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# Nonattendance Rates and Barriers to Health Care in Outpatient Clinic Settings

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Abstract

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Project Submitted in Partial Fulfillment

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## Abstract

Lower socioeconomic status, ethnicity, and race are associated with reduced health care use in the United States. Patients who continually miss their appointments suffer significant negative results, including a disruption in continuity of care, complications with their chronic illnesses, and an increase in hospital readmissions. The health belief model was used as the theoretical support for this project that investigated the underlying causes of no-shows at an urban hospital-based outpatient clinic in the United States. It used a quantitative, descriptive design and examined a minority, underserved, and underinsured population that was receiving care at the research site and had a fairly consistent 30% no-show rate. Data was collected by anonymous survey from 151 patients and 22 health care providers and analyzed via means, t tests, and an ANOVA. Female patients were significantly more likely than male patients to approve of the current scheduling system at the site, in which patients simply call the clinic for an appointment ($p = 0.040$). White (non-Hispanic) patients in general had a statistically lower interest in receiving appointment reminders via text compared to the rest of the population ($p=0.024$). Patients who were 29 years old and younger were significantly less likely than patients who were 30 years old and over to indicate that they did not show up to appointments due to a lack of insurance ($p \leq 0.001$). This project promoted positive social change by increasing patient, staff, and stakeholder awareness of the reasons patients miss their appointments. The findings of this project can be used to improve appointment scheduling, reduce patient wait times, increase patient satisfaction, and increase cost savings to the clinic.

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Dedication

My family, friends, and clinic staff have all been supportive. Thank you for all of your inspiration, care and understanding. I could not have braved this journey without you.

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## Introduction

Patients who continually miss health care appointments suffer adverse health results- such as disruption in the continuity of care, complications in chronic illness, failed medication compliance, and increased hospital readmissions (Mehrotra, Keehl-Markowitz, &Ayanian, 2008; Salameh, Olsen & Howard, 2012). The purpose of this project was to investigate why patients may not show for their appointments and to make recommendations based on evidence to decrease the non-attendance rate. In order to be effective change agents, health care providers need to be aware of the specific reasons that our patients do not keep their appointments. They should also be cognizant of the translation of evidence-based practice (EBP) into effective applications to address this healthcare problem.

Salameh, Olsen, and Howard (2012) reported that up to 35% of patients did not keep their follow-up appointments in the mid-2000s. Studies examining patients in Europe have reported a missed appointment rate of 5% to 55%, depending on the country, health care system, or clinical setting (George & Rubin, 2003; Hamilton, Round, & Sharp, 1999; Sharp & Hamilton, 2001; Waller & Hodgkin, 2000). Patients may lack transportation or health insurance, or have government-provided health benefits. These issues may affect patient appointment attendance (Lacy, Paulman, Reuter, & Lovejoy, 2004; Mitchell & Selmes, 2007; Salameh et al., 2012). According to Killaspy et al. (2000), patients claim that forgetting their appointments is the primary reason for nonattendance.

The Family and Women's Care Clinic where the project occurred consists of a family practice osteopathic residency program, pediatric clinic, well woman clinic and a family practice clinic. These clinics provide over 220,000 appointments annually for approximately 17,000 patients (St. Joseph Regional Health Network, 2013). The hospital-based clinic, located in the fifth most populated city in Pennsylvania, was reported nationally as being the poorest city among cities of similar size (City of Reading, PA, 2012). In fact, 49% of the population lives below the poverty line. Currently, the clinic is in the planning stages of becoming a Patient Centered Medical Home (PCMH) to ensure it provides high-quality care consistently at a lower cost while improving patient outcomes. Developing patient, staff and stakeholder awareness as to why patients may miss their appointments will benefit the facility. Patients will benefit due from improved outcomes, reduced wait times, and increased cost savings, making this a positive implementation model.

## Problem Statement

Access to health care has become an urgent health matter. Common reasons that patients have given for missing appointments include forgetfulness, frustration with long waits in the office, and apathy. They also complain of work schedule conflicts, negative attitudes toward the provider, and fear (Salameh et al., 2012). Barriers to follow-up appointments include delay between scheduled appointments, lack of understanding, clerical errors, lack of child care, and family stressors. Missed appointments can cause ineffective care, lack of consistency, and elevated health care costs (Salameh et al., 2012).

According to Sharp & Hamilton (2001), younger patients and those who are at a disadvantage financially are more likely to miss appointments than the general population. These patients often have government-provided health benefits and psychosocial problems and may be unsure of the reason for their appointments. Longer waiting times for an appointment also have an adverse impact on scheduling, increasing apprehension and no-shows (Bower et al., 2003; Bar-dayan et al., 2002). One implementation at the clinic is the Electronic Medical or Health Record System (EMR/EHR), which has the capability of providing a discharge summary to remind patients of their follow-up appointments. Live-person reminder phone calls, an automated reminder system through the Professional Practices Management System (PPMS), letters and reminder cards, and limited open appointments have been used to remind patients of appointments.

Even after serious attempts are made to decrease the no-show rate, medical offices still report non-attendance. Festinger et al. (2002) stated that no-show rates still climb even after intervention. Appointment reminder systems (Hixon, Chapman & Nuovo, 1999) still incur a 20% non-attendance rate in family residency clinics. Interventions have not been very successful (Macharia et al., 1992; Bean & Talaga, 1992). Telephone calls, mailings, transportation for patients, incentives, disincentives, and patient education are reminder systems that are in place in outpatient clinics (Lacy et al., 2004). In addition, health care clinics have also tried overbooking by expected no-show rates (Bean, A. G. & Talaga, J., 1992).

## Purpose Statement

The purpose of this project was to identify barriers for patients who do not keep their medical appointments and to offer evidence-based suggestions of ways to decrease no-show rates. The implementation of telephone appointment reminders via an automatic phone system, text messaging, live phone calls, or written reminders all may be helpful. Allscripts PM is a scheduling and registration Professional Practices Management System (PPMS). This system can set up appointments, search for first available appointments, track no-shows, and accommodate waitlists, bumped lists, and walk-in appointments. Although this system was implemented at the clinic in October 2012, limited data has been gathered regarding patient outcomes, non-attendance rates, and cost-benefit analyses. However, according to PPMS, between 10/01/2012 and 9/13/2013, there were 11,751 no-shows at this location (not including pediatric patients). The no-show rate at this location was 18.7% after the implementation of PPMS.

When patients do not show for their regularly scheduled appointments, it may negatively impact their health, as well as the health care system (Salameh et al., 2012). Nonattendance discourages patients from medication compliance; increases hospitalizations, readmissions, and emergency department visits; and has a profound economic effect on patients, families, and society (Salameh et al., 2012). When patients miss their appointments, missed opportunities for residents occur to learn from new cases. There may also be a loss of productivity due to the nonuse of appointment times. This loss becomes a waste of resources. Unfortunately, this loss increases both facility and patient costs due to those missed appointments (Martini da Costa et al., 2010).

The project occurred at a medical center in Reading, PA, of which Catholic Health Initiatives (CHI) is the parent company. One of the missions of CHI is to foster the healing of persons who are less advantaged, physically, mentally, and financially (Catholic Health Initiatives, 2013). The goal of this DNP project was to remain faithful to this mission of the parent company, along with ensuring access to quality health care in an outpatient clinic arena that serves the underserved. The goal is also based on the premise that patient compliance with keeping appointments is necessary to promote healthy behaviors and to prevent diseases and their complications, all while encouraging continuity of care. The objectives were threefold:

1. To increase stakeholders' knowledge about potential and actual barriers to health care for the target population by way of a patient and health care provider survey;
2. To evaluate whether these barriers may have played a part in the high no-show rate by way of the same survey; and
3. To offer evidence-based suggestions of methods to reduce barriers by the implementation of patient reminder systems.

## Significance to Practice

Patients from a lower socioeconomic standing have reported less use of their health care system, even when they have medical insurance (Fiscella, Franks, & Clancy, 1998). Minority racial or ethnic groups appear to be at an additional risk for receiving less thorough, if not lower quality, health care (The Morehouse Medical Treatment and Effectiveness Center, 2000). The U. S. Department of Commerce and the U. S. Census

Bureau (2013) reported the median household income for the years 2007-2011 in Berks County, PA., as $54,823. The DNP project, implemented in the city of Reading, reported an estimated household income of $28,597 in 2009 (City-Data.com, 2012). Reading's population consists mostly of Hispanic (58.7%), White (28.7%) and Black (10.0%) racial ethnicities, with 33.0% of the city population living below the poverty level. The overall poverty level in Berks County and the state of Pennsylvania has been reported as 12.6% and 13.1%, respectively (City-Data.com, 2012). The target population for my project included the population of Reading, where there is an even distribution of males (48.5%) and females (51.5%).

Minority urban clinic patients have a higher incidence of not showing for health care appointments. Barriers to health care may be divided into geographic, cultural, socioeconomic, and organizational obstacles (American Medical Student Association Foundation, n.d.). Living in any rural or inner-city health care professional shortage area has been described as a geographic barrier to care. Personal attitudes towards and behaviors towards health care, as well as provider attitudes and behaviors, may affect cultural barriers to care. Socioeconomic status (SES), including lack of medical benefits, the inability to pay out of pocket, and being less educated may have an adverse impact on socioeconomic barriers. Organizational obstacles may include decreased use of linguistics (interpreters), limited wheelchair accessibility, and long medical appointment wait times.

**Evidence-based Significance of the Project**

The Agency for Healthcare Research and Quality (AHRQ) released a collection of reports in 2004 on quality improvement. The report was a part of the revitalization plan to deliver primary care oriented to the total person-a model known as a patient centered medical home (PCMH). One of the organizational objectives at the research site is the advent of the PCMH. The PCMH is an encouraging representative for the transformation of primary care that is complete, patient-centered, organized, and accessible. The PCMH model will be dedicated to providing excellent evidence-based health care through shared decision-making, measuring performance and population health management. Having a new and improved scheduling system that encourages patient compliance will be an important evidence-based part of the PCMH model.

The Affordable Care Act of 2010 will aid in the removal of financial barriers by providing Medicaid to the clinic's low-income patients. Insurance coverage will include preventive health care without copays (Kaiser Family Foundation, 2010). Of the approximately 17,000 patients registered at the outpatient clinic, 70% are on some type of Medical Assistance, 15% on Medicare, 10% are self-pay, and the other 5% have private commercial insurance. The Affordable Care Act's plan to increase healthcare coverage was to establish a Health Insurance Marketplace in all states and to improve access to Medicaid. Nearly one and a quarter million (12%) of Pennsylvania's non-elderly residents are without medical insurance. Precisely 92% may qualify for either tax credits to obtain coverage or for Medicaid if Pennsylvania participates in the Medicaid expansion (U. S. Department of Health and Human Services, 2013).

The DNP graduate student addressed threats to readily available and valuable health care. With a predominantly Spanish-speaking community, any barriers to communication will be an obstacle to health care. Schyve (2007), states that overcoming these barriers with patients has become more commonplace in this multicultural world. Other obstacles include a limited knowledge of healthcare due to cultural differences, as well as those cultural differences themselves.

According to Healthy People 2013 (HealthyPeople.gov, 2013), preventive services such as disease screening and immunizations may encourage a reduction in illness, disability, and death, by detecting illness early on. Patients who miss crucial tests- Pap smears, mammograms, colonoscopies, and prostrate screenings- put themselves at a higher risk for missed early detection of treatable diseases. The DNP graduate student needs to be keenly aware of services many culturally or linguistically challenged patients are not themselves aware of, in order to encourage holistic health care.

