Abilene Christian University
Digital Commons @ ACU

Electronic Theses and Dissertations

Electronic Theses and Dissertations

12-2022

Assessment of Veteran Satisfaction With Telehealth Services During the COVID-19 Pandemic

Rhonda Kay Howard rkh20a@acu.edu

Follow this and additional works at: https://digitalcommons.acu.edu/etd

Part of the Family Practice Nursing Commons, and the Other Nursing Commons

Recommended Citation

Howard, Rhonda Kay, "Assessment of Veteran Satisfaction With Telehealth Services During the COVID-19 Pandemic" (2022). Digital Commons @ ACU, *Electronic Theses and Dissertations*. Paper 537.

This DNP Project is brought to you for free and open access by the Electronic Theses and Dissertations at Digital Commons @ ACU. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ ACU.

This scholarly project, directed and approved by the candidate's committee, has been accepted by the College of Graduate and Professional Studies of Abilene Christian University in partial fulfillment of the requirements for the degree.

Doctor of Nursing Practice

Nannette W. Glenn, Ph.D.

Dr. Nannette W. Glenn, Dean of the College of Graduate and Professional Studies

Date: 10/20/2022

Doctoral Project Committee:

Catherine Garner

Dr. Catherine Garner, Chair

Dr. Sendre Ooveland

Dr. Sandra Cleveland

Abilene Christian University

College of Graduate and Professional Studies

Assessment of Veteran Satisfaction With Telehealth Services During the COVID-19 Pandemic

A doctoral project submitted in partial satisfaction

of the requirements for the degree of

Doctor of Nursing Practice

by

Rhonda Kay Howard

December 2022

Dedication

This project work is dedicated to all veterans who serve with honor and dignity to safeguard our country, and to the nurses and caregivers who give so much to maintain our veterans' health.

Acknowledgments

A special acknowledgment to my husband, Chris, and my children, Katherine, Karen, and Andrew, who have been my silent partners and cheerleaders. And thanks to my faculty chair, Dr. Garner, who reminded me I was not solving world peace, but making a difference in the lives of our patients. And finally, a warm thank you to my DNP committee member Dr. Cleveland, my program instructors, my fellow students, and my peers who have helped mold me into the better professional I hope to become.

© Copyright by Rhonda Howard (2022)

All Rights Reserved

Abstract

With the advent of the COVID-19 public health emergency in the United States, many U.S. veterans were unable to maintain their usual office visits due to safe access concerns. Patients were strongly encouraged to maintain their healthcare needs at home by utilizing online technology resources like telehealth services with their healthcare providers. Providing excellent healthcare services for veterans during COVID-19 became a challenge for primary care providers at many veteran healthcare organizations. Since little was known about the satisfaction of veteran clients with healthcare management using virtual care during the pandemic, this formative program evaluation was designed to survey and assess veteran clients' satisfaction using a veteran telehealth survey tool. This study found that approximately 88% of participating veterans agreed that telehealth made positive changes in their life, 89% agreed telehealth led to positive health changes, and 90% would recommend telehealth to others. Of these participants, nearly 70% were 60 years and older, with 40% of all participants being 70–79-year-olds, primarily representing an older veteran population. Some 99% of veteran participants perceived improved health management as validating the importance of providing continued telehealth care services. This formative evaluation on telehealth care will serve to provide healthcare leaders with information on improving healthcare using telehealth services, reinforce data of the positively perceived healthcare outcomes, and support a trend of the evolving need for continued healthcare access to the veteran during challenging conditions.

Keywords: veteran, telehealth, COVID-19, primary care providers

Acknowledgments	iv
Abstract	vi
List of Tables	ix
List of Figures	X
Chapter 1: Introduction	1
Overview of Problem Statement Background	
Purpose of the Study	6
Statement of the Problem	7
Type of Study	
Practice-Guided Research Questions	
PICOT Question	9
Hypothesis	9
Operational Definitions of Key Terms	
Scope and Limitations	10
Summary	11
Chapter 2: Literature Review	12
Literature Search Methods	12
Project Design and Theoretical Framework	
Literature Review	13
Telehealth Services and U.S. Veterans	14
History of Telehealth Services	19
Findings	22
Search Limitations	
Chapter Summary	24
Chapter 3: Methodology	25
Purpose	25
Project Design	
Research Methodology	
Feasibility and Appropriateness	
IRB Approval and Process	
Interprofessional Collaboration	
Practice Setting for EBP	
Target Population	
Risks to Humans	
Benefits	
Instrument/Measurement Tools	
	•••••••••••••••••••••••••••••••••••••••

