dignified death.
- Stimulate change within the profession and improve management of the health care delivery system by addressing legal and economic policies, as well as psychosocial, cultural, and environmental factors that affect health care.
- Demonstrate role development and commitment in the selected advanced practice role.

Synthesize and apply to practice a wide range of theories from nursing, CLS, RS, and other related disciplines.

In the FNP curriculum, a different population is targeted each semester. Therefore, the proposal will allow, over the course of 2 years, the students and faculty of Nursing, CLS, and RS to engage in an interprofessional effort to diagnose illnesses, define laboratory values and physical limitations, and offer psychological counseling in the management of care for actual patients/family members of all ages. Heretofore, students performed these diagnostic and treatment measures in simulations with another student or by the use of a virtual patient. The actual hands-on patient experience will allow students to master the communication skill of asking focused questions to gather the reason for the current visit or chief complaint. The proposal will also include the integration of mental health in the treatment model of patients at the church clinic.

During the first semester, the nursing students in the Health Assessment course will be immersed in gathering the patients' reasons for presentation/current visit, gathering patient history, assessing physical symptoms, diagnosing the problem, planning care, and referring patients to other medical providers on the team and in the community appropriately. Nursing students will ask their CLS partners to draw blood and analyze to assist with diagnosis. They will ask the RS students to assess functional limitations and provide restorative measures to return the patient to his or her maximum level of functioning. The following spring semester will focus on care of adults and older adults by providing interprofessional care. Throughout the spring, faculty and students will manage problems such as prevention and screening of diseases including HTN, diabetes, hypothyroidism, and anemia. During clinical

practice days, students will begin the semester by seeing 3–4 patients per day. This involves gathering the history of present illness, conducting a health assessment or physical exam, and then presenting a scenario or case to the faculty member. The student will then offer a plan for management of care and follow up based on clinical guidelines and evidence-based care. The preceptor will then agree to or modify the management plan accordingly for each patient. As the semester progresses and students display more knowledge and appropriate management of diseases and conditions, the number of patients seen will gradually increase. The goal is to understand the pathophysiology and pharmacology, decipher variances from normal on physical exams, and be able to communicate to faculty intelligibly. Although quantity is not the focus, the goal upon completion of the program is to conduct the majority of the patient encounters scheduled daily. Faculty will integrate the implementation of a faculty practice model that is student centered to better serve all. The community will benefit from increased access to integrated care. The students will benefit due to increased exposure to various cultures and the opportunity to adapt care to be culturally sensitive and appropriate. The faculty will benefit by being afforded the opportunity to extend teaching beyond the confines of the classroom into the clinical practice setting. Students are afforded an invaluable, immersive role preparation experience prior to program completion. Faculty preceptors in the clinical setting will develop research and scholarship outcomes for all involved. All project objectives are congruent with the learning essentials for each discipline and student objectives for each respective program.

## Methods

The intervention, used a prospective descriptive study approach after formulation of a health, wellness, and prevention clinic to offer health screenings to participants after introduction/orientation to clinic processes and informed consent was obtained. Participants received measurement of vital signs, body mass index, and lung and cardiac assessment; individual history; laboratory analysis of serum hemoglobin A1C and lipid profile and total cholesterol; and self-assessment mental health tools for alcohol, depression and anxiety (CAGE, PHQ4, and, if indicated, PHQ9 and GAD7). Participant education and guidance were provided with referrals to primary care. Nurse Practitioner students under the supervision and guidance of Certified Nurse Practitioner faculty provide physical assessment and reviewed results with patients. Certified Clinical Laboratory Science Professors and CLS students obtained and analyzed serum specimens.

## Results

Sixty-three participants presented to the prevention and

wellness clinic during a 12-month period. Participants were often shy about seeking health assessment and evaluation and anxious about the testing results. The demographic description of participants is as follows (Table 1). The ethnicity of the participant group was 96% African American, 3% Hispanic, and 1% Caucasian. Most of those seeking treatment were female (71%), and 26% were male. Participants' ages ranged from 18 to 79 years. The clinic and project were only available for adults. The majority of the

participants were uninsured (64%), and 26% were insured. Diagnostic occurrences noted in the population were as follows (Table 2) obesity (40%), diabetes mellitus 2 (20%) almost double the national prevalence in 2018, HTN (56%), dyslipidemia (40%), mental health problems (17%), and HIV (4%). The occurrences of HTN and obesity matched national statistical prevalence. The national prevalence is 57.4% for HTN according to the Centers for Disease Control 2017–2018 and 42.4% for obesity [6-8].