## Implications for Social Change in Practice

This project has the potential to impact the City of Reading, Berks County, and similar communities, where the access to health care may be causing inequality in the quality of health care to those who may be less fortunate than others. In a 2010 study by the Joint Center for Political and Economic Studies, entitled *The Economic Burden of Health Inequalities in the United States,* it was reported that over $1 trillion was spent on health inequities and premature deaths between the years 2003-2006. These disparities are the result of different factors affecting the residents of Reading, and in other parts of

the country. By improving access to medical care, there may be a reduction in nonattendance, thereby facilitating necessary health care and treatment. Since racial and ethnic minorities are significantly less likely to have health insurance, the population of Reading is greatly affected by a reduction in quality health care (The Institute of Medicine, 2002). *Healthy People 2020* reported on goals and objectives related to decreasing national health disparities through the Health and Human Services (HHS) Disparities Action Plan. The plan also leveraged key provisions of the Affordable Care Act, ensuring that nearly all Americans will have access to affordable health insurance. Lack of coverage has already been looked at intently as being associated with lower socioeconomic status (Fiscella et al., 2000). This lack of medical insurance has been linked to women receiving fewer PAP tests and mammograms. Also noted has been a decrease in childhood and influenza immunizations, diabetic eye examinations, late prenatal care, and lower quality ambulatory and hospital care. Increasing access to all medical care, whether preventive or urgent, will be a consideration of this project.

Catholic Health Initiatives (CHI) recognizes the need to maintain, develop and improve (CHI, 2013) community-based health care. The CHI Institute for Research and Innovation (CIRI) began in 2007 and marked a strong commitment to the medical and health care community that the community was a priority setting for excellence in health care. One of the ways CHI plans for the enhancement of care is through OneCare, a system-wide program hoping to transform the delivery of health care by creating a shared, electronic health record for each patient. Some of the goals of the OneCare system are to improve safety and treatment by having one complete health record available to all providers. It will be important to have information available to provide individualized care. Electronic health record (EHR) systems can improve continuity of care by improving care coordination. EHRs have the potential to integrate and organize patient health information. EHRs can also facilitate instant distribution among all authorized providers involved in a patient's care, encouraging continuity of care and increased access" (HealthIT.gov, 2013). Presently, the "go-live" date for the St. Joseph Regional Health Network Downtown Community Campus is late 2014. The EHR system will contribute to the project's implementation of increased access to care, as will the aforementioned automated PPMS Allscripts iRemind system. **Definitions of Terms**

*Patient centered medical home is* a philosophy of patient care that is comprehensive, patient-centered, accessible, team-based primary care, focused on quality and safety (NCQA, 2013).

*Barriers to health care* are impediments in the general health care system that prevents at risk patient populations from accessible medical care or that may cause them to receive mediocre care when compared to low risk populations (AMSA, 2013).

*Underserved populations* are patient populations that have been defined by the Health Resources and Services Administration (HRSA) as being elderly, having high infant mortality rates, living in impoverished areas and/or living in areas where there are decreased primary health care providers (HRSA, 2013).

*Electronic medical or health record (EMR/EHR)* is the electronic medical or health record of a patient, containing their medical history from a particular health care system or hospital (HealthIt.gov, 2013).

*Professional Practices Management System* (PPMS) is an organizational method to provide support for developing, implementing and managing industry- specific performances and guidelines (ACA, 2013).

*Allscripts iRemind* is an automated patient appointment reminder system that provides a phone message in the evening, reminding them of their appointment, usually three days in advance (Allscripts, 2013).

*Access* to health care services is defined as receiving appropriate health care in order to maintain or improve health (Gulliford et al., 2002).

*Poverty rate* may be described as a measurement used to assess economic situations in populations, while measuring the percentage of persons whose income falls below a set level fixed by the government (Bishaw, A. & Fontenot, K., 2014).

## Assumptions and Limitations

A patient survey regarding nonattendance and clinic scheduling for appointments was administered to the patient population. A similar survey was administered to the clinic health care providers, but the provider survey asked questions regarding appointments of their patients. This project assumed that the target population found this survey important as health is a priority. This project assumed that the researcher was diligent in handing out the appropriate language-specific patient surveys, English to English-speaking patients and Spanish to Spanish-speaking patients. This project also assumed that patients were able to understand the questions or ask for assistance from the staff or a family member/friend if they did not understand. This project assumed that patients were diligent is answering all of the questions and turned in the survey upon completion. This project assumed that the health care providers viewed health care differently than the patient population, but were also diligent in returning their completed surveys. Limitations of the study include the small ($n$ = 22) health care provider sample, the number of blank responses for demographics on patient surveys (ie, 43.7% of responders left what type of health insurance they had blank) and the fact that it was a convenience sample. The patient/provider satisfaction survey tool is self-developed and untested; therefore, a threat to its validity and reliability was present.

## Summary

Not keeping appointments by patients is a rather unfortunate event that may result in a significant increase in chronic health problems. No-shows result in lost time, decreased efficiency, and higher use of resources (Parikh et al., 2010). Office managers use many types of appointment reminders. With so many patients simply "forgetting" their appointment, there is a need for a simple execution that would positively affect attendance. Before implementing a new health care system to encourage patient attendance, staff and stakeholders need to be able to assess, evaluate, and understand the reasons for nonattendance.

With alternative scheduling, like open-access, patients were seen the same day that they call for an appointment (Cascardo, 2005). Open access scheduling encouraged new patients because they are seen right away and routine patients who did not have to wait three months or longer for a routine visit with their regular health care provider.

Section 2: Review of Literature and Conceptual Framework

## Review of the Literature

The purpose of this project was to identify barriers to patients that lead to their nonattendance and to offer evidence-based suggestions for ways to improve the no-show rate at an urban hospital-based outpatient clinic. Reviewing the literature from the last fifteen years (1999-2013) identified a variety of reasons why patients miss their appointments. Reviewing published literature within the last five years has been considered to be adequate (Oermann & Hays, 2011). A more thorough examination was conducted for this literature review because patient no-shows have remained a major problem for providers for decades.

MEDLINE and CINAHL database searches were conducted using the search terms "no-show," "outpatient," and "nonattendance." A total of eighty-two articles were found in CINAHL: 57 when using the term "nonattendance;" 13 when using the terms "no-show" and "outpatient;" and 12 when using the terms "nonattendance" and "outpatient." In the Nursing and Allied Health Source database, there were 35 articles found. Here, there were 15 articles using the term "nonattendance;" 15 when using the terms "no-show" and "outpatient;" and 5 when using the terms "nonattendance" and "outpatient." A MEDLINE search revealed a total of 285 articles with the above terms. There were 181 articles using the term "nonattendance;" 58 when using the terms "no-show" and "outpatient;" and 46 when using the terms "nonattendance;" and "outpatient." Articles published from research conducted outside the United States were included because patient nonattendance is a global issue in the health care industry.

Researchers have argued that keeping patient appointments is the result of a multifaceted process (Martini da Costa et al., 2009). Estimates of no-show rates can range from 5% to 55% (Martini da Costa et al., 2009; Parikh et al., 2010; Perron et al., 2010; Salameh et al., 2012). Various and diverse reasons have been cited to explain why patients do not attend scheduled appointments. These include forgetting the appointment, lack of transportation, feeling better and being young. Other reasons are the lack of understanding the importance of keeping appointments, having to work and long intervals between appointments (Lacy, Paulman, Reuter, & Lovejoy, 2004). Patients also have claimed that the fear of diagnoses, lack of consideration by clinic staff, and lack of caring regarding patient's symptoms all have impacted no-show rates. Chronically ill patients who do not routinely show for their appointments may increase their risks of complications, including diabetic retinopathy, stroke, cardiovascular disease, and exacerbation of illness (Perron et al., 2010; Salameh et al., 2012).

Spikmans et al. (2003) collected data in a Dutch university medical center to determine the incidence of and possible reasons for not attending nutritional care clinics appointments. The medical records of 293 (166 attendees and 127 non-attendees) patients were analyzed to identify possible determinants of nonattendance. In univariate analysis, not attending appointments was associated with a number of causes like body-mass index (weight did not change), satisfaction with the dietician (different dietician at every visit), not visiting other providers, and beliefs about the effectiveness of the treatment (dietary advice did not work). During a phone survey, the patients were questioned about their

nonattendance. They were asked why they did not attend their regularly scheduled appointments. Almost half (43.7%) of the patients reported that they forgot ($n$ = 94).

Mental health patients miss about 20% of their scheduled appointments (Mitchell & Selmes, 2007). Many of those patients simply stop showing up, putting them at risk for relapse and hospital readmission. The authors noted a lack of research related to predictors of nonattendance in a mental health setting. They did note that Chen (1991) reviewed major predictors of nonattendance and divided them into environmental and demographic factors, illness, patient and clinical factors. Lower socioeconomic status, lack of health insurance, homelessness, younger age, and transportation were the main environmental and demographic factors for nonattendance. Forgetting, oversleeping, getting the date wrong, dementia, and substance abuse were some of the key patient factors for missed appointments. Clinician and referral factors included non-collaborative decision-making, patient's disagreement with the referral, poor communication between the referring provider and patient, and long delay in referral time. The authors state that Killaspy et al. (2000) recognized the most common cause of nonattendance was forgetting the appointment.

Rätsep, Oja, Kalda, & Lember (2007) conducted research on physician opinion as to why patients may be noncompliant in relation to their diabetes. Nonattendance and lack of insurance/financial issues were among the reasons for noncompliance. When general practitioners in a United Kingdom study (Agarwal, Pierce, & Ridout, 2002) were

asked for reasons they had difficulty providing diabetic care, they also listed nonattendance.

Acceptable attendance rates are vital for effective preventive health screenings. A study conducted in Sweden on social predictors of nonattendance in a mammogram screening program looked at nonattendance. When the program started in 1990, overall nonattendance rate at first screening was 35% (Zackrisson et al., 2007). Women who were living in less affluent areas of the city appeared to be less willing to participate. Residential instability (migration) and material deprivation were found to be factors contributing to nonattendance. High levels of migration appear to weaken social networks and trust relations within neighborhoods (Kawachi, 2000).

Migration has been an on-going problem in the Reading clinic, where reminder letters have been returned with "no forwarding address" stamped on the envelope. Multiple telephone reminder calls go unanswered and not returned. Material deprivation, measured by rate of employment in the previously noted Swedish study, was hypothesized to be seen as a barrier to attending screening days due to fewer physicians/healthcare facilities within the area (Zackrisson et al., 2007). This deprivation was thought to lead to less available information regarding the screening. It also led to fewer means of transportation and other psychosocial (age, education, race) and economic (lack of insurance, household income, employment) issues.

A study of nonattendance in a cervical cancer screening clinic where patients' requirements were met (Oscarsson, Wijma, & Benzein, 2008) was conducted in Sweden.

The results of a telephone interview in the study ($n$ = 120) listed the two most common requirements women wanted were reassurance that they would be treated in a friendly manner and to have an individual appointment time. The authors also reported that Austoker (1999) states that cervical cancer screening has been associated with increased anxiety, fear, overtreatment, and over diagnosis of women. Any positive encounter a patient has with a health care provider can increase trust and, hopefully, decrease nonattendance.

The target population for this project routinely showed up on different days, at various times, walked in without an appointment, and made more than one appointment time, probably due to the need for the appointment to fit into "their" schedule, rather than the reverse. Many of these patients are young, single moms who are also making appointments for their children across the hall in the pediatric clinic. For example, a mother may be registering her well-woman appointment with the health care provider for 1:00 pm and registering her three children to be seen in pediatrics, at the same time, as a method to save both time and expense. Many of these women have limited means of transportation and have to taxi or find a ride to the clinic. For the majority of these women, they are walking with their children to the clinic, with several of their babies and little ones crowded into a stroller.