Table of Contents

Data Collection and Management	30
Timeline	31
Data Analysis Plan	33
Role of the DNP Student	33
Chapter Summary	
Chapter 4: Results	35
Findings: Results	35
Purpose of the Project	35
Demographic Data	37
Organization of Findings	
Using Qualtrics Online Survey Software and SPSS for Program Review Analysis	5
of Data	
Results: Strengths and Weaknesses of the Project	
Recommendations for Future Research and Implications for Nursing Practice	
Conclusion	47
Chapter 5: Discussion of Findings	49
Interpretation and Inference of the Findings	49
Implications of Analysis for Leaders	
EBP Findings and Relationship to DNP Essentials	50
Recommendations for Future Research	51
Chapter Summary	
References	53
Appendix A: VA Home Telehealth Patient Satisfaction Survey	62
Appendix B: Measurement Tool Permission Letter	64
Appendix C: Participant Information Sheet for Verbal Consent	65
Appendix D: Abilene Christian University IRB Approval Letter	66
Appendix E: Mann-Whitney Table	67

List of Tables

Table 1. Project Timeline	
Table 2. Task Timeline	32
Table 3. ANOVA Analysis	40
Table 4. Descriptive for Mann-Whitney U Test	42
Table 5. Test Statistics for Mann Whitney U	43
Table 6. Overall Percentages of Veterans Answering Survey Questions and A	nswers44

List of Figures

Figure 1. DNP Project Structure-Process-Outcome Model	13
Figure 2. G*Power Analysis	36
Figure 3. Demographic Data: Veteran Participant Age Variation for Veteran	Telehealth
Survey	37
Figure 4. Statistical Test Combinations for Survey Questions	43
Figure 5. Optional Survey Question 9 What is Your Age Category	45

Chapter 1: Introduction

Although telehealth is not a new concept of care, it became a new norm for conducting healthcare visits for many healthcare organizations during the public health emergency known as the novel coronavirus (nCoV) or COVID-19. The Veterans Affairs (VA) serves many veterans who were required to conduct ongoing healthcare through telehealth services during the pandemic. The purpose of this project was to assess the satisfaction of veterans with the use of telehealth services during the COVID-19 pandemic. Patient satisfaction surveys can inform health leaders about the benefit of continuing telehealth services and provide suggestions for improving this program. Maintaining successful healthcare outcomes leads to a healthier client with a potentially better quality of life.

Overview of Problem Statement

On March 11, 2020, the World Health Organization (WHO; 2022) declared the COVID-19 outbreak a global pandemic. The VA responded by closing all clinics for non-essential visits by veterans, encouraging clients to stay at home and use their online portal, the *My HealtheVet* to communicate their healthcare needs (VAntage Point, 2020). For instance, when most VA Ambulatory Care Departments closed, approximately 75% of the staff were sent home to do telework from their homes, including most primary care providers.

One VA facility in the Texas panhandle, serves approximately 65,000 veterans in this region and surrounding states areas (Texas Workforce Investment Council, 2019). Many of these veterans and their families reside in remote, rural areas. And although telehealth had been a source of healthcare communication for years, it evolved quickly and dramatically during the COVID-19 pandemic. Yet, reimbursement entities like Medicare continued to be restrictive and vary for clinicians and organizations, inhibiting their full potential for telehealth (Malek &

Mowad, 2019). These restrictions were partially addressed with reimbursement adjustments during the pandemic but had timeline limitations. In addition, overlapping approaches in state and federal laws and regulations needed coordination for the expansion and sustainability of telehealth services.

The novel coronavirus (COVID-19) pandemic crisis moved many patients, including seniors from face-to-face visits to telehealth services for primary care services to avoid the risk of exposure to infections in primary care offices (Strazewski, 2020). For some elderly persons who no longer drive or have few family resources, the lack of access to care was potentially devastating due to health issues, and the closest clinic was in the next county. The Commonwealth Fund (Radley et al., 2018) ranked Texas last in access and affordability to healthcare. For instance, in Lipscomb County in the Texas panhandle, the 2019 population was approximately 3,868, and no primary care providers (PCPs) practiced in this county (North Texas Regional Extension Center, 2015). According to Hirsch (2019), primary care providers and specialists were noticeably in short supply in many rural areas like Lipscomb County, and many of these areas faced chronic shortages of healthcare facilities. For these reasons, patient surveys of healthcare services are a needed quality assessment to plan for improvements of health outcomes.

Advancing technology was one potential solution to the dilemma of insufficient resources and accessibility to healthcare for aging populations in rural settings. The Veteran Administration Healthcare System (VAHS) made headway with this challenge by promoting healthcare access through eHealth technologies, also known as home telehealth (Jia et al., 2009). In 2009, Jia and his colleagues assessed the VA patient-centered Care Coordination Home Telehealth (CCHT) program on preventable hospitalizations for diabetic patients. They found that telehealth programs had a long-term positive outcome on some avoidable hospitalizations. As a result, the VA was the leading innovator and telehealth provider offering digital health services in the nation (U.S. Department of Veterans Affairs, 2020). The VA has been adamant about reaching out to its veterans during the COVID crisis and supports ongoing research and veteran feedback on its telehealth services.

