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Improving No-Show Rates in a Community Health Center

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Abstract

Community health clinics have surfaced to provide primary care to low-income individuals, but they are currently hurting due to an overwhelmingly high no-show rate. (Population Reference Bureau, 2016; Nowacki, 2013). While there is extensive research on how to overcome no-show appointments in private medical clinics, clinics that serve a low-income clientele cannot succumb to the same methods of intervention due to the financial and physical barriers community health centers face (Nowacki, 2013). The purpose of this project was to extend upon previous studies on strategies to improve the no-show rate at a local community health center by doing a mixed-method, cross sectional study of low-income adults in a primary care setting. This study explored the patients' perceptions of barriers and needed resources and also attempted to find correlations between patient demographics and no-show rates. This study found a higher no-show rate in younger patients and also in African American/Black patients. A large number of patients missed appointments due to personal issues and societal barriers. This study also found high patient satisfaction in the overall clinic. Since the purpose of the study was to uncover reasons behind the no-show phenomenon, it was appropriate to discuss interventions that may improve the high no-show rates and overall clinic functionality. Recommendations include implementing a program that provides transportation, increasing exposure of social services provided by the clinic, educating patients on the importance of preventative health care, and completing minimal facility improvements.

Keywords: community health center, no-show rate, patient perception

Improving No-Show Rates in a Community Health Center

The term “low-income individuals” refers to individuals who earn less than twice the federal poverty line (Population Reference Bureau, 2016). Low-income individuals find themselves at a disproportionate risk for being uninsured, lacking access to health care, and experiencing worse health outcomes (Artiga, 2016). Many families who are classified as low-income struggle from societal and physical barriers that inhibit their access to preventative health care (Population Reference Bureau, 2016). With the current poverty rate at 14% (Center for Poverty Research, 2016) and the low-income rate around 32% (Population Reference Bureau, 2016), almost half of Americans find themselves at a disadvantage when it comes to finding affordable and quality healthcare. In an effort to overcome these health disparities, community health clinics have surfaced to provide primary care to low-income individuals (Population Reference Bureau, 2016).

Community health clinics benefit the communities in which they serve by providing affordable access to primary care; however, many clinics are hurting due to the overwhelming amount of no-show appointments (Nowacki, 2013). While most privately funded clinics expect about 5% of appointments to result in a no-show, community health clinics struggle with a no-show rate as high as 50% (C. Spruce, personal communication, February 20, 2017). There are financial implications for missed appointments because doctors could have been seeing another patient in that time, thus creating more revenue (Dumontier, Rindflesiech, Pruszynski, & Frey, 2013). In addition, the overall well-being of the patient is compromised when they are not receiving the preventative care they require (Dumontier et al., 2013). The most common institutional and societal barriers that contribute to a high no-show rate include lack of

transportation, lack of education on the importance of preventative care, and cultural barriers (Arndofer et al., 2011).

While there is extensive research on how to overcome no-show appointments in private medical clinics, clinics that serve a low-income clientele cannot succumb to the same methods of intervention due to the financial and physical barriers community health centers face (Nowacki, 2013). For example, low-income individuals who lack access to a computer will not benefit from an automated email that reminds patients of their appointment. Furthermore, a community health clinic that thrives on the generosity of donors and governmental grants to provide low to no cost health care will not improve no-show rates by implementing a fee on patients who miss their appointments without notice because most patients do not have the means to afford their health care as is. Any additional fees could inherently deter patients from coming to the clinic in the first place.

For many low-income persons who find themselves uninsured, receiving health care means seeking out medical providers who provide their services regardless of a patient's ability to pay (Taylor, 2004). According to Taylor (2004), the providers who are willing to provide care to the uninsured and often underserved populations help form what is referred to as the health care safety net. Community health centers play a crucial part in the health care safety net by providing care to those who lack direct access to preventative services (Taylor, 2004). A specific study by Forrest and Whelan (2000) demonstrated the growing importance of community health centers in promoting continuity of care for the underinsured and uninsured, and therefore, advocated for the expansion of community health centers because of the contributions of community health centers in providing care to vulnerable populations. In addition, a study completed more recently in 2010 by Gruber, reported that nearly 317,850 of Tennesseans had

been served by community health centers, with even larger numbers found in other states. This statistic demonstrates the need for community health centers, especially with current changes in healthcare. This literature review will discuss the history of community health centers, the challenges they face, and relevant research studies that uncover strategies for the high no-show rates.

Community Health Centers

The history of community health centers. Originally named neighborhood health centers, community health centers were created in 1965 following the Johnson administration's War on Poverty (NACHC, 2017). The original centers were designed to provide a community approach to medicine that led to increased access to health and social services, which encouraged community empowerment (Taylor, 2004). Health centers focused on the cause of poverty by combining community resources with federal funds, and this method of resourcing communities with federal grants was a formula that encouraged the compounding benefits of access to affordable healthcare (Kaatz, 2017). When the health center program was moved to the present Department of Health and Human Services in the early 1970s, the creation of the §330 grant consolidated the various public health programs into a single legislative authority for health center grants (Taylor, 2004). This change bolstered the modern structures of health centers and heavily influenced the funding of them.

Funding sources for community health centers. Even though the legislative entity controlling the health center programs has changed in recent years, the fundamental funding source is similar to the founding philosophies of community health centers: §330 grant funding. The §330 grant allows communities to tailor their applications to become a grantee specifically to the communities they serve (Taylor, 2004), meaning communities can apply for services that

are the most relevant and the most beneficial. For example, a community with a large homeless population would require different services in a community center than a community focusing to serve school aged children. One of the requirements for the highly versatile §330 grant includes a location in a medically underserved area (Taylor, 2004). The Health Resources and Services Administration (HRSA) defines a medically underserved area as a geographic area with a shortage of primary care services (2016). The shortage is determined by the Index of Medical Underservice that calculates on four criteria: 1) ratio of population to provider, 2) percent of population below federal poverty level, 3) percent of population over age 65, and 4) the infant mortality rate (HRSA, 2016). Other requirements for a §330 grant include: holding tax exempt status, providing comprehensive services including primary care and case management, utilizing a governing board made up of health center patients, and providing services regardless of patient's ability to pay (Taylor, 2004).

Although §330 grant funding is essential to achieve Federally Qualified Health Center status, the grants only constitute about one quarter of overall health center revenues (Taylor, 2004). Federal reimbursement through Medicaid and Medicare programs make up a large portion of revenue for community health centers (Taylor, 2004). Information gathered from a study by Forrest and Whelan (2000) reported that close to 65.4% of primary care visits to community health centers were uninsured or Medicaid patients. With the expansion of Medicaid under the Obama Administration in 2010, community health center revenue boosted as more of its patients gained medical insurance (Gruber, 2010). However, more recent changes in administration of governmental funds, for example not expanding the Medicaid program, may threaten the revenues of community health centers.

Services provided by community health centers. Community health centers use the money provided by grants and federal reimbursement to fund an expansive range of services. The services often reflect the diverse populations they serve. According to Taylor (2004), health center patients require both preventative health and enabling services. Services, in response to this need, most commonly include dental, primary care, women's health, and mental health, as well as transportation, case management, insurance counseling, and health education (Taylor, 2004). The specific combination of services provided by a local community health center is unique to the specific needs of its population. From preventative health services to case management, services provided by community health centers are tailored to empower and medically equip the communities in which they serve.

