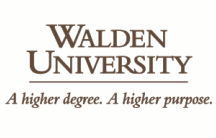

2017

Strategies Clinic Managers Use to Reduce Missed Medical Appointments

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This is to certify that the doctoral study by

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

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2017

Abstract

Strategies Clinic Managers Use to Reduce Missed Medical Appointments

by

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MBA, University of Phoenix, 2011

MSN, University of Phoenix, 2011

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

July 2017

Abstract

Patients who miss their medical appointments increase health care costs for themselves and for clinics. The purpose of this qualitative, single exploratory case study was to explore strategies health care clinic managers use to reduce medical no-shows for patient-scheduled appointments. Change management theory guided the scope and analysis. The data collection included a single clinical operations manager who have strategies to mitigate no-shows for patient-scheduled appointments participated in a semistructured interview in southeastern Virginia, the direct observation of 2 office workers in their natural setting of scheduling appointments, and for methodological triangulation, a review of organizational archival documents about missed medical appointments. Member checking was used to strengthen the credibility and trustworthiness of analyses, which were carried out using Yin's 5-step analysis process. Major themes were forgetfulness and high deductible plan; minor themes were lead-time and inclement weather that lead to no-shows. This study explored the strategies necessary to reduce costs and increase revenues; it could free funds to provide services to patients, such as education and counseling support. The findings from this study could contribute to social change by adding new knowledge or informing the strategies to reduce medical no-shows. These findings may also benefit organizational worth and increase community health.

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Dedication

This is dedicated to Carl, my husband, who encouraged me to reach my terminal goal and to my parents, Phally and Khosar, who instilled the love of education.

Acknowledgments

A hearty thank-you to “Abby” and all the amazing people at the research site participated in the research study. Heartfelt thanks to all the faculty members: Dr. Gene Fusch, Dr. Freda Turner, Dr. Janet Booker, Dr. Carol-Anne Faint, librarians, and peers who have helped on this doctoral journey with kind words encouragement, and advices. You all made it all possible! I am especially indebted to Dr. Patricia Fusch. You have incorporated your knowledge, aptitudes, and support to me; for that, I am eternally grateful!

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Section 1: Foundation of the Study

Health care clinic managers need to incorporate strategies to mitigate no-shows, provide timely medical care, and increase revenue for health care organizations to survive the long-term future. If health care leaders understand these reasons, the leaders can develop a program to reduce missed appointments, saving organizational resources. When a patient misses a medical appointment, the health care organization loses revenue and other patients have a long wait time to receive health care (Norris et al., 2014; Traeger, O'Cleirigh, Skeer, Mayer, & Safren, 2012).

President Lincoln made a promise to provide health care to those who bore the burden of war (U.S. Department of Veterans Affairs, 2013). Bell and Bryant (2013) and McInnes et al. (2014) identified veterans having higher rates of illness compared to civilians. I am concerned that United States (U.S.) veterans are not receiving their medical appointment or medical treatment promptly. Misra-Hebert et al. (2015) identified one barrier for veterans seeking health care is timely access and Bell and Bryant (2013) found that long wait time associates with nonattendance to scheduled medical appointments. One reason for this delay in timely medical care is other patients missing their scheduled appointments (Robinson, Christensen, Ottesen, & Krasnik, 2012). Patients miss appointments for various reasons (Walburn, Swindells, Fisher, High, & Islam, 2012). The purpose of this qualitative single exploratory case study was to explore strategies health care clinic managers use to reduce medical no-shows for patient-scheduled appointments.

Background of the Problem

In 2011, medical expenses increased by 9%; by 2025 medical expenses are predicted to increase by 25% and 37% by 2050 (Norris et al., 2014). Patients who do not show for their medical appointments create a loss of revenue and resources for health care managers and clinics (Schmalzried & Liszak, 2012); consequently, it is important to assist the health care profession in finding ways to reduce health care cost by exploring how missed medical appointments increases cost (Charkraborty, Muthuraman, & Lawley, 2013; Kaplan-Lewis & Percac-Lima, 2013). No-shows or missed medical appointments are defined as patients who do not show for an appointment at all, who arrive at least 15 minutes late for the scheduled appointment, or who cancel the appointment on the business day before the appointment (Mbada et al., 2013; Runnels, 2013).

Patients who miss their scheduled medical appointment prevent other patients from obtaining a timely appointment; therefore, creating a delay of care for other patients (Mbada et al., 2013). The delay in appointment scheduling can decrease patient satisfaction (Crutchfield & Kistler, 2017; Lin et al., 2016). Elnitsky et al. (2013) noted that longer veteran's affairs (VA) lead time results in a statistically significant reduction in operational use, thereby leading to the worsening of health in the elderly and for veterans needing health care. Significantly, no-shows for scheduled appointments may keep vulnerable patients from receiving timely health care (Robinson et al., 2012), and may lead to poor patient health (Kaplan-Lewis & Percac-Lima, 2013; Mbada et al., 2013). Adherence to scheduled appointments can be a predictor of health success for patients (Shumba, Atuhaire, Imakit, Atukunda, & Memiah, 2013).

Problem Statement

Missing medical appointments increases health care costs (Norris et al., 2014). In the United States, there is a 40% no-show rate for some scheduled appointments (Balikci, et al., 2013), leading to lost revenues. The general business problem was medical appointment no-shows negatively affect profitability for health care organizations. The specific business problem was that some health care clinic managers lack strategies to reduce medical no-shows for patient-scheduled appointments.

Purpose Statement

The purpose of this qualitative single exploratory case study was to explore strategies health care clinic managers use to reduce medical no-shows for patient-scheduled appointments. The clinic manager, supervisor, receptionist(s), and provider(s), located in an endoscopy clinic in southeastern Virginia, with strategies to mitigate no-shows for patient-scheduled appointments, participated in semistructured interviews to share their strategies on how to reduce no-show appointments. I incorporated multiple data sources such as semistructured interviews, archival documents about missed medical appointments, and my direct observation of the appointment scheduling process. Multiple data sources enhanced methodological triangulation. The data from this study can contributed to social change by adding new knowledge, insights, and strategies to reduce medical no-shows for patient-scheduled appointments. Furthermore, the data from this study can offer financial benefits to leaders within the health care industry and reduced taxpayers cost for public health care. This reduction of cost can free funds to provide other services such as education and counseling support to clinic patients.

Nature of the Study

I selected the qualitative research method to explore a phenomenon in a natural setting, focusing on the research study question, and identifying emergent themes as discussed by Marshall and Rossman (2016) and Zivkovic (2012). The nature of the study aligned with the qualitative research method because it describes participants' point of views and behaviors (Arghode, 2012; Fassinger & Morrow, 2013; Marshall & Rossman, 2016).

I considered the alternative approaches of quantitative and mixed methods research to determine the appropriateness of the qualitative case study approach for this research study. In contrast, the quantitative method is quantifiable and result oriented (Fetter, Curry, & Creswell, 2013; Westerman, 2014). I did not use quantitative method for this inquiry because it was unsuitable to obtain information related to the research question as noted by Fassinger and Morrow (2013) and Zivkovic (2012).

Mixed method research is mixing both qualitative and quantitative empirical data collection methods in a single study approach (Denzin, 2012; Southam-Gerow & Dorsey, 2014; Wilson, 2014;) and was not be appropriate for the study method as it is labor intensive for a novice researcher due to time constraints (Covell, Sidani, & Ritchie, 2012). Xinyu, Yupeng, and Sriram, (2014) stated that cost constraints also limit clinical samples. Qualitative research is inexpensive and allows the novice researcher to explore new ideas and topics (Abma & Stake, 2014; Boblin, Ireland, Kirkpatrick, & Robertson, 2013; Snyder, 2012) in a holistic manner (Cronin, 2014; Zivkovic, 2012), identifying

emerging themes in a timely fashion (Abma & Stake, 2014; Boblin et al., 2013; Synder, 2012).

Marshall and Rossman (2016) noted that a qualitative research method can consist of case study, ethnography, grounded theory, narrative research, and phenomenology. The case study design was optimal for the study to answer *what* and *how* questions (Boblin et al., 2013; Yin, 2014). To ensure the results of a single case study have reached data saturation, I incorporated methodological triangulation (Denzin, 2012; Fusch & Ness, 2015) in a case study design (Yin, 2014). The case study design was the best choice to explore strategies to reduced medical no-shows for patient-scheduled appointments.

Research Question

The central research question was as follows: What strategies do health care clinic managers use to reduce medical no-shows for patient-scheduled appointments?

Interview Questions

The sub-questions derived from the central question are the following:

1. What impact do medical no-show appointments have on your organization?
2. What impact do cancelations of an appointment less than 24 hours have on your organization financially?
3. How has canceling an appointment in less than 24 hours affected your organization?
4. How have delays in patient-care affected the health of the patient within the practice?

5. What factors have led to cancelation rates or no-show rate at your organization?
6. What strategies have you implemented to minimize the no-show appointment at your organization?
7. What reason(s) do patients offer when they do not show for their medical appointments?

Targeted follow-up questions assisted in follow-up on the targeted questions when necessary. I explored *what* type of questions in this section.

Targeted Follow-Up Questions

1. What reasons have patients told you they did not call when they do not show up for the medical appointment?
2. What process is in place to assist patients to show for their medical appointments?
3. What is the percentage of patient no-shows for the clinic?
4. What process has your organization implemented to mitigate the issue of patient no-shows to appointments?
5. What changes have you noticed the new process has had on your organization since the process's implementation?
6. What has your organization implemented to keep the momentum of the (appointment reminder) process on going?
7. What other information can you share that we have not discussed?

Conceptual Framework

The change management theory was the conceptual framework used in this study. Kurt Lewin developed the change management theory in 1945 (Lewin & Grabbe, 1945). He was a social psychologist and was the father of group dynamics and organizational development theory (Shirey, 2013). Subsequently, Shirey (2013) found the change management theory useful as a framework to identify and study the issues or forces affecting individuals, groups, or organizations to behave or act in a particular manner. Key concepts of the change management theory are Lewin's three-step model of change (McGarry, Cashin, & Fowler, 2012) that were originally cognitive structure, valences and values, and motoric action (Lewin & Grabbe, 1945). The current re-education processes of the three stages of change management theory are unfreezing, change, and refreezing (Shirey, 2013).

Shirey (2013) noted the first stage of the three-stage model of change is unfreezing. This step involves a leader acknowledging a need for change and empowering others to realize the need for change (Shirey, 2013). Lewin understood that change is difficult and not one intervention is suitable for all circumstances (McGarry et al., 2012). The unfreezing stage begins when the process of implementing the change is complete (Shirey, 2013). The second stage is the change or transitioning stage (McGarry et al., 2012). The leader is in the re-educative process (Lewin & Grabbe, 1945) of implementing the change in culture by learning the new behavior. McGarry et al. (2012) referred to the refreezing stage as the reestablishing stage. Learners in this stage need to continue the newly learned process (Shirey, 2013). As applied to this study, the change management theory framed the literature review, the design of my study, and the data

results regarding the research topic of how clinic managers use strategies to reduce medical no-shows for patient-scheduled appointments.

Operational Definitions

In discussing the topic of no-shows or missed scheduled medical appointments, the following terms are frequently used. The definitions of terms in this section are terms that scholars used in the literature and originated from scholarly sources.

Lead-time: Lead-time refers to the time from scheduling the appointment to the time the patient attended the schedule appointment (Norris et al., 2014).

No-show/missed medical appointment: A no-show/missed medical appointment is defined as one where the patient does not show up for their appointment at all, arrives at least 15 minutes late for the scheduled appointment, or has canceled the appointment the business day prior to the appointment or later (Kaplan-Lewis & Percac-Lima, 2013; Mbada et al., 2013; Runnels, 2013).

Overbooking: Overbooking is scheduling more than one appointment for one scheduled appointment slot (Chakraborty et al., 2013; Schutz & Kolisch, 013).

Public health care: For this study, the term is defined as health care provided to veterans or non-military individuals through Social Security/Medicaid/Medicare/public health services/indigent care, and private insurance carriers (Schmalzried & Liszak, 2012).

Scheduling: The term scheduling refers to making a medical appointment for patients (Patrick, 2012).

Shared medical appointments (SMAs): SMAs comprised of at least six patients attending a group appointment with the health care provider (Paul, Yehle, Wood, Wingate, & Steg, 2013).

Text messaging (TM): Text messaging or small message service (SMS) refers to using a mobile phone to send patients messages notifying them of an upcoming appointment (Perron et al., 2013).

Assumptions, Limitations, and Delimitations

Each research study has its assumptions, limitations, and delimitations (Applebaum, 2012). The researcher reveals the assumptions, limitations, and delimitations of a study to provide transparency (O'Reilly & Parker, 2012). Ketokivi and Choi (2014) stated that transparency indicates full disclosure about the study. The sub-sections below offer definitions of the following words: assumptions, limitations, delimitations, and I provide examples.

Assumptions

Assumptions are unverified facts assumed to be true (Applebaum, 2012; Arghode, 2012). The first assumption was that the study participant provided honest answers to interview questions (Applebaum, 2012; Arghode, 2012). The second assumption involved the applicability of reviewed archival records to the current phenomenon about missed medical appointments. The third assumption was that the semistructured interviews and direct observation provide comprehensive data to answer the overarching research question. Finally, I assumed this study may affect professional and social change by minimizing no-shows to scheduled medical appointments.

Limitations

Limitations are potential weaknesses of a study identified by the researcher (O'Reilly & Parker, 2012). In this qualitative exploratory case study, the primary limitation was the sample size of participants that was comprised of the target sample of an endoscopy clinic in southeastern Virginia. The other potential weaknesses of the study were the procurement of data from the participants and research site and time constraint. Another limitation is the geographical location of southeastern Virginia. The final limitation included a single research site where health care clinic managers have strategies to reduce medical no-shows for patient-scheduled appointments. The limited data may affect the application of the case study design and the transferability of the study results.

Delimitations

Kim and Lee (2015) and Pereira (2012) defined delimitations as boundaries the researcher imposes on the scope of the study. The extent of this study was limited to a specific problem, population, and location. The populations were delimited to clinic managers who reduced the number of no-shows to appointments, who speak and understand English, and ae age 18 and older. No-shows to the medical appointment are defined as those patients who do not show for their scheduled medical appointment at all, arrive at least 15 minutes late for the schedule appointment, or cancel the appointment the business day before the appointment or later (Mbada et al., 2013; Runnels, 2013). A final delimitation was the use of only one endoscopy clinic site in southeastern Virginia.

Significance of the Study

This study is significant in that I explored strategies health care clinic managers use to reduce medical no-shows for patient-scheduled medical appointments in southeastern Virginia. No-shows are costly to health care facilities (Norris et al., 2014) and detrimental to patient health (Harmon, Conaway, Sinkin, & Blackman, 2013; Walburn et al., 2012).

Contribution to Business Practice

The contributions to business practice include benefit from research findings and preventing loss of revenue and resources. Health care providers interested in preventing loss of revenue and resources in health care (Schmalzried & Liszak, 2012) may profit from studies addressing a topic related to strategies for the reduction of no-shows. A research need exists for additional information on how medical clinic managers prevent, mitigate, or reduce patient no-shows rates for scheduled medical appointments. Health care providers and consumers could benefit from the research findings.

