2023

# Impacts Of Mobile Health Technology on the African American Millennial Health Care Experience

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Abstract

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# Abstract

African Americans are underrepresented and have limited access to health care in the United States due to systemic disparities. The purpose of this qualitative phenomenological study was to develop a better understanding of the relationship that African Americans have with the health care system and the way they interact with it as well as to examine the impacts of mobile health (mHealth) patient engagement applications and their impact on shaping health experiences amongst millennial African Americans. Research questions addressed African American millennials' perspectives on potential barriers to utilizing health care in the U.S. health care system as well as consideration of predisposed characteristics of the African American population and the impact of patient engagement applications in shaping access to health care. The Andersen behavioral model of health services was used as the conceptual framework. Data sets were developed using electronic surveys from a sample size of 16 African American millennials (defined as those born between 1981–1996) who attested to having interacted with the U.S. health care system within the last 6 months to 1 year. NVivo was used to analyze survey results and a word-based approach was used to identify themes (defined as commonly used words from responses). Results indicated that while some access limitations still exist, overall access to basic health care services was more readily available than specialty care services. Social change implications include encouraging a systemic shift to focus on implementing strategies that facilitate the use of technology as a catalyst to address this type of change in improving the access to and utilization of health care amongst African Americans.

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# Dedication

I dedicate this research to my supportive family: my husband Herbert, and my parents James and Sherry. Your support throughout this entire process has been unequivocal. Your vocal and silent prayers through the times in which my health was well and times when my health was not so well. For sure this journey has been turbulent, yet your unwavering support has been paramount. I extend my love to you all. Most importantly, thank you Lord; thank you.

# Acknowledgements

To my Walden University family, thank you for building a community in which I could thrive and feel supported. To my committee members, Chair Dr. Chris Miller, and Member Dr. Sally Willis, thank you for the continued guidance, your patience and constant encouragement, especially nearing the end of this process. Your support helped me managed through some very challenging times. To my dear friend Dr. Marco Barker, thank you for being an ear when needed and a voice of reason.

I would also like to acknowledge partner in life, my husband Herbert, who willingly allowed our family to pack up our life and move halfway across the Country to advance my career while also continuing to work through the PhD process. I am certain it was not easy starting life over in a new place. It came with its challenges, but you were a Rockstar.

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# Chapter 1

The African American population remain one of the most distressed consumer groups in health care facing continued hardships related to access and quality of care (Bowser, 2015). While efforts in the United States continue to focus on health care utilization frameworks targeting improvements to accessibility and affordability of care, health care researchers continue to highlight factors that impact the African American health care experience negatively, including economic stress, emotional stress, race, treatment of people of color by medical professionals, and residential demographics (Schrager, 2020).

African Americans remain a population that underutilizes health care (Shields, 2016). There is little understanding regarding how health care technological advancements such as mobile applications might aid in enhancing their overall health care experiences. Recent studies have shown that among technology users, African American millennials engage with mobile technologies at high rates. Lynn (2016) stated that among African American millennials, a total of 55% admit to spending at least an hour every day on social media (this is 11% greater than millennials from other racial groups), and 91% admit to accessing the internet via smartphones (6% more than other cultures and races). Considering individuals' engagement in health care through those avenues could produce favorable evidence for how the use of mobile health (mHealth) patient engagement apps affects their health care interaction and utilization behaviors.

The perception of health care in the United States amongst African Americans influences their experiences in utilizing care. Due to these varying perceptions, it is important to explore ways of understanding the lived experiences of African Americans and their engagements with the health care system. Previous attempts to understand those experiences have been focused on ensuring health care policies address health access inequities to improve overall health care experiences for African Americans (Adegboyea, 2016). Policy changes are only part of the solution; therefore, research is also needed on understanding the day-to-day lived experiences of African Americans and how those experiences shape their health care reality in the United States.

## Background

Technology continues to be considered a driving force in the health care field, impacting changes in inequitable delivery health care models and access to care (Weiss et al., 2018). As technological tools become more prevalent, eHealth innovations, like mobile technologies, are being employed to help close gaps of engagement in the health care realm between communities and the system itself. Lee (2015) stated that eHealth innovations, like mHealth technologies, can help strengthen the collaborative health agenda and prove useful for people of color if proper investments are made.

Among those who experience inequitable access to health care, African Americans experience the steepest roadblocks. Brown et al. (2017) noted that African Americans make up roughly 13.3% of the U.S. population yet hold a disproportionate burden of inequitable and/or poor health outcomes, care quality, and treatment results. The goal of this study was to improve the understanding of the relationship that African Americans have with the health care system, specifically the ways in which they interact with it. I had a specific focus on developing a better understanding of the impacts of how

African American millennials engage with the health care system. The findings can serve as guidance for developing processes to help the health care community work more collaboratively with the African American community and identify new opportunities for strategic engagement focused on bettering this population's health care experiences using mHealth patient engagement applications.

## Problem Statement

Current literature shows that while efforts are being made to increase the accessibility of health care throughout the United States, racial identity and health care preferences among many other influences continue to impact the utilization of care. Namely, African Americans' experiences in the health care system are dictated in large part by their perceptions of racial discrimination, which lead to systemic behaviors of less than favorable utilization of health care services (Stepanikova & Oates, 2017). For example, the introduction of patient portal technologies served as means to increase patient utilization of health care; however, demographics, like age, income, and geographic regions, impacted the use of these systems negatively (Lyles et al., 2017). Those socioeconomic and demographic elements were not direct considerations.

People of color, such as African Americans, remain at large a group that continues to under engage with health care. Among this group, particularly African American males continue to experience obstacles and barriers that impede access and utilization to care (Williamson et all., 2019). When addressing the underutilization of health care, research must expand beyond the core tenants of health care delivery and focus on uncovering specific correlations between health care technology and its impacts on the African American health care experience through evaluating one of the most active groups of technology consumers in this racial group. Therefore, in this study I explored the use of patient-facing mHealth patient engagement applications and their potential impacts on health care utilization amongst African American millennials.

## Purpose of the Study

The purpose of this qualitative study was to examine the impacts of mHealth technology on the health care experiences of African American millennials. Technology continues to provide various ways for people to interact with the health care system, including ways that did not exist prior to the advent of this health technology. Currently, technology continues to be introduced to the health care space creating newly enhanced opportunities to improve provider-patient engagement relationship and overall health care utilization. The goal of this study was to develop a better understanding of African American millennials' utilization of the health care system and how the use of mHealth technologies impacts their experiences doing so. It was critical to explore this phenomenon to fully understand the value of health care in the African American community who have a long history of disproportionate availability of care. I employed a phenomenological approach to enhance the understanding of African American millennials' perceptions of their use of mHealth technology, access to health care, and health care utilization.

## Research Questions

The following research questions guided this study:

Research Question 1: What do African American millennials view as potential barriers to access to care as it relates to their lived experiences and demonstrated behaviors toward the U.S. health care system?

Research Question 2: In considering predisposed characteristics of the African American population, what role do technological advancements, such as mobile health care patient engagement applications, play in African American millennials' access to equitable care throughout the U.S. health care system?

## Conceptual Framework

With an emphasis on societal factors and their impact on the health care experience, I used the Anderson behavioral model (BM) of health services as the conceptual framework in this study to evaluate the interactions of African American millennials and their experiences with the U.S. health care system. The BM is a multilevel approach to understanding health care behavior relative to health care utilization and social determinants (Hong et al., 2019). Given that health care engagement among African Americans is lower than that of other racial groups, the focus of Andersen's BM on predisposing characteristics that influence health care utilization may enable an understanding of how to facilitate African Americans' engagement in the health care system (Hong et al., 2019). The Anderson BM has evolved over time to position its focus on access to care based on the four pillars of potential access, realized access, equitable access, and inequitable access, with a specific focus on the individual's experience with access to care (Hong et al., 2019). The BM aided the current study by providing a contextual lens through which to view how the behaviors of African

American millennials shape their experiences with health care in the United States and how those experiences can contribute to the larger understanding of health care engagement among the African American population.