The VA received \$17.2 billion in funding from the Coronavirus Aid, Relief, and Economic Security Act or CARES Act to prioritize provisions of telehealth services for those seeking in-home care (Mooney, 2020). Healthcare providers saw 50-175% times the number of patients by telehealth than before COVID-19; telehealth improved convenience to access to care and leads to better patient outcomes (Henry, 2020). Due to this trend, Medicare & Medicaid Services (CMS) temporarily allowed 80 telehealth services. Since the beginning of the COVID-19 public health emergency (PHE), CMS has added 144 telehealth services that Medicare covers through the end of the PHE (Centers of Disease Control and Prevention [CDC], 2021). However, provisions and reimbursements had pending updates and expirations, minimizing or even eliminating reimbursement potentials, leaving many underserved populations further at risk.

An issue overlooked during the COVID-19 crisis was how veterans feel about telehealth care since satisfaction surveys were conducted before COVID-19 (Mooney, 2020). Mooney (2020) argued that these studies indicated that patients who initially declined telehealth services often voiced satisfaction when they became more experienced with the technology. And she wrote that technology enhancing the role of health care access and delivery significantly impacted clients in geographically isolated communities or homebound populations. Yet, up-to-date data on patient satisfaction with the use of telehealth following the COVID crisis had been unavailable.

Therefore, a clinical gap in practice was the lack of formative assessment data on patient satisfaction with telehealth services at the VA and the perception of the use of telehealth on their health status. These data were needed to complete the feedback loop as part of continuous quality improvement. Patient satisfaction should be assessed to make any remedial measures in the VA Care Coordination Home Telehealth (CCHT) program.

Background

Hirsch (2019) researched the aging populations in rural areas of the United States and reported that close to 60 million people were living in rural areas. With the reduction of the need for smaller farms and agriculture to maintain food supply and demands due to the increased productivity of massive agricultural conglomerates, most jobs were shifting to the urban setting. Consequently, rural communities have continued to decline in population. In fact, by the year 2000, the rural community had seen a population decline of 90% in the last 100 years (Hirsch, 2019). Included in this decline were the fertility rates and birth rates. However, with advances in medicine, life expectancy continued to increase. Hirsch (2019) explained that males' life expectancy was 74.1 years, and for females, it was 79.3 in 2000. These numbers continue to increase in rural areas.

Another concern was the importance of assessing the client's comfort level with computer-assisted technology and information security. Older persons were reported to be less comfortable and trusting with technology (Bailey, 2022). Patient comfort level with technology was evaluated during the process of use. Studies have shown that using technology with repeated interactions have built IT confidence. Yet, with limitations of broadband services in more remote areas of the country, this continued to present barriers to services requiring internet. In addition, rural residents were usually more socioeconomically challenged and presented an older population with less experience with internet services (Hirsch, 2019). Other factors inhibiting access adoption included lack of infrastructure, lower perceived value, affordability of computer ownership, and computer skills literacy. Lastly, broadband providers played a role by being reluctant to service areas without government subsidies, grants, or loans; all have been slow to evolve. President Biden's infrastructure initiative may address some of these structural issues, but their prior experiences have impacted patients' unwillingness to access telehealth.

The Agency for Healthcare Research and Quality (AHRQ; 2021) established the Evidence Report/Technology Assessment guidelines to help healthcare decision-making for patients, clinicians, health system leaders, and policymakers to make informed decisions that would improve healthcare service quality. Through evidence-based reporting, the AHRQ conducted technology assessments to evaluate strategies and the safety of technologies like telehealth. They reviewed the impact of health information technology (IT) supporting patientcentered care (PCC), using health IT to deliver PCC to identify gaps in evidence, and responsiveness with attention to patient satisfaction. Barriers and facilitators were appraised and reported using health IT applications. Many limiting factors included lack of usability, older age challenges with limited access to health IT, low income, education, cognitive and physical impairment, low computer literacy, insufficient training, lack of burden of physician workload, and concerns about patient information confidentiality (AHRQ, 2021). Facilitators for health IT utilization included ease of use, perceived usefulness, efficiency and comfort in service, available support, and site locations (AHRQ, 2021). Their conclusion supported that health IT had positive effects on healthcare outcomes with PCC-related components. This study and others confirmed that health ITs continued to be a potential ongoing health access capability during

COVID-19 and for the future of healthcare. This organization needed additional assessment within the veteran population to plan future patient care access.

Finally, clients' privacy issues and comfort levels were impacted by family members and others present during the virtual healthcare visit, limiting the potential success of information exchange between the primary caregiver and the patient. These and other factors presented continued limitations to a service already challenging in rural and underserved areas. The VA has continued to attempt to reduce and eliminate some access barriers. For instance, they mandated privacy of patient information, provided electronic tablets for video conferencing, and some VAs issued veterans phones to use for better communication access to services. The VA also provided some limited transportation services for veterans who are unable to drive. This study provided data for a continued investigation of the patient's perception of the relevance and potential success of telehealth communications.