Patients do not attend their medical appointment for various reasons; the primary reason is forgetfulness (Bell & Bryant, 2013; McInnes et al., 2014). Bell and Bryant (2013) included other reasons such as traveling difficulties, competing demands, scheduling difficulties, lack of provider support, and no useful knowledge obtained from the provider. Every facility is in business to make a profit regardless if the organization is for-profit or nonprofit. Business leaders need to understand the factors associated with the nonattendance of patient-schedule medical appointments to mitigate no-shows.

Implications for Social Change

The information in this study may result in potential social change for health care professionals and consumers, which may include increasing revenue for providers, minimized lead-time, and improving health of the consumer. The significance of this study is for health care leaders and health care organizations who are interested in increasing revenues and reducing health care cost by minimizing nonattendance to scheduled medical appointments. A missed medical appointment for one patient may cause a delay in care for another patient, which could lead to detrimental effects (Kaplan-Lewis & Percac-Lima, 2013).

Missed medical appointments use more resources; therefore, may increase health care costs (Mbada et al., 2013). Researchers have some information about missed medical appointments and can provide some reasons why it occurs; however, many do not have strategies to mitigate no-shows (Markowitz, Volkening, & Laffel, 2014). This research study could add new knowledge by exploring reasons for patient no-shows, thereby maximizing appointment attendance. Potential answers to the patient no-show phenomenon is the goal of this research study. The health care clinic managers could incorporate the results of medical no-shows for patient-scheduled appointments to increase profitability and decrease patient no-shows of scheduled medical appointments, as noted by Charkraborty et al. (2013).

A Review of the Professional and Academic Literature

The purpose of this qualitative single exploratory case study was to explore what strategies health care clinic managers use to reduce medical no-shows for patient-

scheduled appointments. In the United States, no-show rates are at 40% for scheduled appointments (Balikci et al., 2013). The academic literature review provided in-depth information on the conceptual framework, exploring strategies to reduce no-shows to patient-schedule appointments, and to add knowledge to current literature.

Literature reviews may assist in identifying unresolved phenomena needing further research (Rowley, 2012). The literature review for this study can assist to (a) understand the conceptual framework, (b) add knowledge to current literature, (c) identify those who seek health care, (d) understand the different levels of preventions, (e) identify current literature to support the research, (f) identify strategies to mitigate missed patient-scheduled appointments, and (g) add understanding about the phenomena and contributing to existing literature (McFerran & Campbell, 2012).

The purpose of this qualitative single exploratory case study was to explore what strategies health care clinic managers use to reduce medical no-shows for patient-scheduled appointments in southeastern Virginia. I conducted the literature review on missed medical appointments and my conceptual framework, which included peer-reviewed articles. I obtained literature from books, dissertations, websites, and government reports as necessary. The Walden University Online Library provided full-text sources obtained mostly from business and management, health sciences, nursing, multidisciplinary, and search Thoreau multi-database. Specific databases I used included ABI/INFORM Complete, Academic Search Complete, Business Source Complete, Emerald Management Journal, ProQuest, Sage Publications, and Science Direct. I also used another university library and Google search engine for pertinent research topics.

Keyword searches used in these databases included: *access to health care, appointments, change management theory, conceptual framework/change, cost/appointment, delay in care, effect of no-show, effect of missed medical appointment(s), factors associated with missed appointment(s), innovation and missed appointments, Lewin's change theory, missed appointment(s), missed appointment and cost, mitigating bias, models reducing no-show, no-show to medical appointment(s), no-show to primary care appointments, participants/ethics, patient communication, reducing missed appointments, sample size, shared appointments, strategies reducing no-show, the change curve, types of change management, health seeking behavior, level of prevention,* and *why patients do not come*.

The review of professional and academic literature section for this research study had five primary categories: (a) change management theory, (b) factors associated with missed medical appointments, (c) missed medical appointments; shared medical appointments, (d) strategies to reduce missed medical appointments, and (e) effect of generational differences. This research study contained 163 references with contemporary to dated sources 90% - 10% respectively and the percentage of peer to non-peer reviewed is 94% - 6% respectively.

The Importance of Change Management for Business

The Greek philosopher Heraclitus said *change is the only constant* (Banker, 2012). Businesses need to address the changes in consumer needs and global electronic advancements (Sumpio, 2013). Those organizations that do not address consumer wants and desires may suffer financial loss, or even bankruptcy, through lack of revenue

(Armean, 2013). Change is difficult, but organizational change is necessary for organizations to thrive and continue longevity (Banker, 2012; Mitchell, 2013).

Types of Change

Change is important for the future of any organization (Banker, 2012; Mitchell, 2013). It is necessary that senior management become involved for success with planned change (Shih, Shaw, Fu, & Cheng, 2013). Change is important to advancement, yet the complexity of planned change fails when change agents incorporate an amorphous approach (Mitchell, 2013). Incorporating an appropriate change theory or model will assist in the success of planned change. There are three primary change management models: Lewin's change management model, McKinsey 7-S model, and Kotter's 8 step change model (Creasey & Taylor, 2014; Kotter & Schlesinger, 2008; Mitchell, 2013).

History of Change Management Theory

Kurt Lewin was a German psychologist and the founder of the theory of planned change (TPC) in the 1950s (McGarry et al., 2012; Mitchell, 2013; Shirey, 2013), currently known as change management theory. Lewin coined the phrase *there is nothing so practical as a good theory* (Greenwald, 2012) and also coined the term *group dynamics* (McGarry et al., 2012). He argued the group dynamic had a stronger influence on the sole individual, and necessary change at the group level requires a modification at the group level and not the individual (McGarry et al., 2012).

Lewin's change management theory started as early as 1945 when he and Grabbe published *Conduct, Knowledge, and Acceptance of New Values* (1945) about divergence and culture change. The change management theory or the three-step model for change

(McGarry et al., 2012) referred to the steps required before change can occur. The first phase in the change management theory is the *unfreezing* stage where unwanted behavior ceased (McGarry et al., 2012; Shirey, 2013). The second phase is *change* or *transitioning* phase, which incorporates the desired behavior (McGarry et al., 2012; Shirey, 2013). The third phase is the *refreezing*, which refers to the stabilization of change. Employees in the third phase will continue to model the new and desired behavior (McGarry et al., 2012; Shirey, 2013).

Figure 1 shows the different shapes of ice cubes as comparable to Lewin's change management theory. The ice cube on the left represents the undesired behavior, which one needs to change or unfreeze. The next ice cube represents the process to the desired change. Finally, the last ice cube represent refreezing of the desired shape (behavior).

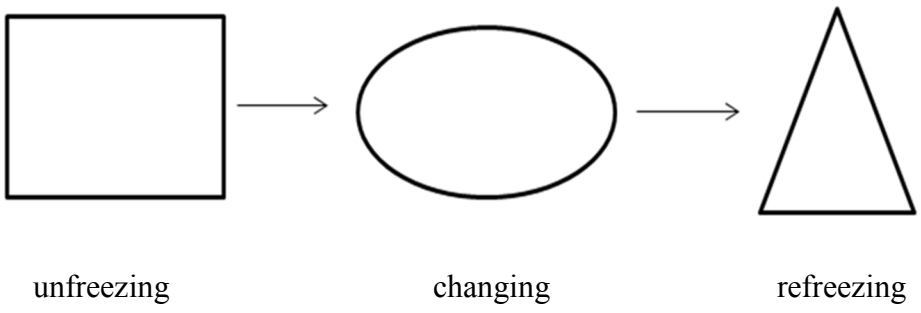

*Figure 1***.** Lewin's change management theory comparing to shaping ice cubes, by Cummings, Bridgman, and Brown (2016).

Lewin's change management model is straightforward; however, Cummings et al. (2016) reported that Lewin's theory might not always be appropriate because of its simplicity. Lewin's TPC is considered a linear change model whereas change in itself is complicated (Shirey, 2013). Although most organizations implement Lewin's TPC

because of its simplicity, contemporary theorists such as Rogers added more phases to TPC (Mitchell, 2013).

Contemporary Theory that Addresses Change

Rogers's five stages of planned change are *awareness*, *interest, evaluation*, *trial,* and *adoption* (Mitchell, 2013). Everett Rogers was a sociologist who was the founder of the diffusion of innovations theory and he introduced the term *early adopter* (Backer & Rogers, 2000). Mitchell (2013) noted that Rogers's grouping of the five phases could fit Lewin's three phases of change in change management model. For example, Rogers's awareness phase fits into Lewin's unfreezing stage (Mitchell, 2013). The interest, evaluation, and trial phase are similar to Lewin's transitioning (unfreezing) stage (Mitchell, 2013; Shirey, 2013), and last phase, adoption phase, is the same as Lewin's refreezing phase (Mitchell, 2013; Shirey, 2013).

The acronym ADKAR stands for *awareness*, *desire*, *knowledge, ability*, and r*einforcement* (Kiani & Shah, 2014); it is another contemporary theory developed by Prosci in 2001 and updated in 2012 (Kiani & Shah, 2014). Prosci's model can successfully measure individuals change management competency. This includes changing one person at a time (Kiani & Shah, 2014).

The Levels of Prevention

To understand the reasons patients do not show up for their scheduled medical appointment, researchers must first understand what motivates patients who choose to seek medical care or not to seek medical care. The levels of prevention are the point of the disease process when patients seek health care may play a significant role in

mitigating missed medical appointments. There exists three levels of health prevention. The three types of prevention are primary, secondary, and tertiary. Primary care providers use these rankings to categorized disease prevention and treatment to assist in reducing disease-associated illness and mortality (Jones-Parker, 2012).

Primary prevention. Jones-Parker (2012) defined primary prevention as providing education and lifestyle changes before a health problem arises. Some primary prevention includes immunization, annual physicals, and annual diagnostic testing (Joshi, Nair, Chaturvedi, Agarwal, & Cruz, 2014). Providers encouraged primary prevention as an important level for patients to practice because early identification of problems equates to lower morbidity and mortality (Jones-Parker, 2012; Wong, Yim, Choi, & Lam, 2015); therefore, primary prevention can reduce health care costs (Mbada et al., 2013).

Secondary prevention. In secondary prevention, an individual receives early detection and prompt intervention to control disease or illness (Jones-Parker, 2012; Joshi et al., 2014). The course of treatment in secondary prevention is to slow or stop the progression of the disease process (Jones-Parker, 2012). An example of secondary prevention is a patient who has diabetes (Joshi et al., 2014). That patient may seek care about controlling diabetes after the disease process has begun (Joshi et al., 2014). Preventing further progression of the disease reduces healthcare costs and patient sick days; therefore, improving community health (Guirguis et al., 2013).

Tertiary prevention. Tertiary prevention focuses on preventing additional complications of existing disease process or problem (Jones-Parker, 2012). Treatment in tertiary strategies enables one to build upon the plans found within primary and

secondary prevention that includes aggressive treatment and rehabilitation as necessary (Joshi et al., 2014). An example of tertiary level is a patient having advanced oral cancer that is a challenge to treat (Joshi et al., 2014). Understanding the different levels of prevention can assist in understanding people's health seeking behavior as well as missed medical appointments.

Health Seeking Behavior

Health-seeking behavior should be intuitive, but Misra-Hebert et al. (2015) stated best that modifying factors, such as unmet basic needs for self, and family is counterintuitive in seeking health care. Dorothea Orem's self-care deficit nursing model stated that people do not have health because they have knowledge deficit regarding health (Seed & Torkelson, 2012). Paige and Mansell (2013) also noted that mental health patients do not perceive a need for mental health care. The patient's knowledge deficit may be a reason for missed scheduled medical appointments (Newman et al., 2013; Seed & Torkelson, 2012; Wong et al., 2015); therefore, it may be why patients lack health seeking behavior. Furthermore, how a nurse or medical care personnel perceives Orem's conceptual framework of self-care deficit may have a positive or negative impact on the patient (Seed & Torkelson, 2012). If the health care personnel based the deficit on ignorance of the subject rather than empathetic of a subject's situational distress, the health care personnel may have a preconceived idea about Orem's self-care deficit model (Seed & Torkelson, 2012). The misconception of Orem's self-care deficit model may lead to a lack of health seeking behavior as a result of patients' perceived perception of a

health care personnel's' attitude as distrusting as posited by Shabila, Al-Tawil, Al-Hadithi, andSondorp (2014).

The following are some examples. To understand adult men seeking primary health care and those who did not seek health care in Rio de Janeiro, de Oliveira, Daher, da Silva, and de Arujo Andrade (2015) wanted to understand the demographic profile, morbidity, and frequency of health seeking behavior. De Oliveira et al. (2015) noted the Brazilian population is 49% male and about 47% of the men have a mean age of 25-59 years. The primary care in the area is the Family Doctor Program (FDP). The researchers conducted a cross-sectional study using secondary data. Three hundred and twenty-three men enrolled in the FDP. During the 5-year study period, 143 men (44%) did not seek health care although 24 of them reports health complaints at registration to the FDP and the 119 men who were enrolled and did not seek health services did not report any health concerns. The other 56% (180 men) wanted routine health services (primary prevention), 36% of the 180 men who pursued treatment reported health concerns at the time of registration to the FDP (secondary prevention). De Oliveira et al. (2015) reported this constituted an average of 10 visits from November 2003 to August 2009 and they reported that follow-up visits had a mean of 17 visits in the same period. During data collection, the researchers found 43 men were overweight with a body mass index BMI >/ 25kg/m2, 26 were obese with BMI, at least, 30kg/m2, and 44 men had high blood pressure.

De Oliveira et al. (2015) found significant differences between men who sought health services and those who did not seek health services. The men who sought health

care were older (mean age 41 years), who have fewer years of education, and were social security recipients. The researchers concluded those men who did not seek primary care services (40%) at the FDP might seek care from private practices or emergency care services. Furthermore, de Oliveira et al. (2015) noted the men who did not seek primary care may relate to the societal role that masculinity equates to health and strength and not weakness and illness. Stigma plays a role in seeking primary prevention in health in the study by de Oliveira et al. (2015) and Misra-Hebert et al. (2015). Some men do not seek secondary prevention (de Oliveira et al., 2015; Joshi et al., 2014; Misra-Hebert et al., 2015).

Joshi et al. (2014) investigated the delay in seeking care by patients with advanced oral cancer. Oral cancer is complex and difficult to treat (Joshi et al., 2014). Joshi et al. (2014) want to understand the rationale for delay in seeking care with advanced oral cancer, even though most patients noted the abnormal lesions in their mouth. The researchers conducted a prospective questionnaire-based study on 201 oral squamous cell cancer patients. The average age of the patients was 48 years. Men to women participants were six to one respectively. The average distance to the nearest primary care center was 10 km and about 14% had insurance coverage. Most participants had a primary education, but 20% had no formal education (Joshi et al., 2014). Joshi et al. (2014) noted about 79% of participants chew tobacco, whereas, 27% were smokers. Thirty-one percent of participants consumed alcohol, 51% had many bad habits, but 8% had no bad habits. The researchers revealed the average age of tobacco consumption was 34 years. Eighty-five percent of participants independently noted the lesions in their

mouth. Several causes existed in delay of care but the most common was by the patients themselves. A significant number of patients reported their primary care provider (PCP) had delayed in diagnosis. Other delays in seeking care included treatment by nonmedical persons, poor financial status, lack of awareness, and a small percentage reported fear of hospitals or denial of disease (Joshi et al. (2014). Joshi et al. (2014) noted a tertiary delay before surgery with the long wait time of 1.4 months before surgery at the care center.

Understanding when patients do seek health care may assist researchers or clinicians to understand and offer reasons for missed appointments. No-shows are a complex problem that may require complex solutions (Misra-Hebert et al., 2015). Understanding the reasons may enable health care providers to find solutions to mitigate no-shows for scheduled medical appointments.