There have been recent studies investigating interventions to curb the no-show rate at clinics. Strategies that have been tried include reducing wait times, improving patient communication with healthcare providers, using open access scheduling systems,

providing patient education, and assessing financial penalties for missed appointments (Salameh et al., 2012). According to two studies on the effectiveness of telephone reminders (Hashim, Franks & Fiscella, 2001; McCormick & Lee, 2003), declines in nonattendance stemming from telephoning patients were about 30%. Festinger et al. (2002) have reported that post-intervention no-show rates are still 28% to 45%. Of five articles reviewed, the authors reported sample sizes varying between 34 and 29,000 patient appointments, all in urban or downtown outpatient clinics, primarily in family practice, primary care, or multispecialty clinics. Two of the studies were affiliated with universities (Lacy, Paulman, Reuter & Lovejoy, 2004; Parikh et al., 2010) and all but the Lacy study were involved in interventions like text messaging, phone calls, computer automated reminder calls, and patient education. Financially, the patient who shows for their appointments because of SMS reminders covers the cost of the reminders (Martini da Costa et al., 2009). Finally, patient no-shows can be reduced effectively by reminder systems. For example, no-shows of 11.4% in a control group ($n$ = 122) and 7.8% in an intervention group ($n$ = 82) where $p$ <0.005 (Perron et al., 2010), were reported by the authors. When the staff telephoned the patient to remind them of an appointment, there was a 13.6% no-show rate. When there was an automated telephone reminder system in place, there was a 17.3% no-show rate; however, when there were no reminders, there was a 23.1% no-show rate (pairwise analysis, $p$ <.01 by analysis of variance for all comparisons) (Parikh et al., 2010).

Different interventions that clinics have tried and researchers have assessed to decrease no-shows were found in the literature. A retrospective review of a clinics

appointment records revealed no difference in patients' appointment attendance whether they received a reminder phone call or a message on their answering machine (Haynes & Sweeney, 2006). Randomized controlled studies (Koury & Faris, 2005; Parikh et al., 2010; Perron et al., 2010; Pesata, Pallija, & Webb, 1999) revealed the cost-effectiveness of text message reminders, decreased no-shows with patient reminder systems, and various barriers to care, like lack of transportation, being young, perceived disrespect from healthcare workers and a lack of understanding as to the importance of keeping appointments.

Office managers are using different types of patient reminder systems. An implementation to curb patients' forgetting their appointments should exist. Since nonattendance is considerably constant, this should be taken into account (Murdock et al., 2002). One of the newer interventions was called open-access scheduling, developed in the 1980s (Cascardo, 2005). With this scheduling system, patients had appointments on the same day that they called for an appointment. Open access encouraged new patients because they were seen right away and the routine patients, who did not have to wait three months or longer for a routine visit with their regular health care provider. The exceptions were the routine visits for allergy shots, family planning (Depo-Provera) injections, follow-up visits after a medication adjustment or patient preferences. Pediatric clinics have long been an open-access consumer since same-day sick-child visits occur routinely.

Eliminating disparities in healthcare is a primary goal of hospital organizations. Race, ethnicity, and language preference (REAL) remain a concern that patients may not receive the care they need and the outcomes they deserve (Umbdenstock, 2013). Increasing access to care for patients in underserved communities can deliver crucial preventive services that may improve health outcomes, patient satisfaction, continuity of care, and overall productivity. According to Fiscella et al. (2000), disparities between socioeconomic position and race/ethnicity and how they affect health care are multifaceted. They are more than likely related to transportation, literacy, education, and geographic access. Other issues include affordability, health beliefs, patient attitudes and preferences, racial concordance between provider and patient, provider bias, and external demands like work and child care.

Maliski, Connor, Oduro, and Litwin (2011) studied the relationship between access to care and value of life for patients with prostate cancer. The authors conducted a literature review search and found 27 articles related to the relationship between health-related quality of life (HRQOL) and access to care. The relationship between these two fell into two categories: socioeconomic factors and race/ethnicity disparities. The authors reported a number of other studies that explored the socioeconomic concerns in relation to education, health insurance, and salary. Penson et al. (2001) revealed that lack of insurance and low income was related to lower HRQOL after prostate cancer treatment in a mostly Caucasian sample. Krupski et al. (2005) found that patients receiving treatment in a state funded program entered treatment with lower HRQOL than men in the general population. These patients did not have health insurance and had incomes of less than

200% of the Federal Poverty Level (FPL). Hu et al. (2003) reported that patients with less education had decreased HRQOL scores and increased regrets regarding prostate cancer treatment. Kim et al. (2001) conveyed that men who were recruited from a Veterans' Administration facility regarding prostate cancer, there was decreased cancer awareness, even after hearing an educational CD.

Milwaukee's poverty rate was 29.5% in 2010, making it the fourth-poorest city in the U.S., with over 170,000 residents living in poverty (Sanders, Solberg, & Gauger, 2013). The rate of poverty was particularly high in minorities. The African American poverty rate was about 41%, while the Hispanic rate was 32%. A community-based chronic disease management program (CCDM) was opened in two of the most impoverished ZIP codes in Milwaukee in 2007. The emphasis was on access to care at a reasonable cost for patients with certain types of chronic diseases such as essential hypertension, uncomplicated diabetes mellitus type 2, and hypercholesterolemia. Teams of nurses operated two neighborhood food pantries, where the clinics were placed. The program acquired community-based and patient-centered resources (location, culturally adjusted education, health care team leadership, etc.) and did away with over-priced drugs, appointment systems, and paper charts. Placing the clinics within the food pantries increased daily access to care because they were located within the local community. They also had the same hours making it a one stop place for shopping and health care. Using parish nurses, who were familiar with the local population, helped to cut costs, while keeping nurse practitioners and physicians available as consultants. The CCDM also assisted patients to become enrolled in the state-funded insurance programs.

Breaking down barriers to care and empowering communities to become sustainable can improve health care outcomes.

In several countries, including the United States, patients that experienced barriers to cost showed a considerably decreased level of assurance in receiving reliable health care (Wendt, Mischke, Pfeifer, and Reibling, 2011). Patients in the U. S. that have not received prescribed treatments due to lack of financial income were four times more likely to lack self-assurance when compared to patients without financial barriers to treatment. The Netherlands, United Kingdom, and Canada reported that a percentage of the population (1.5%, 1.8%, and 4.1%, respectively) did not go to their appointments due to cost. In Australia and Germany, however, more than 10% of the respondents that had experienced cost barriers did not show for their appointments. When comparing low-income workers to high-income workers in the U. S., 37% do not attend their appointments related to costs, as compared to 15%.

Wendt, Mischke, Pfeifer and Riebling (2011) also reported that people who are less educated showed decreased levels of confidence in receiving good healthcare. Patients already in poor health reported much less confidence. People do need to feel confident that they will be able to obtain medical attention when they need it. Without confidence, patient satisfaction will be lacking, decreasing the chances that people who need care will seek it out.

## Conceptual Framework

Designed in 1966 by Rosenstock (1974), the Health Belief Model (HBM) was further developed in 1975 by Becker, Maiman, Kirscht, Haefner, and Drachman (1977). The Health Belief Model (see Appendix A) has been used to analyze risky behaviors such as smoking and alcohol use, dental hygiene, medication compliance in diabetes and hypertension, and contraceptive use (Wood, 2008). The model has also been employed to evaluate common dynamics that impact women with current mammography screening guidelines. The HBM adapted theories from the behavioral sciences to predict behaviors (McEwen & Wills, 2011). The HBM explained health behaviors in terms of several constructs: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. The model was based on the premise that persons would take action to protect their health if they 1) regarded themselves as susceptible to a health condition with serious consequences (threat), 2) believed that action would reduce the susceptibility and/or severity of the health condition and that the benefits or motivators of action are greater than the barriers (outcome expectations), and 3) were confident in their ability to carry out the action (efficacy expectations) (Athearn et al., 2004). The model has been expanded to include motivating factors, self-efficacy, and cues to action. The HBM suggested that behavior was influenced by cues to action, which are events, people, or things that encourage changes in behavior. Modifying variables included such things as culture, education level, past experiences, ability, and drive. In other words, modifying variables were individual characteristics that influenced personal perceptions (Jones and Bartlett Publishers, 2004). In 1988, Rosenstock added the concept of self-efficacy to the

original four beliefs (Rosenstock, 1990). Self-efficacy was the belief in one's own ability to do something (Bandura, 1977).

A Dutch study on diabetic patients and nonattendance was done between the years 1999 and 2000 using the HBM (Spikmans et al., 2003). Nonattendance was associated with a number of factors such as risk perceptions, body mass index, health locus of control, satisfaction with the dietician, feelings of obligation to attend, and beliefs about the effectiveness of treatment. The study included 293 patients and revealed that one in three missed one or more appointments with their dietician. The data also showed that the patients had doubts about the usefulness of dietary advice. In order for people to change their behavior, especially for a complicated social behavior like diet and nutrition, advice is often not enough. The HBM predicted that if a patient believed him or herself to be at risk of complications (perceived susceptibility) related to diabetes and believed these complications to be serious (perceived severity), and believed that diet was an important means to avoid these risks (outcome efficacy), the patient would be more likely to consult a dietician.

Spikmans et al. study (2003) also reported that adherence to keeping an appointment was determined by the individual's perception of a health threat (I won't get my prescriptions if I don't go to my appointment) and the value of a behavior to reduce the threat (go to the appointment and get taken "care of"), weighed against the perceived benefit (make my blood pressure go back to normal). Perceived benefits and barriers would be the most important concepts to understand in the development of a new

scheduling system to conquer no-shows, for instance; cues to action, both internal and external (media, advice from friends, iRemind system, illness of family member), can make the patient more aware of the importance of keeping an appointment; and self-efficacy is the patient having confidence in his or her own ability to perform an action successfully, such as keeping an appointment (Kuhns, 2011).

A review of the literature indicates that patients do not attend their health care appointments for a majority of reasons, although forgetfulness has been suggested as the most common reason. A simple reminder system, whether by telephone, mail, text messaging, or live person, can be used with positive results. Anonymous surveys of patients and providers occurred at the project site to identify reasons why patients may miss their appointments. Data collection and analysis will be discussed in relation to the project design. Evaluation of the data will be presented with the intention of identifying reasons why the target population may miss appointments. This will be presented in relation to the demographic variables of gender, age, ethnicity, and whether or not the patient has health insurance. When patients believe checking into their medical appointment is a quick and easy process or that the wait is fairly short, they will have a more positive experience and possibly feel more in control of their health care. However, impediments like not being able to take time off from work or being unable to find a ride, will likely cause the patient to feel less control over his or her health care.

## Section 3: Approach

### Project Design

No-shows can lead to lost revenue, an increase in time spent rescheduling, loss of productivity and disruption in clinic workflow. All of these can lead medical offices to implement interventions to recoup finances, increase work productivity, and decrease the number of missed appointments. The purpose of this project was to identify potential barriers for patients who are not keeping their medical appointments and to offer evidence-based recommendations to improve the current no-show rate. The research question asked about specific barriers to care that a minority, underserved urban clinic patient may experience, as well as if those restrictions affected their attendance at medical appointments. To increase stakeholder's knowledge regarding possible barriers to health care, surveys were sent to the health care providers as well. A quantitative study using a descriptive design was used. Reasons for missing appointments were identified using a self-designed patient and provider survey using a Likert-scale format (see Appendix B, Appendix C, Appendix D). These surveys were used to identify both patient and provider perceptions of barriers to keeping appointments at the clinic. As this is a newly designed survey, its reliability and validity had not yet been tested. I developed this survey based on ease of use, patient's familiarity with the Faces Scale, review of the literature, and ability to transfer data easily. The survey questions were chosen based on review of the literature.