Population

As defined in the introduction, low-income persons were the focus of this research study; therefore, it is important to discuss the relationship between low-income persons and community health centers. As of 2016 nearly 50.6% of community health center patients were below 100% Federal Poverty Level (HRSA, 2016). The formal definition of low-income persons uses the indicators of more than twice below the Federal Poverty Line, so this statistic remains beneficial in helping determine the financial scope of the patients serviced by community health centers. Community health centers also tend to serve a large proportion of patients that are uninsured (O'Malley & Mandelblatt, 2003). In 2016, nearly one-fourth (23.4%) of health center patients lacked insurance, and half of health center patients were on Medicaid (HRSA, 2016). This information supports the assumption that community health centers most commonly serve low-income, or potentially low-income, individuals that have either publicly-funded or no insurance.

Special considerations when working with health center populations. Keeping in mind the demographic characteristics of health center patients, it is important to note special considerations for servicing these vulnerable individuals. As part of the requirements to being a community health center, the governing board must have representation of health center patients (Taylor, 2004). The goal of consumer governance is intended to increase decentralization of decision making and create interventions that are relevant to the specific needs of the community (Wright, 2013). When the majority of patients are low-income individuals, it only makes sense to have individuals from similar backgrounds helping govern the facility. However, Wright found that board members from urban community health centers are not truly representative of the patients served. Lack of accurate representation of patient perception on the governing board can negatively impact interactions with patients because understanding patients' experiences is invaluable in determining the feasibility and projected success of health care practices. Therefore, urban community health centers are hurting in that they are not adequately involving patient perception in plans of intervention.

No-Show Rates

As mentioned in the background information section of this paper, community health centers suffer from an overwhelmingly high no-show rate (Nowacki, 2013). No-show rate throughout this research study shall be defined as the number of appointments missed without prior notification to the clinic divided by the total amount of appointments scheduled. The highest no-show rates tend to be found within the zip codes containing the lowest median income (Huang, Ashraf, Gordish-Dressman, & Mudd, 2016). Furthermore, researchers have found that 80% of patients who did not attend their scheduled appointment had some sort of public insurance, such as Medicaid or Medicare (Huang et al., 2016). A study completed in an urban

pediatric medical center validated these demographic findings. Samuels and colleagues (2015) found that the majority (80%) of the no-show population sampled for the study had a public primary payer. So while specific demographics, as in age, gender, and race, of patients with the highest no-show rates may vary from clinic to clinic, multiple research studies consistently found that low-income individuals with public primary payers have the highest rates of nonattendance to scheduled appointments.

Implications on no-show rates. There is extensive research on how no-show rates negatively impact the healthcare industry. A study completed on an urban pediatric clinic indicated that nonattendance to a scheduled appointment resulted in increased medical costs, wasteful use of health care man power, decreased productivity, and disruption of patient care (Samuels et al., 2015). George and Rubin (2002) add that non-attendance to scheduled appointments represents a significant cost in terms of time lost and financial implications. A positive correlation has also been found between appointments missed by a patient and his or her number of emergency room visits (Dumontier et al., 2013). This indicates that patient health may be negatively impacted by no-show rates.

Previous Research on Improving No-Show Rates

Referencing the negative impacts discussed in the previous section, it is paramount that health care providers implement strategies that will improve no-show rates while subsequently improving health outcomes for patients and stabilizing financial costs. In order to develop a study with depth that expands on previous research, it is helpful to utilize a holistic approach that references the strengths and weaknesses of similar studies. Both private and community health approaches to improving no-show rates are examined.

Private practice. Bolch (2013) discusses the implementation of care navigators into a private practice setting improved no-show rates and overall patient care. High-risk patients in this program were contacted once a month about their access to care (Bolch, 2013). Nurses and social workers worked to help educate patients on the importance of preventative health care, which led to decreased rates of nonattendance and better patient health outcomes (Bolch, 2013). The implementation of care navigators is an interesting idea that has shown to be beneficial to the patient, the private doctor's office, and the larger health system at large (Bolch, 2014). The only drawback of this intervention is the struggle community health centers might face in trying to fund such personnel.

A study completed on private physical therapy clinics discusses interventions that are used to deter patients from missing scheduled appointments without notice. The article emphasizes the usefulness of educating patients on expectations upon the initial encounter (Stephens, 2005). The patient service representatives that schedule appointments and answer questions about upcoming appointments are expected to educate patients about the facility's policy on scheduling and cancellation (Stephens, 2005). This technique is supposed to familiarize the patient with his or her expectations for receiving care. Communicating expectations to the patients seems like a reasonable technique that could be utilized in a community health center. However, other interventions that were suggested in the article cannot be utilized in community health centers due to physical and financial barriers. For example, community health centers cannot implement a hefty fee for every missed appointment due to the low-income populations they serve. In addition, community health centers would not be able to discontinue service to patients who frequently miss because of the limited access patients already have to healthcare.

Community health centers. Cook and colleagues (2015) completed a qualitative study that pioneered the understanding of patient experience in community health centers. This study focused on how patients perceive the services given from five different community health centers in Florida. The findings showed patients were most satisfied with care that was personal to them and coordinated care, which is appropriate considering the goal and function of a community health center. However, the study also found that improvements were needed in appointment availability and processes. The authors agreed with previous research that has emphasized disadvantaged primary care patients' need for improvement in obtaining appointments (Cook, Hollar, Isaac, Paul, Amofah, & Shi, 2015). They conclude this study by recommending changes in communications with patients to ensure community health centers remain the providers of choice for low-income individuals. This study was beneficial for understanding how patients perceive services rendered at community health centers, but it lacks discussion on missed appointments entirely.

A study on the effectiveness of reminder phone call on reducing no-show rates provided useful information on a strategy most commonly used to improve no-show rates. The study researched how the initiation of reminder phone calls might impact the no-show rate at a community based outpatient clinic. Woods (2011) advocated for utilization of clinical resources to remind patients of scheduled appointments due to the findings that reminder phone calls were related to a decrease in no-show rates. Woods (2011) found the clinics that initiated phone call reminders had small improvements that varied from 1-5%, but there were also moments in the study that showed an increase in no-show rates impacting the reliability of her findings. While small improvements to the no-show rate were evident after the initiation of reminder phone calls, the findings were not significant enough to illustrate a successful intervention.

Lastly, Nowacki (2014) researched strategies for improving no-show rates specifically in a community health center. Nowacki (2014) discussed the implementation of reminder phone calls through an automated system. He found the automated system did not require clinical personnel to complete personal calls, so it did not disrupt clinic functionality (Nowacki, 2014). Automated messages also had the flexibility of being sent out after clinic hours, times where most patients were already off work and able to answer the call (Nowacki, 2014). Nowacki also recommended using innovative forms of communication, such as email and text messaging, to communicate appointment times to patients (2014). While this study is both relevant to the specific topic of no-show rates in community health center and fairly recent, the study lacks investigation of other interventions that may improve a patient's physical access to care, such as lack of transportation or lack of funds to pay for services.

Other considerations for improving no-show rates. Many of the researchers from the above studies had pretty similar ideas about improving no-show rates, whether in private or community health settings. Commonly, the research recommended improvements in appointment availability, processes, and communications. Most of the studies also included trigger words and phrases that promoted increasing access to care. However, George and Rubin (2003) included a very profound statement in the closing remarks of their qualitative study on nonattendance in the private setting. They write, "Access is a complex concept. It is concerned with the relationship between need, provision and utilization of health services" (George & Rubin, 2003, p. 183). In addition, they include that drafting solutions to improve nonattendance rates is a balancing act of trying to define access in terms of willingness to attend appointment, opportunity of the patient to choose healthcare provider, the physical and societal barriers

inhibiting attendance and other facility functions, such as wait times, that may deter attendance (George & Rubin, 2003).