Missed Medical Appointments

Schmalzried and Liszak (2012) defined a no-show appointment as a patient who does not keep an appointment or is more than 10 minutes late. Missed medical appointments create a domino effect in the health care system (Mbada et al., 2013). Some may be unaware of the impact of missing a scheduled medical appointment (Alhamad, 2013). No-show rates significantly affect revenue, and increase the use of unnecessary resources in the health care system (DuMontier, Rindfleisch, Pruszynski, & Frey, 2013; Giunta, 2013; Mbada et al., 2013; Perez et al., 2013) because it may detrimentally affect success of treatment associated with poorer health and cause missed opportunities for other patients (Norris et al., 2014).

Patients who do not show for primary clinic appointments tend to use the emergency room to treat primary and chronic health issues (DuMontier et al., 2013). Mbada et al. (2013) noted that using the emergency department for primary care and chronic health issues is costly for the health care system. For example, in the United States in community practices, no-shows rates range from 5% to 55% (DuMontier et al., 2013) creating a reduction in available appointment slots for all patients. Other examples include Balikci et al. (2013) who reported about 45% of schizophrenic patients did not show up for their medical appointments. In addition, Markowitz et al. (2014) found that 15% of diabetic patients' at the Boston diabetes center scheduled appointments resulted in cancelation or no-shows and that 61% of the patients missed at least one visit. Failure of patients to keep scheduled medical appointments is costly and results in under-utilized clinic capacity (Markowitz et al., 2014; Mbada et al., 2013).

The three primary reasons why patients do not show for appointments are emotions (fear and anxiety), perceived disrespect, and not understanding the scheduling system (Schmalzried & Liszak, 2012). Moreover, the demographics of patients have an impact on missed medical appointments. Schmalzried and Liszak's (2012) target population at Community Health Services (CHS) consisted of those individuals and families living within the service area who have incomes below 200% of the federal poverty index level. They are uninsured or on Medicaid and are seasonal migrant farmworkers and their family. Racial and ethnic disparities in the health care systems exist; therefore, minorities and children are less likely to receive health services (Powell & Appleton, 2012; Reavy, Hobbs, Hereford, & Crosby, 2012).

Norris et al. (2014) conducted a study addressing the gap in the literature about why patients do not show for their medical appointments. This study is different from others because the researchers addressed three specific outcomes from patients who showed up for the appointment, patients who canceled before the appointment time, and patients who did not show for the appointment but neglected to call and cancel. The authors concluded from their broad empirical analysis that attendance compliance depended on lead-time (number of days between reminder call and appointment time). The authors discussed the paradox of lead-time as a factor that health care organization can control; the longer the appointment is scheduled out, the more likely the patient does not show up for the appointment (Norris et al., 2014). Perez et al. (2013) conducted a multivariate logistic regression from 284, 275 participants from 15 subspecialty clinics (five surgical and 10 medical) during a five-year period at Lucile Packard Children's Hospital (LPCH). These researchers found approximately 66% of their no-shows occurred when lead-time was more than one month prior to the actual appointment date.

Also, Balikci et al. (2013) noted those who missed their appointments have lower educational levels and may not understand the importance of making their appointments. Finding strategies to educate these groups of patients may reduce the number of no-show for scheduled appointments (DuMontier et al., 2013; Reavy et al., 2012). Understanding what contributes to patients not showing up for their appointment is one-step towards reducing health care costs (DuMontier et al., 2013).

Factors associated with a no-show. Bell and Bryant (2013) identified factors associated with a no-show and the emerging theme consisted of patients stating they

totally forgot about the appointment, traveling difficulties, competin demands, scheduling difficulties, lack of provider support, and no new or useful knowledge from the provider. Many researchers found that forgetfulness is the primary reason associated with a no-show for a scheduled appointment (Bell & Bryant, 2013; Cibulka, Fischer, & Fischer, 2012; Crutchfield and Kistler, 2017Kaplan-Lewis & Percac-Lima, 2013; McInnes et al., 2014).

Perez et al. (2013) found that types of insurance carrier are associated with no-shows. Those who have public health insurance or government-subsidized insurance types, such as Medicaid, have a higher rate of no-show to scheduled medical appointments as compared to self-pay or private insurance carriers (Perez et al., 2013). Also, Perez et al. (2013) found that younger age, non-surgical appointments, appointment time in the afternoon, limited English needing an interpreter with previous appointments, and geographic distance (> 50 miles) increased the likeliness of a no-show occurrence. What's more, Perez et al. (2013) found that appointments during summertime have a higher incident of no-show compared to springtime appointments. Springtime appointments had the lowest numbers of no-shows (Perez et al., 2013).

Understanding factors associated with nonattendance can assist management to find strategies to reduce the rate of nonattendance with the use of predictive models (Giunta et al., 2013). Factors related to patients who are more likely to be a no-show for scheduled medical appointments are male patients, those who have comorbid alcohol abuse/dependence, who are receiving typical antipsychotic agents at discharge, and who have higher rates of discharge against medical advice and who are younger (Kaplan-

Lewis & Percac-Lima, 2013). Another factor is patients who are hypertensive African-Americans who are not adhering to their medical appointments and, therefore, miss appointments related to increased risk of hospitalization and death (Nwabuo, Dy, Weeks, & Young, 2014). In a cross-sectional survey of 185 African-Americans admitted to an urban medical center in Maryland, who had uncontrollable hypertension from 1999-2004, Nwabuo et al. (2014) found that appointment non-adherence was the primary outcome, that defined as a patient reporting missing more than three appointments out of 10 in their lifetime. Patient educational levels, their understanding of hypertension, the lack of insurance coverage, the prevalence of insurance with no medication coverage, the cost of discharge medication, past experience of side effects, and patient belief that anti-hypertensive drugs do not work increases the likely-hood of non-adherence to appointments (Nwabuo et al., 2014). Appropriate education about the scheduling system and medications are necessary for these populations (Nwabuo et al., 2014).

Lack of support. Bell and Bryant (2013) noted the lack of provider support impedes appointment adherence. When patients are in need of support and providers are not available to patients, this is a lack of provider support by patient viewpoints (Bell & Bryant, 2013). Support may include open communication with providers and patients. Social media is one way to keep in touch with patients and to provide continual support when the patients need it most (Twiddy, 2014). Twiddy (2014) noted that one-third of consumers use social media to obtain information about health care related matters. He offered suggestions to support patients by allowing patients to use social media for updates about changes in office hours or new services. Twiddy mentioned a family

practice in Plainville, Kansas using social media to publicize the availability of same-day appointments, and updates when vaccines are available. The practice is making their services available; therefore, increases revenue for the practice, as their patients are not seeking other avenues of care (e.g. CVS, Walgreens). Twiddy (2014) noted that finding the best use of social media might take some practice and patience. As one provider noted, a bombardment of messages might annoy the consumer (Twiddy, 2014).

Access barriers. Missed scheduled medical appointments can result from barriers to access. Nwabuo et al. (2014) reported that patients who do not have transportation have barriers to appointment attendance. Also, patients who have difficulty contacting a staff member at the doctor's office to schedule their appointment have an issue with accessing their health care appointment (Nwabuo et al., 2014). McCann and Lubman (2012) noted a lack in the literature about accessing appropriate mental health services for the youth. The researchers interviewed 26 young adults (ages 16-22) with depression, 16 of the participants were females, and 10 were males. Researchers investigated the experiences these young adults have accessing mental health services and understanding how they access the health services and what difficulties the youth encountered.

McCann and Lubman (2012) found that young people with depression have personal and access barriers when accessing mental health care. Some personal barriers include embarrassment and hoping that the problem will do away on its own (Elnitsky et al., 2013). Another particular barrier is the perceived stigma placed by health care professionals. McCann and Lubman (2012) noted the lack of youth-friendly models of

care for positive support, including preventing youth from feeling stigmatized for their mental health concerns.

Accessing barriers for the young adults include difficulty-obtaining appointments, obtaining transportation, and covering the cost for the service. Whealin, Kuhn, and Pietrzak (2014) found that veterans have difficulties accessing mental health services because of a lack understanding about mental health issues or un-favoring belief about mental health services and lack of trust from mental health care personnel. The underserved population includes those who are male with low symptom severity relating to mental health concerns, who live in rural areas, and who have little education. Whealin et al. (2014) noted those with less education about mental health services have more stigma-related concerns and less understanding about mental health disorders. Lee et al. (2013) stated that patients who have appointment scheduling difficulties have access barrier issues. Cost as a barrier to health care relates to the expenses the patient acquires (Harmon et al., 2013; Paige & Mansell, 2013) to attend the scheduled medical appointments.

In the case of veterans from all warfare epochs, 68% of those who screen positive for mental health disorder did not receive mental health treatment (Whealin et al., 2014). For these veterans, it is not the lack of perceived need, which prevents them from seeking treatment but fear of a *label* (Whealin et al., 2014). These veterans' barriers relate to stigma, knowledge deficits, negative beliefs about mental health services, and underserved populations (Elnitsky et al., 2013; Whealin et al., 2014). Active duty veterans during the Iran and Afghanistan wars identified barriers and found that 65% of

these service members did not seek mental health services for stigma-related concern because of a fear of associating with weakness. Sixty-three percent did not want their superiors to have a negative connotation about them (Whealin et al., 2014). Fifty-nine percent of these soldiers did not want their peers to think of them as a lesser man for having post-traumatic stress disorder (PTSD) (Whealin et al., 2014).

Cost. The traveling cost and the competing demands for food and shelter may influence the patient not to attend their scheduled medical appointment. Perez et al. (2013) noted those who have government-subsidized insurance are more likely not to show for the scheduled appointments. Schmalzried and Liszak's (2012) target population have an income below 200% of the federal poverty index level. Patient responsibility is one aspect of cost. Missed scheduled medical appointment increase costs for the health care organization (Perez et al., 2013). Sims et al. (2012) reported that no-shows to their outpatient clinic cost England $980 million a year whose population is a fifth of the United States. Mental health clinics in England would save $245 million per year if no-shows to scheduled appointments were reduced by 25%-28% (Sims et al., 2012).

At LPCH, the calendar year 2010 (CY 2010), no-show rate ranges from 0% to 14.5% from all their subspecialties with an average no-show rate of 7% for all of their clinics (Perez et al., 2013). Perez et al. (2013) noted the overall lost revenue percentage for all 15 clinics is 4.37%. The 4.37% lost in revenue equates to LPCH lost annual revenue of approximately $16.8 million (Perez et al., 2013). Perez et al. (2013) noted the cost is approximately $210 per no-show occurrence. Charkraborty et al. (2013) stated that

one family clinic had 14,000 missed appointments in one year. This costs the clinic about one million dollars in revenue.

Delay in Care

A no-show for a scheduled medical appointment can be detrimental to one's health (Harmon et al., 2013; Walburn et al., 2012; Whealin et al., 2014). Delay in care has the same effect (Lin et al., 2016). Crutchfield and Kistler (2017) reported delay in care or long wait time affected health care outcome, and reported that no-show to mental health services delayed access to necessary health care. The no-show caused a domino effect that led to increases in no-shows, readmission into the hospital, nonadherence to medication administration, and indifference to available services. In 2002, the VA wait time was 50 days, reduced to 20 days in 2010 (Pizer & Prentice, 2011). Long wait time associates with those least likely to use the health care system (Bell & Bryant, 2013; Lee et al., 2013). Whealin et al., (2014) found that veterans underutilize their mental health services because of the fear of a label as weak and being judged negatively by their superior. Paige and Mansell (2013) concurred that social stigma is the primary barrier for patients needing mental health care regarding a no-show to a scheduled medical appointment. Veterans do not want others to see them as *crazy*, appearing weak, or belonging to a dysfunctional family (Paige & Mansell, 2013). Barriers relating to stigma is one reason for delaying care.

Delay in care relates to poorer health (Syed, Gerber, & Sharp, 2013). For the elderly patient, delay in care could result in poorer health, even mortality (Syed et al., 2013). Delay in care is one aspect of health care access barriers. Syed et al. (2013)

reported lack of transportation is one barrier to accessing health care that leads to rescheduling or missing scheduled appointments, delayed care, and delayed or missed medication use. Syed et al. (2013) found that those patients who had access to a private operating vehicle (POV) and have a driver's license can gain access to health care effortlessly (Syed et al., 2013). Researchers surveyed 593 cancer patients in Texas and found that 38% whites, 55% African Americans, and 60% of Hispanics lack access to a vehicle (Syed et al., 2013). Transportation barriers to health care access are common in vulnerable populations (Syed et al., 2013). Addressing transportation barriers to accessing health care may help improve patient health (Alhamad, 2013; Crutchfield & Kistler, 2017; Sayed et al., 2013).

Winitzer, Bisgaier, Grogan, and Rhodes (2012) explored the process of accessing specialty care for children with special health care needs (CSHCN) who had public and private insurance. They conducted thirty in-depth interviews with English-speaking families who have private or public health care insurance. The authors found special appointment (treatment) depends on the type of insurance the patient had. Healthcare providers and the type of onset enable others to see privately insured patients faster and the acuity of a child's health condition gains a different kind of access (seen sooner or later). A privately insured CSHCN with non-acute condition gains access faster than publicly insured-acute patients. Moreover, those parents with language and cultural barriers have difficulty accessing care for their child. The qualitative interviews showed inequality of access to outpatient specialty care for CSHCN (Winitzer et al., 2012).

Strategies to Reduce No-Shows

DuMontier et al. (2013) reported that in the United States, no-show rates in community practices range from 5%-55%. Those who missed their scheduled appointments will use the emergency department (ED) as a source for providing treatment for primary issues or chronic care. The inappropriate use of the ED drives up health care costs. Crutchfield and Kistler (2017) reported an estimate range of 23% and 34% of outpatient medical appointments missed annually in the United States. Furthermore, no-shows prevent those who need an appointment date from scheduling an appointment. This compromises the continuity and quality of care for all patients (Lin et al., 2016). No-shows are a concern in the United States as well as other industrialized countries.

DuMontier et al. (2013) had concerns related to no-show rates of 15-17%, at the Wingra Medical Center, despite reminders and other attempts to address the problem. The clinic has a diverse low-income population. The researchers wanted to decrease the number of the no-show appointments. They conducted interviews with patients who had the highest number of frequent no-shows for appointments. The researchers implemented a double booking process for patients with a history of frequently missed appointments. Their study found that 2% of the study population of patients who do not show for appointments, n=141 patients, accounted for about 17% of the total missed appointments. The researchers found that African American women on Medicaid, high numbers of medical comorbidities, and a high prevalence of mental health issues are the most likely factors that contribute to no-shows for medical appointments. After their intervention,

DuMontier et al. found that the cohort of no-shows dropped from 33% to 18%. The overall clinic no-show rate fell from 10% to 7%. The rate continued to decrease for the 33-month observation period after the intervention; the rate has maintained through 2015.

Clinic-wide implementation of modified advanced assess schedule after improved study results in patients who kept their appointments. DuMontier et al. (2013) found that long lead-time is one reason patients do not show for the scheduled- medical appointment. The modified advanced access schedule allowed only patients who had high appointment adherence in the past who were then permitted to schedule appointments in advance. The modification came after feedback that some patients reported difficulty scheduling appointments in advance. The modification was useful in organizing family and work life that had contributed to the prevalence of no-shows.