A recent Australian use case of Andersen's BM for evaluating preventive health care focused the individual as the unit of analysis and extended beyond health care utilization (Hong et al., 2019). The BM's pillars of influence helped me directly address how African American millennials' perceptions of barriers to health care access and mHealth patient engagement application technologies impact their experiences engaging with the health care system.

## Nature of the Study

In this phenomenological study, I explored the health care utilization behaviors of African American millennials and how those behaviors impact their experiences with the U.S. health care system. The phenomenological approach is used to examine relationships between the phenomena of interest as it relates to the population of interest and their life experiences (Ravitch & Carl, 2016). Furthermore, researchers use the approach when they seek to evaluate and bring meaning to human behaviors and the factors that dictate such behaviors (Creswell & Poth, 2017). Phenomenological data are collected by evaluating common traits amongst participants in a study and using those traits to establish themes and patterns that tell a larger story about the population at large (Creswell & Poth, 2017).

To begin understanding how mHealth patient engagement application technology impacts the African American millennial experience, I collected data through surveys of

African American millennials who had interactions with both the health care system and mobile technologies. All surveys were completed via Survey Monkey, and written transcripts of the answers were made available to study participants after they completed the survey. I coded the participants' responses using thematic analysis, based Colaizzi's phenomenological method of data analysis, to create a holistic, concise understanding of African American millennial experiences (see Creswell & Poth, 2017). This analytic approach also helped identify to what extent an enhanced framework for health care engagement is plausible in securing the engagement of African Americans in the health care system. It was critical to understand the lived experiences of African American millennials as they interact with the U.S. health care system to effect change throughout the system.

## Definitions

*African American millennials*: Male and female African American persons born between the years of 1981 and 1996.

*mHealth technologies*: Mobile health patient engagement applications available to consumers to interact with health care providers and the healthcare delivery system (Jameel et. al, 2022).

## Assumptions

For the purposes of the study, I assumed that all participants were naturalized and/or U.S. citizens of African American descent based on their admission to attend a U.S. college or university. At the time of data collection, all responses provided by participants were assumed to be truthful and accurate. Accounts of individual participants’ experiences were perceived as presented, and I did not impose any personal influence on participants. I have identified these assumptions to provide transparency for readers of this study.

## Scope and Delimitations

I delimited this study to evaluate the health care experiences of African American millennials. Surveys were conducted with African American individuals born between 1981 and 1996. At the time of the survey, participants were expected to have interacted with the health care delivery system within the past 6 months to 1 year.

I selected African American millennials as the population of interest due to their high levels of interaction with mobile applications. Due to those high levels of interaction, this population was better suited to assess how the use of mHealth technologies impacts how health care is utilized in the United States. I use the phenomenological research design to develop an understanding of the phenomena through the participants’ firsthand experiences.

## Limitations

The phenomenological research design is used to focus on the lived experiences of individuals and relies on a small population sample. While the results of this study provide an understanding of the experiences of a group of people, limitations exist as a result of generalizations made about the larger population. The results of this study, based on defined variables, serve as opportunities to expand on in future research. I documented participants’ experiences as they were detailed by the participants’ survey responses. Any personal perspective or experience of my own was bracketed to control the potential influence on the findings.

## Significance

Technology continues to be a driving force in affecting change in the inequitable delivery of health care models and access to care (Weiss et al., 2018). As technological tools become more prevalent, eHealth innovations, like mobile technologies, are being employed to help close gaps of engagement in health care between communities and the system itself. Ratwani et al (2019) reported that eHealth innovations can help strengthen the collaborative health agenda and prove useful in addressing health care disparities and inequities. Among those who experience inequitable access to health care, African Americans experience the most roadblocks. Brown et al. (2017) noted that African Americans make up roughly 13.3% of the U.S. population yet hold a disproportionate burden of inequitable and/or poor health outcomes, care quality, and treatment results.

Health care technology innovations are key components to helping improve health care delivery. This study contributes to social change by highlighting the ability of technology to empower individuals with information, aiming to increase the population’s awareness of mHealth patient engagement application technologies. As a force to effect change, mHealth technologies could be employed to shift the perceptions of health care across the African American community. My goal with this study was to detail how that is possible.

## Summary

In this study, I identified opportunities for improving the African American experience in the U.S. health care system. Gaps in the literature regarding African Americans’ levels of engagement with and utilization of the health care system point directly to the various associated impacts of care. African Americans’ lived experiences with the health care system, based on their individual stories, remains a key gap to explore. In this study, I highlighted points of impact where African American millennials can engage fully with the health care system, which, in turn, helped identify strategies of health care engagement that can be implemented for the larger African American population. Of further interest is the uncovering of a more collaborative health care delivery system that includes African American communities as a part of a larger strategic engagement policy focused on improving health care experiences using mHealth technology.

Chapter 2 introduces existing literature related to this study that highlights the intersections of technology and health care in the context of understanding health care engagement and utilization.

# Chapter 2: Literature Review

Currently, African American populations are one of the most underserved consumer groups in health care (Bowser, 2015). Ever-present societal issues, such as economic stress, emotional stress, and residential demographics, continue to negatively affect the health care experience of African Americans (Schrager, 2020). While current research has been focused on efforts to increase access to health care for African Americans and other people of color throughout the United States, factors like racial identity and health care preferences continue to impact the utilization of care (Schrager, 2020).

Health care technologies continue to mature and are projected to improve and streamline patient care (Marbury, 2019). While it is likely these technologies will be critical to the advancement of health care, to truly impact how health care is utilized, health care innovation must be accompanied by a cultural shift as well. Furthermore, understanding the health care decisions of African American patients is essential to assessing ways to impact health care utilization. As the health care space embraces postmodern approaches to delivering care, the African American health care experience must be changed to prevent further disparities and inequities in care. As noted by Rosa (2019), multiple variables contribute to how we make health care decisions, including educational levels, health literacy, communication, and attributes of the patient-provider relationship, and affect the quality and access to care and utilization of care. It is important to evaluate the health care decision-making experience in line with technology because it remains one of the driving, prevalent forces of the new health care era.

Advances in technology offer much to explore, specifically when focusing on the impacts of health care technology advancements relative to the African American experience. Lynn (2016) reported that among African American millennials, over half admit to spending at least an hour every day on social media, and approximately 90% admit to accessing the internet via smartphones (which is more than individuals of other cultures and races). Yet, this group remains under engaged in the health care system. In this study, I explored the use of patient-facing mHealth applications and their impacts on the healthcare utilization of African American millennials. A phenomenological approach was employed to explore the lived experiences of African American millennials within the U.S. health care system.

In this chapter, I present a review of the literature by describing the search strategy employed to identify appropriate literature relative to the topic of the study, providing detailed background information related to equitable access to health care for African Americans, explaining how the issue has been assessed theoretically, and discussing extant literature that assessed the African American experiences with access to care and instances where mHealth technologies have been infused into the health care delivery system. In this summative review, I also highlight the gap in the literature that justified the need for this study.

## Literature Search Strategy

Health care scholars continue to produce research on inequities in care and accessibility to care as it relates to African American communities' experiences with the U.S. health care system. Since the inception of the Affordable Care Act (ACA), research around the prevalence of health information technologies and their integration into the U.S. health care continuum has started to become more available. To locate literature relevant to these topics, I searched the Medline, ProQuest Health and Medical Collection, and PubMed databases. The following key search terms were used in various combinations: *African American, Blacks, equitable, healthcare, healthcare, inequities, health service, accessibility, access to care, technology, America, United States, disparities, health disparities, utilization, utilization, socioeconomic factors* and *lived experiences*. These keyword searches were supplemented with the terms *phenomenology* and *lived experiences* to find studies with a similar theoretical and/or conceptual framework to the current study. I included articles published from 2013 to present in the literature review.

