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Noncompliance with Follow-Up Visits in Primary Care

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Walden University
2019

Abstract

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MS, Walden University, 2014

BS, Grand Canyon University, 2011

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

No-show appointments, also referred to as *missed appointments*, occur 23% to 34% annually in general practice care settings. Missed appointments can lead to reduction in appointment availability, decrease in provider/staff productivity, patient/provider discordance, disruption in continuity of care, and reduced quality of care. There is a gap in the nursing literature regarding effective interventions to reduce missed appointments. The purpose of this quality improvement, secondary analysis project was to determine whether implementation of an evidence-based no-show, nurse-led intervention would reduce missed appointment rates in a family medicine practice. The health belief model and the plan, do, study, act model guided this no-show project. Convenience sampled, password-secured quantitative data from nurse practitioner schedules were analyzed using a check-sheet tool and spreadsheet software. Data showed that after implementation of the evidence-based, nurse-led interventions, there was a reduction of no-shows with a decline from 23.5% in September and November 2017 to 17% in September and November 2018. Results of this no-show project might promote positive social change by increasing awareness of evidence-based interventions that are effective for reducing missed appointments in primary care practices.

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Dedication

I dedicate this project to the family. To my love and best friend, Mark, thank you for all the support you gave me throughout this stressful journey. Thank you for understanding and making sure I had uninterrupted time and space to work on my project. Thank you for having patience with me especially when I would say "hold on I am almost done with this section." Mark, I love you!

I want to say thank you to my children (Christopher, Chase, Hailey, and Hannah) for being there when I needed them. Thank you for supporting me while I worked towards my dream of obtaining my DNP. Hailey and Hannah thank you for the constant reminder "Once you start something you can never quit."

To my parents, Jim and Sharon Jacobs and my wonderful in-laws George and Sharon Northern, thank you for your support throughout this journey. Thank you for listening to all of my whining when I had to re-write the projects sections over and over again.

Thank you all very much!

With lots of love, Amanda Northern, MSN, DNP, AGNP-C

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Introduction

Despite significant growth in literature on patient non-compliance, researchers have done little to explore the issue of the "no-show patient." Recent reports have indicated 23% to 34% no-show appointment rates occur annually in a general practice care setting (Crutchfield & Kistler, 2017). Also referred to as *missed appointments*, no-show appointments lead to many health challenges for patients and providers. Missed appointments impact the use of screening procedures, preventative therapy, and disease management. Consequently, missed appointments lead to an increase in comorbidities, thus increasing the likelihood of mortality along with increasing healthcare costs (Phillips, 2008). Missed appointments lead to wasteful downtime for providers and staff, longer wait times for scheduled patients to be seen, reduced access to health care, interruptions in the continuity of care, lower provider productivity, decreased patient satisfaction, and diminished quality of care (Sands, Daggy, Lawly, Willis, & Thayer, 2010).

This study was a doctorate in nursing practice (DNP) project. The primary purpose of this study was to determine whether implementation of an evidence-based, nurse-led intervention targeting no-show appointments would reduce missed appointment rates in a family medicine practice. In order to promote positive social change, I designed this DNP project to increase awareness of effective evidenced-based interventions shown to help reduce missed office visits. The project findings can be used by implementing evidenced-based strategies to improve staffing and patient education, correct the

scheduling process to lessen missed appointments, reduce frustration among the patients and medical staff, increase patient satisfaction, and reduce wasteful costs for the office and the patients.

Problem Statement

The local nursing practice problem for this no-show project at this outpatient setting in an urban, eastern U.S. family medicine practice for uninsured adults 18 years and older was the negative effects and health outcomes that occur with the high volume of no-show appointments. When a patient misses a scheduled appointment, another patient is kept from utilizing that slot. No-shows fill up the provider schedules, and when patients call in seeking a sick appointment or a hospital follow up appointment, they are denied an appointment due to the lack of an open slot. Missed appointments lead to poor health outcomes as those patients who miss their appointments often run out of their medications for chronic disease management, thus leading to worsening of their medical conditions. That is, these patients must wait until another appointment slot is available and are often denied prescription refills to manage their chronic illnesses until seen in the office (Nguyen et al., 2011). Now one patient has occupied two appointment slots for the same type of appointment. When patients miss their appointments and cannot be rescheduled immediately given the provider's full schedule, these patients find health care in the emergency departments or are admitted to the hospital due to their worsening health condition. As with the clinical consequences of missed appointments, loss of revenue and underutilization of the healthcare practitioners and staff occur as well.

A recent audit performed at this DNP family medicine practice showed local evidence of the relevance of no-show appointments. An audit of provider schedules from June to August 2017 showed a significant no-show rate of 22-24% between both nurse practitioners working at the clinic, with an average no-show rate of 23% per month and an overall 12-month no-show average of 22% [See Table 1 and 2 for provider schedule stats, and Table 3 for legend].

Table 1

NP1 Schedule

Type of missed appointment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total missed appointments
New patient	2	1	3	1	0	1	3	2	3	2	2	1	20
Provider follow up	20	12	22	11	8	12	25	44	32	27	35	27	275
GYN	0	0	2	0	1	1	3	2	0	0	2	1	12
Sick	2	1	4	0	0	2	1	5	1	1	2	0	19
Hospital follow up	0	0	0	2	0	1	1	1	2	0	1	0	8
ED follow up	0	0	1	0	0	0	1	1	1	0	1	0	5
Total scheduled	116	39	136	134	73	111	152	215	167	153	168	132	1596
Total no show	23	14	32	14	9	17	34	55	39	30	43	29	341
Percentage of missed appts.	20	36	24	10	11	15	22	26	23	20	26	22	21%

Note. No-show percentage rate for 2017 using the check sheet tool. Periods reflect office closure for furlough and holidays.

Table 2

NP2 Schedule

Type of missed appointment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total missed appointments
New patient	4	4	4	1	2	5	3	1	5	3	2	3	36
Provider follow up	10	21	27	12	23	25	22	48	35	20	34	29	306
GYN	1	1	0	1	0	0	2	3	1	3	4	2	18
Sick	1	2	1	0	1	2	0	1	3	3	3	0	17
Hospital follow up	0	0	2	0	1	1	0	1	1	0	0	0	10
ED follow up	0	0	0	0	0	0	0	0	1	0	0	0	1
Total scheduled	79	125	127	123	142	151	127	195	149	164	172	114	1668
Total no show	16	28	34	14	27	33	27	54	46	32	43	34	388
Percentage of missed appts.	20	22	27	11	20	22	21	28	31	20	25	30	23%

Table 3

Legend to define Provider Check sheet tool

Abbreviations	Meaning
New patient appointment	Patient who is seeking to establish care
Provider follow up	Returning patients for routine care
GYN appointment	Gynecology/well woman
Sick appointment	Patients suffering acute illnesses or change in chronic disease
Hospital follow up	Patients recently discharge from an inpatient hospital stay
ED follow up	Patients recently seen in the emergency department
Totaled scheduled	Number of patients scheduled to be seen by provider
Total no-show	Number of patients who did not attend or cancel their appointments
% of no-show	The percent of patients who no-showed their appointment
Grand total	Total number in each column

The implication of the high no-show rate is that since there are only two nurse practitioners to care for 852-plus patients at this project site, appointment slot availability is limited. With the elevated no-show rates, availability of appointments at this site is even more limited, thus making it difficult for other patients to be scheduled and seen by

providers. The issue of missed appointments has affected the productivity of the providers and other office staff. As I stated previously in this section, the average no-show rate in 2017 for both nurse practitioners was 23% per month and 22% annually. Although this family medicine practice has a no-show policy (if a patient misses three appointments, they are dismissed from the practice for 12 months), this policy is currently not being enforced by direction of the office manager. This policy also does not entail specific evidence-based interventions to help reduce missed appointments, such as reminder phone calls by staff members and other specific interventions.

The significance of this no-show project is multifaceted. When a patient misses an appointment, this can lead to inferior health outcomes (Crutchfield & Kistler, 2017) such as worsening of the patient's current disease status due to the lack of needed healthcare, an increase in mortality, underutilization of providers and medical staff, added frustration for patients and medical staff, and increased healthcare costs (Phillips, 2008). Using evidence-based research for this quality improvement project, I examined the negative impact that no-show appointments had on patients and the organization while gathering data on effective interventions utilized to help reduce missed appointments. With utilization of the effective evidence-based interventions by the staff, I projected that there would be reduced unoccupied appointment slots, enhanced healthcare services, decreased organizational costs, enhanced utilization of the providers and medical staff - leading to less frustration for the patients and medical staff, and improved patient health outcomes.

Purpose

A major gap in the nursing literature continues to be marked by the absence of effective interventions to reduce missed appointments. Thus, I developed this quality improvement no-show project to address the gap in nursing practice by offering evidence-based information to reduce missed appointments. More specifically, using a quality improvement secondary analysis approach, I sought to determine whether implementation of an evidence-based, nurse-led no-show intervention would reduce missed appointment rates in a family medicine practice.

Practice-Focused Question

This evidence-based no-show project was aimed at improving healthcare delivery by developing effective evidenced-based interventions to reduce missed appointments. This overall quality improvement evidence-based practice (EBP) project is multi-faceted, complex, and will require a long-term commitment from the organization. To that end, the practice-focused question I addressed within the time-constraints of this doctoral program was, In qualified, uninsured adults (18 years and older) seeking free healthcare at an urban family medicine practice, will the adoption of an evidence-based, nurse-led, no-show protocol impact the no-show rate over a 60-day post-implementation period compared to the previous 60-day no-show rate?

Using an EBP model, this no-show project reduced no-show rates at this practice site by no less than 5% a month to allow for improved patient health outcomes, reduced unoccupied appointment slots, enhanced healthcare services, decreased organizational costs, facilitated proper utilization of the providers and medical staff, and lessened health

care frustration for all. The predicted benefits of this project were to help lessen the gap in nursing practice for the uninsured and underserved population on whom this project was focused. Decreasing no-show appointments is a reasonably economical way to increase health care efficiency, effectiveness, and quality (McLean et al., 2016). In this project, I identified and implemented evidence-based interventions shown to reduce the no-show rates in primary care. Simply put, when no-show appointments transpire, interference with appropriate health care occurs (Perron et al., 2010).

Nature of the Doctoral Project

For the purpose of this project, I utilized the hierarchy of evidence triangle when gathering evidence. Walden University's library database provided me access to a broad range of scholarly sources. The sources were twofold: filtered and unfiltered information (see University of Canberra, 2018). The filtered information consisted of systemic reviews, evidence syntheses and guidelines, and article synopses, while unfiltered information consisted of randomized control trials, cohort studies, case-controlled studies, and background information/expert opinion (see University of Canberra, 2018).

Subsequent to approval of the project from the practice site and Walden University Institutional Review Board, I collected data for the project using an electronic health record (EHR) for review. I gathered quantitative data (the number of no-shows during the 60-day implementation period-September through October) from the nurse practitioners' schedules within the project site's EHR.

Missed appointments can lead to disruption in health care as shown by declining health outcomes, an increase in health care costs, wastefulness of health care resources,

and frustration among patients and medical staff. Implementing an evidence-based, nurse-led intervention reduced no-show appointments and lessened the gap in nursing practice by increasing knowledge of the medical staff and patients on the importance of maintaining appointments.

Significance

The stakeholders involved in this no-show project consisted of the financial service representative (FSR), licensed practical nurse (LPN), medical assistant (MA), offsite office manager (who is onsite approximately 1 day per week, but always available by phone and email), nurse practitioners, and with current and future patients at this project site. These stakeholders are impacted by the high no-show rates due to the increase in responsibilities to get patients in for their appointments along with less downtime and busier schedules. These stakeholders were appropriate for this project because they are committed to the DNP practice site and share a common interest in the delivery of health care to our patients. Patients are stakeholders and are positively impacted by the project interventions, such as appointment reminders by staff, which reduce the chance of being dismissed from the practice for 6 months if one obtains three no-shows. The patients also have increased access to medical appointments with the reduction in no-show appointments.

Each stakeholder holds his/her own distinctive viewpoint regarding missed appointments and how to reduce them. The stakeholders contributed their professional/personal input, and all stakeholders benefited from this no-show project by

having fewer missed appointments, improved health outcomes, less downtime, and a reduction of wasted healthcare resources.