George and Rubin (2003) recommend a robust evaluation of nonattendance by utilizing two methods. First, they discuss looking at the problem of no-show rates in isolation to determine the best outcome. For example, they promote having a linear approach that includes implementing a solution to a designated problem. Second, they recommend looking at the issue with a larger lens that encompasses the complexities of the health care system (George & Rubin, 2003). This approach relates more to the ideas of how complex an issue access to care truly is, and it involves a broad-based context of the four dimensions that impact the health industry: patient perception, organizational structure, quality of care, and health economics (George & Rubin, 2003). The combination of both linear and contextual strategies promotes the best solutions for overcoming the negative impacts of the no-show phenomenon.

Theoretical Perspective

Person-in-environment. The person-in-environment framework is beneficial in understanding patient perception and experience with the no-show phenomenon. Person-in-environment, or PIE, attends to the complexity of the biopsychosocial issues impacting a person's experience (Karls & O'Keefe, 2009) PIE allows the practitioner or researcher to assess functions on a personal level while recognizing the societal and institutional problems that may also affect a person (Karls & O'Keefe, 2009). While PIE is most commonly used in micro level practice, it remains useful in policy and research because of its ability to routinely collect information on problems present in the social system while also providing a framework for intervention (Karls & O'Keefe, 2009). Person-in-environment is a beneficial theoretical framework when studying the no-show rates of community health centers for it encourages the

researcher to understand the overall experience of a patient. It is also helpful in discovering possible interventions for the researcher immerses his or her self into the patient experience.

Systems theory. When one begins to examine the factors that inhibit an individual's ability to attend a scheduled appointment, systems theory seems to be the most impacting idea. System theory focuses on systems within the environment and how these systems interact with and affect people (Kirst-Ashman, 2014). Each individual system requires resources in either physical forms, such as people or funding, or mental forms, such as knowledge or legitimacy, to function properly (Netting, Kettner, McMurtry, & Thomas, 2017). All the systems are interrelated and each subsystem impacts the group as a whole (Kirst-Ashman, 2014), which demonstrates how one disturbance in a person's life, like the loss of health insurance, might impact the overall well-being of the individual. In addition, systems theory can describe how one patient missing an appointment can disrupt the larger system of organizational flow or patient care. For example, a patient missing a scheduled appointment can impact patient flow and revenue for the clinic because the doctor could have been seeing another patient during that time. Utilizing of the basic ideas of systems theory in determining the causes of no-show rates better promotes a holistic comprehension of how the interactions of each sub-system may impact the ability of a patient to keep scheduled appointments.

While this theoretical perspective seems most appropriate for the scope of the research project, it also has limitations when put into practice. Ogilvy (2013) comments that a common misunderstanding of systems theory relates to the ability of a researcher to totalize an issue too quickly. For example, when examining an issue in the perspective of it belonging to a larger system, the researcher might conclude that he indeed knows nothing about the issue until he knows everything about the larger system impacting the issue. Ogilvy uses the theme of

arrogance and humility when using systems theory in practice. He encourages the researcher to be bold enough to want to understand the issue on a larger scope, but he also promotes humility in that the vast interconnectedness of systems limit true understanding of the issue (Oglivy, 2013). Therefore, this research project aims to be arrogant in that it longs to know how larger systems impact patient attendance, but this research project also aims to be humble in that true understanding of the issues surrounding no-show rates can be incredibly complex.

Purpose

There are many institutional and societal barriers that contribute to the overwhelming no-show rate of low-income adults in a primary care setting. The overarching purpose of the project was to extend upon previous research by doing a mixed-methods, cross sectional study of low-income adults in a primary care setting and their perceptions of barriers and needed resources. The study presented the following research questions: a) Are there significant differences in no-show rates based on demographic characteristics, such as age, gender, race and zip code? b) What are the institutional and societal barriers that inhibit one from making his or her scheduled appointment? c) What are the patient's perceptions about scheduled appointments? d) What resources need to be implemented in order to help decrease the no-show rate?

Methods

Sample and Recruitment

This research included a cross-sectional, mixed methods analysis comprised of two different parts (i.e., a quantitative and a qualitative analysis) and two different samples. Low-income individuals at a local community health center were the primary unit of analysis. The first part included a large sample of adults ($n = 1,243$) in which a quantitative secondary data analysis of health record data was conducted. The second part included a smaller sample of adults from the community health center using primary data collection and included a mixed methods data analysis.

Quantitative Sample. The average no-show rate of the patients with scheduled appointments at the community health center during this specific time frame was 26.84% ($sd = 27.55\%$). In this case, a no-show rate refers to the percentage of missed appointments without prior notification. The rate was calculated by the community health center records system by dividing the number of missed appointments by the number of total appointments. The average age of patients seen during this time frame was 52.32 in years ($sd = 15.36$; range = 5-94). The majority of patients were female (61.3%). Sixty-four percent of patients indicated they were Black or African American; 22.2% were White; 1.5% were Asian American, and 8.6% were another race (e.g., American Indian, biracial, etc.). In this sample, 60.4% of patients were from the downtown Chattanooga area. 31.5% were from suburban areas, 2.0% were from rural areas around Chattanooga, 4.4% were from Northern Georgia region and 0.7% were from out-of-state. Please see Table 1.

[Insert Table 1 here.]

Qualitative Sample. Patients who were surveyed in part two of this research study had an average age of 47 in years ($sd = 14.6$; range = 19-63). Seventy percent ($n = 21$) of those surveyed were female, and thirty percent ($n = 9$) were male. A majority of patients surveyed were black or African American (83.3%). 13.3% reported being white and 3.3% indicated other (e.g., American Indian, biracial, etc.). No patient who identifies as Asian American was surveyed. Please see Table 2.

[Insert Table 2 here.]

Data Collection

Quantitative Sample. Demographic information was extracted from the electronic medical record system of the community health center using an Xcel file, which was later converted into an SPSS file. All data were existing files of current patients at the community health center. Although this study included patients at a medical clinic, no health information or sensitive data were collected.

Qualitative Sample. For the qualitative portion, the researcher conducted both face-to-face interviews and phone interviews with patients. In-person interviews were held when a candidate met the criteria for inclusion in the survey (i.e., 50% no-show rate as generated by the electronic medical records system) and were present in the clinic at the time of his/her scheduled appointment. Interviews took place in a private examination room at the health center. In order to collect data, the researcher was present at the clinic for multiple days a week throughout the data collection period. When patients with a no-show rate of 50% or higher would attend a scheduled appointment, the researcher would ask the patient if they would like to participate in the study. The researcher was careful to utilize caution when asking patients to participate in the study in order to avoid a patronizing or condescending demeanor. The researcher was careful to ensure

the patient understood the purpose of the survey was to not to condemn their un-attendance, but instead the purpose was to gain a better understanding of what resources could be implemented to help them attend scheduled appointments. After careful introduction of the study, participants that agreed to participate gave verbal consent and completed the survey in a private doctor's examination room. Participants were reminded that their response would not be shown to medical staff and their answers would not impact their quality of care given that day. As discussed, participants in the study were provided a \$5 gift card upon completion of the survey.