## Conceptual Framework

This study was guided by the Andersen BM of health service (see Hong et al., 2019). This model provides a multilevel approach to exploring health care utilization by providing the framework for exploring the health care behavior of populations with a focus on social circumstances (Hong et al., 2019.). This foundation allows for the evaluation of participants’ experiences in the context of the model’s four areas of focus around access to healthcare: potential access, realized access, equitable access, and inequitable access (Hong et al., 2019).

Based on existing studies involving the Andersen BM, the model includes an assumption that health care service use and engagement across a population vary due to the ways in which services are distributed throughout the health care delivery system and, most importantly, due to perceived notions established throughout various racial groups (Hong et al., 2019). According to the model, as an individual experiences health care, a predicting factor for utilization is based on the social construct of needing health care services and that an individual's experiences from the environments in which they live greatly influence how they make decisions to seek those services.

Li et al. (2018) offers further insights on the use of Andersen's BM to examine health service utilization based on several demographic variables, looking particularly at predisposed and needs factors that influenced engagement behaviors. In addition, Cornin and Gran (2018) captured the idea of community as referenced in Li et al.'s work by placing emphasis on the importance of community and environment as a highlighted impact on health care utilization as it relates to Andersen's BM. Consistent in these evaluations, socio-demographic elements across racial minority populations influence the perceptions these groups have about the health care system and their willingness to engage with it.

According to Fortin et al. (2016), health care experience is evaluated through patients' satisfaction with mental health services, whereas the Andersen BM is leveraged to evaluate the impact of socio-demographic factors on health care utilization. Fortin's work continues to build on the integration of community and societal factors that are associated with how people experience and engage with the health care system. furthermore, Fortin's work helps bring focus to the importance of various elements throughout the health care delivery system that impact the overall health care experiences of the patient-consumer base. For purposes of this study, I applied Andersen's BM to focus on health care behavior through socialized circumstances and explored the impacts on health care utilization amongst African American millennials in the United States.

Collectively, the literature  points out, there is an inherent need to focus on perceived notions that originate from within a community in hopes that health care change agents can make sound efforts to address gaps in how health care is delivered in the U.S  and how it is utilized. Expanding on those thoughts, experts also collectively emphasized the importance of health literacy as an associated factor that ranges in influence from group to group (Li et al., 2018). This is a reinforcing component of how the Andersen BM is applied across its foundation; where to engage in health care, individuals must first understand what to engage with and how they can engage with it.

Collectively, the body of literature regarding the Andersen BM of health services provides a sound consensus on the importance of understanding how groups interact within the health care system to enable the U.S. health care field to structure a system that is truly inclusive.

## Literature Review Related to Key Variables

### Health Care Utilization and Access Disparities

Much research has already been done in the United States on persisting disparities in health care access and utilization. Achieving diversity and inclusion is challenging when it comes to how the U.S. health care system is structured to provide and deliver care. Manuel (2018) stated that improving access to and utilization of health care services are the two most notable challenges to address in eliminating health disparities. Historically, this has been true for at least the last 2 decades, and specifically for African

Americans, the need for utilizing health care depends heavily on perceived notions, notions that are too often tied to one's self-assessment of the seriousness of their illness (Manuel, 2018).

After the Great Recession, health care use rates remained disproportionate across the African American population, with African Americans opting to forego health care more than other racial/ethnic groups (Travers et al., 2017). With the introduction of the ACA in 2009 and with its expansion in 2011 to extend eligibility for dependent coverage up to the age of 26 years old, rates for uninsured individuals (at least 3 million people) decreased (Schmittdiel et. al, 2017). However, health care utilization following the ACA expansion among all racial/ethnic groups between the ages of 19 to 26 years old did not change significantly and varied drastically by race/ethnicity. Understanding what impacts health care access and utilization within groups is key to determining how to properly address gaps and disparities of care and remains a phenomenon that must be studied more directly. Travers et al.'s (2017) work on the African American health care experience built upon Manuel's (2018) work with both underscoring the need for further understanding of how and why African Americans experience health care the way they do.

To enact change in health care utilization across this population, health care data must be available so that African Americans' health care interactions are understood. Ayan et al. (2019) emphasized the importance of patient data completeness to being able to provide the highest standards of care. If there is little to no engagement with the health care system, it presents continued challenges to properly develop and implement a secure engagement strategy for African Americans. Through evaluating racial and ethnic disparities in health care services, Abdus (2021) evaluated racial minority subgroups and patient protections existing because of the ACA, finding that racial minority groups, like African Americans, were disproportionately targeted by coverage provisions presented in the ACA. This evidence shows that opportunities exist to narrow racial/ethnic disparities in health care delivery.

## Socioeconomic Aspects of Health

Socioeconomic aspects of health are an element that impacts the way in which Americans engage with the health care system, and research has continued to link them to Black-White health disparities. While the overall health of Americans has improved over time, disparities persist within racial and ethnic groups (Assari, 2018). Many indicators point to socioeconomic factors as an element that is less accounted for in research, thus resulting in an incomplete picture of how the United States can shape the health care landscape toward a more equitable state. Assari (2018) argued that reducing health care disparities calls for a multitiered approach that can span various system levels while expanding its reach geographically. Furthermore, the geographical availability of health services is identified as a critical factor in accessing quality care. It is critical to focus on these factors in the context of technology use amongst African American millennials to understand how this might impact their health care experiences due to the continuing concerns about the correlation between socioeconomic levels and inequality.

Socioeconomic inequities place economic inequalities as a key driver that creates barriers to accessing health care services. Galea and Vaughan (2019) supported this thought, stating that when determining a central foundational cause of health care inequity and promoting better access to health care, both an economic perspective and a basis of proximal causes can be used, which is relevant to understanding how the behaviors and exposures of the African American population contribute to their experiences with the health care system.

Low socioeconomic status is most prevalent among Black populations and has been linked to a broad scope of health care-related outcomes for this population (Popescu et al., 2018). Additionally, recent economic downturns disproportionately affected Blacks; while the income and wealth gap was declining prerecession, post-recession analyses see that gap widening significantly (Popescu et al., 2018). These researchers indicated how socioeconomic influences contributed significantly to inequities in care and how they play a pivotal role in health care engagement and utilization.

As the patient-provider relationship takes the forefront of many value-based care discussions during the transition from fee-for-service, perceptions of healthcare from both patients and providers affect how care is accessed. According to Arpey et al. (2017), due to varying levels of effect, the ways in which critical stakeholders step in to address inequities must encompass a multifaceted approach, targeting both providers and patients as part of the health care system.

## Health Information Technology and Patient Engagement

Health information technology (HIT) can be leveraged as a vital component of advancing the patient engagement health care strategy. Experts have shown patient engagement is a contributing factor to improving health outcomes; however, as a concept, it is not well understood or positioned (Higgins et al., 2017). Being able to understand the connection between HIT and patient engagement helps to frame ways the health care arena can focus on using key elements of health care engagement to advance the discipline of care. Long et al. (2016) noted that the intersection of HIT and patient engagement is complex due to factors, like sluggish adoption HIT rates, lack of interoperability across several HIT systems, and health care providers' unwillingness to fully engage with these systems and augment existing workflows to fully engage patient participation, and as health care systems continue to experience evolutionary growth, areas of technological progress will continue growing as well. With the rise of technology solutions that enable the electronic exchange of health care information, the technology is only useful if it is reaching the appropriate consumer base.

Rief et al. (2017) stated that while HIT can be pivotal in changing patient engagement levels, work must be done to ensure it is not used in a passive way. Efforts must be made to engage patients by ensuring technologies, like mobile patient engagement tools, are targeting the intended populations. To fully understand the impacts of HIT and how to promote meaningful use of this new era of technology, patients remain of critical importance. The promises of HIT for improving the continuum of care are not yet fully realized. Rief et al. summarized that with the use of mobile health technologies, patients are enabled to move past barriers due to a sense of self-engagement based on the use of text-text secure communication and the readily available access to their information or provider when needed. This led to patients being more proactive about educating themselves about their need for health care engagement.