This no-show project offered contributions to nursing practice by showing the negative consequences missed appointments had on the patients' health and the operation of the organization. When effective interventions to reduce no-show appointments are implemented, patient health outcomes improve, there is a reduction in unoccupied appointment slots, a decline in organizational costs, and a reduction in downtime for the providers and staff.

Findings from this project study are potentially transferable to similar practice areas. Missed appointments occur globally and within every healthcare entity including primary care, psychiatry, medication dispensaries, and dentistry. As AlKanderi and AlBader (2014) discovered in a retrospective study in a dental office environment, the male gender, the age of the patient (between 19-35 years old), ethnicity, and appointments with a higher complexity of treatment had greater incidence of failed dental appointments. For instance, male patients did not attend their dental appointments by 14.9% compared to females' missed appointment rate of 12.4%. Patients between the ages of 19-35 were in excess of four times the number of missed appointments than those patients above age 65. African American patients showed the highest missed appointment rate with 15.9% compared to other ethnicities. This study revealed a reduction in missed appointments, from 27% to 17% when staff mailed appointment reminders to the patients (AlKanderi & AlBader, 2014). In addition, the utilization of office staff to make reminder calls significantly lowered the no-show rate when compared with an automated

appointment reminder system (AlKanderi & AlBader, 2014). Therefore, appropriate interventions to remind patients of their medical appointments have shown to reduce missed appointments.

As noted in an exploratory mixed-method research study by Magadzire, Mathole, and Ward (2017), performed in South Africa that involved a medication dispensary where patients did not obtain their free medications, a mixture of individual and health system barriers prevented patients from attending their appointments. The barriers to keeping appointments for medication pickup was partially due to the patients' noncompliance and lack of responsibility, and partially due to improper office processes. Some patients were misclassified as a no-show by the office staff, cards given to the patients with appointment dates and times were illegible, the cancellation process for the medications were not conveyed or deferred, thus leading to medications not being available for the patients, and there was a lack of up-to-date patient data within the healthcare information system. A short message service (SMS) appointment reminder system was implemented in an attempt to reduce missed appointments. Unfortunately, this study was unable to determine if the SMS strategy was effective for reducing missed appointments due to office process barriers that remained apparent (Magadzire, Mathole, & Ward, 2017). While utilizing effective evidence-based interventions, the likelihood of reducing no-show appointments is great, thus making those evidence-based interventions an asset to any primary care setting.

In order to promote positive social change, one must increase awareness of effective evidence-based interventions for reducing missed appointments. Along with

reducing missed appointment rates, my project findings of evidenced-based interventions can be utilized to improve education of the medical staff and patients, improve accuracy of the scheduling process, increase patient satisfaction, reduce frustration among the patients and medical staff, and reduce wasteful costs to the organization and the patients as well.

Summary

In summary, missed appointments remain a global issue as indicated by no-show appointment rates being consistently between 15% and 30% in outpatient health centers (McLean et al., 2016). No-show appointments lead to the waste of healthcare resources and increased frustration of staff and those patients who have to wait for weeks to obtain an appointment. Missed appointments lead to poor health outcomes and wasteful downtime for the providers and staff, reduced access to healthcare, interruptions in the continuity of care, decreased patient satisfaction, and negative impacts on the quality of care (Sands et al., 2010).

In Section 2, I address my use of models, the study's relevance to nursing, the local background and context, and the role of the DNP student and project team.

Section 2: Background and Context

Missed appointments is a worldwide problem. Missed appointments interrupt the work of the providers and office staff and lead to an increase in healthcare costs as patients' health outcomes decline (Phillips, 2008). Also referred to as *no-show appointments*, missed appointments lead to longer wait times for scheduled patients, interruptions in continuity of care for patients, reduction in provider productivity, and increasing health care costs (Cohen & Bennet, 2015). For the purpose of this no-show project, I defined a missed appointment or no-show as a patient who missed their medical appointment, did not call 24 hours in advance to cancel their appointment, and/or did not to obtain necessary labs 1 week prior to said appointment.

The practice-focused question guiding this no-show project was, "In qualified, uninsured adults (18 years and older) seeking free healthcare at an urban family medicine practice, will the adoption of an evidence-based, nurse-led, no-show protocol impact the no-show rate over a 60-day post-implementation period compared to the previous 60-day no-show rate?" Using evidence-based literature as a guide, I developed and implemented evidence-based strategies to help lower the rate of missed appointments. This chapter presents the theories guiding the project, the project's relevance to nursing practice, my role as DNP student, and finally, the role of the project team.

Concepts, Models, and Theories

Some people need behavioral changes and long-term behavior commitment in order to maintain a healthier life, especially those with chronic illnesses. In order to make these necessary changes, evidence-based models need to be set in place to support an

organized tactic (Schaffer et al., 2012). According to Schaffer et al. (2012), some clinicians have discovered that more than one model may be required to obtain the wanted outcome for a particular setting. Using a practice model aide to prevent inadequate execution of an intervention helps to avoid wasting resources while simplifying the evaluation process of that intervention. The health belief model (HBM) and the plan, do, study, act model (PDSA) guided this DNP no-show project, which I designed to bring about health belief changes for the patients and organizational changes for the staff.

According to the Resource Center for Adolescent Pregnancy Prevention (ReCAPP; 2017), the HBM was developed by social psychologists Hochbaum, Rosenstock, and Kegels in the early 1950s. While working in the U.S. Public Health Services, they discovered minimal participation from the public in free tuberculosis (TB) screenings, which prompted research as to why some individuals did not show to receive the free TB screening while others did. They found that perceived risk of disease and perceived benefits of action were the motivators for those who obtained free screenings (ReCAPP, 2017). The researchers thus developed the HBM in response to the failure of the free TB screening program. The HBM remains the most widely used conceptual framework by professionals to predict and guide health-related behaviors. The premise of this model is to motivate people to drop their poor health habits so to avoid negative health consequences by taking on healthier actions. According to Orji et al. (2012), the probability of someone engaging in a health-related behavior is based on their perceptions of the following six determinates of the HBM: (a) perceived susceptibility

(risk), (b) perceived severity (outcome expectations), (c) perceived benefits (efficiency), (d) perceived barriers, (e) cues to action (readiness), and (f) self-efficacy (confidence; ReCAPP, 2017). Using these six determinates in combination will provide structure for designing health behavior interventions **(**Orji et al., 2012). The HBM is most fitting for tackling behavior problems that have health consequences such as missing medical appointments, sedentary lifestyles, and poor nutrition **(**Orji et al., 2012). The premise of the HBM is that individuals take action to protect, screen for, or manage an ill health condition if they (a) believe they are at risk for a health illness with serious consequences, (b) believe a course of action would decrease their risk of susceptibility and consequence and believe the benefits outweigh the cost of action, (c) are confident they can carry out the action, (d) believe they are mentally and physically prepared to change their behavior, and (e) have confidence to continue with their healthy behavior change while avoiding negative temptations (University of Victoria, n.d.).

The HBM framework was developed to categorize, describe, and predict preventive health behaviors (Orji et al., 2012). From the health predictions, health education strategies were developed and initiated by psychologists in an attempt to change the unhealthy variables (Glanz, Rimer, & Viswanath, 2008), such as missing medical appointments, sedentary lifestyles, and poor nutrition. Health education enhances the individual's perception of healthier behaviors; the adoption of healthier behaviors will lead to health benefits and reduce or limit the person's barriers, thus improving their overall health (Glanz et al., 2008). The HBM provided the groundwork for this project designed to improve patients' adherence to their medical appointments.

Much of the literature I reviewed has the HBM as a common point of reference. As Glanz et al. (2008) noted, health behavior change is the greatest hope for reducing the burden of preventable disease and death around the world; for many, the perception of this model is that behavior change will lead to healthier outcomes (Orji et al., 2012). Due to the success with informing and predicting a range of behaviors related to health outcomes, most researchers promote the use of the original HBM four key concepts. Additional research has shown that HBM's four key health determinants were insufficient for predicting health behaviors and needed additional determinates to successfully predict health outcomes (Orji et al., 2012). Therefore, in 1988 two additional concepts were added to the model to appropriately address the task of changing unhealthy behaviors (ReCAPP, 2017; University of Twente, n.d.). HBM has been amended and effectively applied in the design of health interventions (Orji et al., 2012). For this no-show project, I used the expanded HBM containing the six constructs. My motive for using the HBM in this project was to discover and implement an evidence-based intervention to reduce missed appointments.

Further, I used the PDSA model (Institute for Healthcare Improvement [IHI], 2017) to help achieve organizational and staff change. The PDSA model is a tool used to help guide and test a change before implementing that change (IHI; 2017). It involves a four-step process, which the IHI (2017) defined as follows: plan (develop a plan to test the wanted change), do (implement the test), study (collect and analyze results of the test), and act (revise the plan if needed then implement). The PDSA is a part of the IHI model that advances quality improvement (AHRQ; 2013). Researchers use this model to

focus on studying and building knowledge from actual results of an implemented change. It is based on quality control at the management level, focusing more on integrated learning and not on evaluating success or failure of a certain implementation of change (Moen & Norman, 2010).

For this no-show project, I used the *plan* to develop a no-show policy to reduce missed appointments. The *do* section entailed incorporating responsibilities of the staff to assist with reducing missed appointments, such as reminder calls to patients. The *study* section divulges whether the no-show policy was effective with reducing missed appointments. The *act* section was for revising the plan if necessary and then implementing the revised plan. With the guidance of the PDSA model, I predicted the implementation and maintenance of change within the daily operations of this DNP practice site.

Definitions of Terms

Frequent flyer: A patient who no-shows to more than one appointment.

Missed appointments/no-show appointments: I have used these terms interchangeably to describe a patient who missed their medical appointment, did not call 24 hours in advance to cancel their appointment, and/or did not obtain necessary labs one week prior to said appointment.

Nurse-led intervention: A particular protocol that medical staff follow, which is set in place to help reduce no-show appointments at an urban family medicine practice.

Wait time: The amount of time between scheduling an appointment and when the appointment actually occurs (Chang et al., 2015).

Relevance to Nursing Practice

When patients miss appointments, a domino effect develops, leading to a fall in patient health outcomes, a reduction in appointment availability, longer appointment wait times, a decrease in provider/staff productivity, patient/provider discordance, and increased medical and organizational costs. These factors negatively affect patient health outcomes because they are denied proper health care and support. Likewise, nurses are denied the opportunity to learn and grow from their work experiences because positive patient outcomes cannot be achieved when patients miss their appointments (Nguyen, DeJesus, & Wieland, 2011).

Researchers have revealed that no-show appointments occur for multiple reasons. For example, a retrospective chart review revealed specific factors that lead to patients missing their appointments included younger age, Black, low socioeconomic status, and those who are covered by Medicaid insurance (Miller et al., 2015). In a separate retrospective observational cohort study, Chang, Sewell, and Day (2015) found that patients who use illicit drugs are at an increased risk of missing their medical appointments. Nguyen et al. (2011) suggested that patient characteristics are to blame for some who no-show their appointments; however, other studies have revealed office scheduling insufficiencies are to blame (Alkanderi & AlBader, 2014).

Nguyen et al. (2011) performed a study in an academic internal medicine continuity clinic to determine factors that led patients to miss their appointments and the result of their health outcomes from those missed appointments. At this clinic, the researchers randomly selected 650 patients with 325 patients seen by resident physicians

and the remaining 325 patients seen by faculty physicians. These residents would, at times, see the faculty physician patients when deemed necessary. The result of this study showed that medical residents had more no-show appointments than faculty physicians due to certain patient factors that included government insurance (Medicaid), non-English speaking patients, provider discordance, and less appointment history with their faculty physician. This study also revealed these patients were most likely not to be up to date on their health maintenance and had less than desirable health outcomes (Nguyen et al., 2011).

A retrospective observational descriptive study (Davies et al., 2016) within the Veterans Health Administration (VHA) revealed many different factors which led to missed appointments to include the individuality of the provider, patient-provider interaction, appointment availability, administrative/scheduling processes, team communication, and on-time appointments. Structural barriers, such as distance to the office and the lack of transportation, were also considered factors leading to patient no-shows. This same study revealed that predicting those patients who are more likely to no-show, frequent flyers, will allow for double booking of that particular appointment slot to enhance the productivity of the medical practice if the patient does not to attend the appointment (Davies et al., 2016).