In order to obtain a larger sample, patients at the clinic who did not have a medical appointment but met inclusion criteria were called to complete a telephone survey. Participants were called from a private office in the clinic by the researcher and invited to participate in the study. Again, the researcher proceeded with caution when asking patients about their missed appointments because the purpose of the study was not to condemn their actions or make them feel remorseful for missing an appointment. If patients agreed to participate, the researcher informed the participant about the nature of the survey, and the researcher asked for verbal consent before proceeding. The phone interviews were recorded, and the investigator transcribed notes.

Interviews were semi-structured using a script and survey questions, and they were recorded and transcribed to prepare them for analysis. Interviews lasted between five and 10 minutes. Data were collected on an on-going basis over approximately three months. The medical providers did not have access to confidential survey information at any point in the survey nor were given access to any data. Neither were the medical providers involved in the analysis and interpretation of the data.

Measures

For the quantitative portion of the project, descriptive statistics were collected on the following data points: missed, cancelled, and attended appointments from the electronic medical record system, as well as demographic information (e.g., age, gender, race/ethnicity, socioeconomic status).

Open-ended questions for the qualitative interview included questions similar the following: (See forms A and B for a comprehensive list of questions.)

- (1) Thinking about your past experiences, what types of events or situations have kept you from attending your appointments at the community health center?
- (2) When you miss an appointment or are about to miss an appointment, what do you do?
- (3) In the past, what have been the most significant barriers to attending your scheduled appointments? What gets in the way?
- (4) What do you think that community health center could do to help people attend their appointments?

Probing questions were also asked if the interviewee required clarification on the question being asked.

Data Preparation and Analysis

All data were analyzed using SPSS statistical software. In order to address the first research question and compare the demographic characteristics of patients, information about patients who scheduled appointments between July 2017-November 2017 were gathered. Only pertinent demographic information was pulled, including no-show rate, age, race, gender, and zip code. Before analyzing data, descriptive statistics were run on each variable in order to understand the demographic context of the clinic as whole. Next, the researcher utilized linear

regression analysis to determine if a significant difference in age and no-show rate was present. A significant regression equation was computed assuming a significant relationship was found. Lastly, no-show rates and the nominal variables (race, gender, and zip code) were individually analyzed using ANOVA analysis or independent samples *t* test, respectively, in order to find any significant differences.

The researcher then analyzed the qualitative data using a grounded theory procedure and descriptives (i.e., frequencies) to identify emerging patterns or themes among the data. A grounded theory process allows the researcher to examine and analyze data by using three types of coding: open coding, axial coding, and selective coding (Cohen & Crabtree, 2006). The first step, open coding, consisted of creating a complete list of all unique individual themes from the participants' answers to the interview. During the axial coding stage the researcher grouped together similar ideas to identify emerging patterns and relationships among the data (Cohen & Crabtree, 2006). Lastly, during the selective coding stage, data was analyzed again to integrate similar ideas and themes into a final list of overarching groups that increase understanding of the no-show phenomenon among participants in this study (Cohen & Crabtree, 2006). Grounded theory was helpful because it allowed the researcher to identify common barriers to making it to a patient's appointment using patients' words and experiences alone. Therefore, it required the researcher to be open-minded and to "look at the data through many lenses" (Ke & Wenglensky, 2010).

Grounded theory has been criticized by some scholars because of the threat of personal bias (i.e., the researcher may use a personal bias or lens when examining data, which threatens validity of the responses; Sikolia, Biros, Mason, & Weiser, 2013). However, the mixed methods design and data analysis procedure of this study helped to improve creditability and reliability.

The researcher served as an independent coder of the data and has experience as a medical social work intern. However, to increase transparency, the research consulted with the thesis advisor at multiple stages during the analysis. The thesis advisor was a university faculty member who is trained and knowledgeable of qualitative analysis. In addition, the thesis advisor was a clinical social worker in a community health center for three years prior to becoming a university faculty member. Before beginning the analysis, the researcher was trained in qualitative analysis by the faculty advisor. She also developed a procedure with her faculty advisor that if she identified any themes that did not make sense or were contradictory, she would consult with her faculty member about how to proceed. Because of the simplicity of the questions and the clear responses given by participants, no extra consultation was needed. The results present the final themes of the analysis.

Results

Quantitative Sample

A simple linear regression analysis was completed in order to predict participants' no-show rate on the basis of age. The independent variable for this analysis was age, while no-show rate is the dependent variable. A significant regression equation was found ($F(1,1241)=37.372, p < .01$), with an R^2 of .029. The participants' predicted no-show rate is equal to $42.967 + -.308$ (AGE) percent when age is measured in years. The participants' no-show rate decreased .308 percent for each year of age.

[Insert Table 3 here.]

An independent-samples t test was run to determine any significant differences in the mean no-show rates among male and female participants. No significant difference was found ($t(1241) = 2.783, p > .05$). Although slightly higher, the mean no-show rate of the male patients ($M = 28.50\%$, $sd = 28.53\%$) was not significantly different than the mean of female patients ($M = 25.78\%$, $sd = 26.88\%$).

[Insert Table 4 here.]

One-way ANOVA was also used to compare the no-show rates among race/ethnicity. After initial analysis, a significant difference was found among the various groups: white, black or African American, Asian American, and other ($F(3, 1199) = .026, p < .05$). The no-show rates among race did differ significantly, but once the researcher further interpreted the results it was found that the Asian American sample size was too small when compared to the overall sample to meaningfully report the results. The researcher then conducted a more specific analysis of using no-show rates of Black/African American and White patients, excluding the small sample size found with Asian American and other populations. An independent-samples t test was then

run to determine if there was any significant difference of no-show rates between White and Black/African American participants. After completion of this analysis, a significant difference was found ($t(1076) = 2.171, p < .05$). The mean no-show rate of the White participants was significantly lower ($M = 23.67\%$, $sd = 27.9\%$) than the mean of the Black/African American participants ($M = 27.8\%$, $sd = 26.7\%$).

[Insert Table 5 here.]

One-way ANOVA was used to compare the no-show rates among various zip code areas. The zip codes of the patients were recoded into similar geographic areas. Possible geographic areas include: downtown Chattanooga area, suburb of Chattanooga area, outskirts/rural Chattanooga area, North Georgia area, and out of state areas. No significant difference was found ($F(4,1229)=1.06, p > .05$). The no-show rates from different geographic areas did not differ significantly. Participants from the downtown area had a mean no-show rate of 26.62% ($sd = 26.80\%$), and participants from the suburban areas of Chattanooga had a mean no-show rate of 26.33% ($sd = 27.36\%$). Participants from the outskirts/rural Chattanooga had a mean no-show rate of 38.72% ($sd = 38.11\%$), while participants from North Georgia had a mean no-show rate of 22.82% ($sd = 25.12\%$). Lastly, participants from out of state areas had a mean no-show rate of 14.62% ($sd = 13.96\%$).

[Insert Table 6 here.]

Qualitative Sample

The grounded theory procedure was repeated on three questions the coded responses and a frequency count of the number of participants follows.

Barriers impacting access to care. Participants in the qualitative portion of this study were asked a series of open-ended questions to determine barriers impacting access to care.

Responses were short and coded to identify overall themes, including family, personal issues, and societal barriers. In this sample, four (13.3%) participants missed because of family barriers, which consisted of not having adequate childcare or dealing with the ill health of a family member. 13 (43.3%) missed appointments because of personal issues including specific themes of work, school, conflicting appointments, and forgetfulness. Nine (30%) of participants reported missing due to societal barriers including transportation, money, and insurance status (e.g. lack thereof or high copay amounts). Four (13.3%) participants did not respond to the prompted question.