In a recent study, Han and Lee (2018) made note that among several recent studies on patient engagement, more than 80% reported increased patient engagement levels in varying degrees in response to health information technology. While mHealth technology continues to be positioned, innovators and adopters are also aware of its limitations. These limitations exist in areas like stability with infrastructure and scalability, cost of acquisition, and most notably security management; an innovator or consumer's ability to properly secure transmission of data in flight and at rest (Han & Lee, 2018).

## Existing Literature Related to the Study

Scholars have highlighted areas of opportunity for addressing barriers to care. In line with the phenomenon being explored, literary works address many experiences of Americans who encounter the healthcare delivery system. Ray et al. (2017) highlighted the sensitivity around African Americans’ and Latino’s access to health insurance and their abilities to utilize health care, exploring the feasibility to reduce health care disparities using mobile technology. Ratwani et al. (2019) also focused on these sensitivities by identifying a need for all health care professionals, administrators, consumers, and policymakers alike, to focus on the patient-provider relationship. Commonly, perceptions, access, and utilization of care across the African American population are noted disparities due to the lack of attention and priority placed on them by the system. Both Ray et al. and Ratwani et al. place emphasis on the experiences of African Americans from both a societal and cultural aspect requesting a need for health care stakeholders to competently address the lack of healthcare engagement in this population.

McCloud et al. (2016) highlighted the importance of healthcare access and equity through a digital framework, focusing on a consumer-centric framework of healthcare resilience. In the late 1990s, gaps in access to digital health were more widespread across racial groups in comparison to Whites. With African American millennials being the leading group to access the internet via mobile phones, this helped highlight opportunities for engagement with the health care system specific to the impacts of mHealth technology. Lyles et al. (2016) have been studying the importance of technology in healthcare and encouraged an engagement approach by leveraging tools that are readily available to this consumer base. As an active cohort of the African American population, millennials are seen as a highly engaged group.

African Americans will continue to experience less than favorable health care encounters with the U.S. healthcare system if innovative strategies of engagement are not inclusive. As a shift in healthcare to value-based from fee-based, strong consideration must be given to how this impacts people of all socioeconomic classes. There remains a dichotomy in the 21st century where the health of populations varies significantly specifically in minority populations. Bor et al. (2017) noted that without a significant change in reducing inequalities across socioeconomic classes, inequitable access to care will become more widespread and health poverty will harden for minority populations. As a level of engagement, technological innovations like mobile technologies are referenced as a possible means to address the gap.

Yee et al. (2018) provided insight on the advances in health care and their improvements in the healthcare delivery system noting specifically that a challenge remains in achieving the best outcomes for individuals. Beyond the general scope of enhancing the delivery system, they highlighted an ability to improve health care inequities by leveraging health care technologies to deliver equal access to health care regardless of social and geographical inequities. At the forefront of this result, the focus remains on considering the context and experiences of patient perspectives for these populations; an important element in ensuring the ways in which health care is delivered is representative of the populations being served.

As primary care continues to move toward focusing on population health management, both patients and providers will need to work towards enhancing the patient-provider relationship. In many instances, technology will play a pivotal role in shaping those relationships as patients find optimal ways of accessing healthcare. As Jenseen et al. (2016) noted in their research, patient attitudes continue to shift towards more real-time methods of interacting with the health care system through things like mobile technologies, online social media platforms, and the like. To what extent African Americans, specifically millennials intend to leverage these methods is not yet fully understood. What we know based on the evidence, is that due to factors like low socioeconomic status and race and ethnicity, minority groups like African Americans are likely to support these technology approaches because they view them as savvy ways of staying relevant with what is new and hot (Jensen et al., 2016).

Innovative ways to leverage healthcare technology is an essential approach that Ray et al. (2017) brought to focus in their research. Most importantly, as it pertains to minority groups leveraging mobile technologies, it is coined as an effective tool to garner engagement from racial minority groups. As a racial group with high rates of engaging with technology, there is a high probability of reliance on using mobile technologies as a go-to source for information. Ray et al. further detail that while this may be true, health care policy must support the expansion of technologies for this purpose. It is the pure essence of a holistic system where health care stakeholders can begin to see the benefit of expanding the accessibility of innovative health care technologies to tear down the walls of inequities.

Engaging HIT to address healthcare utilization must be approached proactively. While technology can be leveraged to expand the scope of healthcare accessibility, Pierce (2016) made note that you  must be careful that targeted benefits extend beyond group lines. Championing diverse but inclusive uses of health care technology is the area of focus that Pierce wants to ensure all stakeholders consider in using technologies to positively create change in how racial minority groups engage with health care in the U.S..

Commonly, existing literature highlights the continued need to bridge the access and health information divide, pointing to mobile technologies as a key conduit to deliver readily available information to patients quickly. It is well known that African American communities often reside in geographical areas that are economically and geographically disadvantaged, a direct barrier to quality and accessible health care. Ray et al. (2017)

continued to push the theme that while many in these populations are limited in their abilities to mobilize, that technology reaches beyond barriers like that.

Researchers continuously evaluate the phenomenon of the utilization of care based on things like organizational influences in the health care space. This furthers the evaluation of healthcare space dynamics and continued elements that impact its' availability and accessibility. Norton et al. (2019) explained that the adoption of advanced (HIT) is variable but effective. Furthering the thought that in order to understand how these technologies can create changes in health care utilization, health care organizations must begin to create systems of care that are inclusive. This inclusivity focuses specifically on standardizing methods for delivering care that can be accessible by varying consumer bases such that they can more easily access care and engage.

Should a digital approach to addressing improving healthcare be the ultimate solution, stakeholders could expect to see more use by patient consumers. Elers and Nelson (2018) detailed in their work that improving health care through a digital connection is paramount to the success of equitable access to care. They point out that among health care consumers many overwhelmingly look to mobile access to technology that will allow them access to health data, rely on various means of online access to seek information, and continuously look for more nontraditional ways to interact and consult with health care providers.

Arguments exist among some health care industry stakeholders that patients in some cases are disempowered by commercialized digital health information technology. Eberling et al. 2019) made note that while legislation exists to help advance the reach of health care technology, in some cases potential benefits are tainted by corporate interests. Eberling et al. referred to the relationship between the healthcare industry and policy stakeholders as sociopolitical power. Consumers should have total control over how they engage with the health care system, how patient data are used, and options to choose the best care based on its value. In many instances, we still see the impact of socioeconomic factors that continue to cause layers of difficulty for racial minority groups like African Americans.

To target empowerment of mHealth use for African Americans, health technology literacy can also affect how consumers engage with and utilize health care. Meyers et al. (2020) found that parents' use of technologies for health management was higher amongst those with higher health literacy rates. As a result, children of those with higher literacy rates were more likely to have some level of engagement with providers and other healthcare professionals using health care technologies. Evaluating African Americans specifically, health literacy rates are historically disproportionate due to discriminatory health policies and systemic healthcare practices which resulted in limiting access to resources and skills needed to fully understand health information. As a limiting factor, scholars and legislators alike must be certain to address this as a catalyst to increasing the use of mHealth technology in African American populations.

Socioeconomic factors and cultural and geographical elements exist as barriers to engagement for African Americans. For this reason, exploring the utilization of healthcare in relation to mHealth technology is sensible. Both McCloud et al. (2016) and Lyles et al. (2016) understand that to effect change, stakeholders need to better understand the experiences of this population and leverage the use of technology as an element to incentivize their engagement. Essentially, the support of new policies for the expanded use of technology in healthcare is critical to erasing structural and economic barriers to healthcare utilization. In many ways, mobile technologies can circumvent issues with healthcare experiences for minorities like African Americans, but there must be an assurance from all healthcare stakeholders that equitable access is advocated for in the proper regard.

## Summary and Conclusions

Existing literature related to the prevalence of health information technology tools in the U.S. health care system shows promise in advancing the care delivery system in the U.S. While stakeholders help to enable consumer engagement, present-day strategies are not fully inclusive. Disproportionate levels of health care-related distrust impact the continued development of disparities throughout the system of care, specifically across minority ethnic-patient health care encounters (Alpers, 2018). These barriers create varying levels of distrust amongst African Americans specifically. At the center of the literature presented is the relevance of care driven by the context of the racial minority health care experience.