No-show appointments are a common and unfavorable issue for patients and medical staff alike. There is a desperate need to research and implement interventions that can lead to achieving the goal for reducing no-show appointments. Although not 100% effective, many studies have revealed the use of patient reminders, such as phone

calls, SMS, email, and/or standard mail, can reduce no-show appointments. One randomized trial, with a focus of no-shows in primary care, revealed that phone call appointment reminders seven days prior to the appointment reduced the no-show rates among those patients at risk for missing their appointments (Shah, et al., 2016). Similarly, a retrospective cross-sectional study performed in a dentistry setting revealed a reduction in missed appointments by 10% when utilizing automatic phone reminders, however utilizing clinical staff to make those reminder calls was most effective (Alkanderi & AlBader, 2014). Luckett et al. (2015) performed a study on the effectiveness of a nurse navigator program for exploring barriers to health care to assist with reducing no-show rates at a colposcopy clinic. This study revealed certain patient characteristics (African American, Hispanic, and publicly or government insured health insurance) tended to no-show appointments more so than Whites with private health insurance. Despite patient characteristics and barriers that the vulnerable population faced, the nurse navigator program reduced the colposcopy center's no-show rate from 49.7 to 29.5% by reaching out to those patients who missed their appointments. The nurse navigator contacted patients (by phone or mail) to inquire and attempt to resolve barriers which prevented the patients from keeping their appointment, to promote medical adherence, and to reschedule an appointment for the patient.

Research revealed success with utilizing certain interventions within a particular medical setting, but the same intervention may not be successful when utilized in other medical settings. The Substance Abuse and Mental Health Services Administration (SAMHSA) initiated the national Strengthening Treatment Access and Retention State

Initiative (STAR-SI) in 2007 (Molfenter, 2013) involving 67 substance abuse organizations within 10 selected states (Molfenter, 2013). These 67 organizations were required to implement specific research and theory-based interventions to attempt to reduce their no-show rates. Two styles of interventions, contingency management and motivational interviewing, were most effective with reducing no-show appointments within the addiction treatment settings verses phone call reminders (Molfenter, 2013). Contingency management was based on incentives, such as monetary rewards, to encourage patients to keep their appointments whereas motivational interviewing interventions involved the use of therapy for changing one's perception about themselves thus enhancing their desire to attend their appointments (Molfenter, 2013). Once the initiative was completed in 2010, the organizations revealed a decline in their no-show rates from 37.4% to 19.9% (Molfenter, 2013).

Decreased staff productivity, increased medical costs, decreased quality of care, and less desirable patient health outcomes occur when patients miss their physical therapy appointments (Bokinskie, Johnson, & Mahoney, 2015). A national survey study was completed with the following recommendations for developing a no-show policy for a physical therapy clinic: a) use an appointment reminder system, such as phone calls, SMS, and emails; b) require a 24-hour appointment cancellation notice; and c) apply a financial penalty for those who miss their appointment (Bokinskie et al., 2015). Wagner (2012) disagreed with the use of strategy deterrence, such as charging patients a no-show fee, stating it was ineffective for reducing no-show rates, however she supports strategic

interventions, such as reminder notices, to improve appointment attendance and reduce no-show rates.

After reviewing multiple evidence-based sources, effective interventions to reduce missed appointments have been identified, however not all identified interventions were effective within every healthcare settings (Nwabuo, Morss, Weeks, & Young, 2014). The two most cited interventions found in the literature were changes in the scheduling process (Nwabuo, Morss, Weeks, & Young, 2014) and having staff members call patients to remind them of their appointments (Cohen & Bennett, 2015) rather than relying on automated systems or the patient's memory. Within this no-show project site, developing a scheduling process, such as using automated appointment reminders for lab work as well as appointment reminders, and utilizing staff members to make patient reminder calls may reduce the no-show rates.

The deficiency with effectively reducing no-show appointments continues to be a major gap in nursing practice. This no-show project addressed the gap in nursing practice by offering evidence-based interventions to reduce missed appointments. The data obtained through the project research can help reduce healthcare costs, increase appointment attendance, and reduce the no-show rates.

Local Background and Context

This DNP urban family medicine practice provides free health care services for adults (18 years and over) underserved/uninsured patient population within the southeastern area in Virginia. The local evidence on the relevance of no-show appointments was revealed by a recent audit performed on the provider schedules from

June to August 2017. These results revealed a 23% average monthly no-show rate between both healthcare practitioners [See Tables 1, 2, and 3]. These numbers equate to an approximate revenue loss of $231,822 for this clinical site.

With only two full-time nurse practitioners, approximately 852 active patients requiring care, along with new patients trying to establish care daily, missed appointments can be detrimental to the health of clinic patients. Due to the importance of managing chronic diseases that require medication therapy, when patients miss their appointments they are not granted prescription refills until seen by their provider, thus leading to less than favorable health outcomes.

Attending primary care appointments is important to maintain and improve the health status of patients. According to the literature, five to 55 % of scheduled appointments are missed by patients with hypertension and diabetes (Akinniyi & Olamide, 2017). When missed appointments occur, disruption in continuity of care and the lack of effective disease management (medication refills, patient education) transpires leading to poorer health outcomes and increasing the utilization of acute care services (Nuti, et al., 2012). Some studies have revealed diabetics no-show their primary care appointments between four and 40% of the time (Nuti et al., 2012) leading to poor glycemic control and an increased risk, by 60%, for hospital admissions and emergency department visits compared to diabetics who attend their primary care appointments. Out of the 1,421 diabetic participants, 95 hospital readmissions occurred for those diabetics who missed their appointments compared to the diabetics who attended their appointments. The average cost of a hospital admission for a diabetic patient is

approximately $11, 000. With these downstream costs, outpatient clinics should consider the cost benefit of developing a no-show policy, such as proactive planning, phone reminders, and rescheduling, compared to the cost of hospital admissions when a patient misses their appointments (Nuti, et al., 2012).

According to Currie, (2012), diabetic patients who didn't attend their primary care appointments for treatment (medications) and management (education) were linked to suffering from poor glycemic control and poor medication refill adherence. Unlike the findings of the Nuti et al. (2012) that missed appointments and medication compliance were intertwined causing an increase in mortality rates, this cohort study revealed that medication noncompliance and appointment nonattendance were equally independent with raising the mortality rates among insulin dependent diabetics.

A descriptive cross-sectional study (Akinniyi & Olamide, 2017) of 300 hypertensive patients and 200 diabetic patients receiving care at a university hospital revealed 31% of the hypertensive patients missed 30% of their scheduled appointments, whereas 13% of the diabetic patients missed 30% of their follow up appointments. Although this study identified patient characteristics that led to missed appointments, this study did not find correlations with missed appointments and medication adherence leading to increased mortality rates (Akinniyi & Olamide, 2017).

The southeastern area in Virginia discussed in this project is part of the Greater Hampton Roads area. According to the American Community Survey (ACS) performed in 2015 under the guidance of Datawheel and Hidalgo (2015), the demographics of this city consist of the following: population of 96,135 (African Americans 50,125, Whites

37,955, and other 8055), median age 34.9, and median household income $45,676 - a decline of 1.22% from 2014. The poverty rate is 18.2% with African Americans being the largest ethnic group living below the poverty line (12,630), Caucasians are the second largest group (3473) followed by Hispanics (609). The largest group living in poverty falls heavy on the female gender ages 25-34 years, followed by, 18-24 then 45-54. Due to low income and poverty, health care insurance is not readily available to all residents in Virginia. The age groups 18-24 (majority female) and 25-34 (majority male) are the largest age groups in Virginia who lack healthcare coverage (Datawheel & Hidalgo, 2015).

A study of this southeastern area, completed by Juday and Lombard in 2015, revealed specific demographics such as population, education, and employment. Agreeing with ACS (2015), they found a large percentage of the population is made up of African Americans but the median age was older with the majority being baby boomers. Due to the aging population, there are less children attending school and graduating from high school. The education levels are less than their neighboring cities which contributes to the increased unemployment rates, along with age distribution (Juday & Lombard, 2015). Employment opportunities are limited due to most occupational positions available fall under managerial and professional (medical) occupations which require advanced education. Service occupations, such as the food and janitorial industries, are also available but offer minimum wage and no health care insurance coverage.

The Bon Secours Community Health Assessment tool (Maryview Medical, 2016) was completed in 2016 utilizing quantitative and qualitative processes that systematically

collected and analyzed data to comprehend health within the urban community which included this southeastern area where the no-show project setting is located. The definition and purpose of a community health assessment is to gather information on risk factors, quality of life, mortality, morbidity, community assets, forces of change, social determinants of health and health inequity, and information on how well the public health system provides essential services (Elligers, n.d). Among the copious amounts of information gathered from the Bon Secours Community Health Assessment (Maryview Medical, 2016), many issues affect the health of the southeastern area residents with the number one contender being poverty followed by unemployment, crime, lack of students obtaining their full education - compared to their bordering cities, lowest percentage of black students graduating, and lack of access to healthcare (Maryview Medical, 2016).

This no-show project setting is a small entity within a larger organizational umbrella. Although this family medicine practice cares for qualified residents living in the southeastern area of Virginia, the primary organization is faith-based 346-bed not-for-profit, acute care facility licensed in the state of Virginia which cares for roughly 452,200 residents (Maryview Medical, 2016). This organization offers a range of both inpatient and outpatient services. The organization's mission is linked to all of its entities to include this DNP project site - family medicine practice. The mission of this organization is simple "Good help to those in need, especially those who are poor and dying" (Maryview Medical, 2016, p. 3).

This project setting provides health care services to those adults who are uninsured and underserved. This family medicine practice office receives funding by a

faith-based organization to pay the providers and staff for their services. There is absolutely no funding received from state or federal agencies. Monetary, medical equipment, and supplies are donated to this practice from many different entities within the community which are graciously accepted and appreciated.

Role of the DNP Student

My professional practice as a nurse practitioner has focused on the adult/geriatric population. Although I have cared for other populations as a registered nurse, I have focused more on the low-income population for the past four years as a nurse practitioner. As a registered nurse for 20 years, I have worked in the home health setting caring for low income, underserved, and uninsured populations. During my 20 years I have witnessed poor health outcomes related to nonadherence to medical care, noncompliance with keeping medical appointments, and medication nonadherence issues.

The relationship I have to the doctoral project is heartfelt with dedication and a commitment to help decrease health disparities by reducing missed appointments. As previously stated, a population with low income, uninsured, and underserved are more likely to no-show their medical appointments. Many patients have a history of not managing their chronic illnesses and missing their appointments for those illnesses therefore leading them to utilize the local emergency departments. Despite patient education and encouragement this population neglects the care they need to treat their chronic illnesses, such as hypertension, diabetes, and cholesterol issues. When patients no-show their appointments they are preventing other patients from receiving care and are abusing their own health by not seeking medical attention. I strongly believe that

reducing the no-show rate among this population will reduce medical costs, minimize frustration for the patients and staff, improve staff productivity, and enhance health outcomes for all patients.

My role within this no-show project team leader. In doing so I armed my team with knowledge on why this project is necessary, shared evidence-based strategies for reducing missed appointments that have shown to be effective, and lead them through the implementation of change while recording data pre- and post-implementation.

My primary motivation for undertaking this project was to improve and maintain positive health outcomes for the low income, uninsured, and underserved population. Additional intentions for undertaking this project included reducing health care costs, increasing provider and staff productivity, and improving satisfaction of the patients and staff by correcting scheduling issues so as to help reduce missed appointments. My vision for this project was to employ a systematic process for examining the problem of missed appointments. The likelihood of reducing no-show appointments to zero is not plausible but reducing missed appointments by utilizing strategic interventions is foreseeable.