[Insert Table 7 here.]

Participants were also questioned about familiarity with the social services already provided by the community health center for these services provide medication assistance, basic case management, and insurance counseling. Of the participants surveyed, 63.3% of the participants were unfamiliar with the social services provided, meaning only 36.7% were familiar.

[Insert Table 8 here.]

Patient perception. When asked about how many appointments have been missed by the participant, 70.0% ($n = 21$) of the participants reported missing two or less, and 30% ($n = 9$) of the participants reported missing three or more scheduled appointments. Twenty-three percent ($n = 7$) of participants reported doing nothing when asked what they most commonly do when they miss an appointment, while 16.7% reported doing something else. Sixty percent ($n = 18$) of participants reported that they call to reschedule the appointment, and 16.7% ($n = 5$) responded they did something else. Fifty percent ($n = 15$) of appointments were made over the phone and 26.7% ($n = 8$) were made in the office. The remaining 23.3% ($n = 7$) of appointments were made

by a third party. When asked if the participant received reminder phone calls about upcoming appointments, 16.7% indicated they did not, 10% disclosed they received calls on occasion, and 73.3% of participants reported they did receive reminder phone calls.

[Insert Tables 9-12 here.]

Descriptive statistics were utilized to understand the patient perception about the appointment-making process and the community health center as a whole. Twenty-nine participants were asked a series of statements prompted the participant to say whether he or she agreed, disagreed, or neither with the statement. One participant refused to participate in this part of the survey; therefore, $n = 29$ total participants completed this portion of the study. A frequency distribution test was run that indicated 100% ($n = 29$) of the participants agreed that the appointment making process at the community health center was easy and convenient. Other areas of increased patient satisfaction included 96.6% ($n = 28$) of participants agreeing the staff is always friendly and welcoming, 93.1% ($n = 27$) of participants agreeing they would refer the health center to a close relative or friend, and 93.1% ($n = 27$) of participants agreeing that the services provided by the community health center were timely and affordable. In addition, it was found that 17.2% ($n = 5$) of participants would not agree that the community health center is their first choice for preventative health care, and 13.7% ($n = 4$) of participants did not agree that they were confident they were receiving the highest level of health care from the community health center.

[Insert Table 13 here.]

Needed resources. Participants were asked a series of open-ended questions about needed resources. The data collected was analyzed using grounded theory techniques as a process for identifying the emerging themes among the data. Participants were also asked how

the community health center might improve to make the appointment-making process more convenient. 43.3% ($n = 13$) of participants reported minimal facility improvements would help make the process more convenient. Responses under this theme included improvements in reminder phone calls, competence of staff, and overall facility processes such as schedule hours. 50% ($n = 15$) of participants indicated that they were pleased with how appointment-making process worked and denied need for improvement. Subthemes throughout this percentage included ideas about the patient being responsible for making keeping scheduled appointments and patient satisfaction. 6.7% ($n = 2$) of participants discussed societal improvements needing to be made to help make the appointment making process more convenient. Societal improvements included access to reliable transportation.

[Insert Table 14 here.]

Discussion

Demographic Differences Among No-Show Rates

The first research question of this study was to determine whether demographic variables were associated with or explained the differences in no-show rates. Age was a significant predictor of no-show rate, as the no-show rate decreased as participants got older. However, no significant differences in no-show rate and gender were found. There were significant differences in no-show rate in race, as White participants had a lower mean no-show rate than Black/African American participants. Finally, geographic location did not significantly explain differences in no-show rates.

The finding that the no-show rate decreased as participants' age increased is similar to previous research. For example, Fiorillo and colleagues (2018) found that younger patients tended to have higher rates of nonattendance. These findings can possibly be explained by the fact that younger individuals tend to have less significant health concerns than older adults. For example, 6.3% of adults aged 18-44 years of age are in fair or poor health (Centers for Disease Control and Prevention, 2015). In comparison, 13.5% of adults 45-54 are in fair or poor health while a much larger portion, 21.8% of older adults age 65 and up, are in fair or poor health (Centers for Disease Control and Prevention, 2015). Therefore, it can be argued that because younger adults have less significant health concerns, keeping scheduled appointment could be less of priority for a younger patient.

This study also found that there is no significant difference between no-show rate and gender. Previous research examining no-show rates and gender has been mixed. For example, Fiorillo et al. (2018) found no significant difference between gender and no-show rates. On the other hand, Huang et al. (2015) reported that men tend to display higher rates of no-show

appointments. National trends may explain these findings. The Center of Disease Control and Prevention (2015) reported that approximately 61%, 27%, and 12% of males have excellent/very good, good, or fair/poor health statuses, respectively. Similarly, 60%, 27%, and 13% of females have excellent/very good, good, or fair/poor health statuses, respectively (The Center of Disease Control and Prevention, 2015). If females and males report similar health statuses, perhaps this is related to their no-show rate as well, they may be similarly likely to keep or miss an appointment.

Similar to previous research, this study found that Black/African American participants had a significantly higher no-show rate than White participants. Previous research has identified that African American patients accounted for 70% of the individuals with high no-show rates (Samuels et al., 2015). In addition, Shimostu and colleagues (2016) found that Black/African American patients were 1.82 times more likely to miss an appointment as compared to White patients. This phenomenon could be explained by the racial barriers faced by Black/African American patients, such as higher rates of being uninsured (Centers for Disease Control and Prevention, 2016) and higher rates of poverty (U.S. Census Bureau, 2015). Previous research indicates that patients with no insurance or with below-poverty level incomes are more likely to demonstrate higher no-show rates (Huang, et al., 2016).

Huang and colleagues (2016) found that the highest no-show rates were found in the lowest median income zip code. However, this study found no significant difference in no-show rates based on geographic regions. Perhaps this study found no significant difference in zip codes because a large portion of community health center patients are classified as low-income individuals to begin with. Huang et al. (2016) suggested that individuals located within low

income zip codes have higher no-show rates. However, perhaps this study suggests that significant differences in no-show rate are more related to income than geographic location.

Barriers impacting access to care

The secondary research question was structured to uncover the barriers impacting access to care. After utilizing a grounded theory procedure to interpret patient answers from a qualitative survey, the biggest barrier impacting access to care are personal issues. Societal barriers such as transportation and insurance status were other factors that had a significant impact on a patients' ability to attend a scheduled appointment. It was also interesting that a majority of patients were unfamiliar with social services provided by the health center. Social services provided at the health center are tailored to increasing access to care by helping overcome these societal, personal, and family barriers, so lack of knowledge about these services may also be impacting patients' access to care.

Similar to previous research, personal issues topped the list for reasons people may be missing appointments. Samuels et al. (2015) found that 41% of participants reported that personal issues, such as work and forgetfulness, were the primary reasons a patient might miss a scheduled appointment. A possible explanation for a high number of patients missing appointments due to personal reasons could be a consequence of individuals not feeling physically sick at the time of the appointment. Therefore, not feeling symptoms of illness does not justify the individual missing work or school. Samuels and colleagues (2015) reported high no-show rates on pediatric patients missing scheduled well visits because the caregiver reported the child appeared to be in excellent health at the time of the appointment. Similarly, a study completed on adults reported that attending scheduled appointments was associated with patients experiencing immediate symptoms of illness (Lacy et al., 2004).