Purpose of the Study

The purpose of this formative program evaluation was to gather information from the VA patient population who have utilized telehealth services in the last year and analyzed their satisfaction with services and their perception of the effect of the VA telehealth visits on their health status. Al-Abri and Al-Balushi (2014) noted that although patient satisfaction surveys have gained popularity in measuring quality improvement for healthcare organizations, the few that are published reported contradictory findings and were inconclusive. Patient-centered care continues to be a focus for healthcare organizations like the VA to achieve healthcare excellence while recognizing patient perception of care at its forefront. Finally, quality improvement for organizational performance often measured patient satisfaction with surveys to help shape the future of patient care delivery. The need for further evaluation of veterans' satisfaction with care

access has continued with more organizations finding that patient satisfaction regarding telehealth services, has been essential to track to gauge changes in the convenience and perceived quality of care delivered (Heath, 2021). This project utilized the VA Home Telehealth Patient Satisfaction Survey Version 2.0 tool (Department of Veterans Affairs [DOVA], 2009) adding an age-category question, and measured their perception of telehealth services (see Appendix A)

Statement of the Problem

The veteran population continues to grow in the rural areas of the country. Nearly onequarter of all veterans returning from active military duties reside in rural communities (U.S. Department of Veterans Affairs, Office of Rural Health, 2021). Unfortunately, many of these areas in Texas and the southwest regions of the U.S. lacked the availability of necessary healthcare resources. The North Texas Regional Extension Center (NTREC; 2015) reported Texas has over 3.1 million people. Yet in Texas' 254 counties, 35 counties have zero physicians, and 80 counties have five or fewer physicians. They also reported that the physician workforce is disproportionately located in the state's five most populous counties. In addition, rules governing the Advanced Practicing Registered Nurse (APRN) in Texas limit their autonomy for practice by requiring confining practice agreements with physicians and oversight for prescriptions, impacting their ability to cover healthcare needs in rural areas (American Association of Nurse Practitioners, 2021).

Telehealth care became a new norm for conducting healthcare visits during the pandemic. A problem statement was derived from how veterans felt about technology required to utilize telehealth care, and how this delivery of care impacted their perception of health during COVID-19. Telemedicine continues to be a potential tool for reaching these clients in the country's more remote areas. For example, by mid-2020, veterans had used some form of telehealth to access care with a 1,000% reported increase than before the COVID-19 health crisis (Wicklund, 2020). The VA continues to take steps to expand access to care for veterans by promoting telehealth and promoting actions like tablet distribution. Building relationships with stakeholders like internet and wireless service carriers help to ensure continued access. This project focused on performing and analyzing patient satisfaction so that services could continue to be improved for vulnerable populations like veterans, particularly those in remote areas with limited access to healthcare. In addition, bringing attention to patient satisfaction was a driving force to modernize outdated telehealth legislation and update reimbursement entities like Medicare on a national stage.

Type of Study

This project was a quantitative formative program evaluation of the VA's telehealth services using a VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009), the officially approved survey by the Office of Management and Budget (OMB). This survey tool assessed the patient's perception regarding the use of the home telehealth program and their satisfaction and perception of health status associated with the help of this program. Program evaluation is an essential part of the quality improvement process for all organizations. With audits like these, program managers can assess the value and impact of their work (Centers for Disease Control and Prevention [CDC], 2020). In addition, the CDC published manuals that assist with defining the program evaluation and set guidelines and recommendations for program effectiveness to assist with informed decision-making regarding future program development. In general, evaluation assesses the implementation, effectiveness, efficiency, cost-effectiveness, and attribution of goals and objectives defining accountability. Information is collected during these evaluations to focus on improving the program's quality of care. This project collected data regarding telehealth services, managed, reviewed, and analyzed veteran patient population responses, and then will potentially dispense information contributing to planning and objectives for this service in the future.

The WHO states that the patient is the expert when measuring patient experiences and healthcare satisfaction (Larson et al., 2019). Larson et al. (2019) concluded that personcenteredness is an essential aspect of the investigation of quality of care. She notes that individuals have the right to dignity and respect when utilizing healthcare services, and patientcentered care is tied closely with improved healthcare outcomes. Therefore, it was crucial to survey, assess and implement changes based on ongoing patient satisfaction surveys to target the healthcare needs of the veteran population.

Practice-Guided Research Questions

RQ1: What is the satisfaction of VA clients with their telehealth experience?

RQ2: What is the perception of VA clients on the effect of telehealth on their health status?

PICOT Question

PICOT: What is the veteran satisfaction with the telehealth care experience and their perception of the impact on their health status during COVID-19?