Potential biases are everywhere when a project is being developed and one must be knowledgeable of this issue (Wolf, 2012). I experience much frustration when patients miss their appointments. Missed appointments at this project site limit the availability of appointments for other patients to be seen, lead to reduced productivity for the staff, allow for deterioration of the patients' health, and lead to increased healthcare costs. When patients' no-show their appointments I take this action personal as I am against scheduling an appointment and not canceling the appointment 24 hours in advance or just

not showing up for that appointment. I envisioned a need to find a resolution to reduce missed appointments, thus the importance of undertaking this no-show project. While reviewing provider schedules daily I noticed patients not being marked as a no-show when they did not attend their appointment instead, they were being rescheduled. I had observed this biased attitude from the FSR in the past (approximately a year ago) when a previous no-show policy was being enforced where patients were dismissed from the practice for one year after three missed appointments. Despite the high no-show rate, this policy was rescinded by the office manager after being in place for six months even though a reduction in missed appointments were noted during the six-month period the policy was in effect. This issue is an ongoing problem with the FSR marking the patients inaccurately as she is against dismissing patients from the practice after they no-show three appointments. I spoke in depth with the FSR explaining the importance of the need for obtaining an accurate missed appointment count; following the same no-show guidelines for all patients; and potential benefits this project would have on our office, staff, and patients alike. The objective of this project was not to dismiss patients from the practice but to educate them on the importance of their health, teach them how to cancel an appointment in advance to avoid having a no-show, and implement evidence-based strategies to help reduce missed appointments in the office setting. I believe all biases were minimized at this point.

Role of the Project Team

This doctoral project had a devoted team of members who understood the need for reducing no-show rates and agreed to participate in the project. The team of five

consisted of nurse practitioner (NP1 and NP2), office manager, FSR, LPN, and MA. Many processes were implemented in order to get the no-show project up and running with an intact and supportive team.

The processes utilized during this project required multiple steps: the initial process was to obtain approval by the offsite office manager and seek volunteers to help with the project. I met with the office manager where the selection of the topic along with the issues at hand within the DNP setting were revealed and discussed. The office manager agreed with the current no-show issue and agreed to be part of the project team. Once approval was obtained by the office manager, I then approached the LPN, MA, and FSR. I educated them briefly on the subject at hand along with the negatives that arise when no-show appointments occur. I defined the responsibilities I needed covered in order for this project to be successful. All three persons agreed to be part of the project team. Now that the team has evolved, additional processes will be utilized: a) development and distribution of handouts with guidelines, plans, and individual responsibilities given to team members; b) weekly meetings, as needed, to reveal pertinent information and findings, along with research data, and to update information on the progress of the project; c) open discussions for questions, answers, and recommendations from all members; d) policy warning notices of dismissal after three missed appointments remain present in the lobby and other parts of the building where patients have access; e) a copy of the no-show policy remains in the new patient packets to be signed by the patients and scanned into the charts. During this project, there was an

open-door policy where the team inquired, suggested, or questioned any stage of the project with the team nurse practitioner.

The timelines and responsibilities [See Appendix A and D] for the individual team members (office manager, FSR, LPN/MA) were specific and necessary in order for the project to be successful. The simple description of the staff roles were as follows: the DNP student (NP1) provided oversight and led the entire project, the office manager retrieved data not available to the rest of the team, such as administrative data; the FSR placed patients on the appropriate NP schedules for appointments, mailed out missed appointment letters, and allocated patient after visit summaries; MA/LPN called patients with appointment reminders; the team leader obtained signed no-show policies from her own patients after reviewing the policy with the patient face-to-face to educate the patient on the no-show policy in order to reduce the chance the patient will miss an appointment. To compare patient compliance of keeping appointments between the two NPs, NP2 did not obtain signed policies. This process helped reveal whether the interaction of the provider educating their patients on the importance of avoiding no-shows actually reduced missed appointments. According to one Lacy, Paulman, Reuter, and Lovejoy (2004) patients miss their appointments for many reasons with the most popular reason for no-shows being fear of what the patient may discover at their appointment. This study suggested that if providers approach patients about why they are missing their appointments and address any fears the patients may have, this will help to reduce the no-show rate. See Appendix B-E for roles and responsibilities, call logs, no-show appointment letter, and no-show policy.

Summary

Compared to their neighboring cities, this southeastern area has less educated residents, older population, high unemployment rates, reduced number of high-quality paying jobs, higher poverty levels, less median household income, and decreased access to health care. These issues alone can increase the missed appointment epidemic for these residents. Implementing evidence-based interventions to reduce no-show appointments will help lessen the rate of missed appointments and improve health outcomes for those who reside in the southeastern area of Virginia.

Section three focuses on the collection and analysis of data for this no-show project. The following subsections are addressed: introduction, practice-focused question, and sources of evidence along with operational data and evidence generated for this project. Section three also entailed data in reference to the participants, procedures, and protection of patient data. Section three concluded with a summary.

Section 3: Collection and Analysis of Evidence

Introduction

While research on no-show rates and the impact on the health care industry have grown in recent years, the numbers of missed appointments continues to rise (Ford, 2018). I contend that implementing an evidence-based, nurse-led intervention will reduce missed appointments. No-show appointments occur in every sector of health care, and this no-show project focused on no-show appointments in the primary care setting. No-show appointments lead to poor health outcomes, increases health care costs due to unhealthy patients seeking care in emergency departments or urgent care facilities, increases office staff frustration due to financial constraints and waste of valuable resources, and decreases patient satisfaction.

The practice problem at my project site is the large number of missed appointments. An audit of the site's provider schedules from June to August 2017 revealed a 23% monthly no-show rate between both providers and an overall 12-month no-show average of 22%, leading to a revenue loss of $231,822 for this clinical site.

My review of the literature indicated a deficit of available research on the topic of missed appointments in nursing. Thus, there is limited data on available evidence-based interventions and the effectiveness of those interventions.

Section 3 of this study is devoted to analysis of the evidence I used to develop the no-show project. In this section, I address: the practice-focused question, sources of evidence, published outcomes and research, operational data, evidence generated through research, and analysis and synthesis of those data.

Practice-focused Question

The practice-focused question guiding this no-show project was, "In qualified, uninsured adults (18 years and older) seeking free healthcare at an urban family medicine practice, would the adoption of an evidence-based, nurse-led no-show protocol impact the no-show rate over a 60-day post-implementation period compared to the previous 60-day no-show rate?" The purpose of this quality improvement project was to address missed appointments in a family medicine practice by determining whether implementation of an evidence-based no-show, nurse-led intervention would reduce missed appointment rates in the setting.

Sources of Evidence

I used primary and secondary sources of evidence for this project. To answer the project focused question, I searched the following sources and databases: governmental agency websites, EBSCO online journal databases, Cochran Library, Medline, Cumulative Index to Nursing and Allied Health Literature (CINAHL) databases, medical textbooks, organizational web sites, published DNP projects, and journal articles published in peer-reviewed journals (Medical and Nurse practitioner-based). Other sources included Grove, Burns, and Gray's (2012) textbook; Google Scholar; US Census Bureau data; patient survey research; and Walden University Library services. After receiving project approval from the Walden University Institutional Review Board (IRB) and the organization's IRB, I obtained data from my project site's EHR.

The relationship between the evidence obtained through research and the purpose of the no-show project was interconnected with one goal in mind, patient's well-being.

Not only will medical professionals gain knowledge and awareness of effective evidence-based interventions for reducing no-show appointments, they can incorporate the effective interventions to improve health outcomes, increase provider and staff productivity, reduce downtime for staff, reduce healthcare costs, improve staffing and patient education, reduce frustration among patients and medical staff, increase patient satisfaction, and reduce wasteful costs for the office staff and patients. In addition, collecting and analyzing this evidence not only enabled me to develop strategies to reduce the rates of no-show appointments, but also allowed for revising and modifying the scheduling process to assist with reducing missed appointments.

Published Outcomes and Research

I used multiple databases to gather materials related to the practice problem. These databases include EBSCO online journal databases, Medline, CINAHL databases, and ProQuest. I also used Google Scholar, the US Census Bureau website, patient survey research, and Walden University Library services. All resources I reviewed were published from 2008 to present; however, the majority of the literature I evaluated was published in the last 5 years. I selected these particular years because this timeframe provides the most current evidence of this topic.

In the databases, I searched for the following key terms: *office visits, missed appointments, no-shows, patient satisfaction, attendance, family practice, compliance, nonattendance, no-show appointments,* and *uninsured*. Additional key search terms included Boolean strings such as *family practice noncompliance with visits, nonattendance outpatient, no-shows to family practice appointments, office visits with no-*

shows, no-show appointments primary care, patient compliance, and *missed appointments in primary care*.

As I synthesized findings in the literature I identified a clear need for this project. Evidence has shown that patient characteristics, along with other barriers, can lead to patients not attending their medical appointments (Davies et al., 2016). Other findings showed that some practitioners have developed interventions in attempt to reduce no-show appointments. Specifically, research indicated that there are a number of approaches to reducing no-show rates within healthcare organizations, but not all approaches are successful in every healthcare setting (Henry, Goetz, & Asch, 2012). One quasi-experimental design study in an HIV clinic revealed that the clinic's standard three appointment reminder call intervention was not effective in reducing the no-show rate (Henry, Goetz, & Asch, 2012). However, when used in combination with an automated phone reminder, there was a 41% reduction in the rates for the less vulnerable population (not homeless or suffering from mental illness; Henry, Goetz, & Asch, 2012). For those patients who were homeless, low income, or had mental disabilities, the researchers recommended that implementing wireless technology, such as text messaging and emails, would be most appropriate because this population is less likely to have access to a home-based phone (Henry, Goetz, & Asch, 2012).

Another study regarding a practice change at an urban health center serving female patients revealed a small 3% reduction in their no-show rate by simply contacting patients 24- to 48-hours prior to the appointment (Cohen & Bennet, 2015). A study performed by McLean et al. (2016) found that the simplicity of phone call reminders was

effective in reducing missed appointments if employed at least 7 days prior to the appointment. This intervention allowed for patients to cancel or reschedule their appointment, thus enabling reallocation of 27 to 40% of canceled appointments. Similarly, a randomized control study performed at an urban primary care clinic showed that the intervention of patient reminders (phone call; if no phone response, SMS; if no available mobile phone number, a postal reminder) reduced their appointment nonattendance from 11.4% to 7.8% (Perron et al., 2010). An online survey revealed that patients preferred to be contacted for appointment reminders via phone calls and text messaging (Crutchfield & Kistler, 2017). With great transitions in the technology world, various studies have indicated that phone reminders and text messaging are not always effective for reducing missed appointments. For instance, Molfenter (2013) discovered that phone calls and/or text messaging for appointment reminders were not successful in reducing no-show appointments within a substance abuse atmosphere. He realized that the use of contingency management strategies and motivational interviewing interventions worked best to reduce missed appointments.

Archival and Operational Data

I used quantitative data, which included missed appointment rates, for this study. My project site utilizes a password-protected EHR to maintain health records of its patients and the NP schedules, which are archived for 12 months at a time. These schedules held the quantitative data I needed (number of patients who missed their appointments on a daily basis) to determine the no-show rate per day and per month, along with the average annual no-show rate percentage.

I collected the compiled data of the NP schedules from January through December 2017 from the password-protected EHR. The overall validity of the obtained data through the EHR was reliable, keeping in mind that these no-show appointments were marked in the EHR by the FSR on a daily basis while the project leader verified that the appointments were marked correctly and accurately. The limitations with this data are the human keying method, as the FSR must properly mark the patients as no-shows. I, being lead NP, attempted to review both NP schedules on a daily basis to ensure that patients were marked appropriately.

I obtained quantitative scheduling data from the password protected EHR that can only be retrieved by those who have administrative privileges, such as the NPs, medical staff, and office manager. I, being lead NP, had administrative privileges and therefore had a secured password to access the EHR to obtain needed quantitative data. The offsite office manager reviewed the scheduling no-show data from 2017 NP schedules and agreed there was a problem with missed appointments.

Evidence Generated for the Doctorate Project

Utilizing the PDSA model, I sought to answer the following practice-focused question: "In qualified, uninsured adults (18 years and older) seeking free healthcare at an urban family medicine practice, would the adoption of an evidence-based, nurse-led no-show protocol impact the no-show rate over a 60-day post-implementation period compared to the previous 60-day no-show rate?" I implemented the plan for carrying out the project, which I present in the following sub-sections.