Branson, Clemmey, and Mukherjee (2013) conducted a quasi-experimental study with 48 youths attending outpatient mental health treatment. The sample participants consist of 46% Latino and 40% African American with equal numbers of males and females. The population had 40%-60% attrition rates. Cheng, Huang, Tsang, and Lin (2014) found males are most likely to miss their first scheduled appointment. Branson et al. (2013) reported better outcome for treated than untreated youth and found that missed appointments create problematic concerns for community mental health centers and result in loss revenue, create longer wait-lists to see health care providers, and generate longer times that staff spend at outreach centers.

Branson et al. (2013) found that text messaging (TM) improved appointment attendance and TM is available to the rich and poor (Jones, Lekhak, & Kaewluang,

2014). The exchange of TM occurred more than 350 billion times worldwide by mobile network (Jones et al., 2014). Jones et al. (2014) conducted a 12-year meta-review from 11 systematic reviews (SRs) to evaluate the use of mobile phones. Their findings revealed that TM significantly increase appointment adherence. Text messaging allowed patients to read the message at their own time and was less intrusive then phone calls (Branson et al, 2013; Jones et al., 2014).

Phone calls that remind patient about an appointment have shown improved therapy attendance; however, phone calls may not resolve the problem because patients may not answer their phone, lack voice mail, or do not have an answering machine. Branson et al. (2013) found attendance rate for TM group is 65%, which is significantly higher than the control group at 49%. Perron et al. (2013) conducted a randomized controlled trial at the Geneva University Hospitals from November 2010 to April 2011, concerning text messaging versus telephone reminders to reduce missed appointments in an academic primary care clinic. Perron et al. (2013) hypothesized that text-message reminders are as effective as telephone reminders in primary care settings. The researchers used a sample size n=6450, with 3285 in the text-messaging group and 3165 in the telephone group and found no differences in missed appointments in the text-messaging group and telephone group. In addition, text messaging was cost-effective (Bogart et al., 2014; Perron et al., 2013; Sims et al., 2012) and the participants found TM was most convenient (Branson et al., 2013; Perron et al., 2013).

Crutchfield and Kistler (2017) noted that a missed medical appointment is a reason for longer wait time for other patients and clinical and administrative staff not

productive for the day. Taylor et al. (2012) noted clinic attempts of 14 SMS or TM to prevent one no-show to schedule appointment. Past research proved that no-shows improved adherence by at least 50% if not more since the implementation of TM. Taylor et al. (2012) questioned if the TM reminder was the influencing agent or influenced by other unforeseen factors. They wanted to test the limitations by conducting a single blinded randomized controlled trial to improve no-show rate in outpatient physical therapy clinics. The researchers wanted to have approximately 1200 participants from two physical therapy outpatient clinic in a metropolitan area. This sample size would have approximately 553 participants in each group to demonstrate a reduction rate of no-show by half, from 8% to 4%. At both clinics, patients scheduled their therapy appointment in person or by telephone.

Patients who were eligible for the study were randomly assigned to the intervention group to receive the SMS reminders. The researchers had an independent group to oversee the randomization. Patients in the intervention group received SMS reminders two days before their scheduled appointment, if the appointments are scheduled at least three days prior. SMS reminders are sent the day before the appointment if the appointment is scheduled within two days. The SMS reminder contained the type of appointment, location, date, and time of appointment. A second sentence asked the patient to call a number if they unable to attend.

Upon meeting the limitation requirements, 679 patients participated in the study. More women (416) participated than men; the intervention group had 342 participants and the non-SMS reminder group had 337 participants. Taylor et al. (2012) noted that

SMS reminders significantly reduced no-shows to appointment compare to patients who did not received the SMS reminders. Patients who received the SMS reminders had a 20% cancellation compare to the 15% of patients who did not receive a reminder. Taylor et al. (2012) reported the 20% cancellation rate for SMS reminders is significant and found SMS reminders remind patients to cancel their scheduled appointments rather than no-show. The primary benefit is allowing another patient to fill the cancelled slot instead of patients not showing for their scheduled appointments, which may cause missed opportunities (Taylor et al., 2012).

Taylor et al. (2012) conducted bivariate analysis to identify other factors that could potentially affect adherence to appointment attendance and found that patients' health condition or diagnosis, types of appointment (new or follow-up), and age were independent predictors of no-shows to the next scheduled medical appointments. Taylor et al. (2012) found a no-show rate of 16% for musculoskeletal disorder to neck and trunk and 32% for neuromuscular disorder, while no-show rate for limbs musculoskeletal disorder is only 7%-9%. Missed initial appointments is 22%, while no-show rate to follow-up appointment was at 11%. Patients who tend to no-show for scheduled appointments are about 10 years younger than those who attend their scheduled appointments (Taylor et al., 2012). Monday and Friday had a higher incidence of no-shows, 16%-24% respectively, as compared to other days of the week with 10%-13% no-show rates (Taylor et al., 2012).

Gurol-Urganci (2013) reported missed appointments could lead to delays in diagnosis; therefore, it could prevent timely treatment. Patients' forgetfulness was the

number one reason why patients stated they had missed their appointments. The author conducted a randomized controlled trial assessing mobile phone messaging as a reminder for health care. The benefit of mobile text messaging for reminders is that a mobile phone was usually with the participant.

The study consisted of eight randomized control trials with 6615 participants. Seven of the eight randomized studies (5841) showed moderate quality evidence that text messaging reminders increase attendance at health care appointments compared to no reminder or postal reminders. Gurol-Urganci (2013) reported that the attendance rate for the no reminder group was 67.8%, for the mobile phone messaging reminder it was 78.6%, and 80.3% for the phone call reminders group. The author noted that the cost for text messaging reminders costs less than phone calls. Bigna, Kouanfack, Noubiap, Plottel, and Koulla-Shiro (2013) conducted a randomized blind controlled trial of mobile phone reminders regarding follow-up medical care of HIV-exposed and HIV-infected children and antiretroviral resistance occurs with missed opportunities for treatment. Subjects *n*=224 participated in the study. SMS (small message service) were placed 48 and 72 hours before the scheduled appointment. McInnes et al. (2014) sent participants two appointment reminder messages: five days and two days before their appointment. Bigna et al. (2013) found that two appointment reminders were more effective as compared to one type of reminder.

Carey, Tai, and Stiles (2013) studied patient-led appointment scheduling in a routine mental health practice in remote Australia. A patient-led approach allowed patients to schedule their appointment as much or as little as they needed to accomplish

the necessary medical changes. This patient-led approach was to provide convenience for scheduled public mental health services. The two-year study consisted of 92 patients with ages ranging from 18-67 and with a mean of 38. The researchers' named the therapeutic approach as Method of Levels (MOL) as a problem solving method. MOL recognizes that people have many goals, some may conflict with others, and that each session provides a discreet solving episode.

The Outcome Rating Scale (ORS) measured the individual's personality in relations to social, relational, and overall functioning (Carey et al., 2013). The ORS has a maximum score 40, whereas a scores at or below 25 is considered in severe clinical distress stage (Carey et al., 2013). The Session Rating Scale (SRS) assessed patient's perceptions of the therapeutic alliance: did the patient feel respected and heard, as well as the degree of agreement between patient and clinician regarding goal of therapy. Of the 92 patients, 16 did not attend their scheduled appointments, 25 attended one session, and 51 attended more than one session.

The researchers found that patient-led scheduling in a remote area of Australia is effective and efficient. This type of scheduling allowed patients to control their scheduling frequency of needs**.** In addition, Henry, Goetz, and Asch (2012) wanted to find the effectiveness of automated telephone appointment reminders for HIV primary care no-shows of veterans. The author voiced that an appointment reminder is an effective method of reducing missed medical appointments but no strategy has proven superior over others. They tested the effectiveness of adding an automatic telephone reminder for the HIV primary care no-shows. The intervention was effective except for

the following population: the homeless, racial/ethnic minorities, and mental health disorder patients.

Klassen and Yoogalingam (2013) provided strategies to minimize no-shows. The researchers designed an appointment system with interruptions and physician lateness in an effort to reduce waiting time for the patient while optimizing physician's time. Klassen and Yoogalingam (2013) surveyed medical professional from different outpatient clinics and found that appointment time needs to be short or longer depending on the time of day. Appointment slots in the middle of the day need to be longer because of more interruptions at that time (Klassen &Yoogalingam, 2013). This finding does not change in regards to clinic size, service time variance, or costs for physician time as compared to patient's time, consequently preventing long wait time for patients (Klassen &Yoogalingam, 2013).

Another strategy to reduce no-shows is providing a shorter length of time to the next appointment (Patrick, 2012). Patrick wanted to understand a model for determining optimal outpatient scheduling and short booking time were better than open access (OA) as discussed by Patrick (2012). Open access is the new terminology and strategy regarding booking appointments in order to prevent missed appointments (Patrick, 2012) and OA is also known as same day access for appointments but the cost in resources is high (Patrick, 2012). Of 5901 patients who scheduled their appointments greater than seven days out, 31% failed to show for their appointment and the show rate for same day appointments was 88%, which then drops to 77% for next day appointments (Patrick, 2012). Appointments booked seven days out had a show rate of 58% and a 56% show

rate for appointments booked 13 days out; therefore, appointment lead times have a significant impact on missed appointments (Norris et al., 2014; Patrick, 2012).

Runnels (2013) noted the lack in literature about the causes and solutions for nonattendance to psychiatric appointments. He addressed the problem of appointment nonadherence with a plan for a walk-in clinic (Runnels, 2013). Runnels studied 5000 psychiatric patients in a community mental health centers (CMHCs) in Cleveland, Ohio. Three of the five sites are located in the city and nonattendance at the downtown office is 30%-40%, compare with 20%-30% at the other four offices. The center managers addressed the issue by conducting phone call reminders, offered complimentary transportation, as well as same-day appointments with little success (Runnels, 2013). Moreover, AACP e-list (an electronic mailing list) asks members to provide suggestions regarding mitigating nonadherence to appointments (Patrick, 2012). The result was that walk-in appointments are best for psychiatric patient in the downtown area of Cleveland, Ohio and the walk-in model did allow for next day intake appointments (Runnels, 2013).

Shared medical appointments. Shared medical appointments (SMAs) are another strategy to mitigate no-shows (Paul et al., 2013). SMAs are an alternate method as compared to the traditional one on one, patient-provider visit (Hodorowicz, Watts, O'Day, & Pascuzzi-Frangella, 2012). SMAs is a new system for multidisciplinary teams to work together to care for the patient and reduce appointment management issues (Cohen, Hartley, Mavi, Vest, & Wilson, 2012). Cohen et al. (2012) researched veteran experiences related to participation in shared medical appointments using focus groups to obtain their lived experiences. Audio recordings were available to assist in capturing

word for word information. The authors reported that the results of the study showed emergent themes of empowerment, peer support, awareness, positive provider characteristics, teamwork, benefits, and convenience. The researchers found that patients participating in SMAs liked receiving and sharing strategies about managing their illnesses and the patient felt involved with their own care (Egger et al., 2015; Heyworth et al., 2014). Guirguis et al. (2013) reported SMAs allow patients access to multi-interdisciplinary team quickly. Participants in SMAs stated increased access to health care, outpatient appointments, decrease in unnecessary emergency visits, higher patient and provider satisfaction, improved self-management of chronic disease, and better adherence to health care recommendations. Based on the study results, SMAs may be one strategy to reduce no-shows for scheduled medical appointments (Egger et al., 2015; Kirsh et al., 2017).

Another name for shared medical appointments (SMAs) is group medical visits (Hodorowicz et al., 2012). SMAs are another option available to manage chronic medical conditions, such as diabetes mellitus (Wall-Haas, Kulbok, & Kirchgessner, 2012). Homogenous patient groups found SMAs satisfying and improved clinical outcome because patients perceived that the provider was spending more time with them (Cohen et al., 2012). The provider spent about 5-8 minutes in a SMAs meeting as compared to about 20 minutes for a traditional one to one appointment (Hodorowicz et al., 2012). It can be concluded that SMAs assist to increase access to care, quality time with the provider, addressing the patients' individual needs in a well-timed manner, and patients play a dynamic role in the decision-making (Cohen et al., 2012). Wall-Haas et al. (2012)

reported that SMAs are a cost-effective means in providing treatment of chronic medical conditions of patients. Hodorowicz et al. (2012) reported if a provider had a SMAs of 10 patients, the provider visit fee is $100 per hour, he could bill for $1000. Hodorowicz et al continued to report that the traditional one-on-one visit would take the provider about 3 hours to bill for the same $1000, increasing revenue without decreasing the quality of care (Wall-Haas et al., 2012).

Paul et al. (2013) implemented SMAs for heart failure patients to examine patient and staff satisfaction in a heart failure (HF) clinic. Clinic appointments were used for SMAs with an additional 20-minutes teaching session. The researcher requested that patients complete the questionnaire, while the office staff completed satisfaction questionnaires about SMAs. Information on billing, cancellations, and then missed appointments for SMAs are then compared to routine clinic appointment time (Paul et al., 2013). Satisfaction was highest among patients and office staffs; however, rates of no-shows were similar for the traditional appointment (5.5%) and SMAs (15%) as noted by Paul et al. (2013). Paul et al. (2013) continued to report that SMAs had no cancellation but the traditional appointment setting had 28%. SMAs consisted of a 90-minute group appointment for four to nine patients. The results of the study showed that the SMA model assisted the patients through group involvement to gain a more sensible perspective of their disease. Furthermore, SMAs increase patient satisfaction due to accessibility and continuity of care with one's providers (Paul et al., 2013).

Watts, O'Day, and Pascuzzi-Frangella (2012) and Egger et al. (2015) provided an informative experience to reflect lessons learned from a multi-disciplinary team. The

researchers used case studies to identify problems with patients in a SMAs setting. SMAs provided patients with a sense of satisfaction that they were able to receive health care in a timely fashion, yet group activities also assisted the provider with strategies to expand the scope of familiarity (Watts et al., 2012). One of the main goals for SMAs was to overcome clinical indifference to medication management and to adjust treatment to achieve objectives (Wall-Haas et al., 2012).

Universal appointment rule. According to Cayirli, Yang, and Quek (2012), patients have no patience for long waiting times. The researchers' focus is to design an appointment system that triumphantly balances competing and conflicting goals of reducing long wait time, the doctors idle time because of patient no-shows, and preventing overtime work. The literature search didnot find any one-appointment scheduling rule that does well in every environment and situation (Cayirli et al., 2012). Cayirli et al. (2012) defined the universal appointment rule as a rule that is applicable to a variety of settings with different levels of no-shows, walk-in appointments, scheduled appointments, cost ratio of doctor time to patient time, and variance of service times.

The universal rule takes into consideration the appointment rules and adjustments for no-shows and walk-ins. The appointment rule is the basic template with specific combinations of block size and appointment lengths. No-shows and walk-ins disrupt the flow of the clinic's planned volume for the day (Alhamad, 2013). Cayirli et al. (2012) proposed a mathematical equation based on a two-step procedure to formulate the universal rule (see Figure 2).

$$A_i = \max\{0, k(i-1)\mu - \sigma\sqrt{i}\cdot\pi\}$$
$$\text{for } i = 1,\ldots,N \quad \text{where } \pi = (N+i)/(N-1)$$

$$k = f(N, Cv, Pn, Pw, CR)$$

where
π = parameter in equation
Pw = probability of walk-ins
Pn = probability of no-show

*Figure 2***.** Mathematical formula for the universal rule, by Cayirli, T., Yank, K., & Quek, S. (2012). A universal appointment rule in the presence of no-shows and walk-ins. *Production & Operations Management, 21*(4), 682-697 doi:10.1111/j.1937-5956.2011.01297.x

Table 1.