Additionally, transportation problems made a significant impact on patients' not being able to attend an appointment. Similar to previous research, it was found that 20% of participants indicated issues with transportation as a barrier to making appointments (Samuels et al, 2015). This is comparable to the 30% who experienced societal barriers, such as transportation, in this study. One possible explanation for this findings could be lack of public transportation to patients who come from areas outside city limits, which could reduce appointment attendance (Molfenter, 2013). Another explanation for why individuals may be experiencing transportation issues could be due to inconsistent rides and expensive costs for cabs or rideshare companies such as UBER or Lyft (Chaiyachati et al., 2018). According to UP HAIL (2018), a website that compares rideshare and cab costs in the Chattanooga area, the cost of a cab to a location within a 10-mile radius would average \$40-48 each way. Comparatively, an UBER or Lyft ride would average \$13-18 each way (UP HAIL, 2018). Therefore, transportation barriers could also be the result of a patient lacking adequate financial resources to pay for expensive transportation services if he or she lives outside public transportation limits.

It may be easy for someone who is reviewing this study to assume that there is one reason a patient may be missing a schedule appointment. For example, the patient may have reported that lack of transportation was a barrier making them miss an appointment, but in reality the reason he or she missed an appointment was the product of a combination of barriers. The patient who missed because of transportation might also be missing because he or she forgot to call his or her ride in a timely manner or might also be experiencing family barriers that are also impacting him or her from getting to the appointment. Research has shown that is the combination of barriers the influences the ability of a patient to attended scheduled appointment, not individual barriers alone (Arndorfer et al., 2011).

Previous research seems to counter this study's finding that a small number of patients are familiar with the social services provided by the community health center. Part of the qualification for being a community health center is to provide social services that help individuals overcome barriers to access to care (Taylor, 2004). Therefore, it is interesting that even though the clinic provides social services, few know about them. Research has found compounding benefits of social services in helping community health centers improve health outcomes, and medical providers in a community health center understand the importance of integrating enabling services to achieve health outcomes for patients (Institute for Alternative Futures, 2012). The primary goal of providing social services is to combat the combination of low incomes and poor health status faced by many community health center patients (Taylor, 2004). A possible explanation for the low number of people unfamiliar with the social services provided by the clinic is that patients might not have known the official name for these services. They may be familiar with parts of the social services provided but the official title of "social services" might be a misnomer for them.

Patient perception

It was important to understand the patient experience in order to understand participants' perceptions. Participants in the study were asked about appointment processes and how they may schedule appointments. A majority of patients scheduled appointments by phone, and even still a large proportion of patients scheduled appointments while in the office. When asked about how many appointments patients remember missing, the majority of people reported missing less than two scheduled appointments. Also a small number of individuals reported not receiving reminder phone calls or only sometimes receiving them about future appointments.

When exploring the patient perceptions about the health center as a whole, descriptive statistics allowed the researcher identify areas in which improvement could be made. It was unanimous that the appointment making process was easy and convenient, yielding no reported concerns for improvement. Staff and promptness of services also scored high with patient satisfaction. However, multiple patients indicated that the health center was not the first choice for preventative care, and there were patients who also indicated that they did not agree that they were receiving the highest level of health care. These findings highlight areas in which improvements might help improve the no-show rates.

In regards to patient perception, previous research found similar findings when exploring the patient experience in community health centers. Findings of one study identified that a large percentage of patients (86.9%) reported receiving reminders about appointments (Cook et al., 2015). Also congruent with previous research, a large percentage of respondents indicated that the staff was friendly and welcoming. A previous study found that overall patient satisfaction was driven by positive interactions with staff and found that 100% of patients at a community health center reported satisfaction with staff interactions (Israr, Awan, Jan, Ahmad, & Ahmad, 2016). Another study also found similar findings in a patient's confidence in receiving the highest level of care, as 74% of respondents were satisfied with the competence of their doctors (Singh, Haqq, & Mustapha, 1999). This is lower but still comparable with the 86.3% of participants in this study who were satisfied with level of care.

High rates of patient satisfaction can be explained by the focus of community health centers, which is to be responsive to community and patients needs (Taylor, 2004). The utilization of patients on the governing board encourages a patient-centered approach to healthcare (Taylor, 2004). Positive reports of patient satisfaction allow the researcher to

understand patient experience and helps the clinic feel confident that the health care they provide is patient-centered (Cook et al., 2015). Because community health centers have a history of embracing a culture that celebrates patient involvement in care (Cook et al., 2015), it is not surprising to find high levels of patient satisfaction in this study.

Needed resources

Half of the responses in this study indicated that no resources were needed to improve the appointment making process at the community health center. Participants who indicated no improvements needed to be made referenced that they (i.e., the patient) were to blame for missed appointments. A large percentage indicated that minimal improvements might help make the processes of scheduling appointment more effective and, consequently, might improve no-show rates. Some suggestions patients had for improvement included the community health center implementing an improvement appointment reminder process, perhaps by texting or emailing reminders. Participants also suggested more flexibility in appointment times by allowing appointments to be made later in the day. Reliable transportation was another suggestion for improving the appointment process at the community health center.

Previous research agreed that improvement in the appointment reminder system could yield improvements in no-show rates. Woods (2011) implemented reminder phone calls and monitored significant improvements in the no-show rate after implementation. However, it is important to note that reminder phone call processes are already in place at this clinic in this study, but further improvements in how the reminders are sent to patients might be beneficial. An alternative tactic of reminding patients other than traditional phone calls or mailed appointment cards was proposed by Nowacki (2014). He suggested utilizing email or text message reminders, which is also a tactic proposed by participants in this study. A desired

change in the appointment reminder system could be explained by the advancement in how people communicate. With text messaging becoming primary method of communication for adults (Newport, 2014), it is only sensible that reminders for appointments should be congruent with primary methods of communication.

Recommendations to allow later times for available appointments and ensuring appointments are on-time are also consistent with previous research. For example, Stephens (2005) found that it is important to patients that appointments stay on time and allow opportunities to be scheduled later in the day. This can be explained by the patient not wanting to waiting hours for a check-up visit to be completed. The Institute for Healthcare Improvement (2018) suggests that appointment lengths should be appropriate to the service being rendered in order to avoid overlaps with other appointments. Also, extending clinic hours could help working individuals attend appointments after working hours, making the appointment process more convenient.

Improving access to reliable transportation is also congruent with previous research in that patients are experiencing difficulties in keeping scheduled appointments due to logistical barriers such as transportation (Arndorfer et al., 2011). Perhaps transportation is a problem for patients because it is often inconsistent and expensive (Arndorfer et al., 2011). Even with the growth of rideshare companies in primary care settings, which aim to provide transportation to patients who may have scheduled appointments, research has shown minimal improvements in no-show rates after implementation of rideshare services (Chaiyachati, Hubbard & Yeager, 2018). In addition, research has found that it is the combination of barriers faced by an individual that determines the no-show of an appointment, not transportation alone (Arndorfer et al., 2011).

Limitations

While the findings of this study are significant and relevant to the clinical setting, there are limitations present that may interfere with validity and reliability of the results. It was found toward the conclusion of the study that the individual no-show rates that were provided to the researcher are a percentage of appointments missed throughout an entire health system that the clinic is associated with, not necessarily the percentage of appointments missed specifically missed at the individual health center. For example, if a patient was referred to see a specialist within the same health system and missed an appointment at that office, the patient's no-show rate would be reflective of that missed appointment. The inaccuracy of no-show rates that do not truly reflect the rates of missed appointments at the health center may allow room for error in analysis.