Nurse-Led Intervention

Many interventions to reduce no-shows have been researched and implemented within other health care settings with some interventions being effective and others less effective. The nurse-led interventions developed for this project setting were related to the two most cited interventions found in the literature, phone reminders (Cohen & Bennett, 2015) and schedule process changes (Nwabuo, Morss, Weeks, & Young, 2014) in addition to the utilization of the FSR and medical assistant to reduce missed appointments. These interventions consisted of schedule process changes and the use of staff members to make reminder calls to patients.

The nurse-led interventions within this project required teamwork of the office staff and office manager to implement the new interventions effectively in reducing missed appointments at this site. Responsibilities were assigned for each team member [See Appendix A and D]. The FSR managed the scheduling of patients, sending out no-show letters along with the policy, and enforcing the no-show policy. The MA and LPN initiated patient reminder calls (for labs and appointments) two weeks prior to the appointment, rescheduled appointments when necessary, and other duties. The automated reminder system remained in place as well to remind patients one week prior to their appointment.

Participants

For this no-show project, the patients at this free healthcare urban family medicine practice site are not the participants, instead this project focused on the numerical data (number of missed appointments) obtained from the nurse practitioner's

schedules over the 60-day post-implementation timeframe to determine the no-show rates. Convenience sampling, as described by Grove, Burns, and Gray (2012), is a sampling method where subjects are included because they were in the right place at the right time for the study. Convenience sampling is considered a weak approach to sampling as biases may exist (Grove et al., 2012). In order to prevent sampling bias, only numerical data was obtained from the nurse practitioner's schedules instead of patient identifiers. The rationale for using this sample was the availability of numerical data from no-show appointments on the nurse practitioner's schedules.

Procedures

The procedures for this no-show project are presented under the headings of planning, implementation, and evaluation. The PDSA model method guided the team to develop a plan, allow surveillance of the plan, permitted testing of the plan, along with revision and implementation of the plan (IHI, 2017).

The use of the check sheet tool is a prepared form utilized systemically to collect and analyze appointment data for this no-show project (See Figure 1). Although the focus of this project was to determine the no-show rates in this family practice site, the "types of missed appointments" was not a necessity for the project, the types of missed appointments gave the project site staff an idea of which appointments were frequently missed.

The American Society for Quality (2018) described the check sheet tool as one of the seven basic quality tools utilized for both qualitative and quantitative data research. The check sheet tool is most appropriate to use when the same person collects the needed

data within the same project setting. This tool was developed to collect data on frequency of events, patterns, and/or problems within an organization (American Society for Quality, 2018), however for this no-show project, the check sheet tool was utilized by the lead NP (NP1), for tallying missed appointments within this particular practice setting. This tool also allowed for comparison of no-show rates pre- and post-implementation of the project. Word documents with information on roles, responsibilities, and timelines of the project [See Appendix A and D] were utilized to educate and inform the staff who have volunteered to assist with this project.

Planning

After reviewing the available check sheet tool with the compiled no-show data for this no-show project setting, it was evident by management and staff (LPN, MA, and FSR) of the need to develop a protocol for the no-show issues. This DNP student discussed the roles and responsibilities with management and medical staff who have volunteered to assist and support this project. A Word document was given to the volunteer staff with precise details of their roles and responsibilities [See Appendix A and D]. All questions were answered and an open-door policy remained in place for any miscommunications or misunderstandings which needed clarification during the implementation process. These volunteers were encouraged to bring their ideas to help improve the no-show policy implementation.

Implementation

Prior to implementing this project, a meeting with the volunteer staff occurred in order to make them cognizant of the “go live” date. All strategies discussed below were

implemented upon approval from the IRB of Walden University and the organization of the family medicine practice. The following defined the timelines and responsibilities for each project team member:

The office manager was available for data retrieval, if needed, for any financial stats that may not have been accessible to myself during the project implementation and data collection. When patients arrived for their scheduled appointment, the FSR verified patient's name, address, and phone number, to include alternate contact numbers. This verification process fell short at times as the FSR would check the patients in for their appointments but failed to verify every patient's name, address, and phone numbers due to time constraints. On Thursday afternoons of every week, the FSR reviewed the provider schedules for the following week and marked those patients as a no-show who did not obtain their necessary labs. This step opened up appointment slots on the providers' schedule for the following week to allow for sick visits, emergency room visits, and hospital follow-up appointments. The FSR marked patients as a no-show if the patient: a) did not obtain needed labs at least one week prior to their follow up appointment and/or b) did not to cancel their appointment no less than 24 hours in advance. At the end of each day (or at the end of the week), the FSR called those patients who missed their appointments in an attempt to have them reschedule and inquired about the patient's preferred date and time for their appointment to lessen the risk of another missed appointment. The FSR reminded the patient of the no-show policy [See Appendix E], mailed a missed appointment/no-show letter to those patients who she was unable to reach by phone [See Appendix C], and printed out the after-visit summary (AVS) from

the patient's chart at the end of each office visit. The FSR highlighted the patient's follow up appointment date and time along with the FSR pointing these items out to the patient.

The LPN and MA called patients (two weeks prior to their scheduled appointment) to remind them of their upcoming appointment and to remind them of labs, if needed, one week prior to that said appointment. Originally the LPN and MA were to print the provider schedules at their discretion (either weekly or biweekly) then document the following on each schedule:

- Date of call to the patient. If unable to reach patient with primary phone number, search for an alternate number to call. Note on checklist if alternate number is utilized.
- Confirm appointment with the patient-remind him/her to obtain labs one week prior if needed. Document contact with the patient in a telephone note in EHR
- Reschedule patient at patient request and cancel current appointment.
- If unable to reach patient, leave voicemail to call office and document in the EHR that a voicemail was left.
- Deliver schedules/checklists with above information to lead NP biweekly for data entry purposes.

Due to the increased risk of exposing patient identifiers, this process was abandoned. Instead, the LPN and MA signed into the EHR, pulled up the provider schedules two weeks in advance and called the patients on the schedules with their reminder appointment date and time along with lab reminders if needed. The LPN and MA then

documented patient contact within the EHR, however collecting this data on the printed provider schedule to be submitted bi-weekly to the lead NP was dismissed.

The automated phone call reminder system remained in place to call patients two weeks prior to their appointment and again one week prior to their appointment to assist with reminding patients of their appointments. This reminder system does not address possible labs needed one week prior to their appointment nor can the system search patient charts for an alternate number if the primary number is not functional. On the contrary, when utilizing the staff to make the reminder calls, the staff was able to search the charts for an alternate number thus providing a better opportunity of reaching the patient to provide them with their appointment reminders. At this no-show project site, many of the patients use track phones so their numbers change frequently. This office also has homeless patients who move from location to location and may have different contact numbers. A study (Alkanderi & AlBader, 2014) has shown that a human making the reminder calls verses automated calls are more successful with decreasing no-show rates.

I, being the project leader (NP1), oversaw the entire project with the assistance of my team. The quantitative data (no-show rates 60-days post-implementation of interventions) were obtained from the daily NP schedules and transferred to the check sheet tool by NP1. This data was then placed in Excel for comparison purposes with the no-show rates prior to implementation of the interventions by the NP1.

Evaluation

In order to measure the outcomes of this no-show project the check sheet tool (See Figure 1) was utilized by NP1. After the 60-day implementation was completed, the check sheet was utilized for tallying the number of no-show appointments. Once this data was analyzed the information was placed into an Excel spread sheet. This data answered the practice focus question of: 'in qualified, uninsured adults (18 years and older) seeking free healthcare at an urban family medicine practice, will the adoption of an evidence-based, nurse-led no-show protocol impact the no-show rate over a 60-day post-implementation period compared to the previous 60-day no-show rate?'

Protections

As stated by Groves et al. (2012), ethical responsibilities lie on the researcher to protect human rights. With this being said, no identifying patient information or personal identifiers were collected in this study. The only data collected was numerical data consisting of the number of missed appointments or no-show visits. Following IRB approval of the project from the DNP practice setting site and Walden University's IRB, quantitative data for the project was collected through EHR NP schedule reviews. The collection of the quantitative data (tallied numbers for missed appointments) were saved to a flash drive and stored in the NP1's office, in a secured locked file cabinet. Now that this project is complete, the data on the flash drive will be stored in NP1's office for seven years at which time the data will be deleted.

Analysis and Synthesis

This no-show DNP project site utilizes an EHR system called Epic for their medical records (Multicare.org, 2018). Within the software of Epic is another system called ConnectCare that is utilized for patient health documentation, office visits, laboratory results, and many other functions, to include housing of nurse practitioners' schedules (Multicare.org, 2018).

I used the nonprobability style, convenience sampling method, to obtain the needed data on the no-show appointment rates for this no-show project site. I printed NP schedules every day for the purpose of marking and tallying missed appointments. With utilizing the NP schedules, the number of monthly no-show appointments were calculated by using the tally system and data recorded on the check sheet tool (See Figure 1) to determine the monthly no-show rate.

Figure 1

Check Sheet Tool

Type of missed appointment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total missed of appointments
New Patient													
Provider Follow up													
GYN													
Sick													
Hospital Follow up													
ED Follow up													
Total Scheduled													
Total No Show													
Percentage of missed appointments													

During the 60-day post-implementation period (September and November), missed appointments were counted and tallied on the providers printed paper schedules by the lead nurse practitioner daily. The daily tallies were calculated to obtain the overall monthly total of missed appointments for each provider. Once the monthly no-show tallies were calculated, these numbers were charted on the check sheet tool (See Figure 1) for easier access for placing data into Excel. In order to obtain the percentages of missed appointments for each provider during the 60-day post-implementation period the sum for missed appointment rates were calculated and reported as mean scores and percentages by dividing the number of appointments scheduled per provider by the number of missed appointments acquired per provider for the month. Once the monthly percentages were obtained, the results were placed in Excel for submission purposes to administration of the no-show project site. The printed NP schedules were scanned to a flash drive for availability purposes to check for inconsistencies if needed and then the printed schedules were shredded for security purposes.

Integrity of data obtained for this no-show project is extremely important. The project practice site utilizes an EHR to input patient data and to schedule appointments for the nurse practitioners. The EHR is secured and only accessible to those with administrative privileges possessing a user name and password. This project site has a firm policy against sharing of passwords. This offense is a cause for termination of employment without warning nor second consideration. This process ensured the integrity of all data obtained.

Summary

No-show appointments lead to fragmented care and decreased access to healthcare (Shah et al., 2016), thus contributing to adverse health consequences, waste of healthcare resources, loss of revenue, and increase in medical expenses (Zeber, Pearson, & Smith, 2009). In the United States, frustration continues to build among health care centers as one-third of patients- no-show their appointments (Zeber et al., 2009). The purpose of this quality improvement project was to determine whether implementation of an evidence-based, nurse-led no-show intervention will reduce the missed appointment rates at a family medicine practice setting. Currently this no-show project setting has a no-show rate of 23% a month, with a recorded mean of 22% overall no-show rate in 2017. Utilizing the DNP project site's EHR system, no-show data and percentage calculations for no-show rates were obtained and presented in an Excel document and stored on a secure flash drive. After obtaining IRB approval from Walden University and the organization where the project took place, implementation of the no-show protocol at the project site was initiated and outcomes evaluated.

Section four of the written final paper focuses on the data collected and analyzed in section three in order to report the project findings and offer recommendations of those findings for this no-show project. The following subsections are included in section four: the introduction, findings and implications, recommendations, contribution of the doctoral project team, strengths, and limitations. Section four will conclude with a summary.

Section 4: Findings and Recommendations

According to Crutchfield and Kistler (2017), recent reports have indicated no-show appointment rates between 23 and 34% in primary care settings. Missed appointments lead to many challenges for providers as no-shows prevent the use of screening procedures, preventative therapy, and disease management. Subsequently, missed appointments lead to an increase in comorbidities, mortality, and healthcare costs (Phillips, 2008). No-show appointments lead to wasteful downtime for providers and staff, longer wait times for scheduled patients, reduced access to health care, interruptions in the continuity of care, lower provider productivity, decreased patient satisfaction, and decreased quality of care (Sands et al. 2010).

The local problem of no-show appointments was evident in a recent audit of the provider schedules from 2017 at this DNP practice setting. The audit showed the no-show rate among the two healthcare practitioners between 22 to 24%, with the average rate being 23% a month.