List of Symbols and Meanings to Figure 2.

Symbols	Meaning of Symbols
Ai	Appointment time given to patient *i*
μ	Mean service time
б	Standard deviation
k	Different values to control the time intervals between appointment to represent different appointment rules
π	Parameter in equation

N	Number of patients schedule per session
Pw	Probability of walk-ins
Pn	Probability of no-show
Cv	Coefficient of variation of service times
CR	Cost ration of doctor's time to patients' time
f	Factors

Effect of Generational Differences and No-Shows

Missed medical appointments significantly decrease revenue and increase costs as stated by Kaplan-Lewis and Percac-Lima (2013) and Mbada et al. (2013). Generational differences may explain that different generations may offer different reasons for missing their scheduled medical appointment. Saber (2013) discussed the three main types of generational differences. The generation X, also called Gen Xers, the Millennials' or generation Y (Eastland & Clark, 2015), and the Baby Boomers. Age is one factor related to people who do not show for a medical appointment. Kaplan-Lewis and Percac-Lima (2013) noted that young, minority females tend to fail to show for their medical appointments. Cheng et al. (2014) countered that males tend to miss their scheduled medical appointments. Regardless of gender, age plays an important role.

Eastland and Clark (2015) added that Millennials are technologically astute as compared to all previous generations. This cohort may find text messaging for appointment reminders convenient. One may surmise older cohorts, known as the Veteran generation or the silent generation (Ho, Rowland-Seymour, Frankel, Li, & Mao, 2014) may not find text messaging services convenient but Eastland and Clark (2015) reported the use of social media amongst the different generations are evenly distributed.

Furthermore, Campbell, Campbell, Siedor, and Twenge (2015) did not state that all members of the generation are equal but argued not to ignore the differences noted between the groups. This result supported that social media are key strategies in mitigating missed schedule medical appointments. To understand missed medical appointments, the clinic managers need to understand the generational differences between each generation and use this knowledge to explore what strategies health care clinic managers can use to reduce medical no-shows for patient-scheduled appointments. Campbell et al. (2015) reported that generational differences exist and generational groupings are a tool for explaining these differences.

Contemporary Change Management Research in Business

Shirey (2013) noted that a change management model is a type of tool to assist leaders in creating changes necessary to achieve desired outcome. Lewin's TPC assists nurse leaders with managing the people side of change (Kotter, 1995; Shih et al., 2013). Transformational leaders necessary to understand that change is difficult as it causes disturbances in the daily work routine, fear, and resistance to change (Banker, 2012; Kotter & Schlesinger, 2008). Burgess and Curry (2014) reported that empowerment of

staff can lead to modelled behavior and effective system-wide changes. Changes are necessary for organizational growth (Shih et al., 2013; Wexler, Hefner, Welker, & McAlearney, 2014). Leaders need to gain buy-in from employees through education by incorporating the knowledge that organizations need to change to ensure growth and sustainability (Banker, 2012; Shih et al., 2013).

Change is in the contemporary global marketplace and the American health care system is becoming more global (Jones & Sherwood, 2014). This fact along with health care innovation, means that the industry is rapidly changing (Bergsland, 2012). Nursing leaders can no longer take a laissez-faire attitude about scheduled missed medical appointments. Nursing leaders must understand reasons patients are a no-show and offer strategies to mitigate missed medical appointments because this affects organizational profitability through rising health care costs (Joemai, de Bruin, Veldkamp, & Geleijns, 2012).

Health care innovation can help health care leaders reduce health care costs (Joemai et al., 2012). Understanding Porter's five forces: threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitute products or services, and rivalry among existing competitors (Porter, 2008; Sumpio, 2013) can further enhance nurse leader strategies to mitigate a no-show for a scheduled medical appointment.

Summary and Transition

Section 1 contained the problem and purpose statement and nature of the study with justification of using a qualitative method and explanatory case study design. The

interview questions, conceptual framework, operations definition, assumptions, limitations, and delimitations of the study are also in section 1. Significance of the study and review of literature terminates section 1. The literature review included a focus on previous literature in regards to (a) change management theory, (b) missed medical appointments, (c) factors associated with no-show, (d) delay in care, and (e) strategies to reduce no-shows, including subsections shared medical appointments.

Section 2 contains (a) the project purpose statement, (b) role of the researcher, (c) participants, (d) research methodology and design, (e) population and sampling, (f) ethical research, (g) data collection, (h) data analysis, and (i) reliability and validity. Section 3 starts with an introduction to include the purpose of the study and a brief summary of the findings. An application to professional practice, implications for social change, a recommendation for actions and future research, and a conclusion with researcher reflections are also in Section 3.

Section 2: The Project

Section 1 contained the problem and purpose statement and nature of the study with justification of using a qualitative method and explanatory case study design. The interview questions, conceptual framework, operations definition, assumptions, limitations, and delimitations of the study are also in section 1. Significance of the study and review of literature terminates section 1. The literature review included a focus on previous literature in regards to (a) change management theory, (b) missed medical appointments, (c) factors associated with no-show, (d) delay in care, and (e) strategies to reduce no-shows, including subsections shared medical appointments.

Section 2 contains (a) the project purpose statement, (b) role of the researcher, (c) participants, (d) research methodology and design, (e) population and sampling, (f) ethical research, (g) data collection, (h) data analysis, and (i) reliability and validity. Section 3 starts with an introduction to include the purpose of the study and a brief summary of the findings. An application to professional practice, implications for social change, a recommendation for actions and future research, and conclusion with researcher reflections are also in Section 3.

Purpose Statement

The purpose of this qualitative single exploratory case study was to explore what strategies health care clinic managers use to reduce medical no-shows for patient-scheduled appointments. The clinic manager, supervisor, receptionist(s), and provider(s), located in an endoscopy clinic in southeastern Virginia, with strategies to mitigate no-shows for patient-scheduled appointments, participated in semistructured interviews to

share strategies on how to reduce no-show appointments. I incorporated multiple data sources such as semistructured interviews, archival documents about missed medical appointments, and direct observation of the appointment scheduling process. Multiple data sources enhanced methodological triangulation. The data from this research study may contribute to social change by adding new knowledge or insights and offer possible strategies to reduce medical no-shows for patient-scheduled appointments. Furthermore, the data from this study may offer financial benefits to leaders within the health care industry and reduce taxpayer costs for public health care. This reduction of cost may free funds to provide other services such as education and counseling support for clinic patients.

Role of the Researcher

In a qualitative study, Xu and Storr (2012) and Yin (2014) stated that the researcher is the primary data collection instrument. In addressing the concept of a personal lens, I understand that I held personal bias with my pragmatic worldview, culture, and belief. Pragmatism is interested in change and not let the world go by without action (Goldkuhl, 2012). Chenail (2011) noted that researcher bias might impede data collection. My role, as the researcher, was to conduct semistructured interviews with a health care clinic manager within the health care community in order to gain an in-depth understanding of the reasons patients missed their medical appointment and finding strategies to reduce the no-shows for scheduled appointments. I am a registered nurse with a master's degree in nursing and business administration. I am experienced in nursing and I used my nursing and business background to assist in data interpretation.

Wolcott (2002) suggested that qualitative researchers should celebrate and disclose the intricacy of the study. I am concerned that veterans are not receiving their medical appointments in a timely manner. The delay in appointment scheduling decreases patient satisfaction (Robinson et al., 2012), and Elnitsky et al. (2013) noted that longer VA lead time has statistically significant reduction in operational use; therefore, it leads to worsening health in the elderly and continued health issues for the veteran population.

As the researcher, I collected, organized, and interpreted the data; before I performed data collection, the construction of an interview protocol was necessary, as stated by Kyvik, (2013), Yin (2014), and Zubaran et al. (2012). The interview process took place at a neutral setting that was comfortable for me as well as for the participant. I asked interview questions in the same manner and in the same order with the participant to enhance validity and reliability of the study results as suggested by Fusch and Ness, 2015, Honan (2014) and Yuksel et al. (2013).

My life experiences and the experiences of the participants had an effect on the data, as noted by Peredaryenko and Krauss (2013). To mitigate any researcher bias, I used an interview protocol with open-ended questions to explore strategies mitigating missed medical appointments, took notes, recorded the interview for later transcription, and reviewed the transcription, as suggested by Ivey (2012), Malone, Nicholl, and Tracey (2014), and Yin (2014). I mitigated bias by remaining neutral in all aspects but asked clarifying questions when necessary. I also mitigated bias by using standard, objective definitions by other scholars of what constitutes bias.

I conducted transcript review as discussed by Cronin (2014), Goldblatt, Karnieli-Miller, and Neumann (2011), and Marshall and Rossman (2016). I used member checking to ensure that I captured the meaning of participants' statements, as noted by Andrasik, et al. (2014), Harper and Cole (2012), and Marshall and Rossman (2016). I also conducted ethical research by following the precepts of the Belmont Report. Adams and Miles (2013) discussed the three main points of the Belmont Report: respect, beneficence, and justice. Respect concerns providing confidentiality for participants. Beneficence is minimizing risk and does no harm to the participant; justice provides the benefit of the research, as noted by Lunnay, Borlagdan, McNaughton, and Ward (2015). My application of the Belmont Report guidelines influenced my qualitative study by protecting the human rights of my participants. Rogers and Lange (2013) noted researchers need to implement research that reduces inherent vulnerability and works to eliminate pathogenic vulnerability. One should respect the research participants and avoid generating additional pathogenic vulnerabilities (Rogers & Lange, 2013). Roberts and Kim (2014) agreed that a researcher may bring bias in their predictions of ill participant's vulnerabilities.

Participants

The selected study population consisted of one clinic manager who has experienced at least one no-show of a scheduled appointment in a 12-month period. My strategy in acquiring participants was through professional relationships. I asked a medical provider to allow me to conduct the research study in his office. I obtained the participant's signature prior to the interview. I did not have any relationship with the

medical provider. The participant provided consent prior to commencing the study. In addition, I only know the identity of the participant and I protected the identity of the participant. I used purposive sampling technique, based on selected criteria, to conduct one purposeful interview as discussed by Gentles, Charles, Ploeg, and McKibbon (2015), Marshall and Rossman (2016), and Yin (2014). This qualitative case study comprised of one medical clinic. I stored all data on a thumb drive. Using one leader is sufficient to conduct this case study, in addition to other multiple sources for rich and thick data (Fusch & Ness, 2015; Marshall & Rossman, 2016; Yin, 2014).

My selection of the study participants was from one local endoscopy clinic through purposeful sampling. Purposeful sampling is appropriate for collecting data from individuals who are knowledgeable and have experience with the study topic (Bernard, 2013; Cayirli, et al., 2012; Gentles et al., 2015). Participants' selection was through purposeful sampling from different industries to mitigate missed medical appointments to find strategies to reduce nonattendance to medical appointment.

I hand delivered letters of invitation to the clinic site to allow interested members to participate in a semistructured interview. I established a working relationship with all participants (interview and direct observation) by creating a trustful atmosphere; calm and trustful participants who those who provide in-depth context to the overarching researching question, as recommended by Granot, Brashear, and Motta (2012), Marshall and Rossman (2016) and Zubaran et al. (2012). I presented the interview questions in a friendly and relaxed demeanor to continue a working relationship with participants as noted by Honan (2014), Yin (2014) and Zubaran et al. (2012).

Research Method and Design

The three available research methods are quantitative, mixed-method, and qualitative. Based on my pragmatic worldview and the evaluation of the three-research methodology, I chose a qualitative exploratory single case study design for this research. The pivotal assertion for the selection of a suitable research methodology was based on the overarching research question, research objective, and targeted interview questions asking what and how questions (Fassinger & Morrow, 2013; Fetter et al., 2013; Yin, 2014; Zivkovic, 2012).

Research Method

A qualitative research approach allows for systematic exploration and interpretation of strategies (Stake, 1995; Yin, 2014). This research study was a qualitative research approach to ascertain strategies to reduce missed medical appointments. A qualitative research approach allows for in-depth exploration and understanding (Yin, 2014; Zivkovic, 2012) of a participant's strategies to reduce missed scheduled medical appointments. The flexibility of a qualitative methodological approach is essential to explore areas of little knowledge (Cronin, 2014; Frost et al., 2011). Conducting a qualitative research method assists in the exploratory aspect of the study (Houghton, Casey, Shaw, & Murphy, 2013; Zivkovic, 2012).

I did not incorporate the quantitative research method because the research question did not examine numerical data or used closed-ended questionnaires. Murakami (2013) reasoned that the quantitative method was built upon existing theory, which adds to the knowledge of previous scholars and not newly constructed. In addition, this study

was not attempting to quantify something by asking *how much* or *to what extent* types of questions (Fetter et al., 2013; Westerman, 2014). Using a quantitative research method for this study may prevent the prospective exploration of finding strategies in reducing no-show to medical appointment.

The mixed research methodology incorporates both the qualitative and quantitative research method in one study (Anderson, 2010; Wilson, 2014; Southam-Gerow & Dorsey, 2014). Mixed methodology exploits both research methods and provides diverse potential as well as well-constructed rigor (Southham-Gerow & Dorsey, 2014). Of course, the consensus of scholars for combining the qualitative and quantitative approaches in a single study is that it can be a time consuming process, demanding of novice researchers, and requires a seasoned researcher to comprehend the complexity (Fetter et al., 2013; Fox et al., 2013; Southam-Gerow & Dorsey, 2014). Consequently, the mixed-method approach was not appropriate for this study because of my abilities as a novice researcher and my time constraints.

Research Design

The purpose of this qualitative exploratory single case study approach was to explore the strategies used to reduce missed medical appointments. The case study design was used to explore the construct in order to reveal the meanings of individual experiences (Fassinger & Morrow, 2013; Marshall & Rossman, 2016; Yin, 2014) regarding the topic. Marshall and Rossman (2016) noted qualitative research design could consist of case study, ethnography, grounded theory, narrative research, and phenomenology. Case studies may be descriptive, explanatory, or exploratory and

comprise of one location and organization or multiple locations and organizations for a well-meaning case study (Fusch & Ness, 2015; Yin, 2014). These studies find the perspective connection between occurrences over time (Yin, 2014).

I incorporated the exploratory case study design for the study to answer *what* and *how* questions in exploring the strategies health care clinic managers use to reduce no-shows for scheduled appointments. A case study allows the researcher to explore under developed topics in a natural setting (Synder, 2012; Whitlow, 2014; Yin, 2014; Zivkovic, 2012) and is appropriate for a single or small number of participants (Yin, 2014). Yin also noted that a case study design emphasizes exploring comprehensive, multifaceted social concerns within a real live situation, requiring multiple sources of evidence for support.

Fusch and Ness (2015) confirmed different methods exist to reach data saturation. Zivkovic (2012) stated that a single case study is the strongest design to study an understudied phenomenon. Denzin (2012) and Fusch and Ness (2015) noted that triangulation or multiple methodologies provide a rigorous, in-depth, and rich understanding of the phenomenon to assist in reaching data saturation. For qualitative studies, data saturation is reached when no new information exist, no new themes emerges, no new coding (Houghton et al., 2013; Marshall, Cardon, Poddar, & Fontenot, 2013), and the ability to replicate the study (Fusch & Ness, 2015).