Through the review of these bodies of work, it is apparent that there is a great need to ensure the African American community is empowered. Every racial group to varying degrees has concerns with health care due to environmental factors, access to care, cultural influences, health literacy gaps, and pure genetics, whether physically, emotionally, or mentally. From various efforts put forth by the U.S. government like initiatives to eliminate health disparities among minority populations, none have fully eliminated those disparities. Beyond examining the gap between racial and ethnic disparities, stakeholders will need to engage in tools and techniques that go beyond the physical and financial walls. It is clear across the literature that with digital and technological enablement, you can begin to truly evaluate the impact on healthcare utilization across the African American community. By extending the reach of health care to meet African Americans in their communities through mobile technologies, you can begin to put into perspective ways in which you can collectively work past inequities and enable and empower individuals to truly make access to care equitably.

In Chapter 3, I provide further detail on the lived experiences of African Americans and their engagements with the health care system and many elements that contribute to their perspectives about the health care system. Chapter 3 includes a discussion of the phenomenological paradigm, advantages and disadvantages of the design, research instruments, and ethical considerations.

# Chapter 3: Research Method

In this study, I explored African American millennials’ utilization of the health care system and how mHealth technologies impact their experiences. The phenomenological approach was employed to develop a summative understanding of the experiences of individuals, namely African American millennials’ perceptions of their use of mHealth technology, access to health care, and health care utilization. This additional knowledge will lead to the development of more inclusive health care delivery frameworks that aim to improve the African American population’s health care experiences.

The review of several past studies shows that African Americans categorically engage with the health care system based on traditional perspectives created over time throughout their communities because of their lived experiences (Shields, 2016). In addition, existing literature speaks to the implications of social and cultural factors that continue to impact African Americans’ engagement levels with the health care system (Kronenfield, 2014). However, prior to this study, no research has specifically addressed these various factors and how introducing mHealth as an influence could affect the health care experience of African Americans.

In this chapter, I describe the research design and rationale for using the phenomenological approach to address the research study questions. I also discuss the methodology used to conduct the study and address the trustworthiness of the data collected.

## Research Design and Rationale

I conducted this phenomenological study to develop an understanding of the African American millennials' experience with the U.S. health care system and the associated impacts of mHealth technology. The phenomenological design is used to understand human behaviors and the reasons that govern those behaviors (Creswell & Poth, 2017). The phenomenological design places a specific focus on studying populations of interest in their natural setting (Creswell & Poth, 2017). The approach further focuses on individual experiences and provides the ability to establish understanding based on the elements of social and behavioral experiences through an exchange with study participants. The phenomenological approach provides a researcher with the ability to identify common themes across a purposefully selected participant pool and use the themes identified to bring meaning to the data collected (Creswell & Poth, 2017). For purposes of this study, I used Colazzi's phenomenological approach when analyzing the results of the surveys used to collect data, leveraging Survey Monkey as the data collection tool. I uncovered patterns from the participants' survey responses in which they detailed their comprehensive experiences (see Creswell & Poth, 2017). This study approach was appropriate because qualitative phenomenological research helped me to develop an understanding of millennials' individual experiences with the health care system while also providing me with the ability to collectively bring understanding to their combined experiences through the identification of themes. This approach was suitable because it allowed for an analysis of the individuals and the group they make up, so I could avoid an analysis that was skewed and misrepresentative.

## Role of the Researcher

As the qualitative researcher, I was the primary data collection instrument in this study, and my personal experiences and feelings were impactful to the research process (see Creswell & Poth, 2017). To secure a representative understanding of African American millennials’ utilization of health care and the role mHealth technologies play, it was important to lessen and remove researcher bias. Creswell and Poth (2017) stated that bracketing enables a researcher to set aside personal experiences and make way for a genuine opportunity to explore a phenomenon. Creswell and Poth explained bracketing as a researcher’s ability to set aside all assumptions to ensure the findings are representative of the participants’ responses. Bracketing was employed for this study. Due to the structure of the study and anonymous recruitment of participants, I had no known personal or professional relationships with the study participants.

## Methodology

The participant population consisted of African American millennials born between the years 1981 and 1996. I used a subjective sampling strategy to select 16 participants. Subjective sampling was employed because it is a technique that allows the researcher to select the most appropriate participants to achieve the goal of the study (see Creswell & Poth, 2017). Due to the small number of participants, it was sensible to be purposeful in selecting participants, which allowed for the results to be generalized to the larger population because participants were selected from a population that was thought to be representative of many African American millennials. To recruit participants, I used the Survey Monkey tool and distributed the link to access the survey via Facebook.

The participant inclusion criteria consisted of: (a) African American males and females ranging in birth year from 1981–1996, (b) current users of a mobile/cell phone with access to the internet, and (c) participants who had sought care at a health care entity within the last 6 months to 1 year. To verify that participants met the selection criteria, participants had to attest to meeting the criteria by agreeing to complete the survey. I evaluated the saturation of data based on participant responses to the survey. Guest et al. (2020) proposed a view of data saturation in relation to the depth of data a single interaction can produce. Once the perspective of each participant was understood, saturation was determined to be achieved.

## Instrumentation

I conducted a field test to test the validity and reliability of the survey questions. Draft survey questions were distributed electronically to fellow industry colleagues and experts for review. A total of four industry colleagues and experts reviewed the survey questions. The areas of focus used to determine the validity of the content were the relevancy of proposed questions as they related to the research topic, a rating of the survey as the best instrument for collection and analysis of data (with a rating scale from 1 to 4, with 1 being *not relevant* and 4 being *completely relevant*), and the likelihood of bias based on the chosen instrument for data collection. I established content validity based on the unanimous responses from colleagues indicating the proposed survey content was relevant and/or clear. Furthermore, the proposed questions were assessed for weakness, limitations, and bias. Once concept identification, item construction, validity, and reliability testing were completed, the collective consensus from industry colleagues regarding the proposed survey allowed for the construction of the formal survey for distribution to potential research participants. I collected all survey responses via Survey Monkey and used NVivo to analyze the data (see Appendix).

## Pilot Study

For purposes of testing the proposed research instrument, I used industry colleagues and college friends to test out the feasibility and acceptability of both the survey distribution methods and willingness to answer questions. Procedures for recruitment, participation, and data collection associated with piloting and the main study were the same: I used Facebook for distributing the Survey Monkey survey link and used Survey Monkey to collect participants' responses to survey questions. A total of 10 people participated in the pilot study. The pilot study was not intended to evaluate specific responses to the questions but rather to examine the response rate to survey questions and determine whether the question structure needed to be revisited.

## Data Analysis Plan

At the conclusion of participant survey sessions, I analyzed all survey responses using NVivo. A word-based strategy was used to identify themes through evaluating the frequency of words used repetitively and once identifying the terms, further evaluating them based on the context in which they were used. This approach helped create a well-rounded perspective of the respondents' points of view. Data were collected over a 3-month period.

With the use of NVivo, I documented the comprehensive themes as they existed across the respondent data. These themes were then expanded to detail how participants experienced the phenomenon, and based on these results, I made the determination to not reengage with participants because data saturation was achieved.

## Issues of Trustworthiness

The outcome of a research initiative should result in valid outcomes. The qualitative approach to research relies on an investigative style to understanding a phenomenon and collecting data (Creswell & Poth, 2017). As such, phenomenological studies rely heavily on the trustworthiness of the participants. I employed selective strategies to establish the validity of the research, including addressing the issue of trustworthiness by examining the study's credibility, transferability, dependability, and confirmability t.

Credibility relates to the internal and external validity of the data (Creswell & Poth, 2017). To establish credibility, I used triangulation and peer debriefing. Triangulation allowed me to reference existing literature and identify codes to evaluate themes derived from the study using NVivo. Peer debriefing created an opportunity for collecting additional views into my analysis of participants' responses.