All surveys were handed out and collected in the clinic. All survey answers were coded, to include missing answers to questions so that entire surveys would not need to

be discarded. Patient surveys ($n$ = 151) were handed out to patients individually by the student researcher during clinic hours (8 AM- 4 PM, M-F) for one week in the women's clinic, family practice clinic and residency Clinic. The clinics involved each have a patient registration or waiting area with chairs for patients to sit and wait for their appointments. The patients were observed while the responses were being administered to ensure that no one other than the patients filled out these surveys. Each survey was in its own envelope and had a cover letter/informed consent (Appendix E), telling the prospective participant the purpose of the research project, how the information would be used, potential benefits or harmful actions that may be expected, and would happen to the information provided. Also noted was a discussion regarding the safeguarding of the participant's anonymity and confidentiality. Each survey was then returned to the student researcher in the same, now sealed, envelope. Pencils were provided. All surveys were kept in locked cabinet prior to dispersal to statistician for analysis.

Health care provider ($n$ = 50) surveys were handed out individually by being placed in the provider's mailbox with corresponding cover letter/informed consent. Each survey was distributed in a separate envelope. A separate Spanish study was not necessary as all of the providers use English as their primary language. There is personal knowledge of this due to working in close proximity with all of the HCPs that were surveyed. The surveys were returned to the student researcher in sealed envelopes. Unfortunately, only 22 health care provider surveys were returned for analysis.

These clinics were chosen because of my current employment at this organization. I took several steps to minimize risks and to protect participants' and stakeholders' welfare. No current patients of mine were surveyed in order to avoid bias or coercion. Approval of this project was sought through, and granted by, the clinic's Institutional Review Board (IRB, Number 04-04-14-0325833). The organization employs a committee responsible for actions of the IRB. Walden University provides students with a Data Use Agreement and IRB application. The anticipated benefits of this DNP project for the target population included increased access to care, increased continuity of care, and decreased morbidity from chronic illnesses. Health care provider and clinic staff satisfaction were anticipated benefits of the project as well. The anticipated benefits of this project for society include the overall reduction of complications related to chronic disease, more efficient clinic operations, decreased use of urgent care and emergency services, and higher net financial gains per clinic, as suggested by O'Hare & Corlett (2004).

## Population and Sampling

Sampling is the process of selecting subjects for participation in a study. The sampling plan outlines the process of making the sample selections. Inclusion criteria for this study were: (a) current patients receiving care at the organization's three outpatient clinics: family practice, women's health, and family practice residency program; (b) over 18 years of age; and (c) male or female. The clinic registers approximately 17,000 patients, with approximately 70% on medical assistance or a medical assistance plan, 15% on Medicare, 10% self-pay, and 5% on commercial insurance. Representative of the

population of Reading, PA (58.7% Hispanic), the mostly Hispanic patient population are also un(der)educated and underserved, making this accessible population a mostly homogenous sampling. I used a convenience sampling method, which is a nonprobability (nonrandom) method, when conducting the study. Participants were included in the survey because they were at the clinic during the project implementation.

The demographics excluded from this study were: (a) current patients not residing in any type of assisted living related to an altered mental or physical health status; (b) prisoners; (c) children younger than 18; and (d) new patients. Most of these patient types rely on others to get them to their appointments, so barriers to care would be affected. The patient survey asked questions regarding nonattendance to appointments and why. For instance, patients responded to the question "I have missed appointments due to…oversleeping, forgetting, feeling better, or lack of money or insurance". The patient surveys were handed out Monday through Friday during patient registration hours in March 2014, after receiving IRB approval (IRB, Number 04-04-14-0325833). No identifying information was collected.

## Data Collection

Data was collected by handling a large envelope containing the survey and individual envelope to each potential participant to protect patient privacy. The survey was returned in the same large envelope, whether it was completed or not. Each patient was given an individual survey and envelope in which to place completed survey in. The patients were asked questions regarding their sex, race, age, and whether or not they had

medical insurance. All of the surveys handed out were returned. Pencils were offered at the time of the survey. Explanation of the patient survey was offered to the target population concerning the purpose of the project and project's objectives. Patients were instructed that the study was strictly confidential and voluntary. The envelopes were collected and stored in a locked cabinet at the end of the day. No identifying information was collected, nor was there any personal identifiers asked of the participants. For data collection, protected health information was not included from the participants nor was there access to protected health information in the participants' records. Surveys were personally handed out and collected. Information was provided about the data collection purpose, procedures, and possible risks and benefits prior to person's participation in the completion of the survey. Health Care Providers were also surveyed in order to gather their opinions on why patients may be missing appointments and to any access to care issues at the clinic. Again, surveys were anonymous. Inclusion criteria included: (a) full-time employee; (b) working full-time in one of the three outpatient clinics-family practice, women's health, and family practice residency program; and (c) being employed for at least 90 days by the organization. The number of returned surveys from the provider sample was very small ($n$ = 22), so the data obtained will be provided for educational purposes only. Again, this sampling was nonrandom but purposive.

## Instrument

A self-designed patient and provider survey was developed. The patient/provider satisfaction survey tool is self-developed and untested; therefore, a threat to its validity and reliability was present.

## Protection of Human Subjects

Ethical research is vital in order to generate a rigorous, evidence-based practice for nursing (Burns & Grove, 2009). Ethical conduct of research is based on the protection of human subjects, balancing benefits and risks for a study, and obtaining both informed consent, as well as institutional approval. Prior to the implementation of this intervention, approval was obtained from the Walden University Institutional Review Board (IRB #04-04-14-0325833) and the St. Joseph Regional Health Network IRB.

## Data Analysis

The packaged computer analysis program Statistical Packages for the Social Sciences (SPSS) was used to perform the data analysis. Project data from the surveys was entered into SPSS and analyzed by using descriptive statistics. Preliminary data was obtained for both patient and provider surveys (Tables 1 through 5). A group *t- test* was used to compare survey responses by gender (Table 6) and age (Table 7). Both mean and standard deviation were determined for each *p* value. Analysis of Variance (ANOVA) was conducted, along with the mean and standard deviation, to compare survey responses for White (Non-Hispanic), Hispanic/Latino, and Black/African-American (Table 8).

The analysis of the surveys included the basic demographics of those responding including gender and age, race and ethnicity, and health/medical insurance or no insurance. For each item of the questionnaire, the number and percent for each response are reported in tables. As a descriptive study, there is no hypothesis to be tested; therefore, the probability of correctly rejecting the null hypothesis is not an issue.

Descriptive statistics is used to provide summaries about the sample and measures used to describe the sample (Terry, 2012). For each of the variables stated-insurance, no insurance, race/ethnicity, age, gender-in addition to the frequency and percent for categorical variables, mean and standard deviations (SD) for continuous data- the *p* value was reported. When evaluating the questionnaire/survey, each item/response was analyzed on the Likert scale, giving a 1-5 point value for all items/responses and then the mean and standard deviation for each item/response will be calculated. Those items with the best or worst scores would then be the variables that are related to the satisfaction construct.

## Evaluation

Evaluating this project was important for many reasons. Determining whether or not the objectives were met, assessing the strengths and weaknesses of the project, as well as any contributions to health education, are all very important assessments. Whether or not the project disclosed its effectiveness to the target population, stakeholders, or the public (Hodges & Videto, 2011) are worthy of evaluation as well. Steps in the evaluation process include: engaging the stakeholders, conceptualizing and designing the evaluation, collecting data, making changes, and then reevaluating (Hodges & Videto, 2011). For this project, the stakeholders were notified from the beginning of program development due to the nature of the program. Ongoing communication occurred through meetings of the St. Joseph Family & Women's Care Practice Manager, the DNP practicum preceptor and me. Conceptualizing and designing a program evaluation for future research (i.e., open-access or alternative scheduling, taxi vouchers,

SMS text reminders) was done by a team of staff and stakeholders, to include Practice and Office Managers, Women's Health Clinic Chief, Team Leaders and me. This was done in an after-action report given to the above staff after completion of the DNP project. To date, an open-access clinic has begun in the Women's Clinic, twice weekly, during regular clinic hours. In the past four weeks, a total of 155 women have been seen, averaging 19.4 patient visits each day. That number averages out to the provider seeing 2.8 patients every hour. This model defers from a more traditional approach of scheduling appointments, while enabling this practice to eliminate delays in patient care *by doing today's work today* (Murray & Tantau, 2000), decreasing wait times, and, more importantly for this population, seeing patients when the *patient* needs and wants to be seen.

## Summary

One of nursing's goals is to "deliver evidence-based care that promotes quality outcomes for patients, families, healthcare providers, and the entire health care system" (Burns & Grove, 2009). The Institute of Medicine (2001) informs us that evidence-based practice develops through integrating the best research evidence available with clinical expertise and patient's needs and values. Quantitative research is crucial in the development of knowledge to be used for EBP (Burns & Grove, 2009). Assessing, planning, designing and managing health care programs for patients and their families is the goal of the advanced practice nurse who practices to the full extent of their education and training.

Section 4: Discussion and Implications

## Summary of Findings

The purpose of this project was to identify barriers for patients who are not keeping their medical appointments and to offer evidence-based suggestions of ways to improve the current no-show rate by the implementation and impact of appointment reminders, as well as alternative scheduling systems. Health care provider (HCP) surveys ($n$ = 50) were handed out individually to assess their opinions of patient no-shows and the appointment/scheduling system. There was a 44% returned rate ($n$ = 22) for provider surveys, with an unfortunate number of blanks regarding both age and demographics (Table 1 and Table 2). Both mean and standard deviation were compiled for the continuous variable *age*; however, only five responded to the question. Discrete variables included *health care provider title*, *gender*, and if they believed their *patients had health insurance*. Interesting data noted is the response to whether or not their patients were covered by health insurance. While only 14 responded, all 14 answered positively. A notable finding was that all 151 patients responded to the question regarding health insurance, with an 81.5% positive response (Table 4).

Table 3 summarizes the data analysis regarding health care provider opinion on the registration, scheduling appointments, missed appointments, and the scheduling process. The answers were distributed using a Likert- Scale: more than the majority (68.2%) of HCPs *agreed* with the statement "patients miss their appointments due to forgetting or lack of transportation." Most respondents (68.2%) also *agreed* with the statement "I think my patients would like to be reminded of their appointments by

telephone," compared to 62.2% of patient respondents who *strongly agreed* with the statement (see Table 5).

Table 1

*Healthcare Providers' Age Data (n = 5)*

| Variable | *N* | *M* | *SD* |
|---|---|---|---|
| Age | 5 | 33.40 | 5.64 |

Table 2

*Healthcare Providers' Demographic Data* (*n* = 22)

| Variable (Discrete) | Outcome | Count | % |
|---|---|---|---|
| Health Insurance | Yes | 14 | 100.0 |
| | No | 0 | 0.0 |
| Position | MD/DO | 14 | 63.6 |
| | CRNP | 1 | 4.5 |
| | CNM | 4 | 18.2 |
| | Blank | 3 | 13.6 |
| Gender | Female | 7 | 31.8 |
| | Male | 7 | 31.8 |
| | Blank | 8 | 36.4 |