A major gap in the nursing literature continues with the absence of effective interventions to reduce missed appointments. Thus, in this quality improvement no-show project, I addressed the gap in nursing practice by providing evidence-based interventions to reduce missed appointments. The practice-focused question I addressed in this project was: In qualified, uninsured adults (18 years and older) seeking free healthcare at an urban family medicine practice, will the adoption of an evidence-based, nurse-led, no-show protocol impact the no-show rate over a 60-day post-implementation period compared to the previous 60-day no-show rate?

The purpose of this no-show project was to determine whether implementation of an evidence-based, nurse-led intervention would reduce missed appointment rates in a family medicine practice. For this project, I used nurses for this intervention to allow for coordination, management, and continuity of care for active patients in the practice. An evidence-based intervention is necessary to lessen the no-show rate and to positively affect patient health outcomes along with improving organizational functionality.

The sources of evidence used for the purpose of data collection focused on the hierarchy of the evidence triangle (Ebling Library Health Sciences Learning Center, 2018). I used filtered and unfiltered information. Filtered information consists of systemic reviews, evidence synthesis and guidelines, and article synopses, while unfiltered information consists of randomized control trials, cohort studies, case-controlled studies, and background information/expert opinion (University of Canberra, 2018).

Findings and Implications

To obtain needed quantitative data from the project site's password protected EHR system, I gathered appointments scheduled and appointments missed from the provider schedules using a nonprobability method along with convenience sampling. I tallied this data every month and recorded the numerical results into the check sheet tool (See Figure 1). This was to determine the combined monthly no-show rate for both providers. The sum for missed appointment rates were calculated and reported as mean scores and percentages determined by dividing the number of appointments scheduled per provider by the number of missed appointments acquired per provider for the month.

In 2017, an audit of the provider schedules at this DNP project site showed a yearly no-show average of 21% to 23% among NP1 and NP2, respectively. Further calculations exposed the combined monthly no-show percentage rate between the two NPs of 22%. Prior to initiating the evidenced-based, nurse-led interventions in September 2018 and after receiving Walden IRB approval, I completed additional research related to the high no-show appointment rate in this family medicine practice.

For the last 60 days (post implementation of DNP intervention), I obtained missed appointment data from the practice site's EHR system utilizing the providers' schedules. This system was password protected to prevent disclosure of patient data to unauthorized persons. Once I obtained the data and tallied them into the check sheet tool, I moved the data into an Excel spreadsheet [See Appendix F and G]. Although the focus was on the 60-day post-project implementation, I noted the no-show rates for the last 9 months (January to September) for NP1 and NP2 remained elevated at 20% and 22%, respectively [See Appendix K]. Of note is that this is a slight decline from the 2017 missed appointment rate of 21.5% (NP1) and 30% (NP2). During the 60 days post-project implementation between September and October 2018, NP1's average no-show percentage rate declined from 21.5% to 16.5%, this is a 5% reduction in missed appointments. NP2 saw a reduction with missed appointments of 13.5% (See Table 4).

Table 4

Average No-Show Rate Percentage Pre - and Post – Implementation

2017 NP1	2018NP1	2017 NP2	2018 NP2
Sept 23%	Sept 19%	Sept 31%	Sept 19%
Oct 20%	Oct 14%	Oct 20%	Oct 15%
60-day average	60-day average post-implementation	60-day average	60-day average post-implementation
21.5%	16.5%	25.5%	17%

These findings revealed a reduction of the percentage for missed appointments at this particular practice site. These findings also confirmed that the use of staff to make patient reminder calls and the provider-to-patient interaction are effective for reducing no-shows. This data helped me clearly answer the practice focus question: In qualified, uninsured adults (18 years and older) seeking free healthcare at an urban family medicine practice, will the adoption of an evidence-based, nurse-led no-show protocol impact the no-show rate over a 60-day post-implementation period compared to the previous 60-day no-show rate?' That answer is *yes*.

There were unanticipated limitations that did not impact the findings regarding the effectiveness of the no-show policy. These limitations included the use of call logs and staff time. Due to the possibility of exposing patient data, predetermined logs, (i.e., the FSR Phone/Mail log check list tool [Appendix B] and the MA/LPN Responsibilities check list tool [Appendix D] were not utilized. Despite not using the logs, the FSR, MA, and LPN followed their designated responsibilities minus the use of call logs. Not

utilizing these logs had no impact on the findings of this project because the logs were for office data only. Another limitation that may have affected the outcomes of this project was time constraint and timing in general. These timing issues included the following: (a) the time it took to attempt to reach patients by phone with no success due to nonworking numbers and having to search the chart for alternate numbers, and (b) the time of day when contact was attempted. The staff made reminder calls during the day (banking hours) when patients may not have been home due to work, appointments, or other activities. With that being said, the staff could not make multiple calls for every patient to remind them of their upcoming appointment due to time constraints, as they have other job responsibilities to perform throughout the day. Due to other important job duties, pulling staff to make multiple reminders calls to the same patient was not feasible.

An issue that at least partially impacted the outcome/findings of this DNP project was the FSR's lack of continuity in marking patients appropriately on the NPs schedules. The FSR struggled with the thought of dismissing patients despite the policy in place and the direction of the office manager to dismiss patients per policy. For instance, instead of marking the patient a no-show when the patient met the no-show policy parameters, she would just simply remove them from NP2's schedule and reschedule them. Although this did not occur with every patient who no-showed with NP2, this did occur multiple times per week. Given this, NP2's no-show percentage rate appears much lower than it actually was. This issue did not occur with NP1 patients because the schedule was monitored by the NP1 throughout the day and marked accordingly when a no-show was present. Unfortunately, I was unable to monitor FSR activities to intervene when the FSR marked

patients inappropriately on NP2 schedules as NP1 was seeing patients throughout the day therefore unable to monitor NP2 schedule as closely as her own.

An unanticipated change occurred when the offsite office manager made an announcement half-way through the project that the no-show policy could be "implemented but not enforced." This meant no patient would be dismissed from the practice despite the number of no-shows the patient accumulated. However, the office manager left all project interventions intact such as having an MA/LPN call patients to remind them of their appointments and need for labs if appropriate. With the unanticipated change, patients were not dismissed but were under the impression the no-show policy of three missed appointments would dismiss them for 6-months. Not enforcing the dismissal aspect of the policy was kept discreet from the patients while warning notices of the policy remained present in the lobby and other parts of the building where patients had access. The no-show policy remained in the new patient packets to be signed by the patients and scanned into the charts. With that being said, the project data was not affected since the focus of this project was on whether utilizing staff to make reminder calls would reduce no-show appointments and not for determining how many patients were dismissed due to no-shows.

No-show appointments pose challenges and delay the opportunity to provide quality health care to vulnerable populations (Luckett, Pena, Vitonis, Bernstein, & Feldman, 2015). Patient demographics impact the rates of no-show appointments (Kheirkhan, Feng, Travis, Tavakoli-Tabasi, & Sharafkhaneh, 2016). The patients at this practice site live at 200% below poverty level. Most of these patients lack education past

the 5th grade, they live in the poor section of the area, reside in government housing, and lack employment or work minimum wage jobs due to their education deficiencies. Some of these patients suffer from illicit drug and alcohol abuse with no support to help them obtain sobriety. The issue within this practice site that impacts the patients the most is their lack of transportation. With no transportation, one must rely on someone else to get them to and from their medical appointments, such as friends, family members, and public transportation (buses and cabs). For some patients, for one reason or another, family and friends are not in their lives. Some of these patients walk or ride a bike many city blocks or a few miles to get to their medical appointment, but no-show appointments occur when there is inclement weather such as rain, cold, or excessive heat. Davies et al (2016) reported structural barriers, such as distance to the office and the lack of transportation, were factors leading to patient no-shows. The second reason for patient no-shows at this practice is forgetfulness despite receiving an automated reminder call and a staff reminder call.

The implications resulting from the findings of this project were important for policy development, change of office procedures, and subsequent research in the clinical area of caring for those who are poor, suffer mental illness (illicit and alcohol abuse), are less educated, and are underserved and uninsured. The results from this project revealed the success of utilizing nurse-led interventions (staff and automated appointment reminder calls, improvement of provider-patient relationships, educating patients of the current policy, and the use of bus vouchers) aided this low, socio-economic population. These findings agree with a retrospective study (AlKanderi & AlBader, 2014) that

revealed no-show appointment rates were higher in the primary care setting when providing care to underserved, uninsured populations thus leading to poorer health outcomes. Although one randomized controlled study divulged that an appointment reminder system can increase patient attendance, a retrospective chart review portrayed patient characteristics, such as younger age, Black, and low socio-economic status, were the cause for patients to miss appointments (Miller et al., 2015). According to Glanz et al (2008), behavioral health risks, such as nonadherence to medical screenings, medical prevention, and disease management, have a larger impact on those of low income and deprived racial and ethnic populations.

With continued use of these nurse-led interventions, the no-show rate is likely to continue to decline overtime. As far as the advantages for individuals, this organization, and local organizations in the area, the reduction of no-show rates will help lessen downtime for the providers and staff, reduce frustration for the patients and staff, decrease health care costs as these patients are less likely to need to utilize other health care resources such as the local emergency departments, appointments will be more accessible to the patients, and patient health outcomes will most likely improve.

An evidence-based, nurse-led intervention is necessary to lessen no-show appointment rates and to positively impact patient health outcomes along with improving organizational functionality. This no-show project promotes positive social change by increasing awareness of evidence-based interventions that are effective for reducing no-show appointments within a family medicine practice. The project findings can improve staffing and patient education and correct scheduling processes to lessen missed

appointments. This project attested these studies as accurate evidenced by a reduction in the no-show rate at this practice setting when utilizing nurse-led evidence-based interventions, phone reminders, and provider-patient interaction and education of the policy for their majority Black, low socio-economic patient population.

Recommendations

The gap in practice is well defined within this DNP project as the need to implement an effective evidence-based, nurse-led intervention to help reduce no-show appointments. With any intervention implemented to reduce no-show rates, no one intervention will be 100 % effective. There will always be no-show appointments but reducing the rate will prove beneficial for all medical entities and patients.

The recommended solutions for reducing no-show appointments at this particular family practice is multifactorial. A note of importance, this office cares for a population with an average reading level of 5th grade. This office is the last option, outside of the emergency department, for these patients to receive health care due to the lack of health insurance and money. All of the patients seen at this office are uninsured with the majority being unemployed. Most patients rely on public transportation or others to bring them to their appointments. The following recommendations for reducing no-show appointments at this particular family practice site are discussed below.

In order to help reduce no-show appointments, this family medicine practice needs to adopt a protocol defining the interventions to be implemented, for instance, patient reminder calls made by the medical staff (MA, LPN, and FSR) one to two weeks prior to the appointment with the appointment date and time along with notification of

needed labs if necessary. In addition to utilizing staff for appointment reminders, continued use of the automated reminder system should remain intact. This would be considered a second notification of the patient's appointment date and time but unfortunately will not notify patients if labs are needed prior to their appointment.

In addition to the above recommendation to reduce no-show appointments, improvement of provider-patient interaction to build better relationships with their patients is a must. The providers need to educate their patients in reference to the importance of attending their appointments. As revealed in a cohort study performed by Flickinger et al. (2013) patients were more apt to keep their appointments when they felt their provider cared about them as a person, treated them with respect, explained items to them in a manner they could understand, and took time to listen to them.

Continual utilization of bus vouchers to reduce no-show appointments for those who lack transportation is a plus but this is an extra cost to this family practice and may not be feasible at all times. Seeking a grant to help offset the cost of the bus vouchers would greatly benefit the staff and patients alike. These bus vouchers can help reduce no-show appointments especially for those patients who lack dependable transportation.

Last but not least, maintaining office continuity with interoffice processes, scheduling, staff responsibilities, and enforcing the no-show policy is necessary in order to reduce no-show rates and limit frustrations for all. This recommendation may take retraining of staff, an onsite office manager majority of the time the office is operating, and changes within the EHR and automated reminder system (such as developing an

automated reminder call for lab appointments). This practice suffers from broken continuity which has led to conflict and confusion with staff and patients.