Another limitation that was discussed earlier in the study included participant bias. Participant bias is the tendency of participants to consciously or subconsciously provide answers in a way that they think a researcher wants them to respond. When a participant knows that responses are being recording, there is always a risk with the patient not providing truthful answers for fear of being ostracized. The study involved asking probing questions that when not asked with careful consideration could be misinterpreted by the participant as patronizing. If the participant felt uncomfortable with the questioning, they may also not disclose accurate answers, impacting reliability of findings.

Lastly, the limited sample size in the qualitative study is also a limitation experienced in this study. The original plan was to include up to 100 participants in the qualitative study, however, the researcher experienced great difficulties in contacting patients who met eligibility criterion. The research contacted upwards 300 eligible candidates for the study, but often the phone number on file would be incorrect, or no one would answer the call. Therefore, it is

difficult to generalize findings of this study to the overall clinic because the sample size was limited.

Implications and Recommendations

The results of this study present numerous implications and recommendations for future practice and research. The qualitative results provide meaningful insight into the personal and societal barriers impacting patient access to care while the quantitative results provide context in the patient experience. Combination of both quantitative and qualitative results allow the researcher to recommend interventions that accurately utilize findings of this study. Since the purpose of the study was to uncover reasons behind the no-show phenomenon, it is also appropriate to discuss interventions that may improve the high no-show rates and overall clinic functionality. Recommendations include implementation of a program providing transportation, increasing exposure of social services provided by the clinic, educating patients on the importance of preventative health care, minimal facility improvements, and future research.

One recommendation for improving no-show rates includes implementation of a program that will provide transportation to patients with scheduled appointments. There are significant financial concerns when backing such a costly endeavor, but providing transportation in order to improve access to appointments might have compounding benefits to the health center as a whole. However, the quantitative data discloses that there is no significant difference in no-show rate among zip codes. Therefore, transportation through a shuttle service might not be the most appropriate form of intervention. Instead, applying for grants that can provide funds for cab or bus vouchers could benefit patients with limited resources.

Increasing exposure of the social services that the clinic provides could also benefit patients who are experiencing challenges when keeping scheduled appointments. Social workers

and outreach coordinators could become a more integral part in helping overcome no-show rates by following up with patients who repeatedly miss appointments and provide support and resources to those that need it. Additionally, marketing such as posters and business cards can be placed in patient rooms for the patients to see. The doctor may not identify a social need during the visit, but these visual reminders could inform patients of social services provided by the clinic and encourage them to contact the outreach department should a need arise.

A large number of patients missed scheduled appointments due to personal issues such as forgetfulness. A health education campaign focused on educating patients on the importance of preventative health care could help deter patients from missing because of personal issues. If a patient understood the implications of missing a scheduled appointment, he or she may become likely to remember upcoming appointments and find ways to alleviate barriers inhibiting them from coming. Likewise, health education could help the patient feel more involved in their health which may be the encouragement he or she needs to attend scheduled appointments.

The clinic could implement minimal facility improvements that may have great effects on the clinic as a whole. These improvements include making the appearance of the clinic aesthetically pleasing to instill a sense of high level of care. The clinic could also update how they choose to remind patients of upcoming appointments by: 1) always making sure the patient's phone number is correct upon each visit and 2) implementing email and text message reminders. The clinic could also extend hours in order to accommodate patients who may have work interfering with appointments. Lastly, the clinic could make sure doctors and staff are completing scheduled appointments in accurate and timely manners in order to minimize wait times and increase patient satisfaction.

Perhaps the biggest implication of this study would be to encourage the clinic to take the findings of this study and allow it to prompt future research studies. Using the findings of this study as a base line, future research could improve limitations that were faced in this study and complete a research study more robust in nature. Also, the clinic could use data from this study to evaluate the effectiveness of strategies they may implement in the future to combat the no-show phenomenon. Future research could increase sample sizes in order to identify additional barriers that patients may be facing and also uncover other strategies to increase patient satisfaction and decrease no-show rates.

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APPENDIX A

Table 1. *Simple Descriptive Statistics of Demographics Characteristics of Patients with Scheduled Appointments from July 2017 - November 2017*

Category	N (%)	Mean(Range)
Age		52.3 (89)
Gender		
Male	487 (38.7)	
Female	772 (61.3)	
No-Show Rate		26.8% (100%)
Race/Ethnicity		
Black/African American	806 (64.0)	
White	279 (22.2)	
Asian American	19 (1.5)	
Other	108 (8.6)	
Zip Code		
Downtown	760 (60.4)	
Suburban	396 (31.5)	
Rural	25 (2.0)	
North Georgia	55 (4.4)	
Out of State	9 (0.7)	

Table 2. *Simple Descriptive Statistics of Demographics Characteristics of Participants in Mixed Methods Survey*

Category	N (%)	M (Range)
Age		47.0 (44)
Gender		
Male	9 (30)	
Female	21 (70)	
Race		
Black/African American	25 (83.3)	
White	4 (13.3)	
Asian American	0	
Other	1 (3.3)	

Table 3. *Simple Linear Regression Analysis Comparing No-Show Rates and Age*

Variable	<i>B</i>	<i>SE B</i>	β
Age	-.308	.050	-.171
R^2		.029	
<i>F</i> for change in R^2		.028	

* $p < .05$. ** $p < .01$. (2-tailed)

Table 4. *Independent Samples *t* Test Analysis of No-Show Rates Among Male and Female Patients*

Gender	n	Mean	SD	<i>t</i>	p
Male	483	28.50%	28.53%	1.70	.089**
Female	760	25.78%	26.88%		

** $p > .05$ (two-tailed)

Table 5. *One-Way Analysis of Variance in No-Show Rates by Race*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	3	6663.91	2221.30	3.087	.026
Within Groups	1199	862706.51	719.52		
Total	1202	869370.42			

Table 5.2. *Independent Samples t Test Analysis of No-Show Rates Among Black or African American and White Patients*

Race	n	Mean	SD	<i>t</i>	<i>p</i>
Black or African American	800	27.76%	26.75%	2.171	.030**
White	278	23.67%	27.86%		

** $p < .05$ (two-tailed)

Table 6. *One-Way Analysis of Variance in No-Show Rates by Zip Code Areas*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	4	5627.94	1406.99	1.91	.106
Within Groups	1229	903589.57	735.22		
Total	1233	909217.51			

Table 7.1. *Grounded Theory Results for Barriers Inhibiting Access to Care*

Selective	Axial	Sample Quotes
Family Barriers	Sick Family Members	“I have a child and sometime he gets sick or sometimes I have to take care of my sick daughter.” - Q5 P27
	Lack of Childcare	“No sitter.” - Q5 P12
	Family Emergencies	“I had a family emergency. I had to babysit for family.” - Q5 P5
Personal Issues	Trouble Remembering	“Forgetting the appointment.” - Q5 P11
	Work	“I am a truck driver, so it is hard for me to keep scheduled appointments sometimes.” - Q5 P19
	Personal Illness	“My thing is a lot of times with my diabetes my body is sore and I don't wanna get out of bed. So I'm not feeling good.” - Q5 P2
	Conflicting Appointment	“I have another appointment scheduled on that same day.” - Q5 P6
	School	“School.” - Q5 P18
	Money	“Probably might be because of work or no money. Something like that.” - Q5 P17
Societal Barriers	Transportation	“I don't drive now. Sometimes my ride will be sick. Or sometimes we don't have money to put gas in the car.” - Q5 P13
	Insurance	“A lot of times I am unable to get up there. I also don't have any insurance anymore.”- Q5 P4