Table 3

*Provider Data Analysis* (*Opinion Items*)

| *Item* | *Strongly Disagree* | | *Disagree* | | *Neutral* | | *Agree* | | *Strongly Agree* | | *Number Missing* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % | |
| | | | | | | | | | | | |
| Patients arrive on time | 3 | 13.6 | 8 | 36.4 | 7 | 31.8 | 3 | 13.6 | 1 | 4.5 | 0 |
| Patients brought back in 20 min | 3 | 13.6 | 9 | 40.9 | 7 | 31.8 | 2 | 9.1 | 1 | 4.5 | 0 |
| Calling in is quick and easy | 2 | 10.0 | 11 | 55.0 | 2 | 10.0 | 5 | 25.0 | 0 | 0.0 | 2 |
| Instructions are clear | 0 | 0.0 | 4 | 19.0 | 9 | 42.9 | 6 | 28.6 | 2 | 9.5 | 1 |
| Patients seen within 14 days | 1 | 5.0 | 6 | 30.0 | 2 | 10.0 | 11 | 55.0 | 0 | 0.0 | 2 |
| Forgetting | 0 | 0.0 | 1 | 4.5 | 3 | 13.6 | 15 | 68.2 | 3 | 13.6 | 0 |
| Lack of transportation | 0 | 0.0 | 3 | 13.6 | 2 | 9.1 | 15 | 68.2 | 2 | 9.1 | 0 |
| Feeling better | 2 | 9.1 | 4 | 18.2 | 5 | 22.7 | 10 | 45.5 | 1 | 4.5 | 0 |
| Lack of money/insurance | 0 | 0.0 | 3 | 13.6 | 3 | 13.6 | 11 | 50.0 | 5 | 22.7 | 0 |
| Oversleeping | 0 | 0.0 | 6 | 27.3 | 4 | 18.2 | 11 | 50.0 | 1 | 4.5 | 0 |
| Lack of daycare | 1 | 4.5 | 4 | 18.2 | 7 | 31.8 | 9 | 40.9 | 1 | 4.5 | 0 |
| Unable to take time off work | 1 | 4.5 | 7 | 31.8 | 2 | 9.1 | 11 | 50.0 | 1 | 4.5 | 0 |
| Email | 1 | 4.5 | 6 | 27.3 | 11 | 50.0 | 4 | 18.2 | 0 | 0.0 | 0 |
| Text messaging | 1 | 4.5 | 3 | 13.6 | 2 | 9.1 | 14 | 63.6 | 2 | 9.1 | 0 |
| Telephone | 0 | 0.0 | 0 | 0.0 | 3 | 13.6 | 15 | 68.2 | 4 | 18.2 | 0 |
| Mail | 0 | 0.0 | 4 | 18.2 | 11 | 50.0 | 6 | 27.3 | 1 | 4.5 | 0 |
| I like the current automation | 1 | 4.8 | 4 | 19.0 | 7 | 33.3 | 7 | 33.3 | 2 | 9.5 | 1 |
| I like the current system | 1 | 4.5 | 9 | 40.9 | 8 | 36.4 | 4 | 18.2 | 0 | 0.0 | 0 |

Table 4

*Analysis of the Patient Data File* (*Demographics n* = 151)

| **Variable (Continuous)** | | ***M*** | ***SD*** |
|---|---|---|---|
| Age | | 34.09 | 14.69 |
| **Variable (Discrete)** | **Outcome** | **Count** | **%** |
| Health Insurance | Yes | 123 | 81.5 |
| | No | 28 | 18.5 |
| Government/Private | Government | 71 | 47.0 |
| | Private | 14 | 9.3 |
| | Blank | 66 | 43.7 |
| Race | White | 17 | 11.3 |
| | Hispanic | 102 | 67.5 |
| | Black | 10 | 6.6 |
| | Blank | 22 | 14.6 |
| Gender | Female | 104 | 68.9 |
| | Male | 11 | 7.3 |
| | Blank | 36 | 23.8 |

Table 5

*Analysis of the Patient Data File* (*Opinion Items*)

| *Item* | *Strongly Disagree* | | *Disagree* | | *Neutral* | | *Agree* | | *Strongly Agree* | | *Number Missing* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % | |
| The check-in process was easy | 0 | 0.0 | 1 | 0.7 | 14 | 9.6 | 55 | 37.7 | 76 | 52.1 | 5 |
| I never wait more than 20 min. | 18 | 12.5 | 35 | 24.3 | 31 | 21.5 | 38 | 26.4 | 22 | 15.3 | 7 |
| Calling for appoint. is quick/easy | 24 | 15.9 | 23 | 15.2 | 31 | 20.5 | 41 | 27.2 | 32 | 21.2 | 0 |
| Appointment instructions clear | 2 | 1.4 | 4 | 2.8 | 10 | 6.9 | 62 | 43.1 | 66 | 45.8 | 7 |
| Easier to just walk in | 8 | 5.8 | 15 | 10.8 | 39 | 28.1 | 39 | 28.1 | 38 | 27.3 | 12 |
| Forgetting | 28 | 20.9 | 29 | 21.6 | 19 | 14.2 | 28 | 20.9 | 30 | 22.4 | 17 |
| Not having a ride | 38 | 31.4 | 23 | 19.0 | 20 | 16.5 | 26 | 21.5 | 14 | 11.6 | 30 |
| Feeling better | 31 | 26.3 | 22 | 18.6 | 23 | 19.5 | 24 | 20.3 | 18 | 15.3 | 33 |
| Lack of money/insurance | 40 | 32.5 | 21 | 17.1 | 16 | 13.0 | 25 | 20.3 | 21 | 17.1 | 28 |
| Oversleeping | 34 | 29.6 | 25 | 21.7 | 23 | 20.0 | 20 | 17.4 | 13 | 11.3 | 36 |
| Lack of daycare/baby sitter | 44 | 40.4 | 24 | 22.0 | 13 | 11.9 | 19 | 17.4 | 9 | 8.3 | 42 |
| Being unable to get time off | 41 | 38.3 | 25 | 23.4 | 17 | 15.9 | 11 | 10.3 | 13 | 12.1 | 44 |
| Email | 27 | 25.5 | 24 | 22.6 | 14 | 13.2 | 17 | 16.0 | 24 | 22.6 | 45 |
| Text message | 16 | 14.0 | 18 | 15.8 | 19 | 16.7 | 22 | 19.3 | 39 | 34.2 | 37 |
| Telephone | 0 | 0.0 | 4 | 3.0 | 10 | 7.4 | 37 | 27.4 | 84 | 62.2 | 16 |
| Mail | 13 | 11.2 | 12 | 10.3 | 17 | 14.7 | 25 | 21.6 | 49 | 42.2 | 35 |
| The current automated system | 6 | 4.7 | 4 | 3.1 | 16 | 12.4 | 42 | 32.6 | 61 | 47.3 | 22 |
| Like the current scheduling sys. | 7 | 5.8 | 7 | 5.8 | 25 | 20.8 | 36 | 30.0 | 45 | 37.5 | 31 |

The clinic patients ($n$ = 151) completed surveys which were evaluated by a local statistician for gender analysis, age group analysis, and race analysis (Tables 6, 7, and 8). Group $t$ test for age (<= 29 and 30+) was used, as well as for gender (Female, Male). ANOVA was used for race/ethnicity (White (Non-Hispanic), Hispanic/Latino, Black/African-American). Results for gender analysis are shown in Tables 6 A and B.

There was one statistically significant finding ($p = 0.040$) in the category of scheduling process. Female patients ($n = 86$) were more likely to be in favor of the current scheduling system than male patients ($n = 8$). Tables 7 A and B represents the age analysis by group *t* test. There were several statistically significant findings, as well as significant trends, related to patient age (Tables 7 A, B). The only statistically significant finding in the" registration/check in" and "scheduling an appointment" categories were *I never have to wait more than 20 minutes to be seen* , $p = 0.038$. There were multiple significant findings in the "miss appointments" category. The most statistically significant finding was that patients 29 years old and younger stated that they *did not show for appointments due to the lack of health insurance* ($p = <0.001$). Other statistically significant findings for age were patients 29 years and younger were more likely to no-show for appointments due to *feeling better* ($p = 0.004$), *not having transportation* ($p = 0.003$), *forgetting* ($p = 0.015$) and *not having daycare available* ($p = 0.028$). There were a few trends noted in the category related to "appointment reminders"-patients 29 years old and younger stated their preference for being *reminded via email* ($p = 0.071$) and that *they liked the current automated appointment reminder system* ($p = 0.074$). Had the sample been larger, these values would have been statistically significant. Finally, Analysis of Variance (ANOVA) was conducted for the race/ethnicity demographics (Tables 8A, B, and C). The only statistically significant finding was in the category "appointment reminder", where race/ethnicity was related to wanting to be *reminded of appointments via text* ($p = 0.024$). A post-hoc comparison was made between White/Non-Hispanic and Hispanic races. It was determined that Hispanic

patients were more likely (0.025) to prefer being reminded via text than White/Non-Hispanic patients.

Table 6

*Gender Analysis by Each Item (group t Test)*

| | Sex | *N* | *M* | *SD* | *p-value* |
|---|---|---|---|---|---|
| CheckIn | Female | 101 | 4.41 | .681 | 0.190 |
| | Male | 10 | 4.10 | .876 | |
| Wait 20 min | Female | 101 | 3.14 | 1.319 | 0.202 |
| | Male | 9 | 2.56 | 1.130 | |
| CallQuickEZ | Female | 104 | 3.20 | 1.382 | 0.430 |
| | Male | 11 | 3.55 | 1.214 | |
| InstrucClear | Female | 100 | 4.30 | .847 | 0.561 |
| | Male | 11 | 4.45 | .688 | |
| EZWalkIn | Female | 97 | 3.62 | 1.159 | 0.477 |
| | Male | 10 | 3.20 | 1.751 | |
| Forget | Female | 96 | 3.01 | 1.440 | 0.818 |
| | Male | 7 | 3.14 | 1.864 | |
| NoRide | Female | 86 | 2.53 | 1.378 | 0.747 |
| | Male | 7 | 2.71 | 1.799 | |
| FeelBetter | Female | 83 | 2.76 | 1.393 | 0.342 |
| | Male | 7 | 3.29 | 1.496 | |
| NoInsurance | Female | 86 | 2.78 | 1.529 | 0.959 |
| | Male | 8 | 2.75 | 1.581 | |

Table Continues

| | Sex | *N* | *M* | *SD* | *p-value* |
|---|---|---|---|---|---|
| Oversleep | Female | 83 | 2.63 | 1.386 | 0.675 |
| | Male | 7 | 2.86 | 1.464 | |
| NoDaycare | Female | 79 | 2.37 | 1.379 | 0.824 |
| | Male | 6 | 2.50 | 1.761 | |
| Worktimeoff | Female | 77 | 2.43 | 1.418 | 0.876 |
| | Male | 6 | 2.33 | 1.751 | |
| Email | Female | 75 | 3.00 | 1.507 | 0.439 |
| | Male | 6 | 2.50 | 1.643 | |
| Text | Female | 83 | 3.52 | 1.426 | 0.765 |
| | Male | 6 | 3.33 | 1.862 | |
| Phone | Female | 94 | 4.43 | .836 | 0.649 |
| | Male | 9 | 4.56 | .527 | |
| Mail | Female | 82 | 3.84 | 1.291 | 0.342 |
| | Male | 8 | 3.38 | 1.598 | |
| LikeCurrentAutoSys | Female | 94 | 4.19 | .987 | 0.400 |
| | Male | 8 | 3.88 | 1.356 | |
| LikeCurrentSchedSys | Female | 86 | 3.86 | 1.076 | **0.040** |
| | Male | 8 | 3.00 | 1.512 | |

Table 7

*Age Group Analysis (group t Test for Age Analysis)*

| | Grouped Age | *N* | *M* | *SD* | *p-value* |
|---|---|---|---|---|---|
| CheckIn | <=29 | 48 | 4.42 | .767 | 0.863 |
| | 30+ | 46 | 4.39 | .649 | |
| Wait20min | <=29 | 47 | 2.70 | 1.284 | **0.038** |
| | 30+ | 47 | 3.26 | 1.259 | |
| CallQuickEZ | <=29 | 48 | 3.04 | 1.320 | 0.539 |
| | 30+ | 47 | 3.21 | 1.382 | |
| InstrucClear | <=29 | 48 | 4.31 | .854 | 0.570 |
| | 30+ | 46 | 4.22 | .758 | |
| EZWalkIn | <=29 | 47 | 3.43 | 1.193 | 0.457 |
| | 30+ | 43 | 3.60 | 1.072 | |
| Forget | <=29 | 46 | 2.39 | 1.422 | **0.015** |
| | 30+ | 44 | 3.11 | 1.351 | |
| NoRide | <=29 | 43 | 1.91 | 1.211 | **0.003** |
| | 30+ | 39 | 2.74 | 1.292 | |
| FeelBetter | <=29 | 43 | 2.12 | 1.276 | **0.004** |
| | 30+ | 39 | 2.95 | 1.255 | |
| NoInsurance | <=29 | 43 | 1.84 | 1.132 | **<0.001** |
| | 30+ | 39 | 3.10 | 1.429 | |