Ethnography was another possible research design. The qualitative ethnography design provides observation of all relevant participants, not just a quantifiable number, and includes intense fieldwork studying people and their culture (Cruz & Higginbottom,

2013). Ethnography design was not appropriate for this study. I never considered the grounded theory design because this study was not about discovering theories and phenomenon. Yin (2014) noted the focus of grounded theory is to collect date to generate new theory grounded on the understanding of the individuals' welfare and significance of their experiences. The narrative design tells a story about the participants experiences (Marshall & Rossman, 2016; Yin, 2014), which was not part of the data collection process for this study.

Marshall and Rossman (2016) stated that phenomenological design addresses the lived experiences of the participants through interviews. I did not choose the phenomenological approach because I was using multiple data sources to explore the lack of strategies to reduce no-shows for scheduled appointments.

Population and Sampling

The population for this single case study was the clinic manager, supervisor, receptionist(s), and provider(s) located in an endoscopy clinic in southeastern Virginia, who had strategies to mitigate no-shows for patient-scheduled appointments. One participant participated in semistructured interviews to share strategies how to reduce no-shows appointments. Purposeful sampling was the selection for the target population based on their fit with the purpose of the study (Gentles et al., 2015; Palinkas et al., 2013; White, Oelke, & Friesen, 2012).

Purposeful sampling has specific inclusion and exclusion criteria. This individual had access to available resources that are specific to providing strategies to reduce medical no-shows for patient-scheduled appointments as discussed by Balikci et al.

(2013). Resource sharing could assist the office managers or health care personnel in reducing no-show to medical scheduled appointments; therefore, increase profitability (Nuti et al., 2012).

A single case study allows the researcher to explore operational links between events over time (Yin, 2014). Yin (2014) stated a case study is appropriate to answer *what* and *how* questions. Marshall and Rossman (2016) noted that the researcher selects a design that best ensures answering the research questions. I incorporated multiple data sources as suggested by Bekhet and Zauszniewski (2012), Wahyuni (2012), and Yin (2014), which aided in methodological triangulation. Methodological triangulation includes using multiple sources like interviews, observations, and archival documents to circumvent the need to use a large sample size (Marshall, Cardon, Poddar, & Fontenont, 2013; Rao, 2012; Yin, 2014). Methodological triangulation supports the rigor of a study and enhances the validity and reliability of study results (Bekhet & Zauszniewski, 2012; Denzin, 2012; Houghton et al., 2013; Pereira, 2012).

The participants met the following criteria for inclusion in the study. He or she had experience with reduction no-shows to scheduled medical appointments. The participant was at least 18 years of age. Those who dido not meet these criteria did not participate in the study. I contacted human resources (HR) to obtain approval for the study on site. Participants signed a consent form prior to commencing the study.

The plan was to conduct the interviews at the local library, in a study room. The study room had four walls and a door. This room allowed for privacy and reduction in

noise level to allow for optimal recording of the interview. The library study room provided a neutral atmosphere for the participant and interviewer.

Ethical Research

I considered and evaluated all ethical concerns during data collection from all participants. I explained in detail the research process to ensure up-hold ethical standards as discussed by Adams and Miles (2013), Crowther & Lloyd-Williams (2012); Amon et al., (2012). The participant signed a consent form prior to participating and answering interview questions as identified by Crowther and Lloyd-Williams (2012); Elo et al. (2014), and Lange, Rogers, and Dodds (2013). The consent form included information about the research topic, benefits of the study, and any possible risks associated with the study. In doing no harm to the participants (Adams & Miles, 2013; Amon et al., 2012; Crowther & Lloyd-Williams, 2012), researchers must protect the privacy and rights of their participants. Participants are informed they have a right to withdraw from the study at any time without any ramifications as pointed out by Zubaran et al. (2012).

One of the requirements to participate in the study was that the participant understood the English language. I reviewed the consent form with the participants, line by line to ensure clarity and understanding of the form. I provided time for the participants to ask or clarify any concerns. I conducted the interview in a local public library study room to ensure privacy. I ensured that the participants understood that the study was voluntary and they could withdraw from the study any time without penalty. The participants received a 5 dollar gas card for the inconvenience of driving to the

library. A 16 ounce water bottle was available to ensure participant hydration during the interview process.

I used a pseudonym, instead of the participants' actual name, to protect the privacy of the participant. Actual names on documents may not provide necessary privacy of patients. I protected the participant-researcher relationship as discussed by Crowther and Lloyd-Williams (2012); Elo et al. (2014); Komesaroff (2012) by storing all participants' notes and audio recording in a locked deposit box in a bank for 5 years prior to disposal. After the 5-year time, I will destroy all notes and audio recordings by incineration. I will conduct the research under the IRB approval from Walden University (approval # 06-09-16-0434494).

Data Collection

The data collection subsection includes areas of instruments, data collection techniques, and data organization techniques. The data collection instruments identify who or what is the instrument used in this study. I discussed how to enhance the validity and reliability of the data collection process. The data collection and data organization techniques include methods to collect data and how I organized the data collected.

Instruments

Riviera (2011) stated that the researcher is the primary data collection instrument in qualitative research. The six sources for a case study are (a) physical artifacts, (b) documentation, (c) direct observations, (d) participant observation, (e) archival records, and (f) interviews (Yin, 2014). I conducted a semistructured interview following an interview protocol (see Appendix B) as stated by Kyvik (2013), Yin (2014), and Zubaran

et al. (2012). As the data instrument, I listened more and talked less during the interview, and I did not ask leading questions as noted by Granot et al. (2012), Honan, (2014), and Zubaran et al. (2012). A semistructured interview uses a set of interview questions (see Appendix A) with follow-up questions as necessary (Honan, 2014) to assist health care clinic managers to discover strategies to reduce medical no-shows for patient-scheduled appointments. I enhanced validity and reliability using two processes: triangulation of data sources and member checking as noted by Street and Ward (2012), Yin (2013), and Yuksel et al. (2013). Member checking incorporates interpretation of what the participant shared during the first interview and later validate the interpretation is accurate with participant as noted by Andraski et al. (2014), Harper and Cole (2012), and Houghton et al. (2013).

Data Collection Technique

The central research question was as follows: What strategies do health care clinic managers use to reduce medical no-shows for patient-scheduled appointments? Before starting the interview process, the participant signed a consent form to participate in this study. I conducted a face-to face semistructured interview following the interview protocol (see Appendix B). Yin (2014) stated that open-ended interview questions containing targeted follow-up questions is advantageous in providing in-depth answers from the participants that a pilot study is not necessary. Cronin (2014) continued that exploratory qualitative research is transparent and reveals rich and quality data. Yin (2014) theorized the disadvantages of collecting too much or not enough data and suggested the use of skillful research techniques.

I used a modified version of Seidman's 3-stage interview as mentioned by Granot et al. (2012). It was necessary to modify Seidman's 3-stage interview because of time constraint requiring the need for a single instead of 3 separate interviews with each participant as discussed by Granot et al. (2012). The interview questions (see Appendix A) addressed the strategies health care clinic managers use to reduce medical no-shows for patient-scheduled appointments.

The participant and I met at a library study room at the specified date and time to conduct the interview. The interview took approximately 60 minutes. One day before the scheduled interview, I called the participant to confirm the date, location, and time of the interview. I arrived before the prescheduled interview time to set up the room, ensuring my equipment was in working order. Honan (2014) noted that a researcher should set the participant at ease. My attire was casual to foster an informal setting. Bottled water was available for participants to drink to keep hydrated. I kept a journal to document the atmosphere surrounding the interview site.

Before starting the interview, I reviewed the participant's signed consent form with the individual. I provided opportunities for questions and answers and I discussed the notification of withdrawal from the study without consequences as pointed out by Adams and Miles (2013), Amon et al. (2012), and Zubaran et al. (2012). I eased the participant with casual talk prior to commencing with the semistructured interview to gain rapport as discussed by Granot et al. (2012), Honan (2014), and Zubaran et al. (2012). The interview was audio recorded for accuracy purposes during transcription. I notified the participant prior to the interview. I conducted a face-to-face interview in

private with only the participant and me. The interview questions are located in Appendix A. Data saturation was reached when no new information or no new coding was identified from the data (Fusch & Ness, 2015; Houghton et al., 2013; Marshall & Rossman, 2016).

Once the semistructured interview was complete, I transcribed the data while the information was fresh. I used Dragon NaturallySpeaking to assist with verbatim transcription of the interview. I kept files containing the transcription of participant interview data as described by Adams and Miles (2013), Gibson, Benson, and Brand (2013), and Jacob and Furgerson (2012). Transcribed documents are secured on a thumb drive and stored in a safe deposit box. The data was kept in such location until the time when I review the transcription with the participants and also conducted member checking. Once the study was completed, the participant received a thank you card for their participation. I e-mailed the transcription to the participant to perform transcript review for accuracy as posited by Fan (2013), Marshall and Rossman (2016), and Yin (2014). I met with the participant on a prescheduled day to perform member checking with the participant to ensure that I had interpreted the responses correctly and to enhance the validity and reliability of the study results as demonstrated by Harper and Cole (2012), Harvey (2015), and Street and Ward (2012).

I conducted direct observation of 2 office worker participants in their natural setting of scheduling appointments (see Appendix C) and I reviewed organizational archival documents about missed medical appointments for methodological triangulation.

Member checking was used to strengthen the credibility and trustworthiness of the interpretation of the participant responses.

Data Organization Technique

I organized the data by categories, such as missed appointment, strategies, and models preventing missed appointments, factors affecting no-show, and access and cost. I wanted to understand the reasons behind the no-show to missed medical appointments before I can offer leadership strategies to reduce this phenomenon. Organization of materials categorically also assists the formulation of the literature review section. I also saved the data on two different thumb drives.

I used an Excel spreadsheet to keep track of the interview data, direct observation data, and the archival document data. To ensure confidentiality, an alphabetical letter took the place of the participants' name on the interview question sheet used during the interview with the participant as posited by Adams and Miles (2013), Crowther and Lloyd-Williams (2012), and Gibson et al. (2013). I made notes on the interview question sheet as needed. I will store the completed study data in a bank deposit box for 5 years. After that time, I will destroy said data by incineration.

Data Analysis

The purpose of this qualitative exploratory case study was to probe the strategies health care clinic managers need to reduce no-shows for scheduled appointments by conducting semistructured interviews, reviewing organizational documents about missed medical appointments, and observations of the appointment making process. Methodological triangulation was use in providing more than one data sources to study a

particular phenomenon (Bekhet & Zauszniewski, 2012). Bekhet and Zauszniewski (2012) stated that methodological triangulation provides a comprehensive data which enhances validity and confirm research results; in this case.

The case study design was best for answering *what* and *how* questions (Amerson, 2011; Andrade, 2009; Yin, 2014). Yin (2014) stated that a case study derived from an in-depth experimental inquiry about a phenomenon. A case study optimizing a semistructured interview allows the researcher to ask follow up questions (Marshall & Rossman, 2016; Pezalla, Pettigrew, & Miller-Day, 2012) as necessary to evoke rich data. To ensure that the result of a single case study is reliable and valid, I optimized multiple data sources (Denzin, 2012) to answer the research questions.

Appropriate data analysis technique will assist researchers to find answers to the research question (Bernard, 2013; Yin, 2014). I collected data, organized, and categorized my data by common themes as noted by Fusch and Ness (2015), Rubin and Rubin (2012), and Snyder (2012) to assist clinic managers in finding strategies to reduce medical no-show for patient-scheduled appointments. I performed a complete review of data collection or documents about missed medical appointments; checking for accuracy, and analysis contributed to added knowledge about the phenomenon of missed scheduled medical appointments.

Data analysis is active involvement from researcher and constant participation and feedback from participants during the research process. I used NVivo 11 as the software of choice for computer-aided qualitative data analysis software (CAQDAS) to assist with coding and categorizing qualitative data as discussed by Fusch and Ness (2015), Leech

and Onwuegbuzie (2011), and Marshall and Rossman (2016). I transcribed the interview verbatim for comprehensive computer analysis. I included the data from the direct observations and the document analysis. Yin (2014) stated the importance of verbatim narratives, which will assist in identifying emerging themes. I used the coding process to identify themes. Patton (2002) stated that coding themes is the first step in data analysis. I analyzed the data using Yin's 5-step analysis process.

The conceptual framework that grounds this study was the change management theory. Change management theory is the systematic exploration of changing the undesired behavior to the desired behavior (Lewin & Grabbe, 1945; McGarry et al., 2012; Shirey, 2013). The concept of change involves the active involvement of administration and staff to change the unwanted behavior by ceasing unwanted habits and continuing to perform the new and desired behavior (Lewin & Grabbe, 1945; McGarry et al., 2012; Shirey, 2013). I explored strategies clinic managers use to reduce medical no-shows for patient-scheduled appointments. After identifying the strategies, I compared their strategies to those in the literature review.

Reliability and Validity

Reliability and validity are terms used to described the accuracy of research (Huang, Tian, Dai, & Ye, 2013; Street & Ward, 2012). Marshall and Rossman (2016) discussed that reliability and validity relates to the trustworthiness of any research study. Multiple sources using methodological triangulation and member checking provide maximum benefit in confirming the reliability and validity of the research results (Denzin, 2012). Dependability, creditability, transferability, and confirmability are

criteria for a reliable and valid qualitative study (Marshall & Rossman, 2016). Strategies to enhance reliability and validity include data saturation, member checking, and transcript review.

Reliability

Aust, Diedenhofen, Ullrich, and Musch (2013) discussed the terms of dependability, creditability, transferability, and confirmability as previously known as reliability, validity, objectivity, and generalizability. Dependability pertains to the quality of any qualitative study (Onwuegbuzie et al., 2012). I followed the interview protocol (see Appendix B) for each participant interview. After the interview terminated, I conducted member checking with participants for validation of interpretation as noted by Andrasik et al. (2014), Coenen, Stamm, Stucki, and Cieza (2012), as well as Harper and Cole (2012). I used member checking to seek to improve accuracy, to enhance the dependability of the research study results. The idea of dependability also parallels with reliability (Yin, 2014).

Validity

Credibility or validity is the precision of accuracy in any research study (Huang et al., 2013; Onwuegbuzie et al., 2013; Yuksel et al., 2013). Denzin (2012) stated that methodological triangulation optimizes the validity from using multiple source data. I collected interview data, archival documents about missed medical appointments from the organization, and direct observation of the appointment scheduling system as the multiple data sources. The methodological triangulation of the data sources enhanced the credibility of the study results.

A study is valid when the result reached data saturation (Anyan, 2013; Fusch & Ness, 2015; Peredaryenko & Krauss, 2013). O'Reilly and Parker (2012) referred to no new information are available in all categories. I conducted member checking with participants as validation technique to ensure that I have captured the meaning of participant response and to increase accuracy, reliability, credibility, and validity of the study result as discussed by Harper and Cole (2013), Marshall and Rossman (2016), White, Oelke, and Friesen (2012), and Woolcock (2013). Validity includes credibility, transferability, dependability, and trustworthiness (Della-Casa, Helbling, Meichtry, Luomajoki, & Kool, 2014; Marshall & Rossman, 2016; Tiira & Lohi, 2014). Houghton et al., 2013, Onwuegbuzie et al. (2012), and Zhao, Hie, Hu, and Li (2013) stated that transferability is the degree a qualitative study can transfer its findings to other settings. When possible, direct quotes from the interview were used to allow for quality, detailed presentation to enhance transferability, although transferability is always left up to the reader to decide (Marshall & Rossman, 2016).