As the researcher, I had the responsibility to ensure the participants involved and the research process employed were thoroughly described. Creswell and Poth (2017) stated that detailed accounts of individuals' experiences of a phenomenon help to achieve transferability. To manage transferability, I provided a rich account of the descriptive data, including the health care experiences of African American millennials, their interactions with mHealth technology, and their perceptions of its impact on their overall health care experience, as part of this study.

Employing an external auditor provides unique accountability in that the auditor has no true familiarity with the research and offers an objective analysis of its' dependability (Creswell & Poth, 2017). In qualitative research, dependability refers to reliability (Creswell & Poth, 2017). I used an external auditor to secure the dependability of the data. Two former colleagues who were previous Institutional Review Board (IRB) health care study reviewers were secured as auditors for this research.

The strategy of reflexivity accounts for explicit awareness of bias that a researcher may have while completing the study (Creswell & Poth, 2017). Confirmability aims to ensure participants are truthful and genuine (Creswell & Poth, 2017). Using this qualitative approach to gather data required that participants' answers to questions posed were representative of their true experiences.

## Ethical Procedures

To ensure that ethical procedures are followed during the study, Walden University requires that the researcher's plan for research be reviewed and approved by the IRB. My proposal for this study was presented to the Walden University IRB and approved before I began collecting data. The IRB approval number is 10-23-20-0406642. To take part in the research, I presented participant with a consent form to complete that detailed the purpose of the study, participant selection criteria, and what the data collected from their survey would be used for. Before starting the survey, all participants reviewed a message that stated their participation in this survey was voluntary and represented their consent for their responses to be used as part of data collection. Users had the option to accept or not accept participation in the survey by selecting the appropriate answer: to proceed or not to proceed.

Creswell and Poth (2017) stated that there was the need for researchers to protect their participants by working to establish trust and providing a conducive environment for participants to share their experiences. To ensure participant privacy, all participants were informed prior to proceeding with the survey that the survey was anonymous and that any details possibly identifying participants would not be shared in the results. To further promote the integrity of the research, all participants were offered an opportunity to refrain from moving forward with the survey at any point should they not have felt comfortable proceeding. I referenced participants who completed the entire survey process using coded naming conventions to protect their identities and ensure confidentiality.

## Summary

The levels of health care engagement and utilization in the African American community continue to cause negative effects (Ayan et al., 2019). As a community with an engaged millennial population, there remains evidence that significant gaps in care still exist despite strategic maneuvers to increase access and affordability to care (Ayan et al., 2019). Health care researchers must begin to fully understand the African American millennial health care experience to create effective change throughout the entire population. In this study, I explored the use of patient-facing mHealth applications and their impacts on the health care utilization of African American millennials.

Chapter 4 focuses on study design, data collection and presentation of results for the study.

# Chapter 4: Results

I selected the phenomenological approach so that individual participant experiences could be understood to uncover how health care stakeholders and experts need to refocus on engaging with African Americans age of health care post ACA in the U.S. The following research questions guided this study:

> Research Question 1: What do African American millennials view as potential barriers to access to care as it relates to their lived experiences and demonstrated behaviors toward the U.S. health care system?
>
> Research Question 2: In considering predisposed characteristics of the African American population, what role do technological advancements, such as mobile health care patient engagement applications, play in African American millennials access to equitable care throughout the U.S. health care system?

The results of this study provide opportunities for further expanding the understanding of the health care experiences of African Americans. In Chapter 4, I present the results and findings of this study.

## Pilot Study

The pilot study did not have any impact on the main study. As noted in Chapter 3, I did not focus on assessing participant responses to the survey questions in the pilot study but rather on the response rate to questions to assess any need for question restructure. The pilot study did not result in any changes in instrumentation or data analysis strategies.

## Setting

There were not any direct conditions that influenced participant responses to the survey questions. I used a single qualitative research data collection method: surveys. Surveys were created using SurveyMonkey and the social media platform Facebook was used to garner participant interest. This approach to participant recruitment allowed for a vast participant pool of which only 16 participants were needed to achieve data saturation.

## Demographics

Survey participants consisted of male and female Facebook users who met the study eligibility criteria. Users completed surveys over a period of 2 months. Table 1 displays the number of users, duration, and timeframe over which surveys were completed.

**Table 1**

*Survey Demographic Details*

| Total Surveys | Surveys Completed in December 2020 | Surveys Completed in January 2021 | Average Completion Time (in minutes) |
|---|---|---|---|
| 16 | 6 | 10 | 5 |

## Data Collection

There was a total of 16 research participants who took part in the survey. All participants completed the interview via the Survey Monkey link posted and distributed on Facebook. In Chapter 3, I explained that my initial intent was to leverage the use of the Walden Participant Pool but due to a lack of participant response, a request was submitted to and approved by the Walden University IRB to update my data collection methods. This allowed for access to a larger population from which to secure potential research participants. Once research participants selected the option to participate in the survey, they were redirected to the survey hosted on Survey Monkey and presented with eligibility and consent criteria. The eligibility criteria included: (a) being an African American born between 1981 and 1996; b) being engaged with the U.S. health care delivery system within the past 6 months to 1 year. Their participation in the survey served as consent that they met and understood the research eligibility and consent criteria. I transferred the data collected from participants from Survey Monkey directly into NVivo to prepare it for quantitative analysis. The method of data collection and instruments identified in Chapter 3 were followed and did not vary.

## Data Analysis

I analyzed the data gathered from participant surveys using NVivo. The following themes emerge from data analysis: (a) accessibility to health care services, (b) range in motivation for seeking health care services, and (c) mobile application use. Each theme is discussed in the Results section in relation to the research questions.

## Evidence of Trustworthiness

I employed selective strategies to establish evidence of trustworthiness in the study. The concepts of credibility, transferability, dependability, and confirmability were achieved in helping to provide evidence of trustworthy data. Strategies for each of these concepts were not adjusted based on the original plan as presented in Chapter 3.

All participants displayed a desire to answer all questions in the survey. This helped to demonstrate that the questions asked in the survey were credible and valid. To establish credibility, I used triangulation and peer debriefing. Triangulation allowed me to reference existing literature and identify codes to evaluate themes derived from data analysis using NVivo. Peer debriefing created an opportunity for adding additional perspectives when analyzing the participant survey responses. As comments emerged from the data analysis, these credibility strategies helped to validate the qualitative findings.

Creswell and Poth (2017) stated that providing detailed accounts of individuals' experiences of a phenomenon helped to achieve transferability. To achieve transferability, I included a rich account of descriptive data (in the form of participants describing their personal experiences) noting the health care experiences of African American millennials, their interactions with mHealth technology, and their perceptions of its impact on their overall health care experience as part of the results of this study.

Employing an external auditor provided unique accountability in that the auditor had no true familiarity with the research and offers an objective analysis of its' dependability (Creswell & Poth, 2017). In qualitative research, dependability refers to reliability (Creswell & Poth, 2017). I used an external auditor to secure the dependability of the data in the study. Two former colleagues who were previous IRB health care study reviewers were secured as auditors for this research.

The strategy of reflexivity accounts for explicit awareness of bias that a researcher may have while completing the study (Creswell & Poth, 2017). Confirmability aims to ensure participants are truthful and genuine (Creswell & Poth, 2017). Using this qualitative approach to gather data required that participants' answers to the survey questions posed were representative of their true experiences.

## Results

### Research Question 1 Analysis and Results

### *Theme 1: Accessibility to Health Care Services*

While health care services might be available across the United States, the ability to access them is paramount to utilization. Not all participants thought that health care services were outright accessible. Of those that noted concerns with accessibility to services, their explanations for the lack of access to health care services varied. Table 2 shows participant responses regarding accessibility to health care services used to assess the research question.