Table Continues

| | Grouped Age | *N* | *M* | *SD* | *p-value* |
|---|---|---|---|---|---|
| Oversleep | <=29 | 43 | 2.33 | 1.426 | 0.522 |
| | 30+ | 37 | 2.51 | 1.146 | |
| NoDaycare | <=29 | 42 | 1.81 | 1.110 | **0.028** |
| | 30+ | 35 | 2.43 | 1.313 | |
| Worktimeoff | <=29 | 42 | 2.00 | 1.325 | 0.225 |
| | 30+ | 35 | 2.37 | 1.330 | |
| Email | <=29 | 41 | 2.56 | 1.598 | 0.071 |
| | 30+ | 33 | 3.21 | 1.409 | |
| Text | <=29 | 42 | 3.40 | 1.531 | 0.477 |
| | 30+ | 36 | 3.64 | 1.334 | |
| Phone | <=29 | 45 | 4.44 | .813 | 0.463 |
| | 30+ | 45 | 4.31 | .900 | |
| Mail | <=29 | 41 | 3.56 | 1.598 | 0.248 |
| | 30+ | 38 | 3.92 | 1.124 | |
| LikeCurrentAutoSys | <=29 | 46 | 3.96 | 1.246 | 0.074 |
| | 30+ | 43 | 4.35 | .752 | |
| LikeCurrentSchedSys | <=29 | 44 | 4.00 | 1.012 | 0.389 |
| | 30+ | 38 | 3.79 | 1.189 | |

Table 8

*ANOVA*

| | | *N* | *M* | *SD* | Significance Testing | |
|---|---|---|---|---|---|---|
| | | | | | *p-value* | Post-hoc |
| CheckIn | White(NonHispanic) | 17 | 4.29 | .772 | 0.334 | |
| | Hispanic/Latino | 99 | 4.47 | .675 | | |
| | Black/AfricanAmerican | 10 | 4.20 | .632 | | |
| | Total | 126 | 4.43 | .686 | | |
| Wait20 | White(NonHispanic) | 17 | 2.53 | 1.419 | 0.203 | |
| | Hispanic/Latino | 99 | 3.08 | 1.267 | | |
| | Black/AfricanAmerican | 9 | 3.33 | 1.225 | | |
| | Total | 125 | 3.02 | 1.292 | | |
| CallQuickEZ | White(NonHispanic) | 17 | 3.00 | 1.323 | 0.927 | |
| | Hispanic/Latino | 102 | 3.14 | 1.372 | | |
| | Black/AfricanAmerican | 10 | 3.10 | 1.101 | | |
| | Total | 129 | 3.12 | 1.338 | | |
| InstrucClear | White(NonHispanic) | 17 | 4.29 | .772 | 0.955 | |
| | Hispanic/Latino | 99 | 4.28 | .893 | | |
| | Black/AfricanAmerican | 10 | 4.20 | .632 | | |
| | Total | 126 | 4.28 | .855 | | |
| EasyWalkin | White(NonHispanic) | 15 | 3.07 | 1.163 | 0.164 | |
| | Hispanic/Latino | 96 | 3.67 | 1.202 | | |
| | Black/AfricanAmerican | 10 | 3.80 | .919 | | |
| | Total | 121 | 3.60 | 1.187 | | |
| Forget | White(NonHispanic) | 17 | 2.41 | 1.228 | 0.160 | |
| | Hispanic/Latino | 93 | 3.12 | 1.545 | | |
| | Black/AfricanAmerican | 8 | 2.63 | 1.302 | | |
| | Total | 118 | 2.98 | 1.502 | | |
| NoRide | White(NonHispanic) | 15 | 2.40 | 1.298 | 0.818 | |
| | Hispanic/Latino | 80 | 2.44 | 1.386 | | |
| | Black/AfricanAmerican | 8 | 2.75 | 1.488 | | |
| | Total | 103 | 2.46 | 1.370 | | |

Table Continues

| | | *N* | *M* | *SD* | Significance Testing | |
|---|---|---|---|---|---|---|
| | | | | | *p-value* | Post-hoc |
| FeelBetter | White(NonHispanic) | 14 | 2.57 | 1.342 | 0.756 | |
| | Hispanic/Latino | 79 | 2.73 | 1.447 | | |
| | Black/AfricanAmerican | 8 | 2.38 | 1.302 | | |
| | Total | 101 | 2.68 | 1.414 | | |
| NoInsurance | White(NonHispanic) | 15 | 2.60 | 1.404 | 0.915 | |
| | Hispanic/Latino | 83 | 2.66 | 1.556 | | |
| | Black/AfricanAmerican | 9 | 2.44 | 1.333 | | |
| | Total | 107 | 2.64 | 1.507 | | |
| Oversleep | White(NonHispanic) | 14 | 2.43 | 1.399 | 0.146 | |
| | Hispanic/Latino | 77 | 2.40 | 1.320 | | |
| | Black/AfricanAmerican | 9 | 3.33 | 1.414 | | |
| | Total | 100 | 2.49 | 1.352 | | |
| NoDaycare | White(NonHispanic) | 14 | 1.93 | 1.269 | 0.390 | |
| | Hispanic/Latino | 73 | 2.21 | 1.343 | | |
| | Black/AfricanAmerican | 8 | 2.75 | 1.488 | | |
| | Total | 95 | 2.21 | 1.344 | | |
| | Hispanic/Latino | 72 | 2.36 | 1.437 | | |
| | Black/AfricanAmerican | 8 | 2.13 | 1.356 | | |
| | Total | 94 | 2.30 | 1.413 | | |
| Worktimeoff | White(NonHispanic) | 14 | 2.07 | 1.385 | 0.736 | |
| | Hispanic/Latino | 72 | 2.36 | 1.437 | | |
| | Black/AfricanAmerican | 8 | 2.13 | 1.356 | | |
| | Total | 94 | 2.30 | 1.413 | | |

Table Continues

| | | *N* | *M* | *SD* | Significance Testing | |
|---|---|---|---|---|---|---|
| | | | | | *p-value* | Post-hoc |
| Text | White(NonHispanic) | 16 | 2.50 | 1.414 | **0.024** | **White Vs Hispanic 0.025** |
| | Hispanic/Latino | 73 | 3.62 | 1.468 | | |
| | Black/AfricanAmerican | 8 | 3.25 | 1.488 | | |
| | Total | 97 | 3.40 | 1.505 | | |
| Phone | White(NonHispanic) | 17 | 4.53 | .624 | 0.222 | |
| | Hispanic/Latino | 92 | 4.54 | .717 | | |
| | Black/AfricanAmerican | 10 | 4.10 | 1.287 | | |
| | Total | 119 | 4.50 | .769 | | |
| Mail | White(NonHispanic) | 15 | 3.40 | 1.352 | 0.266 | |
| | Hispanic/Latino | 77 | 3.84 | 1.452 | | |
| | Black/AfricanAmerican | 8 | 3.13 | 1.458 | | |
| | Total | 100 | 3.72 | 1.443 | | |
| LikeCurrentAutoSys | White(NonHispanic) | 16 | 4.38 | .719 | 0.278 | |
| | Hispanic/Latino | 90 | 4.17 | 1.134 | | |
| | Black/AfricanAmerican | 8 | 3.63 | 1.061 | | |
| | Total | 114 | 4.16 | 1.086 | | |
| LikeCurrentSchedSys | White(NonHispanic) | 13 | 3.54 | 1.330 | 0.401 | |
| | Hispanic/Latino | 84 | 3.92 | 1.184 | | |
| | Black/AfricanAmerican | 8 | 3.50 | .926 | | |
| | Total | 105 | 3.84 | 1.186 | | |
| Email | White(NonHispanic) | 14 | 2.21 | 1.311 | 0.204 | |
| | Hispanic/Latino | 68 | 2.87 | 1.583 | | |
| | Black/AfricanAmerican | 8 | 3.38 | 1.598 | | |
| | Total | 90 | 2.81 | 1.557 | | |

## Discussion of Findings in the Context of Literature and Framework

As previously stated, in a review of the literature, there are multiple and diverse reasons that patients do not attend scheduled appointments. These reasons include forgetting, feeling better, and being young. The lack of transportation and a lack of understanding the importance of keeping appointments have also been noted. Finally, patients state that having to work and long intervals between appointments will also cause them to skip appointments (Lacy, Paulman, Reuter, & Lovejoy, 2004). The findings in this project are consistent with the literature, namely the statistically significant findings related to age, lack of transportation, forgetting, and feeling better.

Perceived benefits and barriers would be the most important concepts to understand in the development of a new scheduling system to conquer no-shows, for instance; external cues to action (the Allscripts iRemind system), can make the patient more aware of the importance of keeping an appointment, while self-efficacy is the patient having confidence in his or her own ability to perform an action successfully, such as making an appointment (Kuhns, 2011). The iRemind system was found to be an important cue for younger patients, with a significant trend developing ($p = 0.074$), possibly owing to the fact that younger patients may be more likely to own and carry smartphones 24-7 (Smith, 2013). In the clinic survey findings, female patients were found to like the current scheduling system ($p = 0.040$) more than their male counterparts; yet, only 8 male patients responded to the question ($n = 86$ women). In a community where many patients live close to the clinic, do not drive, and may not have

constant smartphone access, it may be simpler for them to walk in or call whenever they want to make an appointment.

## Implications

### Implications for Practice/Action

This evidence-based descriptive study supports the projects objectives. The assessment of barriers noted by patients that have led to missed appointments can provide knowledge to key stakeholders in the development and implementation of future scheduling and appointment options. After the implementation of the patient survey, there were several statistically significant findings related to age of patient and missing appointments. These findings may be offered as evidence-based suggestions of methods to reduce barriers by the implementation of patient reminder systems, for instance. Since this survey was implemented at a time during the early stages of Health Care Reform, and the deadline for signing up for health insurance has passed, it would be interesting to resurvey patients in the future regarding missing appointments due to lack of health insurance, as this was a statistically significant finding ($p = <0.001$).

### Implications for Future Research

There are several implications for future research. Research on what makes patients show up for their appointments, as opposed to what keeps them away, should be considered with this population. Development of a reliable test-retest patient survey should also be considered. Finally, with several statistically significant trends assessed, a larger sample of the population should be addressed.

Implications for Social Change

Increasing access to health care was a consideration of this project. Lack of medical insurance, a significant issue for this population, must be evaluated and reassessed since the Affordable Care Act and Health Care Reform have begun. According to Healthy People 2020 (2014), progress for "access to health services-persons with medical insurance under the age of 65," has been disappointing. With the target goal of 100% of all persons having coverage, the baseline amount in 2008 was 83.2%. At last survey in 2012, only 83.1% have coverage.

## Project Strengths and Limitations

The strength of the project consists of the knowledge gained by the stakeholders in order to limit barriers to care related to age in this outpatient clinic. Statistically significant findings related to age and missed appointments will be presented to key stakeholders, especially those responsible for day-to-day clinic operations, like project and clinic managers. A second strength of the project involves the number of statistically significant findings in all categories. This may be related to the total number of surveys ($n$ = 151) collected.

Limitations of the project include the relatively small number of health care provider surveys ($n$ = 22) collected and the number of blank responses on all of the surveys, both patient and provider. Another limitation is the use of a new tool that had not been previously tested for validity or reliability. Pertaining to demographics, one

limitation may be related to the unequal distribution of female ($n$ = 104) to male ($n$ = 11) patient surveys collected.