Transition and Summary

The purpose of this qualitative single exploratory case study was to explore what strategies health care clinic managers use to reduce medical no-shows for the patient-scheduled appointments. A healthcare organization with a specialty in gastroenterology, in southeastern Virginia, participated in this qualitative, exploratory case study. The findings from this proposal may contribute to social change by adding new knowledge or insights and offer possible strategies to reduce medical no-shows for patient-scheduled appointments. Data from this study may provide financial benefits to leaders within the

health care industry and reduce taxpayers cost for public health care. This reduction of cost may free funds to provide other services such as education and counseling support to clinic patients.

I collected data by face-to-face, semistructured interviews, archival document review, and observed the process of appointment scheduling. One participants was the manager of a local gastroenterology clinic. I used purposive sampling where the target populations have experience with mitigating no-show for the patient-scheduled appointments. The face-to-face interview consisted of seven targeted questions and seven follow-up targeted questions. Secondary data was from archival documents about missed medical appointments related to missing medical appointments and direct observation of the scheduling process. I will safeguard the study data in a vaulted, safe deposit box for 5 years. After 5 years, the data is incinerated. I provided participant privacy by coding with alphabet lettering, as noted above. I used NVivo 11 software to assist with gathering and analyzing data and identifying themes. I ensured validity and reliability by mitigating bias, member checking, and methodological triangulation throughout the research study. I analyzed the data using Yin's 5-step analysis process.

Section 3 is the empirical portion of the study. It is the final section revealing findings from the interview questions which addressed the central research question. This study explored the strategies necessary to mitigate no-show to scheduled medical appointments. Finally, a comprehensive discussion is included in this subsection regarding the research findings in reverence to the improvement of business practices.

Section 3: Application to Professional Practice and Implications for Change

The outline of this section is to reveal the findings of the study data collection and analysis from the exploratory case study. Section 3 contains (a) a detailed presentation of findings from the data obtained for this study, (b) application to professional practice, (c) implications for social change, (d) recommendations for action, (e) recommendations for future research, (f) reflections, and (g) closing comments.

Introduction

The purpose of this qualitative single exploratory case study was to explore strategies health care clinic managers use to reduce no-shows for patient-scheduled appointments. The qualitative method was appropriate for the focus of this research study in mitigating no-shows for scheduled appointment. Huang, Ashraf, Gordish-Dressman, and Mudd (2016) reported loss of revenue for no-shows ranges from $191K to $384K per year. I conducted a semistructured interview with the operations manager, observed two appointment schedulers, and reviewed archival documents about missed medical appointments to obtain data and answer the overarching research question: What strategies do health care clinic managers use to reduce medical no-shows for patient-scheduled appointments?

To provide evidence for this study, I used seven interview questions and seven follow-up questions as noted in Appendix A. The business problem explored in this study was that medical appointment no-shows negatively affect profitability for health care organizations. The semistructured interview, observation of appointment schedulers, and review of archival documents about missed medical appointments were necessary and

unbiased in effort to obtain thick and rich data (Heale & Forbes, 2013). I reviewed the company's archival documents about missed medical appointments that correlated with the data obtained from the individual interview and direct observation.

Yin (2014) advised that exploratory case study design incorporated a systematic approach that I used toward this study to incorporate a remarkable study that includes (a) research questions, (b) propositions or data collection, (c) data analysis, (d) method, and (e) limitations and delimitations. I transcribed one individual semistructured interview, summarized observations, and collected my review of organizational documents about missed medical appointments into NVivo 11 for coding. I analyzed the data by Yin's 5-step analysis and identified four significant themes to describe the clinic operations manager's strategies used to mitigate no-show to reduce cost and increase revenue. The four themes that emerged from the triangulation and analysis of the data were (a) forgetfulness, (b) high deductible plan, (c) lead-time, and (d) inclement weather.

Presentation of the Findings

I collected data to answer the overarching research question: What strategies do health care clinic managers use to reduce medical no-shows for patient-scheduled appointments? In gaining an understanding of strategies health care clinic managers use to reduced no-shows to patient-scheduled appointments, I used semistructed interviews, observations of appointment schedulers, and a review of corporate documents about missed medical appointments to methodologically triangulate the data in an effort to present the findings of the study. The clinic manager scheduled the interviews at an onsite location at times convenient with her schedule. On one visit with "Abby", she

introduced me to the clerical staff that I would be observing the scheduling process. I interviewed the clinic manager the same day that she consented on September 23rd. She also provided me with the archival documents. “Abby” agreed to have the interview recorded. I conducted member checking on morning of October 11th and Abby provided me with the complete archival documents for September. I made time for the observation based on my availability. The first observation date was on Wednesday morning of September 21th and the second observation day was in the afternoon on Tuesday September 27th. I replaced the participant codes, A, B, and C with pseudo-names. A is for “Abby”, B for “Bobbie Jo”, and C for “Caroline”.

Of the three data sources I collected from, the largest amounts of data were from the semistructured interview. The data reached saturation when interview data, corporate documents about missed medical appointments, and observations data became repetitive and no new theme was identified (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014). Robert (2014) found that combination strategies were best to assist with problem solving and were productive to know when attempting to find strategies to mitigate no-shows for scheduled medical appointments. Qualitative data analysis is necessary for novice researchers to learn (Paull, Boudville, & Sitlington, 2013). Sensemaking is the process an individual use to make sense of an event or situation and Paull et al. (2013) identified the process a manager use when encountering declining performance. Rodríguez and Bélanger (2014) noted how managers and primary care providers understand the process of change reveals valuable information about the process of organizational changes.

Seidel, Recker, and vom Brocke (2013) offered insight to a sustainable business practices in response to current environmental concerns. They used interpretive case study design to develop a framework offering functional affordance. Their framework was to assist an organization in a sensemaking process relating to current environmental decline and implementing sustainable work practices. Seidel et al. (2013) identified the functional affordances information systems to assist organization in forming a sustainable work practices. Sustainability transformations are interested in how the entire organization works. Lewin's TPC (Lewin & Grabbe, 1945) listed the three reasons for sustainable transformations are unfreezing, freezing, and change. The integrated transformation process explains how health care leaders and employees lead to organizational sensemaking and maintainable practices.

I entered the interview data, company documents, and observation information into NVivo 11, a qualitative data organization software tool. I then analyzed the data using Yin's 5-step process. The following four main themes emerged; forgetfulness, high deductible plan, lead time, and inclement weather. I divided the relevant themes into two major themes and two minor themes. Note the major themes in Table 2, whereas indicated in Table 3 are the minor themes. I compared the literature review and the conceptual framework with the themes to evaluate the reliability of the research results. The analysis and interpretation of the findings addressed the central research question that was related to the Lewin's conceptual framework, change management theory (Lewin & Grabbe, 1945; Shirey, 2013) or TPC (Shirey, 2013). Table 2 and Table 3 indicate the percentage of response to the major and minor themes that focus on reasons

patients do not show for their scheduled medical appointments. Understanding the reasons behind the no-shows offers clinic managers information to enhance strategies to prevent non-adherence to patient-scheduled medical appointments.

Table 2

Frequency of Major Themes

Major Themes	*N*	% of Response
Forgetfulness	3	100%
High deductible	3	100%

N=*frequency*

Table 3

Frequency of Minor Themes

Minor Themes	*N*	% of Response
Lead-time	2	66.7%
Inclement weather	2	66.7%

N = *frequency*

DeMassis and Kotlar (2014) reported the significance of the qualitative case study design could enhance current theory. The individual responses were indicative of the change management theory, whereas clinical managers identify forces affecting individuals or groups to act in a certain manner (Shirey, 2013). The predictors of change management theory allows managers to identify the problem, understand the need for education, and then obtain buy-in from personnel (Lewin & Grabbe, 1945) about the

problem then to implement solutions for change. The findings of the study identified that clinic manager strategies are important in reducing medical no-shows for patient-scheduled appointments.

Major Themes

Emergent Theme 1: Forgetfulness

Forgetfulness was the first major theme that emerged from the data. Poll, Allmark, and Tod (2017) and Samuels et al. (2015) noted the number one reasons patient do not show for their schedule medical appointment is forgetfulness. Abby noted the increase in no-shows in her organization. She also voiced she was not sure if the increase in no-shows resulted from improved data collection.

Before Abby took on her current role, data collection documenting reasons patient did not attend their scheduled appointment was not as explicit as it is currently. For the month of June (see Table 4), her organization had 406 no-shows to the clinic and in the procedural area from 10 sites, excluding procedural at hospitals. See Table 5 for definition of terms. Leaders wanted to know the reasons for the no-show trend; therefore, staff called all the June patients to ask for reasons.

Mitchell (2013) posited change is necessary for sustainability of any organization. Shih et al. (2013) credited senior management involved in TPC. Rodriquez and Belanger (2014) noted that stories offered by the participants reveal valuable information about the process necessary for organizational change. June had 6,470 office and procedural appointments scheduled. Of those total appointments, 23 canceled due to inclement weather. Only 6,041 patients attended their appointments for the month. It cost the

organization over $100,000 for June's no-shows. Of course, this loss does not take into consideration the downstream financial gain effect revenue from further testing or procedure. Table 4 indicates the number of appointment reminders. Table 5 demonstrates a definition of terms used regarding appointment reminders.

Table 4

June Data

Appointment reminders	Number of cases
Completed	
	6041
Confirmed	
	2245
Machine	
	1129
No Answer	
	50
-None-	
	1541
Reminded	
	1020
Reschedule	
	21
Unable To Reach	
	35
Inclement Weather	
	23
Confirmed	
	8
Machine	
	4
-None-	
	2
Reminded	
	9
No Show	406

Busy	1
Confirmed	62
Machine	111
No Answer	9
-None-	46
Reminded	150
Reschedule	13
Unable To Reach	14

Table 5

Definition of Terms

Terms	Definitions
Confirmed	Call when through, someone answered call. They listen to the message and acknowledge message by confirming their appointment.
Machine	A message was left on the answering machine.
No Answer	No one answered the call.
-None-	This means call did not occur because it was frozen or it was schedule outside of the call window, i.e., the appointment was schedule the day before.
Reminded	Someone answered call as call when through.
Reschedule	Call made and went through. Patient listen to message and follow prompt to rescheduled appointment if needed.

Unable To Reach	Called but no one answered.
Freeze	Freeze means a day not to fill with appointments. This also means that reminder calls does not occur on this day even if their exist appointment already for that day.

In September 2016, the organization incorporated a new phone reminder system. Currently Athena, a computerized system, calls patient to remind them of their appointment. Athena calls in the evening 11 days and three days prior to the scheduled appointments. This new system has staff, on over-time pay, called patients one week prior to appointment. The staff makes about 60 calls for the evening. Staff also reminded patients that an automatic system will also call to remind of appointments. Three weeks into this new process, 166 patients still were no-shows. I observed the current scheduling process and confirmed this occurs.

Liu (2016) posited even after implementing appointment reminder calls, some clinic still have at least 20% no-shows. Those who did not show have confirmed their appointment with Athena and a staff person. Childers et al. (2016) reported that the nurse telephones to remind patients of pending scheduled appointment that increases adherence to scheduled medical appointments. Abby voiced not much improvement in no-shows using staff to make reminder call. In September 2015, the organization had 305 no-shows but, in September 2016, only 254 patients did not adhere to appointment attendance. September 2016 had a $19,000 increase in revenue as compared to September 2015. Minus the over-time staff making phone calls, the return on investment (ROI) was approximately $16,000. I confirmed this through organization document analysis. Abby

is contemplating hiring a regular staff to make appointment reminder calls instead of using over-time staff.

Organizational leaders have opportunities to make economic efforts to mitigate no-shows to increase revenue and possibly increase health and quality of life for their patients (Shimotsu et al., 2016). Huang et al. (2016) conducted a retrospective chart review of no-shows at a children's hospital in a one-year period. They found that no-shows loss revenue ranged from $191,000 to $384,000. Guzek, Gentry, and Golomb (2015) conducted a retrospective cohort study at a pediatric neurology clinic and found yearly no-shows rates at 26%. This cost the organization about $257,725 annually with monthly losses ranging from $15,652 to $27,042 (Guzek et al., 2015). During member checking, Abby confirmed that forgetfulness is the major reason patients do not show for their scheduled appointments. Table 6 indicates the major themes that emerged from the data analysis regarding forgetfulness where the main strategies the clinic manager used toward increasing revenue; therefore, sustainability of the organization.

Table 6

Frequency of First Major Theme

Major Theme	*N*	% of Response
Forgetfulness	3	100%

Note. N = frequency

Abby noted the organization has only one resource to make reminder telephone calls to remind patients. This organization does not use snail mail or TM for appointment reminder. Abby is looking into combining the clinical documentation program known as Gmed. Gmed is for billing. The practical/clinical program known as Athena is for appointment scheduling. Abby noted if Athena and Gmed were combined into one system, TM is available; otherwise, it is not. She also voiced the complication of switching practice managers. The organization would lose revenue and experience painful transition with a learning curve. During member checking, Abby voiced she realized the organization is behind in times.

As posited by Conroy and O'Leary-Kelly (2014) this organization is not ready to let go of the past and move on to the future. One change the organization is implementing is having a staff to make reminder telephone calls in the evening. Athena will continue with the automation appointment reminder calls at three and 11 days prior to the scheduled medical appointments. I confirmed this through direct observation of the scheduling staff. Evaluation based on previous outcomes parallel with TPC as organizations learned from their mistakes and plan change accordingly as noted by Yin

(2013). The findings of this study specified that clinic managers' strategies are essential in mitigating forgetfulness.

Emergent Theme 2: High-Deductible Plan

Abby and the staff noted those patients who have high deductible insurance plan do not pay money upfront (no co-pay), but they are billed after the office visit. Patients call to make an appointment because they do not feel well. The appointments are scheduled for a later time (long lead-time) because a current schedule is full. By the time the appointment date arrived, the patients' situation may have been resolved or resolved enough that the $100 what-ever cost out-of-pocket that is going to cost the patient is no longer worth the office visit. I confirmed this through direct observation of the scheduling staff and through my analysis of company documents. Clinic managers must maintain involvedness, collaborate for organizational change, and incorporate strategies to mitigate no-shows as problematic medical appointment no-shows negatively affect profitability for health care organizations (Metcfalf & Benn, 2013).

Akhigbe, Morakinyo, Lawani, James, and Omoaregba (2014) conducted a quantitative study with n=310, about 33 of them missed their first appointment. Those who tend to miss their first appointments are single, lives alone, or is aggressive. For patients who received prior treatment and have comorbidity was associated with less likelihood to miss their first appointment. Abby voiced that the change from co-pay process to high deductible insurance has significantly influenced the no-shows. About 27% of the organization's patients are Medicare, about 5% are self-pay, and the rest of the patients have private insurance. I confirmed this through my analysis of company

documents. Table 7 indicates the major themes that emerged from the semi-structure interview and observations regarding high deductible the clinic manager could possibly incorporate to mitigate no-shows, improve patients' health, and increase revenue and sustainability. As Mitchell (2013) posited, change is necessary for any organization to have sustainability.

Table 7

Frequency of Second Major Theme

Major Theme	*N*	% of Response
High deductible	3	100%

Note. N = freqency

Minor Themes

Lead-time. Long lead-time has contributed to no-shows (Norris et al., 2014; Paige & Mansell, 2013). Norris et al. (2014) noted that lead-time is one of four factors that have the greatest association with no-shows. Lead-time has the greatest impact on no-shows but it is also the most addressable whereas patients' age, insurance provider, and inability to change some patients' behavior as posited by Norris et al. (2014) and Torres et al. (2015). Norris et al. (2014) noted that patients' no-shows to about 50% of their scheduled medical appointments made about one week prior to the appointment day and percentage increases as lead-time becomes longer.