Dismissing patients from this practice was not the goal of this project, as trying to reduce no-show appointments was the overall goal. Although the DNP no-show protocol was implemented, dismissing patients after missing three appointments was omitted, however the warning notices of the policy remained present in the lobby and other parts of the building where patients had access, patients were notified of the no-show policy by the FSR and other medical staff to include NP1 along with the no-show policy remaining in the new patient packet for patients to sign. Avoiding the dismissal of patients from this particular practice would be of great benefit to improve health outcomes of the patients. These patients are limited to health care access and shutting them out will only lead to poor health outcomes and increased healthcare costs as these patients will seek care at the local emergency departments.

Unfortunately, changes to correct interoffice issues during the time-frame of this DNP project was not feasible. This process could take weeks to months as these changes require involvement of administrators of higher power. In order to improve the EHR and automated systems, meetings with board members and other administrators would be necessary. After speaking with the office manager, it was discovered that monetary constraints block office upgrades at this time.

Implementing the staff reminder calls, continuing the automated reminder calls, continued use of bus vouchers, and correcting interoffice flaws are fairly simple if administration is willing to address and resolve the ongoing no-show issue. Educating

staff on what is expected of them (FSR, medical staff, and providers), placing the interventions into the job descriptions, and maintaining intact continuity within the office are of utmost importance for the continuance of these procedures.

In order to evaluate the effectiveness of the no-show protocol, the office manager can utilize the EHR system. This system allows reports to be obtained for no-show appointments marked on the schedules. These reports can be obtained on a weekly, monthly, or yearly basis. Obtaining a sum of all scheduled appointments divided by the sum of all no-show appointments will equate the percent of no-show appointments.

Contribution of the Doctoral Project Team

The process of working with the project team was fairly simple as each member was aware of their responsibilities. Prior to implementation of this DNP project, it was determined that the use of call logs was not to be utilized due to the possibility of patient identification exposure. Without the utilization of the call logs, the planned staff interventions of completing reminder calls were successfully implemented by the MA, LPN, and FSR. Every Thursday the FSR reviewed provider schedules for the following week and if the patient did not obtain necessary labs, the FSR rescheduled appointments with those patients she was able to contact in order to avoid a no-show. If the patient was not reached, the patient would be marked as a no-show. The MA and LPN reviewed the provider schedules two weeks prior to scheduled appointments and contacted those patients to remind them of needed labs, if necessary, and appointment date and time. The staff seized this opportunity to reschedule appointments if the patient voiced their unavailability or need to reschedule. Unfortunately, the staff was unable to reach every

patient due to nonworking contact numbers. In addition to staff reminder calls, the automated reminder call system remained activated. This system called patients two weeks prior and again one week prior to the appointment to remind them of their upcoming appointment date and time.

Final recommendations are based on outcome results from implemented interventions to include staff reminder calls along with the use of the automated reminder call system. The final results were analyzed by the NP1 who, in a meeting, revealed the results to all members involved with this project. Once the results were revealed, the team agreed staff reminder calls were effective in reducing no-show appointments along with giving patients the opportunity to reschedule the appointment if necessary, to avoid a no-show.

At this time there are no plans to extend this project beyond the DNP doctoral project. The office manager decided against implementing a no-show policy as discharging patients from the office would not be appropriate for this population due to limited availability of health care for the underserved, uninsured population in this southeastern area. I totally agree with this decision. This population has difficulty with transportation, forgetfulness, lack of phone access to receive reminder calls of their appointments (their contact numbers change as they use “minute phones”, they run out of minutes, or they don’t have access to a phone, they rely on others to relay messages received on behalf of the patient’s appointments), some suffer homelessness, and others believe their appointment is not important. Regardless of the reason for the no-show appointment, this population will most likely remain with a high no-show rate but

discharging a patient from a health care center is just not an appropriate action for this population due to their disparities as this will only limit access to care even more.

Strengths and Limitations of the Project

This doctoral project had many strengths with just as many limitations. The strengths included, but were not limited to, knowledge gained on the severity of no-show appointments at this site and development of evidence-based interventions to help reduce missed appointments. Another strength was discovering the option of educating patients on the importance of avoiding no-show appointments to improve health outcomes and avoid dismissals. There were limitations that occurred which could be controlled at the office level and other issues that could not be resolved without administrative approval. The main limitation for this DNP project was the fact this family practice serves uninsured, underserved patients. Serving this population is not the issue but caring for this population interfered with implementing the intervention of dismissal after three no-shows due to patients having limited access to health care outside of this practice because of the lack of health insurance. With this limitation, holding patients responsible for their missed appointments by dismissing them from the office for six months could not be enforced thus not ensuring a true project result.

Recommendations for future no-show projects involving patients who are uninsured and underserved should focus on getting patients to the health center for care. Hence, you can't treat an empty seat. Although developing interventions, such as staff reminder calls, to reduce no-show appointments are beneficial, this intervention is only a portion of the resolution. Reducing the disparities or obstacles which prevent this

population from obtaining health care is the true issue. During this DNP project the above-mentioned disparities and obstacles were discovered yet were not the focus of this no-show project. A recommendation for family medicine practices who care for insured patients would be to implement the proposed interventions to dismiss patients after three no-show appointments and analyze the impact on reducing missed appointments. Unfortunately, this study was unable to determine completely if all the interventions stated for this project were effective for reducing missed appointments due to office process barriers that remained apparent such as scheduling issues and enforcing the no-show policy.

Section 5: Dissemination Plan

My plan for disseminating the results of this no-show policy project is simple and informative for all staff members (office manager, RN, LPN, MA, mental health NP, FSR, and medication technicians). I obtained all missed appointment data, analyzed them, and documented them in an Excel spreadsheet. I presented my DNP project results at a staff meeting. In addition to the face-to-face meeting with all office staff, I printed and distributed Excel data sheets to all staff for informational purposes. During the meeting, I reviewed the results in the Excel data sheet.

Based on the nature of this nurse-led, no-show intervention project, the dissemination of this project would benefit all medical entities, staff, and patients alike, especially those offices that wish to reduce their no-show appointments. This project not only validated the effectiveness of reducing missed appointments when utilizing a nurse-led intervention, but also offers education to all involved. The targeted audience for data dissemination would include, but is limited to, organization administrators, all medical and office staff, patients, and nurse practitioner and medical conference attendees. Applying this policy would reduce missed appointments because it holds patients accountable for their actions. One must remember that if patients come from a low socioeconomic status, then dismissing them from the practice may not be beneficial in the long run. Conducting and acting on additional research to help lessen patient barriers may prove most beneficial for the patients' overall health.

Analysis of Self

The main point I would like to make to those who may read my project is that obtaining your DNP is not an easy process. Obtaining a DNP requires devotion, motivation to learn from the experience, the ability to maintain patience given the length of the process, the ability to stay positive and accept criticism as you re-write sections over and over again, and additional time to see your hairdresser to get your grey hair covered up. On a serious note, I believe completing this project has prepared me for what to expect in the wonderful world of the DNP. I believe my DNP experience helped me find my inner self as a person, nurse, and patient advocate.

As I sit back and "analyze myself in the role of a practitioner", I find that I have gained much insight regarding the DNP and nursing in general. Insights I did not see prior to this project, I can see now. I learned perseverance in order to push through the obstacles in front of me to obtain my goal. Prior to this DNP project, I would allow challenges or obstacles to remain in place because "who am I to change a process, who am I to push through to obtain my goal?" This DNP process has taught me that change is, in fact, a good thing and change can occur with proper leadership, good teammates, and lots of perseverance. One must give a little to get a little.

As a project manager and NP1, I learned leadership can be harsh and grueling but satisfying when you see your work come together. As the leader I learned that "you" cannot always do everything yourself and it is truly okay to call on others for assistance. I discovered the true meaning of *lack of continuity* while developing my DNP project. If continuity is absent during a project process, confusion and frustration builds among the

team leading to possible failure. Despite educating staff, if they do not agree with a process, they will not follow it or they will do minimal to avoid consequences. I developed the knowledge of how important it is to have continuity and how to encourage cooperation throughout this project. A leader must take time out to discover who they are themselves. Then they must learn who they are working with and come to realize that everyone is not the same. Some members will agree with you while others will go against you. During the months I have worked on this DNP project I have learned perseverance, developed patience, recognized that there is no "I" in team, and have come to understand the importance of communication.

The connection between my project experience and my present state is cohesive. Looking back to when I first decided to do this DNP project, my focus was to develop a no-show policy that would dismiss patients for a 6-month period of time from the free healthcare center. Unfortunately, my focus was not on patient care. I did not realize my eyes were closed when I first started this DNP project. All I saw were patients not showing up for their appointments, which frustrated me and I took this action personally. I was blind to the need of the patients and was focusing more on what the staff and the organization needed. Even though there are patients out there who do not care about their health or do not believe medical appointments are important, there are more patients who are completely opposite of that mindset. One must remember the goal of the DNP project is to improve health outcomes for our patients.

My long-term goals have widened since completing this DNP course. After much research, and after "finding myself" while completing this project, my long-term goals

have extended to the poor population, myself, and my profession. From here on throughout the remainder of my nursing career, I will remember this experience and remember the outcome of my experience. I will focus more on patients and not organizations. I will become more of an advocate for my profession to obtain positive change by initiating and implementing change within my current organization and beyond. And my number one top long-term goal and interest will be to continue to focus and care for those in need. The underserved and uninsured patients are challenging when it comes to care, and I guess I like that challenge. So here I am…

Summary

Although I believe the evidence-based interventions I have presented throughout this project to reduce no-shows will be successful, one needs to consider patient demographics. If patients lack insurance, funds, jobs, education, support for their health care, transportation, and so forth, then there will be missed appointments despite whatever intervention is set in place. It is important to understand the population and work with them the best you can. Dismissing patients is counterproductive and does not improve health outcomes, which is the overall goal for this project.

My "aha moment" was when I discovered my oblivious attitude towards patients who missed their appointments. I realized patients were not attacking me personally when they did not show for their appointments; they missed appointments due to issues within their personal lives. I believe this project was, in some ways, meant to expose my bias and to allow me to overcome it. Despite the positive results noted with reducing no-

show appointments within this family medicine practice, exposing to myself my prejudice attitude is what makes me feel successful with this project.

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Appendix A: FSR Responsibilities

The FSR will verify at every visit the patient's name, address, and phone number, to include alternate numbers. This will improve our chances of reaching the patient for reminder appointment calls and other necessary business.

The FSR will mark the patient as a no show if the patient: a) does not obtain needed labs at least one week prior to their follow up appointment, b) does not cancel their appointment more than 24 hours in advance, c) arrives 15 minutes late for their scheduled appointment.

At the end of the day, the FSR will call those patients who missed their appointments in an attempt to have them reschedule. At that time, the FSR will inquire about the patient's preferred date and time for their appointment to lessen the risk of another missed appointment. The FSR will remind the patients of the no show policy as well.

At the end of the day (or end of the week), the FSR will mail a missed appointment/no show letter to those patients she was unable to reach by phone. The FSR will document this action in the patient charts.

The FSR will utilize after-visit summaries (AVS) at the end of each visit with the patient's follow up appointment date and time highlighted in yellow and pointed out to the patient by the FSR.

On Thursday afternoon of every week, the FSR will review the provider schedules for the following week and mark those patients as a no show who did not obtain their necessary labs. This will open up appointment slots on the provider's schedule for the following week to allow for sick visits, emergency room visits, and hospital follow ups appointments.

Appendix B: FSR Phone/Mail Log Check List Tool

Date	Name	Reschedule Date	LM	NA	SL	NS

LM: left message
NA: no answer or unable to reach patient
SL: sent/mailed letter
NS: notified patient of no-show policy

Appendix C: No Show Letter/No Show Policy

Dear _____ Date: _____

We've missed you! We have attempted to contact you through the number on file. You will not be eligible to obtain medications through The Pharmacy Connection or outside pharmacy until you are seen by your provider for a follow up visit.

Please call our office at *** *** *** and schedule a follow-up appointment for your continued care.

Attached you will find the no show policy.

NO SHOW POLICY

A no show is when you do not appear for your appointment, call less than 24 hours prior to your appointment, or do not get your labs drawn at least one week before your appointment.