## Self-Analysis

The American Association of Colleges of Nursing defines scholarship (AACN, 2014) as those activities that thoroughly advance the teaching, practice, and research of nursing by way of severe inquiry. This inquiry must be significant to the profession of nursing, as well as creative, reproducible, easily documented and must be able to be peer-reviewed. As a nurse scholar, this project has provided me with new insights into the profession, as well as into the patients I have been caring for. Discovering the ability to critically appraise a problem, and then methodically evaluating it, have led me to this evidence-based project. The focus of the aspect of scholarship has fallen solely on me, as the learner, and has added to a profound awareness of the discipline. As a nurse scholar, I have researched a patient problem that is global and have collaborated with other professionals in a commitment to improve health care. As a nurse scholar, I have been taught by other scholars within the profession, and have had role models mentoring me in roles suited for leadership. The AACN (2014) acknowledges that practice scholarship encompasses all facets of nursing service. This is noted especially when nurses are gathered round the table in pursuit of problem solving within communities. Practice scholarship has been conducted throughout this evidence-based project by way of applying current nursing knowledge to the assessment and validation of outcomes, evaluating those outcomes, and analyzing new models of health care.

## Summary and Conclusions

The objectives of this evidence-based project were threefold:

- To increase stakeholders' knowledge about potential and actual barriers to health care for the target population by way of a patient and health care provider survey;
- To evaluate whether these barriers may have played a part in the high no-show rate by way of the same survey; and
- To offer evidence-based suggestions of methods to reduce barriers by the implementation of patient reminder systems.

The St. Joseph Regional Health Network has a quarterly breakfast for all managers covering two-campus sites and 15 outpatient facilities in Berks, Chester, and Montgomery Counties (St. Joseph Regional Health Network, 2013). To fulfill the first objective, I will be attending the next breakfast with a power point presentation on this evidence-based project. I have previously presented this project to the campus where the project took place to the providers that took part in the survey, as well as the local managers. In summary, other managers from outlying offices may see the benefit in a survey for patients regarding non-attendance and age.

Secondly, the review of the literature reported "young age" as a variable concerning nonattendance; this project also suggests that age (29 years and under) does play a statistically significant role in patients not showing for their medical appointments.

Finally, there were a few recommendations for alternate methods of patient reminders. For example, patients 29 years and younger tended to agree with wanting to be reminded via email, as well as it was found to be statistically significant, by race, to want to be reminded via text messaging. These options will be something to pursue at the managers breakfast.

Section 5: Scholarly Product

# Abstract


- In the U.S, lower socioeconomic status (SES), ethnicity, and race have all been associated with decreased health care use. Patients who continually miss their health care appointments suffer negative results, to include a disruption in continuity of care, complications in chronic illnesses, failed medication compliance, and an increase in hospital readmissions.
- Patients who "no-show" for their appointments usually have a history of doing so, are usually young, male, of lower SES, and are generally receiving government-provided health benefits.


# Purpose

- The purpose of this evidence-based project (EBP) is to identify reasons why a minority, underserved, underinsured population receiving medical care at an urban hospital-based outpatient clinic, with a fairly consistent no-show rate of 30%, may not show for their health care appointments.
- Data Sources: An extensive review of the literature was collected through searches of CINAHL, Medline, and Nursing and Allied Health Source.


Nature of the Evidence-Based Project
Section One: Introduction

# Introduction

- According to Salameh, Olsen, and Howard (2012), estimates of non-attendance at scheduled appointments in 2006 ranged between 15% and 35% in the U. S. Estimates from Martini da Costa et al. (2009) and Parikh et al. (2010) range from 5% to 55%. Review of the literature (ROL) suggests that this problem is multifaceted, offering diverse reasons why patients don't keep appointments. Overall, the number one reason offered by patients is forgetting (Killaspy, 2000).

# Introduction

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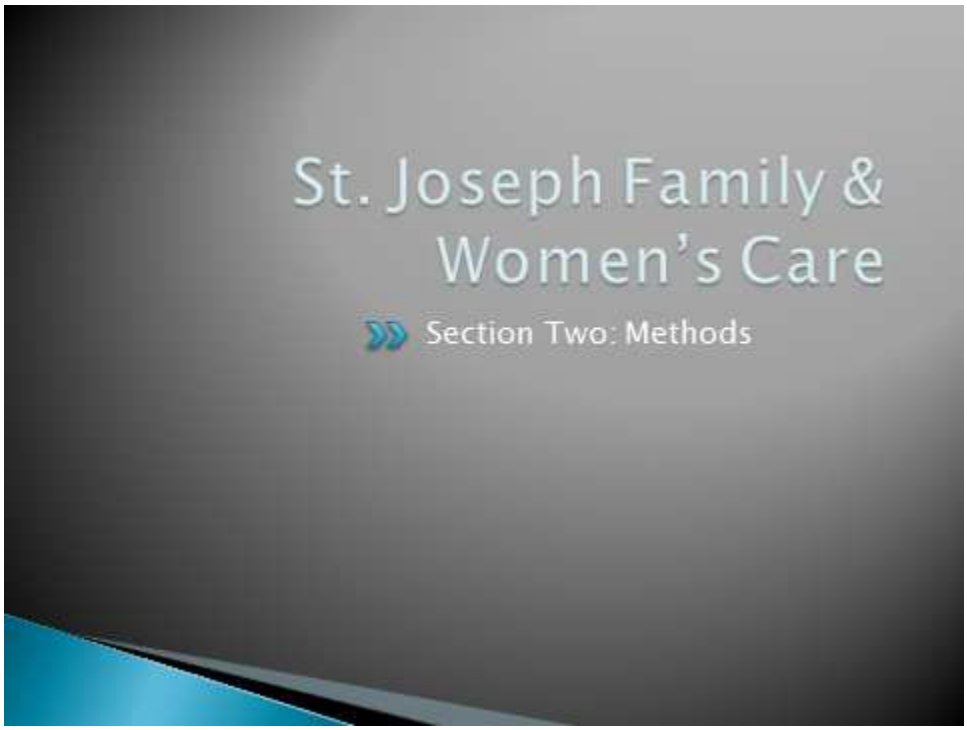
# Problem Statement

- The underserved, minority urban clinic patient has a higher incidence of not showing for their health care appointments, due to a multitude of reasons, causing ineffective care, lack of consistency , poor health care outcomes and elevated health care costs.
- Barriers to appointments include delay between scheduled appointments, clerical errors, lack of child care and family stressors, long waiting times to be seen and not understanding the need of the appointment (Salameh, Olsen & Howard, 2012).


St. Joseph Family & Women's Care
Section Two: Methods

# Significance

- SJFWC provides over 220,000 clinic appointments annually for approximately 17,000 patients (St. Joseph Regional Health Network, 2013).
- Located in the fifth most-populated city in PA per 2010 U. S. Census Bureau results.
- 49% of its population living below the poverty level (City of Reading, PA, 2012).
- Per PPMS, between 10/01/12 and 9/13/13, there were approximately 11,750 no-shows (not inc. Peds).

# Design

- Descriptive study of missed appointments using a self-designed patient and provider survey to identify perceptions of barriers to care; anonymous; in English and Spanish.
- Convenience sample of patients that are : (1) currently registered and receiving care; (2) over the age of 18; (3) male or female, as well as health care provider survey for: (1) full-time employees; (2) working in Family Practice, Women's Health or Residency Program; and (3) employed for at least the past 90 days.


Results
Section Three: Discussion

# Analysis

- Patients (n=151) completed the survey anonymously;
- By gender, females were significantly more likely to approve of the current scheduling system at the clinic, which is based on the patient simply calling the clinic for an appointment (p=0.040);
- For race, there was a statistically significant value (p=0.024) found for being reminded of an appointment via text message, with White (Non-Hispanic) patients not as likely to want text messages sent for appointment reminders;
- For the age demographic, there were multiple statistically significant values found for reasons patients miss their appointments, most notably, patients 29 years old and younger were statistically significant (p<0.001) to not show due to the lack of insurance.

# Analysis

- Health care provider (HCP) surveys (n=50) were handed out individually to assess their opinions of patient no-shows and the appointment/scheduling system. There was a 44% returned rate (n=22) for provider surveys, with an unfortunate number of blanks regarding demographics.
- More than the majority (68.2%) of HCPs agreed with the statement "patients miss their appointments due to forgetting or lack of transportation." Most respondents (68.2%) also agreed with the statement "I think my patients would like to be reminded of their appointments by telephone," which is compared with 62.2% of patient respondents who strongly agreed with the statement.

# Discussion and Implications

- A review of the literature reveals different scenarios that clinics have tried and researchers have assessed to curb the no-show rate. Telephone reminders, text messaging, computer automated reminder calls, patient education, and open-access scheduling are just a few.
- Eliminating disparities in healthcare should be a major goal of hospital organizations. Race, ethnicity, and language preference (REAL) remain a concern that patients may not receive the care that they need and the outcomes they deserve (Umbdenstock, 2013). Increasing access to care in underserved communities can deliver crucial preventive services that may improve outcomes.

# Implications

- The review of the literature reports "young age" as a variable concerning non-attendance-this project also suggests that age (29 years and under) does play a statistically significant role in patients not showing for their medical appointments.
- There were a few recommendations for alternate methods of patient reminders-patients 29 years and younger tended to agree with wanting to be reminded via email, as well as it was found to be statistically significant, by race, to want to be reminded via text messaging . As it stands now, there is neither text messaging nor reminder emails sent for appointment reminders...something to pursue...

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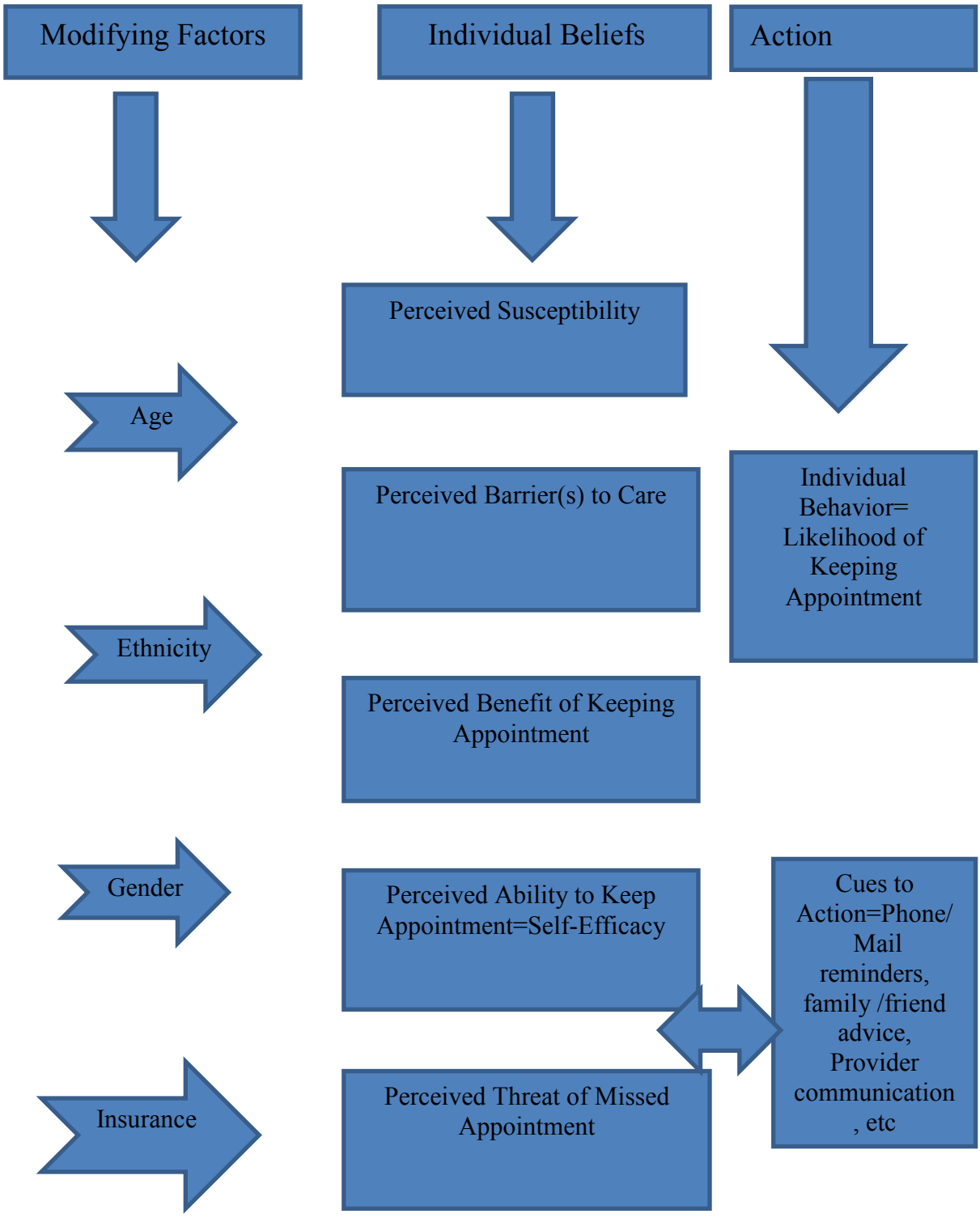
Appendix A: Adaptation of Health Belief Model