Table 7.2. *Frequencies for Themes in Barriers Inhibiting Access to Care*

Selective Themes	<i>N (%)</i>
Family Barriers	4 (13.3)
Personal Issues	13 (43.3)
Societal Barriers	9 (30)
Other	4 (13.3)
Total	30 (100)

Table 8. *Frequency Results for Familiarity with Social Services Provided by the Community Health Center*

Themes	<i>N (%)</i>
Familiar with Social Services	11 (36.7)
Unfamiliar with Social Services	19 (63.3)
Total	30 (100)

Table 9. *Frequency Results for Number of Appointments Missed*

Themes	<i>N (%)</i>
Patient has missed two or less appointments	21 (70.0)
Patient has missed three or more appointments	9 (30.0)
Total	30 (100)

Table 10. *Frequency Results for What Patient Does When Missing an Appointment*

Themes	<i>N (%)</i>
Patient does nothing	7 (23.3)
Patient reschedules	16 (60.0)
Other	5 (16.7)
Total	30 (100)

Table 11. *Frequency Results for How Patient Schedules Appointments*

Themes	<i>N (%)</i>
Over the Phone	15 (50.0)
In the Office	8 (26.7)
Other	7 (23.3)
Total	100

Table. 12. *Frequency Results for If Patient Receives Reminder Phone Call*

Themes	<i>N (%)</i>
Yes	22 (73.3)
No	5 (16.7)
Occasionally	3 (10.0)
Total	30 (100)

Table 13. *Frequency Distribution of Questions Regarding Patient Perception*

Category	N (%)
Appointment process is easy and convenient	
Agree	29 (100)
Disagree	0
Neither	0
Staff is welcoming and friendly	
Agree	28 (96.6)
Disagree	0
Neither	1 (3.4)
Patient would refer the community health center to others	
Agree	25 (86.2)
Disagree	1 (3.4)
Neither	1 (3.4)
The community health center is the patient's first choice for preventative health care	
Agree	24 (82.8)
Disagree	3 (10.3)
Neither	2 (6.9)
The services provide the community health center are timely and affordable	
Agree	27 (93.1)
Disagree	1 (3.4)
Neither	1 (3.4)

Table 14.1. *Grounded Theory Results for Resources Needed to Improve No-Show Rates*

Selective	Axial	Sample Quotes
Patient Satisfaction	Good Process	“There is nothing. The process was easy, and I was happy with how it was completed.” - Q8 P24
	Personal Responsibility	“There’s nothing they can do. It’s not their fault that I can’t make the appointments.” - Q8 P19
Facility Improvements	Later Appointment Times	“There's nothing they can do. As far as making appointments and such. Maybe making it in the later part of the day. Might give me a chance to make it. They do their part though.” - Q8 P9
	Reminders	“On the day before the appointment in the evening time, they should call and see if you will be able to keep your appointment. Or they should call early in the morning before I come to check.” - Q8 P7
	Schedule in Advance	“I like it when they make the appointment for me. I don't do walk-ins.” - Q8 P3
	Staff Competence	“Well I think they need to have more patience. Like sometimes I call them and ask a question, and I kept getting connected to the wrong office.” - Q8 P17
	Timely Processes	“Well I don’t think it has anything to do with them. I would just say make sure you’re on time. And make sure the appointments are arranged timely and correctly.” - Q8 P15
Societal Improvements	Transportation	“Well sometimes. They used to have a bus to pick up you, but they don’t now. So I have to catch the bus and then walk there.” - Q8 P27

Table 14.2. *Frequencies for Selective Themes in Resources Needed to Improve No-Show Rates*

Selective Themes	<i>N</i> (%)
Facility Improvements	13 (43.3)
No Change Needed	15 (50.0)
Societal Improvements	2 (6.7)
Total	30 (100)

APPENDIX B

Form A: Survey – In-Person Version**Purpose of Survey**

The purpose of the survey would be to address the factors that impact the no-show rate at community health center. The no-show rate refers to the percentage of patients that do not attend their scheduled appointments.

Completing this survey is voluntary and your participation can be withdrawn at any time. Your answers will remain completely anonymous and no identifying information will be included in the final report. Please know that your participation is extremely important, as the results of this survey will be used to help determine strategies that will help overcome the no-show rate. The time required to complete this survey is approximately 10 minutes or less.”

SECTION ONE: APPOINTMENT PROCESS

1. As a patient at this community health center, have you ever been unable to attend a scheduled appointment?

- Yes
 No

2. What do you most commonly do when you are unable to attend a scheduled appointment?

3. Approximately how many scheduled appointments were you unable to attend? _____

4. Do you receive reminder calls about your upcoming appointments?

- Yes
 No, if not what is your telephone number? _____

5. What are some reasons you may not be able to keep your scheduled appointment?

7. Are you familiar with the social services, such as insurance counseling and medication assistance, provided by this community health center?

- Yes
 No

8. How do you schedule your appointments?

9. What do you think this community health center should do to make the appointment making process more convenient?

SECTION TWO: OVERALL PERCEPTIONS

Please indicate your level of agreement with the following statements:

(a) The scheduling appointment process at this community health center is easy and convenient.

- Disagree
- Neither agree nor disagree
- Agree

(b) The staff at this community health center is always friendly and welcoming.

- Disagree
- Neither agree nor disagree
- Agree

(c) I would refer this community health center to a close relative or friend.

- Disagree
- Neither agree nor disagree
- Agree

(d) I feel confident I am receiving the highest level of health care from this community health center.

- Disagree
- Neither agree nor disagree
- Agree

(e) This community health center is my first choice for preventative health care.

- Disagree
- Neither agree nor disagree
- Agree

(f) The services this community health center provide are timely and affordable.

- Disagree
- Neither agree nor disagree
- Agree

SECTION FOUR: QUESTIONS AND CONCERNS

Finally, what questions, comments, concerns, or suggestions do you have about the scheduling appointments process at this community health center?

Form B: Survey – Telephone Version

1. As a patient at this community health center, have you ever been unable to attend a scheduled appointment?

- Yes
 No

2. What do you most commonly do when you are unable to attend a scheduled appointment?

3. Approximately how many scheduled appointments were you unable to attend? _____

4. Do you receive reminder calls about your upcoming appointments?

- Yes
 No, if not what is your telephone number? _____

5. What are some reasons you may not be able to keep your scheduled appointment?

7. Are you familiar with the social services, such as insurance counseling and medication assistance, provided by this community health center?

- Yes
 No

8. How do you schedule your appointments?

9. What do you think this community health center should do to make the appointment making process more convenient?

OVERALL PERCEPTIONS OF THE COMMUNITY HEALTH CENTER

Please indicate your level of agreement with the following statements:

(a) The scheduling appointment process at this community health center is easy and convenient.

- Disagree

- Neither agree nor disagree
- Agree

(b) The staff at this community health center is always friendly and welcoming.

- Disagree
- Neither agree nor disagree
- Agree

(c) I would refer this community health center to a close relative or friend.

- Disagree
- Neither agree nor disagree
- Agree

(d) I feel confident I am receiving the highest level of health care from this community health center.

- Disagree
- Neither agree nor disagree
- Agree

(e) This community health center is my first choice for preventative health care.

- Disagree
- Neither agree nor disagree
- Agree

(f) The services this community health center provide are timely and affordable.

- Disagree
- Neither agree nor disagree
- Agree

SECTION FOUR: QUESTIONS AND CONCERNS

Finally, what questions, comments, concerns, or suggestions do you have about the scheduling appointments process at this community health center?