**Table 2**

*Participant Responses: Accessibility to Health Care Services*

| Participant | Participants comments |
|---|---|
| P4 | Somewhat accessible. |
| P7 | Basic are accessible, but not specialty care. |
| P12 | Geographical. Not accessible in one location, but more accessible elsewhere. |
| P15 | Not in total agreement; somewhat accessible, but not affordable. |

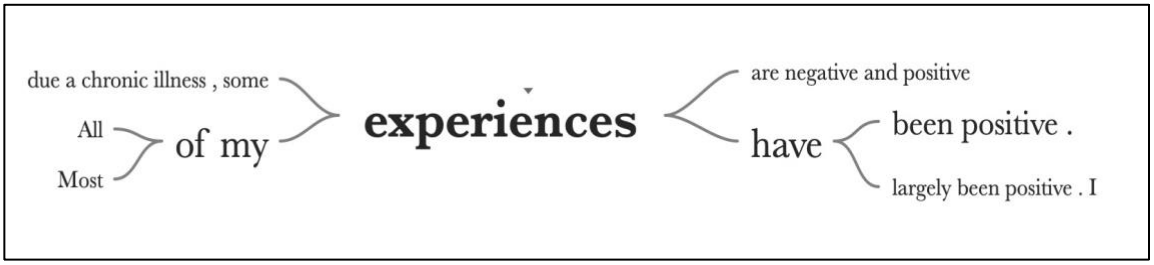
Khumalo et al. (2021) suggested that negative perceptions, attitudes, and lack of awareness contribute to a lack of access to health care services and health care utilization.

I kept this notion in mind while analyzing the data regarding levels of access limitations by both the system of care and the patient’s role and/or their community.

While participants overwhelmingly noted some concern with access to health care services, the data 3 showed that all participants still sought out medical services. The data also indicated that while there are noted barriers to accessing care that these barriers do not always directly limit a consumer from trying to seek medical services. The experiences of those seeking health care services, however, are not always consistent. Figure 1 displays the varied participant responses regarding their current and past health care experiences. I completed a text query in NVivo to illustrate the levels of participant experiences.

**Figure 1**

*Describing Experiences When Going to the Doctor and/or Seeking Health Care Services*



The results of this text query demonstrate a range of participant experiences. Those who have sought/or were seeking health care services reported experiences ranging from positive to negative and in some cases stated that the outcome of their experiences was affected by a chronic health condition that in part shaped their overall health care experience.

### *Theme 2: Range in Motivation for Seeking Health Care Services*

Health care-seeking behavior and utilization are contributing elements for engaging with the U.S. health care system. Variations in health care-seeking behaviors are in direct correlation with health care utilization. For example, those that seek out health care, often tend to utilize health care more than those that do not even with preexisting barriers. Participant responses provided a clear perspective on the range of motivations for health care-seeking behaviors.

Within this theme, participant responses shared common keywords/phrases (as noted in Table 4) as key elements of motivation for seeking health care services. The level of motivation indicates the responses provided by participants, and sublevel themes/participant responses indicate the reasons for the level of motivation as noted by the participant.

**Table 4**

*Participant Responses: Range in Motivation for Seeking Health Care Services*

| Level of Motivation | Common Keywords/Phrases/Participant responses |
|---|---|
| High/consistent | Top-notch care/Maintaining care/Preventing chronic conditions |
| Medium/consistent | Preventative |
| Low/inconsistent | ---- |
| Not motivated | |

According to Lim et al. (2019), health care-seeking behavior and the motivation for utilizing health care services varies, with a more critical focus be placed on primary care services. At large for communities of color, perceived notions for more physical care versus psychosocial and mental health care, for example, tend to motivate how they seek and utilize health care services. Table 5 highlights participant responses in relation to motivations for seeking health care services.

**Table 5**

*Participant Responses: Motivations for Seeking Health Care Services*

| Seeking Health Care Services | Participants Response (Varied) | Participant Comments |
|---|---|---|
| Range of motivation | Very motivated | Impacts: Aging, maintaining a healthier lifestyle, regular health routine |
| | As need arises | Impacts: Emergency, preventive care |

Participant comments in response to this survey question revealed that there are various levels of a person's motivation for seeking health care services. What was not noted in relation to this question is also telling. There was no reference to affordability; instead, the participants' responses focused categorically on physical well-being.

The level of healthcare service accessibility, health care-seeking behaviors, and range of motivations directly shaped participant experiences.

## Research Question 2 Analysis and Results

### *Theme 3: Mobile Application Use*

All participants responded by confirming their use of mobile applications. With a particular interest in the use of mobile health applications, responses varied. As a growing means to increase access to and use of health services, mHealth technology will continue to gain traction as a direct means to deliver health care services. In addition, a critical component to understanding health care utilization is not only the high utilization of mobile apps amongst this population but also the perspectives and importance of this type of technology use from the provider-delivery perspective. Laing et al. (2021) suggested that health care professionals realize the importance of mHealth technology and opined that it has the potential to facilitate better health care delivery and utilization in low-resourced communities, like African American communities.

All users reported the use of mobile applications, demonstrating that access to mobile applications is not a considerable problem when accessing information. This survey question did not specify what type of mobile device participants use to access mobile applications. Some participants noted they access applications both on tablets and cellphones.

Table 7 shows the type of mobile applications participants reported using. Based on their responses, a little less than half of the participants noted the use of health and wellness applications, with the overwhelming majority reporting use of social media applications. This result demonstrates that while all participants reported the use of mobile applications, there is an existing opportunity to increase their interaction with mHealth applications.

**Table 7**

*Participant Responses: Type of Mobile Applications Used*

| Type of Mobile Applications | Participants Response | Participant Comments |
|---|---|---|

| | | |
|---|---|---|
| Social media | 10 | -- |
| Health and wellness | 7 | Monitoring, provider engagement, check records, appointment scheduling, streamlines process resistance; listen to the body; too complex |
| Email | 3 | |
| Finances | 4 | |

**Table 8**

*Participant Responses: Mobile Health Applications' Impact on Access and Utilization of Health Care Services*

| Impacts access and utilization of services | Participants' response | Participant comments |
|---|---|---|
| Yes | 12 | Increased access to providers and health care information, more timely access, simplifies the process |
| No | 2 | General app resistance, lack of security, in-person use of services preferred |
| Neutral | 2 | Needs cannot be met through an app |

While there is the overwhelming use of varied types of mobile applications, this research question focused on understanding what participants thought about the potential impacts mHealth applications had on their use of health care services: both accessibility and utilization of care. Survey results demonstrate that the overwhelming majority consider use to be impactful. These responses are based on some participants who currently use mHealth applications and some who do not but think them to likely be impactful. As with most responses participant comments are varied.

As mHealth technology advances, both providers and patients will need to mature along with it. Participants' responses from this study survey demonstrate that the use of mobile health applications can likely impact the use of health care services, however, the levels of engagement with mobile applications do not always directly correlate with the use of mHealth applications, the range of motivations are a direct influence to use of health care services and levels of willingness and resistance to using applications exist. This creates a challenging and complex problem when you begin to assess strategies to increase engagement. With a particular focus on participants in this research study, while they note the benefits and efficiencies anticipated with current, ongoing, and future use of mobile health technology, they also note levels of resistance and/or uncertainty that prove challenging when assessing ways to leverage the use of mobile health technology as a critical lever of change.

For the study, it was assumed that all participants are naturalized and/or U.S. citizens of African American descent based on their admission to attend a U.S. college or university. At the time of data collection, all responses provided by participants were deemed truthful and accurate. Accounts of individual participants’ experiences are perceived as presented and no personal influence by me was imposed. These assumptions are pointed out in effort to provide transparency for readers of this research.

## Summary

The results suggest that perspectives of participants help bring understanding to how mHealth technology can be considered as part of the African American health care experience. It helped illustrate how everyday interactions with the health care delivery space help to shape how African Americans decide to engage, used, and leveraged health care in the United States. It also helped to uncover areas of opportunity that can be targeted for improvement. Chapter 5 integrates the components of this dissertation, offering a discussion about ways to consider applying learnings from this research to the professional environment based on learnings from conclusions drawn from data collection and analysis and an offering of recommendations for future research and implications for social change.

# Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative study was to examine the impacts of mHealth technology on the health care experiences of African American millennials. I conducted this study to develop a better understanding regarding the influences of health care utilization amongst African American millennials.