Hypothesis

- Ho1: The VA clients will report positive satisfaction with their telehealth experience.
- Ho1(null): The VA clients will report negative or neutral satisfaction with their telehealth experience.
- H₀2: The VA clients will perceive improved health status following the telehealth experience.

• H₀2(null): The VA clients will perceive no improvement in health status following the telehealth experience.

Operational Definitions of Key Terms

Aged. A person or persons of age 65 and over; used interchangeably with *elderly* (Organization for Economic Co-operation and Development, 2020).

eHealth. An emerging field in the intersection of medical informatics, public health, and businesses, referring to health services and information delivered or enhanced through the internet and related technologies (Eysenbach, 2001).

Health IT (HIT). An abbreviation for health information technology, a broad concept that encompasses an array of technologies using computer hardware, software, or infrastructure to record, store, protect, and retrieve clinical, administrative, or financial information. May include electronic health records, personal health records, electronic medical records, or electronic prescribing (e-Prescribing; Brooks, 2019).

My HealtheVet. A VA personal health record (PHR) designed for veterans, Servicemembers, caregivers, and others associated with the VA requiring a computer and internet service (U.S. Department of Veterans Affairs, 2021).

Telehealth/telemedicine. The use of electronic information and telecommunication technologies to provide patient care by allowing communication to occur with the use of a phone, or device with internet access (Health Resources & Services Administration, 2021).

Scope and Limitations

This quantitative survey approach focused on the veteran population in the Texas panhandle and surveyed their perception of telehealth in assisting the management of their health over the last 12 months. Exclusions were those with hearing and vision impairments, those with cognitive impairments, and those with no telehealth use history. No bias was present, and no money-value or reimbursement incentives were available to participants. The limitation of this quantitative program evaluation study was that it is exclusive to one VA site in the Texas panhandle. Lastly, there was a limitation of the chosen research quantitative formative program method of evaluation using the VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009) tool which the research manager was unable to change or tailor to the needs of this project other than the addition of an age variant.

Summary

With the advent of the COVID-19 public health emergency, many veterans were unable to maintain their usual sources of office visits due to safe access concerns. Most were strongly encouraged to conduct their healthcare needs at home utilizing online technology like their online portal My HealtheVet and telehealth services for tele-visits with their primary care providers. This chapter provided a general overview of the purpose of this qualitative project evaluation by gathering information from the VA patient population utilizing telehealth services during the COVID-19 healthcare crisis. The focus was to analyze veteran satisfaction with telehealth services and their perception of the effect of telehealth visits on their health status. Further review of the literature was focused on in Chapter 2 relating to telehealth communications factors affecting veterans' healthcare.

Chapter 2: Literature Review

During COVID-19, many veterans could not maintain their routine office visits and healthcare practices due to safe access concerns. Implementing successful telehealth care services while maintaining safe environments for patients became a priority in controlling potential infections posed by office visits. Virtual or telehealth visits with healthcare providers became a common practice for clients to use in their homes. Primary care providers in healthcare systems like the VA found challenges in improving healthcare outcomes with digital services. Many factors impact telehealth services and veteran experiences. An observation in this review is the lack of data on veteran satisfaction with telehealth services during the pandemic.

Literature Search Methods

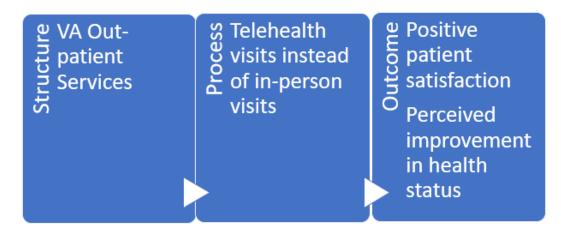
This chapter provides a thorough literature review based on data and research involving veterans' use of telehealth services. Included in this exploration is a focus on studies that provide assessments on multiple factors affecting telehealth access, technology, veteran opinions and satisfaction assessments, and health outcomes using these digital services. Boolean expressions using keywords and phrases concerning the veteran, telehealth services, and patient satisfaction created a baseline for research. This review used variations of strings primarily in Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, EBSCO, PubMed, the Abilene Christian University Brown Library Distance Learning Portal, and those references associated with the VA literature review searches were targeted to the last five years with an emphasis on peer-review articles written in the English language.

Project Design and Theoretical Framework

One theoretical framework for evaluating healthcare quality is the Donabedian structureprocess-outcome model, derived from Avedis Donabedian (Berwick & Fox, 2016). The Donabedian model is designed to measure the quality assurance of a healthcare program. According to Moore et al. (2015), the Donabedian model allows the improvement of the care structure to improve patient outcomes by enhancing the clinical process or core process. Many communities widely adopt this model to validate a system by assessing its performance of the system. Moore et al. (2015) contended that structure, process, and outcomes allow the evaluation and correlation between the quality domains. The Donabedian model process implies that transactions between providers and the patient be required throughout the delivery of healthcare and guides the evaluation of a significant process change and its impact on patient outcomes lending a visual representation for this project (see Figure 1).