If you receive a total of 3 no shows for any appointment involving your Provider, Mental Health Provider, or the Nurse Navigator you will be discharged from the practice for 6 months. Medication ordering through TPC and outside pharmacies will be suspended. If you are discharged from the Foundation, you can seek health care at the Care-A-Van or Hampton Roads Community Center on Lincoln Street where you can be seen for your primary care needs.

How to avoid a No Show…

Three ways for you to avoid a NO SHOW: attend your appointments on time, cancel your appointment 24 hours in advance by calling the office at *** *** ****, and

obtain your labs 1-2 weeks before the scheduled appointment with your provider. If you are discharged from the practice, you can apply to be re-established after 6 months.

Thank you for your cooperation,

-The Staff.

Appendix D: MA/LPN Responsibilities

The MA and/or LPN will call patients (one to two weeks prior to their scheduled appointment) to remind them of their upcoming appointment and to obtain labs, if necessary, one week prior to their appointment. The MA will take the lead on this and will call on the LPN as needed. The provider schedules will be printed by the MA. The following will be addressed and checked off on each printed schedule:

1) Date of call to the patient. Note on schedule.
2) Call patient. If unable to reach patient with their main number, search for an alternate number to call. Note on schedule.
3) Confirm appointment with the patient- remind patient to obtain labs 1 week prior if needed. Note on schedule.
4) Document the contact with patient in EHR and note on schedule.
5) Reschedule patient if patient requests and note on checklist.
6) If unable to reach patient, leave on an identifiable voicemail (Greeting with patients' name) with date, time, and need for labs if appropriate and check off on the schedule that a voicemail was left.
7) Deliver schedules with above information to Amanda weekly for data entry purposes.

Appendix E: No-Show Policy Patients Sign

NO SHOW POLICY

A no show is when you do not appear for your appointment, call less than 24 hours prior to your appointment, or do not get your labs drawn at least one week before your appointment.

If you receive a total of 3 no shows for any appointment involving your Provider, Mental Health Provider, or the Nurse Navigator, you will be discharged from the practice for 6 months. Medication ordering through TPC and outside pharmacies will be suspended. If you are discharged from the Foundation, you can seek health care at the Care A Van or Hampton Roads Community Center on Lincoln Street where you can be seen for your primary care needs.

How to avoid a No Show…

Three ways for you to avoid a NO SHOW: attend your appointments on time, cancel your appointment 24 hours in advance by calling the office at *** *** ****, and obtain your labs 1-2 weeks before the scheduled appointment with your provider. If you are discharged from the practice, you can apply to be re-established after 6 months.

Thank you for your cooperation,

I, _____ _____, have read and
(Print name) (Date of Birth)

understand the No Show Policy and I know what is expected of me in order to avoid a No Show.

I also understand the consequences that will occur if I receive 3 No Shows.

_____ _____

Patient Signature Date

Appendix F: Excel Data NP1

2018 September and October

2018 #1 Sept No Shows	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
5	0	3	0	1	0	0	4
6	0	0	0	0	0	0	0
10	0	4	0	2	0	0	6
11	0	3	0	0	0	0	3
12	0	0	0	0	0	0	0
17	0	1	0	0	0	0	1
18	0	2	0	0	0	0	2
19	0	1	0	0	0	0	1
20	0	0	0	0	0	0	0
24	0	1	0	0	0	0	1
25	1	3	0	0	0	0	4
26	1	3	0	0	0	0	4
Total NS per Section	2	21	0	3	0	0	
							26

Number of patients who no-showed their appointment

Seen	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
	0	8	0	1	1	1	11
	2	4	1	0	0	0	7
	1	4	1	1	0	0	7
	0	5	0	1	0	1	7
	2	6	0	2	0	0	10
	0	6	1	0	0	0	7
	1	5	1	3	0	0	10
	1	5	1	4	0	1	12
	0	9	1	1	0	0	11
	0	4	2	1	0	0	7
	1	7	0	0	0	0	8
	0	7	0	1	0	0	8
	0	6	1	0	0	0	7
Total Seen/Section	8	76	9	15	1	3	
							112

Number of patients seen by NP1

Scheduled	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
	0	8	0	1	1	1	11
	2	7	1	1	0	0	11
	1	4	1	1	0	0	7
	0	9	0	3	0	1	13
	2	9	0	2	0	0	13
	0	6	1	0	0	0	7
	1	6	1	3	0	0	11
	1	7	1	4	0	1	14
	0	10	1	1	0	0	12
	0	4	2	1	0	0	7
	1	8	0	0	0	0	9
	1	10	0	1	0	0	12
	1	9	1	0	0	0	11
Total Sched/sec	10	97	9	18	1	3	
							138 18.8%

Number of patients scheduled for NP1

Total no-show rate for Sept 2018 NP1 - 19%

2018 #1 Oct	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
No Shows	1	3	0	0	0	0	0
2	0	2	0	1	0	0	3
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
8	0	1	0	0	0	0	1
9	0	1	0	0	0	0	1
10	0	2	0	0	0	0	2
11	0	0	1	0	0	0	1
15	0	2	0	0	0	0	2
16	1	1	0	0	0	0	2
17	0	0	0	0	0	0	0
18	0	2	0	0	0	0	2
22	0	1	1	0	0	0	2
23	0	2	0	0	0	0	2
Total NS per Section	2	17	2	1	0	0	
							22

Number of patients who no-showed their appointment

Seen	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
	1	5	1	4	0	0	11
	1	7	1	2	0	0	11
	0	9	1	1	1	0	12
	1	4	1	2	0	0	8
	1	7	1	0	0	0	9
	1	8	1	0	0	0	10
	2	5	2	1	0	0	10
	1	3	0	0	0	0	4
	1	9	0	0	0	0	10
	0	12	0	1	0	1	14
	1	9	0	2	0	0	12
	1	3	1	0	0	0	5
	1	8	0	0	0	0	9
	1	10	0	0	0	0	11
Total Seen/Section	13	99	9	13	1	1	
							136

Number of patients seen by NP1

Scheduled	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
	2	8	1	4	0	0	15
	1	9	1	3	0	0	14
	0	9	1	1	1	0	12
	1	4	1	2	0	0	8
	1	8	1	0	0	0	10
	1	9	1	0	0	0	11
	2	7	2	1	0	0	12
	1	3	1	0	0	0	5
	1	11	0	0	0	0	12
	1	13	0	1	0	1	16
	1	9	0	2	0	0	12
	1	5	1	0	0	0	7
	1	9	1	0	0	0	11
	1	12	0	0	0	0	13
Total Sche/sec	15	116	11	14	1	1	
							158 13.9%

Number of patients scheduled for NP1

Total no-show rate for Oct 2018 NP1 - 14%

Appendix G: Excel Data NP2

2018 September and October

2018 #2 Sept	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
No Shows	0	0	0	0	0	0	0
5	0	2	0	0	0	0	2
6	0	1	0	0	0	0	1
10	0	1	0	0	0	0	1
11	0	2	1	0	0	0	3
12	1	1	1	0	0	0	3
24	0	1	0	0	0	0	1
25	0	4	0	0	0	0	4
26	0	4	0	0	0	0	4
27	0	1	0	0	0	0	1
Total NS per Section	1	17	2	0	0	0	
							20

Number of patients who no-showed their appointment

Seen	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
	0	10	1	1	0	0	12
	0	5	0	2	0	1	8
	0	4	1	0	0	0	5
	1	9	1	0	0	0	11
	1	5	0	1	0	0	7
	1	3	0	1	0	0	5
	1	9	0	0	0	0	10
	1	8	0	0	0	0	9
	0	7	0	2	1	0	10
	0	3	1	3	0	1	8
Total Seen/Section	5	63	4	10	1	2	
							85

Number of patients seen by NP2

Scheduled	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total	
	0	10	1	1	0	0	12	
	0	7	0	2	0	1	10	
	0	5	1	0	0	0	6	
	1	10	1	0	0	0	12	
	1	7	1	1	0	0	10	
	2	4	1	1	0	0	8	
	1	10	0	0	0	0	11	
	1	12	0	0	0	0	13	
	0	11	0	2	1	0	14	
	0	4	1	3	0	1	9	
Total Sched/section	6	80	6	10	1	2		
							105	19.00%

Number of patients who were scheduled for NP2

Total no-show rate for Sept 2018 NP2 - 19%

2018 #2 Oct	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
No Shows	0	2	0	0	0	0	2
2	0	2	0	0	0	0	2
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	2	0	0	0	0	2
11	1	1	1	0	0	0	3
15	0	0	0	0	0	0	0
16	2	2	0	0	0	0	4
17	1	0	0	0	0	0	1
18	0	0	0	0	0	0	0
22	2	4	1	0	0	0	7
23	0	1	0	0	0	0	1
24	0	0	0	0	0	0	0
25	0	1	0	0	0	0	1
29	0	1	0	0	0	0	1
30	0	1	0	1	0	0	2
31	1	1	1	0	0	0	3
Total NS per Section	7	18	3	1	0	0	
							29

Number of patients who no-showed their appointment

Seen	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
	1	7	0	3	0	1	12
	2	5	1	2	0	0	10
	1	4	1	3	1	1	11
	0	3	1	1	0	0	5
	1	8	0	0	0	0	9
	2	5	1	0	0	0	8
	0	4	0	0	0	0	4
	2	9	1	0	1	0	13
	0	8	1	1	0	1	11
	1	10	0	1	0	0	12
	0	4	2	1	0	0	7
	0	5	0	0	0	0	5
	1	8	1	1	0	0	11
	2	5	1	2	0	0	10
	1	2	1	2	0	0	6
	2	5	2	1	0	0	10
	1	2	1	4	0	0	8
	1	6	0	1	0	0	8
Total Seen/Section	18	100	14	23	2	3	
							160

Number of patients seen by NP2

Scheduled	New Patient	Follow up	GYN	Sick	Hosp F/U	ED F/U	Grand Total
	1	9	0	3	0	1	14
	2	7	1	2	0	0	12
	1	4	1	3	1	1	11
	0	3	1	1	0	0	5
	1	8	0	0	0	0	9
	2	7	1	0	0	0	10
	1	5	1	0	0	0	7
	2	9	1	0	1	0	13
	2	10	1	1	0	1	15
	2	10	0	1	0	0	13
	0	5	2	1	0	0	8
	2	9	1	0	0	0	12
	1	9	1	1	0	0	12
	2	5	1	2	0	0	10
	1	3	1	2	0	0	7
	2	6	2	1	0	0	11
	1	3	1	5	0	0	10
	2	7	1	1	0	0	11
Total Sched/section	25	119	17	24	2	3	
							190 15.2%

Number of patients who were scheduled for NP2

Total no-show rate for Oct 2018 NP2 - 15%

Appendix K: Comparison of 2017 to 2018 No-Show Percentage Rate

NP1 2017 % No-show	**NP1 2018 % No-show**
Jan 21.0	Jan 29.0
Feb 36.0	Feb 32.0 ✦
Mar 24.0	Mar 24.2
Apr 10	Apr 24.2
May 11.0	May 18.2
June 15.3	June 13.0 ✦
July 22.3	July 13.0 ✦
Aug 26.0	Aug 11.3 ✦
Sept 23.3	Sept 19.0 ✦
Oct 20.1	Oct 14.0 ✦
Nov 26.1	N/A
Dec 22.4	N/A

NP2 2017 % No-show	**NP2 2018 % No-show**
Jan 20.2	Jan 27.2
Feb 22.4	Feb 33.0
Mar 27.3	Mar 25.0 ✦
Apr 11.3	Apr 30.0
May 20.0	May 20.0 ✦
June 22.3	June 22.2 ✦
July 21.2	July 12.0 ✦
Aug 28.0	Aug 13.0 ✦
Sept 31.0	Sept 19.0 ✦
Oct 20.0	Oct 15.0 ✦
Nov 25.0	N/A
Dec 29.8	N/A

NP1 No-Show % rate 2017 Sept/Oct = 21.5%
NP1 No-Show % rate 2018 Sept/Oct = 16.5%

NP2 No-Show % rate 2017 Sept/Oct = 25.5%
NP2 No-Show % rate 2018 Sept/Oct = 17.0%

✦ Indicates reduced percentage of missed appointments