Norris et al. (2014), Nwabuo et al. (2014), and Torres et al. (2015) posited reducing lead-time to minimize no-shows. Schutz and Kolisch (2013), Torres et al. (2015), and Zacharias and Pinedo (2014) stressed that overbooking does not resolve no-

shows. Patient dissatisfaction is one aspect of overbooking (Torres et al., 2015) as patient may have long clinic wait-time (Lee et al., 2013) to see their provider. Data saturation was achieved using multiple method sources. I confirmed the data through my interview with the clinic manager, direct observation of the scheduling staff, and my analysis of company documents. Table 8 indicates the frequency of response of the first minor theme assuring strategies clinic manager incorporate to reduce toward mitigating no-shows.

Table 8

Frequency of First Minor Theme

Minor Theme	*N*	% of Response
Lead-time	2	66.7%

N = frequency

Inclement weather. Inclement weather causing no-show was a serendipitous theme as well as the second of minor theme (see Table 8). The clinic had 23 no-shows for month of June 2016 but a 247 no shows for moth of January 2016. I confirmed this through company document analysis. Wilson (2014) posited a triangulation approach to mitigate no-shows for inclement weather related situations. A snow/snowstorm may occur in January in Virginia; therefore, inclement weather could hinder appointment attendance but for June, it is difficult to fathom the no-shows related to inclement weather. Norris et al. (2014), Nwabuo et al. (2014), and Torres et al. (2015) posited weather, day of the week, and time of day play a significant role with nonadherence to appointment attendance.

One direct observation day occurred on Tuesday, September 27th at 2:35 PM. The day was cloudy, a cool temperature, and sprinkle-like rain off and on that day. Earlier that morning, four patients were no-shows. September 2016 had 6013 patient schedule appointments but 261 patients were no-shows (confirmed through document analysis). Bobbie Jo and Caroline informed me about 7 no-shows that had already occurred by the time I arrived to the office.

During member checking, Bobbie Jo and Caroline voiced no-shows can be expected even with a slight rain drizzle. Making sense of the conceptual framework process relating to current environmental changes and implementing sustainable work practices (Seidel et al., 2013) is a process of TPC to assist organization in forming a sustainable work practices. Data saturation was achieved using multiple method sources. Table 8 is indicative of the second minor theme that emerged from the data analysis regarding medical appointment no-shows negatively affect profitability for health care organization.

Table 9

Frequency of Second Minor Theme

Minor Theme	*N*	% of Response
Inclement weather	2	66.7%

N = frequency

Applications to Professional Practice

The primary purpose of this qualitative single exploratory case study was to explore strategies health care clinic managers use to reduce no-shows for patient-

scheduled appointments. Preventing a missed scheduled medical appointment is important for patient health as well as improving effective patient care and lowering costs (Childers, Laird, Newman, & Keyashian, 2016). Identifying critical success factors is important for health care clinic mangers to reduce no-shows thereby increase revenue and productivity (Childers et al., 2016). The findings revealed in the study were added and compiled upon existing literatures. The findings of this study are relative to TPC and indicate that health care clinic managers require strategies to incorporate change to mitigate no-shows. The results from this study have the potential to assist clinic managers who are interested in reducing no-shows.

Clinic managers may promote guidelines to improve knowledge and best practices among their organization (Albertini, 2013). The factors behind missed appointments are multifarious. Systematic attempts to address these barriers and related polices that contribute to individuals missing their patient-scheduled medical appointment is a starting point to decrease patient no-shows and improve the effective delivery of health care services. Clinic managers who are proactive and responding to new opportunities can incorporate TPC but clinic mangers need to have a working knowledge about TPC.

Implications for Social Change

Patients miss their outpatient scheduled appointment between 23% and 34% as noted by Crutchfield and Kistler (2017), yet others have difficulty obtaining the same appointment slot to meet their health care needs. Fortin, Pries, and Kwon (2015) reported

about 17% of children with diabetes missed their appointment. In this situation, the problem is multi-faceted; the children may depend on the adult for transportation.

Regardless of the situation Fortin, Pries, and Kwon noted an indicator of poor treatment adherence is no-shows for scheduled appointments. Kheirkhah, Feng, Travis, Tavakoli-Tabasi, and Sharafkhaneh (2016) conducted their study at 10 different clinics over a 12-year period. They found an average of 19% no-shows with an average cost of $196 cost per no-show in 2008. These facts warrant health care clinic manager to have strategies in mitigating no-shows. Health care clinic managers need to be visionary leaders and incorporate TPC as a strategic construct to increase adherence to scheduled medical appointments. Understanding factors associate with non-adherence to scheduled appointment is one-step in mitigating serious clinical and economic impacts.

Perez and Rodriquez del Bosque (2013) noted that customer perceptions and belief about the organization is highly important. Alhamad (2013) stated that patients who have difficulty booking an appointment due to work commitments, long travel distances, lack of transportation, and visiting another health care facility are the top five reasons for missing appointments. For those who missed appointments, they were unaware of the impact of missing the appointment. The findings may effect social change if health care clinic managers review the findings from this study and implement strategies to mitigate no-shows to patient-scheduled medical appointments. Patient health may improve when adhering to their medical appointments and increase patient satisfaction (Paul et al., 2013). The organization can improve clinical outcome, reduce health care costs (Kirsh et al., 2017), increase revenue (Mbada et al., 2013), and reduce

idle time, thereby increasing provider satisfaction (Egger et al., 2015; Giunta et al., 2013).

Recommendations for Action

The purpose of this qualitative single exploratory case study was to explore strategies health care clinic managers use to reduce medical no-show for patient-scheduled appointments. Alpak et al. (2015) reported non-compliance with appointment is a significant problem and 50% of patients with chronic medical condition were not adherent to their scheduled medical appointment. Clinic managers can take proactive measures towards mitigating no-show for medical appointments. Humborstad, Nerstad, and Dysvik (2014) stated that empowering leaders allows for positive impact for the organization. Current and potential future clinic managers or anyone concerned with mitigating no-show for scheduled appointment should consider the recommendation. The importance of knowing how to mitigate no-shows may increase revenue, increase patient satisfaction, and increase community health.

Three recommended steps toward mitigating no-shows to scheduled medical appointment are identified from the study: (a) clinical leaders should consider incorporating TM for appointment reminders, (b) nurse telephone call to prevent no-shows, (c) decrease lead-time, (d) shared medical appointments, and (e) provide transportation to and from procedural area. The first recommendation from this research is for clinical leaders to consider incorporating TM for appointment reminders. Bigna et al. (2014) reported adherence to scheduled appointment-using TM. People like their privacy and convenience. TM reminders allow patients to view their appointment

reminders on their own time. Bogart et al. (2014), Gurol-Urganci et al. (2013), and Perron et al. (2013) reported the convenience of TM and lower cost of telephone call reminders. TM is low cost and efficient as it can be automated and there exist high rates of mobile telephone ownership in many countries as stated by Taylor, Bottrell, Lawler, and Benjamin (2012).

The second recommendation is nurse (staff) make telephone calls to prevent no-shows. Childers et al. (2016) found that a nurse phone call to patients seven days prior to schedule endoscopy procedure showed a 33% reduction in no-shows. The research site for this study uses a practice manager called Athena, an automated system to deliver appointment reminder calls to all non-hospital scheduled appointments. Athena conducts telephone reminder at 11 and 3 days prior to the schedule appointment. This system can document if an individual pushed a button to confirmed or reschedule the appointment. In this study, for example, in September 2016, the organization tried a new system. In addition to Athena, a staff was paid over-time to conduct appointment reminders via telephone three days prior to schedule appointment as compared to a system in September 2015 where no-show cost the organization about $19,000.00. Implementing an individual to perform the appointment reminder had a return on investment (ROI) of about $16,000.00. Childers et al. (2016) found annual net revenue of approximately $43, 000 per year optimizing a nurse to make reminder calls. Mugo et al. (2016) noted in-person appointment reminder is more costly but appointment attendance increased. Therefore, I recommend hiring a regularly paid staff member to conduct the appointment reminders.

The third recommendation is decreasing lead-time. Alamo et al. (2013) and Nwabuo et al. (2014) noted that patients who scheduled their appointment out farther in time tend to forget or not show-up for their appointment compare to those who recently had their appointment scheduled. Norris et al. (2014) noted that appointments scheduled seven days before the appointment date only had a 58% show rate and the percentage continue to decreases with longer lead-time.

The fourth recommendation is shared medical appointments (SMA). Dixon et al. (2015) noted patient and provider satisfaction with shared medical appointments. They conducted 24 SMAs in eight different medical centers in South Australia and Queensland. The group size ranges from three to 15 with an average of nine per group. With a total of 219 patient visits, no negative complaints were received. The top reason patients liked the group session was peer support and knowing they are not alone in their disease process. Heyworth et al. (2014) conducted a 3-year retrospective study comparing SMA (n = 921) and the usual care of patients (n = 921). They found those attending SMA were more satisfied than the usual care patients. Dixion et al. (2015) and Heyworth et al. (2014) reported SMA participants would return for future SMAs.

If possible, the fifth recommendation is providing transportation to and from a procedural area. The lack of transportation to the clinic appointment has both personal and structural concerns. Those lacking transportation to attend clinic appointments may feel isolated on a personal level. This personal problem further intensifies structurally when bus transports are not accessible and there is limited Medicaid-funded

transportation. If patients are Medicaid patients, they are able to use Medicaid transport. Comprehensive training of clinic staff about available Medicaid transport is necessary.

Recommendations for Further Research

In this qualitative case study research, the primary limitation was one sample location and participant. Recommendations for further study include a study involving multiple sites. I was only able to obtain nine months of company archival documents because of new clinic management; therefore, I also recommend more quantity in company document analysis. I studied a specific clinical industry and would recommend studying different specialty clinics for comparison. This study was limited to an endoscopy clinic in southeastern Virginia and company documents (see Table 4) about missed medical appointments were obtained from February 2016 through September 2016.

Insights during the winter months about missed medical appointment could be gained. Current literature lists one barrier to attending scheduled-medical appointment is transportation concerns (Syed, Gerbert, & Sharp, 2013), which requires further study. Lastly, I would recommend conducting a study on an organization that provides transportation for their patients, for comparison of results. This study was based on a qualitative research method with case study design; other studies using different methodologies and designs should be researched regarding missed scheduled-medical appointments.

Reflections

The main motivator for this research was to explore strategies in mitigating no-shows to patient-scheduled medical appointment. My spouse is a veteran. He has severe mental health issues after returning from Iraq. He was not able to obtain psychiatric appointments from the VA Medical Center in a timely manner. His appointment was several months away before he could be seen and at the time of seeking healthcare he was having suicidal ideation. I chose TPC as my conceptual framework for my study because a change is necessary to assist veterans seeking health care to have timely access. Bell and Bryant (2013) and McInnes et al. (2014) noted that veterans have higher rates of illness as compared to the general population.

I do not have an aptitude for eloquent writing but I understood about doctoral level research prior to beginning my doctoral journey. My spouse enrolled in the same program before I started and he provided me a glimpse of what was expected. I knew it was another challenge in my life that I had to accept and learn if I wanted a terminal degree. Many times during the research process, I had to take breaks from schoolwork to catch up on personal situations, but I never forgot the end goal toward graduation. Finding peer reviewed articles about my topic was time consuming but not difficult. Writing and expressing myself in words was the true challenge. The findings about non-adherence to medical appointment were startling and I appreciate the importance and the value of this research. I found thick and rich data during the data collection process except that most data is based on low-income individual/family incomes. The observations and individual interviews were also crucial to this research. Clinical leaders

may begin to understand the reasons behind missed medical appointments. This act could mitigate no-shows to a scheduled medical appointment, thereby increasing revenue, increasing patient satisfaction, and increasing community health.

Summary and Study Conclusions

The purpose of this qualitative single exploratory case study was to explore strategies health care clinic managers used to reduce medical no-shows tor patient-scheduled appointments. I collected data using methodological triangulation of three data sources to obtain rich data as noted by Walsh (2013) and Wilson (2014). I conducted a semistructured interview with a clinical operations manager to obtain the first set of data. The secondary data was observation of the appointments scheduling process. The third source of data comprised my review of archival documents about missed medical appointments. The purpose was deemed appropriate as all participants in the study indicated their insights and observations toward reducing medical no-show to improve patients GI (gastrointestinal) care. Data saturation was reached when no additional information or new theme identified as discussed by Fusch and Ness (2015).

After coding and analyzing the data, four main themes were discovered. I linked the analysis of each emergent theme back to the literature, the existing body of knowledge regarding the topic, and the conceptual framework of change management theory. A serendipitous theme regarding Stark law occurred. Stark law prohibits physician self-referral for Medicare and Medicaid patients.

Gastroenterology practices noted an increase in no-show, where Samuels et al. (2015) reported the most common reason is forgetfulness; high no show rates are

typically older adults, African Americans, and older child appointments. Proper management of disease is necessary for prevention of disease complication (Kalyango, Hall, & Karamagi, 2014). My findings of this study clearly suggested that efforts to decrease no-show rates must target (a) older adults and well child visits, (b) provide transportation to and from the procedural site, (c) decrease lead time, (d) staff to place appointment reminder calls, (e) optimize TM for patient convenience, and (f) evaluate the appropriateness of SMAs.

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Appendix A: Interview Questions

1. What impact do medical no-show appointments have on your organization?
2. What impact do cancellations of an appointment in less than 24 hours before the scheduled appointment have on your organization financially?
3. How has cancelling an appointment in less than 24 hours affected your organization?
4. How have delays in patient-care affected the health of the patient within the practice?
5. What factors have led to cancellation rates or no-show rate at your organization?
6. What strategies have you implemented to minimize the no-show appointment at your organization?
7. What reason(s) do patients offer when they do not show for their medical appointments?
8. What reasons have patients told you they did not call when they do not show up for the medical appointment?
9. What process is in place to assist patients to show for their medical appoints?
10. What is the percentage of patient no-shows for the clinic?
11. What process has your organization implemented to mitigate the issue of patient no-shows to appointments?
12. What changes have you noticed the new process has had on your organization since the process's implementation?

13. What has your organization implemented to keep the momentum of the (appointment reminder) process on going?
14. What other information can you share that we have not discussed?

Appendix B: Interview Protocol

1. Introduce yourself to participant(s).
2. Present consent form, review contents, and answer any questions and concerns of participant.
3. Provide consent form to participant for signature of agreement to participate in research study.
4. Give participant copy of consent form.
5. Turn on recording device.
6. Introduce the participant(s) with a pseudonym/coded identification; note the date and time.
7. Begin the interview with the first question and follow through to final questions.
8. Follow up with any additional questions as necessary.
9. End the interview session. Discuss member checking with participant(s).
10. Thanked the participant(s) for their part in the study. Confirm contact information for further follow-up questions or concerns from participants.
11. End protocol.

Appendix C: Observation Protocol

1. Note the date.
2. Note the day of the week.
3. Note the time of day.
4. Note the weather/temperature of the day.
5. Note the atmosphere in the office.
6. Observe the time the appointment reminders commence.
7. Observe the appointment/scheduling process.
8. Note how (phone, text, or any other process) the appointment reminder is done.
9. Observe the handling of appointment cancelation process.
10. Thanked the scheduling staff for their assistance. Confirm contact information for concerns that may arise.
11. End protocol.