Study Characteristics	N	N	N	N
Age	63	Mean age: 43.7	18	79
Gender	63		Female: 42	Male: 21
Ethnicity	63	Hispanic: 4	African American: 59	Caucasian: 2
Primary Care Provider	63		No: 14	Yes: 23
Immunocompromised	63		2	
Uninsured			16	
Insured (includes Medicaid/Medicare)			15	

**Table 1:** Social and Demographic Characteristics of Participants.

Study Characteristics	N	M	Min	Max	Normal Values
BMI	63	45.7	17.9	57.2	18.5 - <25 [10]
Systolic Blood Pressure	63	159	100	198	<or= 130mmHg [11]
Diastolic Blood Pressure	63	79.016	60	102	<or= 80mmHg [11]
Blood Glucose	63	124.07	71	295	72 to 99 mg/dL [12]
Total Cholesterol	63	166	100	258	< 170mg/dL [13]
Triglycerides	63	165.82	99	524	< 100mg/dL [13]
LDL	63	96.21	44	178	< 100mg/dL [13]
HDL	63	46.51	26	94	> 45mg/dL [13]
HgA1C	63	6.593	4.9	10.8	< 5.7
PHQ9	63	4.292	1	24	0-4 [14]
CAGE	63	0.047	0	4	0 [15]
GAD-7	63	3.36	0	19	< 10 [16]

**Table 2:** Health Characteristics of Participants.

## Discussion

Clinical experiences at the prevention and wellness center proved beneficial for Health Assessment, Adult/Older Adult, and Residency students. Health Assessment FNP students were able to experience the initial history gathering and assessment process. Prior to their clinical experience at the wellness center, students had this opportunity through simulation and partner occurrences only. Generally, knowledge learned in the Health Assessment course is not applied to patient care until the subsequent semester in the

Adult/Older Adult Practicum. Adult Health and Residency FNP students were able to better tailor their assessment skills and history gathering with a vulnerable population in lieu of slightly limited resources. Students were able to gain experience not only in performing assessments and interviewing patients but also in using the electronic health record. The experience allowed students to learn hands on how to be creative in providing care and develop a rapport significant enough that clients agreed to apply the education provided to daily life. The flow of encounters worked well with having first- and second-level students involved. During

the fall, the first-level students initiated all encounters and the second-level students conducted more of the final assessment exams and interpretation of results. During the spring semester, the first-level students showed growth in functioning in the advanced practice role. The CLS students were able to interact more than in a standard clinical experience with clients; they were hands on with the clients individually rather than only obtaining blood samples. The clinical experience allowed all faculty to guide students with clinical tips for more seamless encounters. Faculty guided students through hands-on redirection and adding to supporting resources to aid further mastery of skills. The competency and confidence of all students was increasing as they matriculated through the program and courses.

The most significant obstacle during implementation was finding a collaborative physician to agree to assist the Nurse Practitioner faculty with meeting Board of Nursing and Medical Board requirements. Once a physician consented to serve in this capacity, an additional obstacle was increasing awareness and developing rapport with the food pantry clients. Initially, clients seeking food and clothing from the food pantry and clothing closet at the church were reluctant to participate in health screenings or any facet of health care. Once clients saw the students and faculty/providers consistently, they were more likely to inquire about specifics and agree to come to the clinic. Once clients became accustomed to the faculty and students being present and compassionate, they were less concerned with tracking the length of the encounters. Participants expressed extreme gratitude for the opportunity to learn the values for blood pressure, cholesterol, glucose, HgA1C, weight, BMI, alcohol and depression. The majority of participants were not aware of their current health status. They also appreciated assisting the students with perfecting their skills. The final obstacle was funding lab supplies for screenings. An additional challenge was attempting to streamline the experience for clients. Often the length of the encounter presented a challenge.

## Conclusions

Screenings and referrals in conjunction with the food pantry and clothing closet increased access to care and awareness of health status and allowed students to witness increased integration of care. Participants referred for further evaluation obtained medical homes; those with Primary Care Physicians (PCPs) kept appointments with established PCPs and returned to measure progress. Expanding services offered at the prevention and wellness center could significantly increase access to care for the underserved population in the community. The 501c3 status is currently being finalized. A board has been formed to move forward with applying for additional funding. The screenings results

will facilitate targeting the clinic's preventive focus toward high occurring disease states; hypertension and obesity. Students have continued to enhance their assessment, history taking, diagnostic, and treatment plan abilities. Exposure to vulnerable populations has been instrumental in encouraging students to learn and use available resources to encourage healthy lifestyles for patients including increasing activity levels with exercise, walking [9-12]. Students made referrals for all individuals who did not have a primary care provider. The students were able to help facilitate this and ensure that patients understood their current health status and how to improve. We have exceeded the number of students required to participate in this venture. In addition to the students described above, five CLS students participated. The project was focused on decreasing health disparities of African Americans and the underserved in a Southeastern US community [13-16]. Efforts were driven by the need to make a positive impact in a community that has been disenfranchised but is starving for an improved quality of life: better health care, adequate clothing, healthy food options, and a commitment of resources from city officials. The purpose of the project was to increase access to quality health care and improve the relationship between the African American community and health care providers which was accomplished. The research aim was to address health disparities and access to care. The research focused on two distinct areas most prevalent in Southeastern US communities: (a) reducing obesity, with a particular focus on the underserved population, and (b) reducing health disparities in urban and underserved populations, with a focus on prevention of chronic health conditions such as diabetes, HTN, and obesity in African Americans, which are prevalent due to limited access to health care and nutritious food.

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