Figure 1

DNP Project Structure-Process-Outcome Model



Literature Review

According to the National Rural Health Association (NRHA), telehealth is defined differently by states and federal agencies (Alonso et al., 2019). Yet, they agree that telehealth increases accessibility to most healthcare providers for patients who live in rural, frontier, or underserved population areas, which constitutes the most significant portion of the landmass in our nation representing 60 million persons. The NRHA notes that telehealth can create costeffective strategies for health care delivery in the United States. In addition, it can benefit patients by allowing the reception of quality care to home-based patients from primary care providers or specialty areas of care, better serving rural America.

The Southern Illinois University (SIU) Medicine Department of Population Science and Policy (2021) made recommendations based on the effects of COVID-19 on the aging rural population. They noted that rural areas are comprised of a more significant growing percentage of older populations (i.e., an estimated increase from 2.6 million to 3.9 million in 2030), and faced unprecedented challenges (e.g., lack of healthcare, provider shortages, decreased technological skills lack of transportation, and more geographically isolated), and had higher risks for severe illnesses or even death from COVID-19 (SIU Med, 2021). Based on their study, rural residents suffer from disadvantages associated with food, healthcare, social services, data deserts, technological disconnections, low-income disparities, and fewer developmental opportunities than their urban counterparts (SIU Med, 2021). Texas rural residents share many of these same concerns. The SIU Medicine recommendations included enhancing digital literacy with technology utilization to reach underserved healthcare areas with telehealth and telemonitoring. They also recommended investment in research and program funding for more comprehensive service and, addressing social isolation, especially among rural elderly populations with screenings and community-based programs. Finally, they recommended managing weak technological infrastructures for more accessibility to healthcare by utilizing telehealth and telemonitoring services.

Telehealth Services and U.S. Veterans

Access to health care and supportive services is a priority for all veterans, especially those with complex diagnoses and especially those in more underserved, remote areas requiring

alternative access to healthcare. The U.S. veteran population presents with a unique set of health issues requiring enhanced professional healthcare awareness. Olenick et al. (2015) discussed this population as multifaceted, with a unique culture and subculture based on varying military experiences. This precipitates potential distinctive healthcare issues based on their service duties, area of service, and the era of service. Additionally, with the onset of the global pandemic, telehealth services have become necessary for many veterans. Yet many factors impact these service delivery systems. There is a gap in research findings for veteran patient satisfaction with telehealth services, especially during the rapid shift to telehealth during the COVID-19 healthcare crisis.

The VA received \$17.2 billion in funding through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) in 2020 (Mooney, 2020). One focus for the use of this funding was to provide in-home care for veterans with telehealth resources. One review noted 43 current studies on telemedicine implementation and experience during the recent COVID-19 healthcare crisis (Hincapié et al., 2020). Yet, an issue overlooked was how veterans felt about telehealth care during this period. Mooney's study (2020) indicated patients felt that video visits could not fully replace in-person care. Yet, those who initially declined telehealth often found that they were satisfied with this service delivery and often perceived it to be of the same or better quality than an in-clinic visit. This study concludes that strong satisfaction rates suggest that preference of engagement in video-based care is possible for meeting patient healthcare needs, including those considered part of the digital divide, such as low-income, older populations, and those with health care disability challenges.

Video-based health care is thought to help address gaps in access to healthcare on many forefronts. Because patients report access barriers to healthcare, the VA utilized programs to

include the distribution of video-enabled tablets for veterans to use in their outpatient healthcare. In 2016, Slightam et al. (2020) created a study to evaluate veterans' experiences with VA.-issued tablets. The recipients of these tablets reported that video care was equivalent to or preferred to clinic visits. However, screening ideal candidates for virtual care and interventions was a factor due to technological challenges. Findings from Health Services Research & Development (HSR&D) and Quality Enhancement Research Initiative (QUERI) report that more than 80,000 veterans have received tablets for high-need clients and continue to evaluate the effectiveness of tablets on veteran access clinical outcomes and experience (HSRD, 2021).

Based on a Centers for Medicare & Medicaid Services (CMS) news release, CMS is "proposing changes to address the widening gap in health equity highlighted by the COVID-19 Public Health Emergency (PHE) and to expand patient access to comprehensive care, especially in underserved populations" (CMS, 2021). Steps recommended by CMS will continue the Biden-Harris Administration's proposal to promote health equity, expand services, and access to services such as telehealth and other telecommunications. This expansion of services will enhance programs such as behavioral medicine, and diabetes prevention and ensure quality care for Medicare beneficiaries, creating better healthcare provider opportunities.