## Interpretation of Findings

The study findings consist of three major themes as a critical means to impact care in the technology era: (a) accessibility to health care services, (b) range in motivation for seeking health care services, and (c) mobile application use. The results of this study demonstrate that there is high use of mobile technology amongst African American millennials. The findings also show that there is consistent awareness and willingness to start using and continue using mHealth technology to create better access to care; improve utilization of care; and provide more streamlined, cost-friendly, timely ways of delivering care.

The study findings also indicate that while there is great anticipation of long-term benefits of mHealth technologies, years of inequitable access to, delivery and, cost of care still negatively impact how African American millennials and their communities still perceive the U.S. health care system. To that point, scholars, practitioners, and health care leaders alike should employ themes from this study to assess ways to create new and adjust existing strategies to leverage the use of mHealth technology to change the narrative and perceptions of health care in communities of color as well as the ways in which care is managed and delivered.

## Limitations of the Study

The phenomenological approach to research focuses on the lived experiences of individuals and relies on a small population sample. While the results of this study provide an understanding of the experience of a group of people, limitations exist because of generalizations made about the larger population. The results of this study, based on defined variables, serve as opportunities for expansion in future research. I documented participants' experiences as they were detailed the participant survey responses. Any personal perspective or experience of my own was bracketed to control for potential influence on the findings.

## Recommendations

The major limitation of this study was that the results should be considered a generalization about the larger population. Based on that limitation, it is my recommendation that future researchers should explore the phenomenon beyond the subset of the African American population (i.e., African American millennials) by evaluating it at-large based on identified themes.

Another recommendation is for future researchers to expand the sample size of African American millennials. While the phenomenological approach to research allows for generalizations, additional study participants could provide further analysis and possibly reinforcing themes already identified or uncovering additional themes.

I also recommend diversifying the sample population. A future researcher could sample the existing population but also include a different age group as an additional sample population, which would help to provide more real-time insights into how diverse groups within a population may have different lived experiences as it relates to the impacts of mHealth technologies.

Another recommendation is to evaluate the use of mHealth technologies in majority populations and compare the findings against patterns of competence and use in the African American millennial population. While African American millennials and most populations have similar mobile app awareness and use patterns, having direct evidence to compare how mHealth technology impacts their health care experience would be pivotal in understanding impacts to health care utilization.

In general, leveraging the use of mHealth technology, health care leaders and change agents alike can consider the ways in which African American millennials interact with technology to begin understanding how current health care delivery strategies can be enhance and new strategies can be developed. The accessibility of health care services from a community lens can be the starting point for this enhancement and development. The patient experience begins at home, so understanding the lived experiences of African Americans at home would help to orient the patient to be more receptive when interacting with the U.S. health care system (see Hawkins & Mitchell, 2018).

Health care leaders and change agents need to explore how they can further motivate African American millennials and, more importantly, their communities at large about the importance of health care utilization and the critical role that mHealth technology can play in their lives. This is an important influencing phenomenon to understand because for too long, the systematic framework of health care delivery has impeded African Americans’ willingness to engage with the health care system. Simply put, behaviors learned from generation to generation can no longer be the standard and can no longer be dismissed by the health care community.

A modeling approach to health care delivery based on the adoption of mHealth technologies can meet African American millennials where they are. Bettiga et al. (2020) noted that smart technologies are emerging, new instruments in the health care space that can serve as change agents by encouraging citizens’ acceptance and willingness to become more participatory in health care consumerism.

Health care leaders and change agents need to make focused efforts and mount campaigns to deploy and make mHealth technologies accessible. These efforts need to be focused specifically on the communities in which African American millennials and their families live. Communities of color, especially those of lower income, are tight-knit communities. If health care leaders and change agents can penetrate these areas, a grassroots approach to deploying mHealth technologies might gain traction and have a higher probability of securing and increasing patient engagement.

The results of this study could be disseminated in written form, whether through publication, seminars, conferences, or focused training forums. Strategies for leveraging mHealth technologies to enhance care delivery models are ever-present now, but health care leaders can certainly pay closer attention to the social welfare of African American communities such that delivery is more tailored and specific to their needs.

In conclusion, the results of this study may be valuable to both African American millennials and their communities as well as leaders working in the health care field. To provide a comprehensive, equitable, and cost-friendly health care experience, industry strategies must exist and align in a manner that addresses and meets a patient where they are. There is no one-size-fits-all solution that can adequately provide care for all patients. When seeking care, African American millennials and their communities must begin to think differently and be open to a new way of engaging with the health care system.

## Implications

Health care delivery in the United States aims to be transformative. With ongoing shifts to value-based care, understanding aspects of the community and how people within communities engage, interact, and exist will help to transform health care delivery. As understanding of the diversity of communities becomes better, then newer enablement tools, like mHealth technologies, can be used to create better trust and improve use of the health care system itself. As a potential force to effect change, mHealth technologies can be a driver of change regarding the perceptions of health care across the African American community.

In an effort to shift from volume-based care to value-based care, the health care delivery system will need to place a specific focus on how various populations engage with, interact with, and utilize healthcare services. Nelson and Potter (2020) noted that this systemic shift needs to focus on implementing strategies that facilitate quality and continuity of care as well as cost effectiveness.

The use of technology can be expanded to address these elements of health care delivery across the African American population. Health care leaders must fully evaluate and understand the use patterns of African American millennials as it relates to mHealth technology. Technology reaches beyond physical walls by creating the ability to put health care tools in the patient’s hand through mobile engagement technologies and by continuing to create teaching and learning opportunities by highlighting the importance of health care technology. That knowledge can enhance and inform better patient-provider relationships and be leveraged to expand strategies to address the African American community at large. The social aspect of this finding cannot be understated.

In addition, this study clarified African American millennials’ utilization of the health care system and how mHealth technologies impact their experiences. I used the phenomenological approach to develop a better understanding of African American millennials’ perceptions of their use of mHealth technology, access to health care, and health care utilization. This additional knowledge can be used to develop more inclusive healthcare delivery frameworks that aim to increase the African American health care experience.

## Conclusion

Technology dictates many experiences that would not have existed prior. More importantly, it continues to be introduced to the health care space, providing an opportunity to create a more comprehensive approach to delivering and experiencing care. In this study, I aimed to provide an understanding of African American millennials’ utilization of the health care system and how the use of mHealth technologies impacts their experiences when utilizing health care services. To explore that phenomenon, I conducted surveys as the sole data collection tool and used NVivo to analyze the collected data and determine common themes. The study resulted in three common themes: (a) accessibility to health care services, (b) range in motivation for seeking health care services, and (c) mobile application use. With the findings of this study, health care leaders and change agents can explore patterns of use and social awareness of mHealth application technologies in African American communities to create and enhance strategic health care delivery models and frameworks to improve the use of health services amongst this population.

As a result, the potential for social change is unlimited. Considering health care utilization based on current and popular mHealth technologies paired with an understanding of how African American millennials and those within their communities live, learn, and engage can make way for a totally inclusive and comprehensive approach to delivering holistic, accessible, and affordable health care.

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# Appendix: Survey Questions

1. Do you go the doctor frequently?
2. Have you sought services from a healthcare provider/entity within the past six (6) to twelve (12) months?
3. How would you describe your experience with going to the doctor and/or seeking healthcare services? Have your experiences been positive or negative?
4. Do you find that healthcare services are readily accessible?
5. How would you describe your motivation for seeking healthcare services?
6. Do you have any known barriers to seeking, accessing or utilizing healthcare services? If so, please describe.
7. Do you have a smartphone?
8. Do you use apps on your mobile phone often? If so, what kind of apps do you use?
9. Smartphones give users access to health applications, which help to secure readily available access to healthcare services. How do you think using mobile health applications would assist you in accessing and utilizing healthcare service?
10. The use of mobile healthcare applications is becoming more popular. How do you feel mobile health applications could impact how you seek healthcare services?
11. How do you feel mobile health applications could impact your willingness to seek healthcare services?