Appendix B: Patient Attendance Survey in English

**ST. JOSEPH REGIONAL HEALTH NETWORK**

Thank you for taking the time to complete this short survey. Your input is important to help us provide you and your family the best experience possible. Please read the statements below and mark an X in the box that most closely represents how you feel.

| STATEMENT | STRONGLY AGREE | AGREE | NEUTRAL | DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|---|
| **Registration/ Check In** | | | | | |
| 1. The check-in process is easy | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. I never have to wait more than 20 minutes to be seen | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Scheduling an Appointment** | | | | | |
| 3. Calling in for an appointment is quick and easy | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. The appointment instructions are clear | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. It is easier to just walk-in for an appointment | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Appointments: I have missed appointments due to** | | | | | |
| 6. Forgetting | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Not having a ride | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Feeling better | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | |
|---|---|---|---|---|---|
| 9. Lack of money/insurance | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. Oversleeping | ☐ | ☐ | ☐ | ☐ | ☐ |
| 11. Lack of daycare/babysitter | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12. Being unable to take time off from work | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Scheduling Process: I would like to be reminded** | | | | | |
| 13. By e-mail | ☐ | ☐ | ☐ | ☐ | ☐ |
| 14. By text messaging | ☐ | ☐ | ☐ | ☐ | ☐ |
| 15. By telephone | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. By mail | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. I like the current automated reminder system | ☐ | ☐ | ☐ | ☐ | ☐ |
| 18. I like the current scheduling system | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Circle One Answer Each Question:** | | | | | |
| **Do you have health insurance? Yes No Type? Private Government** | | | | | |
| **Race/Ethnicity? Asian Pacific Islander White (Not Hispanic or Latino) Hispanic/Latino Black/African American Other** | | | | | |
| **Sex: Male Female Age:** | | | | | |

# Appendix C: Patient Attendance Survey in Spanish

**ST. JOSEPH REGIONAL HEALTH NETWORK**

Gracias por sacar tiempo para completar esta encuesta. Su declaración es importante para ayudarnos a proveer a austed, a su familia y amigos con la major experiencia possible. Por favor lea cada declaración que aparece abajo y marque con una X en el cuadro que más representa como ousted se siente en cada declaración.

| DECLARACIóN | FUERTEMENTE DE ACUERDO | ACUERDO | NEUTRAL | DESACUERDO | FUERTEMENTE EN DESCAUERGO |
|---|---|---|---|---|---|
| **Registracioń** | | | | | |
| 1. El proceso de registracioń es facil | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. *Nunca tengo que esperar mas de 20 minutos para que me vean* | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Haciendo citas** | | | | | |
| 3. Llamar para ser una cita es rápido y facil | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Las instrucciones de las citas son claras | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Puedo verme cuando yo quiera con una cita | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Citas: He perdido citas porque** | | | | | |
| 6. Se me olvida | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. No tengo transportación | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | |
|---|---|---|---|---|---|
| 8. Me he sentido major | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. No tengo dinero/seguro medico | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. Me ha cogido el diá | ☐ | ☐ | ☐ | ☐ | ☐ |
| 11. No tengo quien me cuide a los hijos | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12. No puedo coger tiempo libre en el trabajo | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Proceso de hacer citas: Me gustaria que me recordaran** | | | | | |
| 13. Por correo electrónico | ☐ | ☐ | ☐ | ☐ | ☐ |
| 14. Por mesaje de texto | ☐ | ☐ | ☐ | ☐ | ☐ |
| 15. Por teléfono | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. Por correo | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. Me gusta el sistema automatic de recordar las citas | ☐ | ☐ | ☐ | ☐ | ☐ |
| 18. Me gusta el sistema que tiner ahora para las citas | ☐ | ☐ | ☐ | ☐ | ☐ |
| **¿ Usted tine seguro médico? Marque: Si No Tipo? Privado Gobierno Edad:** | | | | | |
| **Raza/Etnicidad Asiático Islas Pacificas Blanco (Not Hispano o Latino) Otro Hispano/Latino Negro/Africano Americano Sexo? Femenino Masculino** | | | | | |

# Appendix D: Patient Attendance Survey for Providers

## ST. JOSEPH REGIONAL HEALTH NETWORK

Thank you for taking the time to complete this short survey. Your input is important to help us provide you the best experience possible. Please read the statements below and mark an X in the box that most closely represents how you feel.

| STATEMENT | STRONGLY AGREE | AGREE | NEUTRAL | DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|---|
| **Registration/ Check In** | | | | | |
| 1. My patients seem to arrive on time | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. My patients are brought back to my rooms in a timely manner | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Scheduling an Appointment** | | | | | |
| 3. Calling in for an appointment is quick and easy for my patients | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. The appointment instructions are clear | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. My patients can schedule an appointment with me and be seen within 14 days | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Appointments: Patients miss appointments due to** | | | | | |
| 1. Forgetting | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Lack of transportation | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Feeling better | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Lack of money/insurance | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Oversleeping | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Lack of daycare/babysitter | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | |
|---|---|---|---|---|---|
| 7. Being unable to take time off from work | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Scheduling Process: I think my patients would like to be reminded of their appointments** | | | | | |
| 8. By e-mail | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. By text messaging | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. By telephone | ☐ | ☐ | ☐ | ☐ | ☐ |
| 11. By mail | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12. I like the current automated reminder system | ☐ | ☐ | ☐ | ☐ | ☐ |
| 13. I like the current scheduling system | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | | | |
| **Circle one: PA CNM CRNP MD/DO Age: Sex: Male Female** | | | | | |
| **Race/Ethnicity: Asian Pacific Islander White (Not Hispanic or Latino) Hispanic/Latino Black/African American Other** | | | | | |

Appendix E: Patient Survey Cover Page

You are invited to take part in a research study of discovering why patients miss their appointments. The researcher is inviting all active patients at St. Joseph Regional Health Network Community Campus to be in the study. This form is just to let you know and to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Susan L. Geiger, RNC, WHNP, who is a doctoral student at Walden University, as well as a Nurse Practitioner at the Community Campus, but this study is separate from that role. You are being asked voluntarily to fill out an anonymous patient survey in order to collect data to better serve you as a patient at the clinic.

To protect your privacy, no consent signature is requested. Rather, your return of a completed survey will be taken as your consent, if you choose to participate.

**Background Information:**
The purpose of this study is to understand why patients do not always come for their appointments and to come up with a solution to decrease patient no-shows.

**Procedures:**
Patients will be handed an anonymous patient survey, with no personal identifiers, to be filled out during patient registration and possibly at a later date.

**Voluntary Nature of the Study:**
This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at the Community Campus will treat you differently if you decide not to be in the study.

**Risks and Benefits of Being in the Study:**
No risks or minimal risks involved, while the benefits include increased patient satisfaction, decreased wait times, and improved patient health outcomes.

**Privacy:**
Any information you provide will be kept anonymous. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by keeping surveys in a privacy envelope. Data will be kept for a period of at least 5 years, as required by the university.

**Contacts and Questions:**
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via email at susangeiger@catholichealth.net. If you want to talk

privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is **04-04-14-0325833** and it expires on **April 3, 2015.** Please keep this form for your records.

Curriculum Vitae

**Susan L. Geiger**

902 Samantha Circle Chester Springs, Pennsylvania 19425
(484) 364-1240
s_geiger@comcast.net

## Profile

Women's Health Nurse Practitioner, Certified, with over 25 years of healthcare experience in clinical, academic and management positions, who is known for being results-driven, assertive, and influential. Anticipating graduating with honors in Winter 2014 with a Doctor of Nursing Practice degree. Seeking position in Academia, Health Care Policy and/or Health Care Administration.

## Accomplishments

Directing, developing, and implementing St. Joseph Regional Health Network Family and Women's Care Administrative Policies and Procedures for 2500 patients.

Directing, developing, and implementing SJRHN Family and Women's Care No-Show Policy and Open-Access Scheduling Program for 2500 patients.

Directing and implementing SJMC Family and Women's Care Healthy Women Program for the women in Berks County.

Directed, developed, and continuously implements the SJRHN Family and Women's Care Cervical Pathology & Colposcopy Program for the Women's Clinic

Directed, developed, and continuously implements the SJRHN Family and Women's Care Mammogram Program for the Women's Clinic

Chair, SJRHN Nursing Research Council

Certified Colposcopist after completing Advanced Practice Clinician Colposcopy Training Program, Drexel University.

Developed and implemented Smoking Cessation Classes, Childbirth Education Classes, and Well-Baby/Well-Child Immunization Policies and Procedures both stateside and overseas.

Honorable Discharge from the United States Army, Army Nurse Corps in 1988

## Education

Walden University, Minneapolis, Minnesota (12/2011-present), DNP Program

University of Michigan, Ann Arbor, Michigan (1994), Parent Child Nursing, Cum Laude, MS

Adelphi University, Garden City, New York (1984), Nursing, Cum Laude, BSN

Drexel University, Philadelphia, Pennsylvania (2007), Post Graduate Advanced Practice Clinician Colposcopy Training Program

**Clinical Experience**

St. Joseph Medical Center Family and Women's Care (3/2009-Present), Reading, PA

Planned Parenthood of Chester County (2006-2009), West Chester, Avondale, Coatesville, and Phoenixville, PA

DeWitt Army Community Hospital (1998-2002), Ft. Belvoir, VA

Women's Health Nurse Practitioner, Certified by the National Certification Corporation since 1998, in an outpatient obstetric/gynecologic hospital clinic, serving the underserved. Manages and provides comprehensive care to a diverse population of adolescents, young men and women, women of child-bearing age, as well as the older female. Assists with the training and orientation of Family Practice Students and Residents, as well as Nurse Midwifery and Nurse Practitioner Students. Developing current protocols and guidelines as stated above.

**Academic Experience**

Alvernia University, Reading, PA (May 2014-August 2014), MSN Program, didactic for Advanced Pathophysiology/Pharmacology course

George Mason University, Fairfax, Virginia; Marymount University, Arlington, VA; Northern Virginia Community College, Annandale, VA; University of Detroit-Mercy, Detroit, Michigan; St. Clair County Community College, Port Huron, MI; Macomb Community College, Mount Clemens, MI (1994-1998)

Adjunct Faculty for Associate's Degree (ADN) and Bachelor's Degree (BSN) Nursing Students, both didactic and clinical rotations in Medical-Surgical and Maternal Child Nursing.

**Professional Affiliations**

Academy of Women's Health, Nurse Practitioners in Women's Health, Association of Women's Health, Obstetric and Neonatal Nurses, American Society for Colposcopy and Cervical Pathology, Association of Reproductive Health Professionals, American Nurses Association, and Sigma Theta Tau