The CMS Administrator, Chiquita Brooks-LaSure, states, "Over the past year, the public health emergency has highlighted the disparities in the U.S. healthcare system, while at the same time demonstrating the positive impact of innovative policies to reduce these disparities" (Centers for Medicare & Medicaid Services, 2021, para. 2). Brooks-LaSure continues that "COVID-19 put enormous strains on families and individuals, making access to behavioral health services more crucial than ever." She summarized that CMS has "lessons learned during this time and move forward toward a system where no patient is left out, and everyone has access to comprehensive quality health services" (Centers for Medicare & Medicaid Services, 2021, para. 6).

During the COVID-19 public health crisis, the VA received \$17.2 billion in funding through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) in 2020 (Mooney, 2020). One focus for the use of this funding was to provide in-home care veterans with telehealth resources. An issue overlooked was how veterans feel about telehealth care delivery in their homes. Most studies about patient satisfaction with telehealth services were published before the Coronavirus pandemic. In a 2016 VA pilot initiative study discussed by Mooney (2020) on the distribution of e-video-enabled tablets to veterans for teleservices with social and geographical barriers to in-person health care access, 31.1% of veterans indicated they would prefer using video access. Another 31.8% of veterans felt that video visits could not fully replace in-person care, and 35.7% indicated no change in preference. Yet, she summarized that those who initially declined telehealth often found that they were satisfied with telehealth and perceived it to be of the same or better quality than in-clinic visits. Strong satisfaction rates suggest that a preference for engagement in video-based care is possible for meeting patient healthcare needs, including those considered part of the digital divide, such as low-income, older populations, and those with healthcare disability challenges (Mooney, 2020).

Telehealth-based health care like video conferencing helps address gaps in access to healthcare at many forefronts. Slightam et al. (2020) created a study to evaluate veterans' experiences with VA-issued tablets. The recipients of these tablets reported that video care was equivalent to or preferred to clinic visits. However, screening ideal candidates for virtual care and interventions was a limiting factor due to the technological challenges of some veterans. Yet, findings from Health Services Research & Development (HSR&D) and Quality Enhancement Research Initiative (QUERI) reported that more than 80,000 veterans had received tablets for high-need clients and continued to evaluate the effectiveness of tablets on veteran access clinical outcomes and experience (HSRD, 2021).

Based on the Newsroom Press Release by CMS (2021), the U.S. government continues to seek feedback on health equity data collection to address continued inequities and disparities in health outcomes for underserved populations. In the proposed Physician Fee Schedule (PFS) rules, this government newsroom report indicates that CMS is soliciting feedback on data collection. These ideas can advance health equity for Medicare recipients while maintaining privacy and protections for individuals to close equity gaps and identify and develop strategies for health equity promotion.

Expanding telehealth and other telecommunication technologies for needed healthcare services will assist in removing some statutory restrictions allowing patients in limited geographical locations access to telehealth services for continued diagnosis, evaluation, and treatment (CMS, 2021). In addition, they continued that CMS's expansion of audio care services will assist with fulfilling payment proposals to eligible practitioners. They will also address other factors such as poor broadband infrastructure and limitations with technology expanding access to beneficiaries living in rural or other underserved areas.

Diabetes continues to be a serious disease that can be managed in the primary care setting to prevent complications such as chronic renal disease and other compromising health issues. Over 88 million American adults have prediabetes, with 80% undiagnosed (CMS, 2021). The U.S. Department of Veterans Affairs reported that 9% of Americans have Diabetes; yet the rate for veterans is nearly 25% (U.S. Department of VA Office of Research & Development, 2021). An expansion of care proposed by CMS with telehealth services will address and expand the Medicare Diabetes Prevention Program (MDPP) model to prevent prediabetics from developing type 2 diabetes. Improving access to care and services like MDPP will create a more sustainable and improved care outcome for beneficiaries like veterans (CMS, 2021).

Other incentives for using an expansion of telehealth services include making advances through changes in the CMS Quality Payment Program (QPP) based on value-based reimbursements for high-value care (CMS, 2021). A merit-based incentive payment system (MIPS) founded on the meaningful participation of healthcare providers with improved outcomes for multiple diagnoses will spur meaningful feedback. For the first time, recent statutory changes have authorized Medicare to make direct payments to Physician Assistants (PAs) for professional services rendered. This serves to improve patient access to care, streamline billing, and reduce administrative burdens for some healthcare organizations with PAs. This incentive was projected to begin on January 1, 2022 (CMS, 2021).

The public health emergency has highlighted disparities in our country, especially in areas where remote access to care has been historically challenging both for patients and providers. Continued expansions of healthcare delivery services for clinicians by entities like CMS will continue to address the rapid transition in veterans' use of telehealth services overlooked by CMS and the VA during COVID-19 further addressing these disparities. This will address how veterans feel about their telehealth care.

History of Telehealth Services

Telehealth services were first established as a Medicare-reimbursable service in 2002. These services were limited to rural areas indicated as Health Professional Shortage Areas (HPSAs; HIMSS, 2020). The rationale was that rural populations were at risk for healthcare deficits and would benefit the most by having video chat access with their care providers. The reimbursement of Medicare for this population has become more outdated in the wake of technological transformations like the iPhone and FaceTime. In addition, the COVID-19 pandemic resulted in an enormous need for better digital access to care.

Before the COVID-19 public health crisis, only 15,000 fee-for-service weekly beneficiaries received Medicare telemedicine services. In 2019, CMS added an additional 144 telehealth services to allow for safe access to care (CDC, 2020). A resulting 24.5 million out of 63 million beneficiaries and enrollees have now received telehealth services through Medicare, which continues to grow. Veterans continue to be a large part of this population receiving telehealth services.

Sundeen et al. (2020) presented a quality improvement project that focused on improving depression using depression screening which is a health threat to rural communities. They concluded that appropriately treated depression resulted in the remission of this mental health disorder in the rural primary care setting positively impacting this population's health and wellness. In addition, some of their research using telehealth resources continue to be a growing norm for communication styles with patients.

Another investigation of home-based telehealth services versus in-person delivery of care indicated a continued interest and support of telehealth services in reducing posttraumatic stress disorder (PTSD) with growing patient satisfaction (Gros et al., 2016). Their study demonstrated that veteran perceptions of quality of service and participant satisfaction noted a level consistent with that of in-person services and a growing willingness to participate in telehealth care supporting continuous delivery of evidence-based practices (EBPs) in future expansions of care delivery. An integrative literature review of video conference-based therapies, perspective outcomes, and affordability indicated a comparison of effectiveness to face-face-modes of delivery (Classen et al., 2021). Their study maintained a cost-effective means of continuous delivery of care, better access capabilities, and positive patient satisfaction. The advancement and increased availability of mobile technologies continue to expand the use of telemedicine, increasing specialty consultation access while improving patient health outcomes (Goncalves-Bradley et al., 2020).

Cost-effective means of care continue to be a priority for healthcare systems while finding means for the expansion of access and improved outcomes. For example, in a study using telestroke consultation for veterans within a national telestroke system of the Veterans Health Administration, 76% of participants in this study reported high satisfaction with the program (Lyerly et al., 2021). Continued data collection, analysis, interpretation, and recommendations regarding telehealth services during COVID-19 are needed to ensure that these services reflect continued veteran satisfaction and focus on changes that benefit the patient and their positive healthcare outcomes.

A Congressional Research Service (CRS) explored the demand for broadband services in rural areas in 2019. It noted that over 20 million Americans, most of whom live in rural areas, lacked high-speed broadband services. A lag of subscription services in rural areas continues despite the adoption to expand these services by federal funding (Humphreys, 2019). This CRS report also indicated that factors negatively correlate with the expense of broadband demands since rural areas are less wealthy and have older populations with lower education rates. Other factors inhibiting access adoption include lack of infrastructure, lower perceived value, affordability of computer ownership, and computer literacy. Broadband providers play a role by being reluctant to service areas without government subsidies, grants, or loans, all of which are slow to evolve.

Findings

Patient experience is a range of interactions between patients and the healthcare system (AHRQ, 2021). Quality health care is composed of patient experiences that patients highly value when care is received, such as timely appointments, access to information, and the aspect of good communication. In comparison, patient satisfaction is measured with actual data on whether the patient's expectations are met during a health encounter. In analysis, those receiving the same healthcare delivery may have different expectations and give different satisfaction ratings based on their perception of how their expectations were met (AHRQ, 2021).

In a prospective cohort study done by Fenton et al. (2012), patient satisfaction was correlated with the perception of the extent to which physicians were thought to fulfill patient requests. Yet, they pose that patient satisfaction can be maintained if patient concerns are addressed in a patient-centered way even though the fulfillment of requests may be absent. Therefore, as healthcare systems strive to achieve more patient-centered healthcare to meet quality healthcare care, it is critical to define and measure patient perceptions and understand what drives those perceptions.

As part of a Patients Over Paperwork initiative, the Trump administration proposed that non-physician practitioners be allowed to provide the care they are trained and licensed to give to relax some of the previous restrictions by the Medicare program (CDC, 2020). This initiative improves access to care and eliminates red tape and unnecessary paperwork. Since the VA recognizes full practice authority for APRNs in the VAHC system already, this reimbursement support for telehealth services by Medicare is a hallmark moment. It serves to predict future services and provisions for the APRN. This initiative allows an expansion of services, including telehealth, for all Americans. It is vital to continue to address the importance of continued streamlining and maintenance of healthcare services with appropriate reimbursement for all types of patients to have uninterrupted access to care despite their affiliation to healthcare coverage.

The COVID-19 pandemic is projected to become a landmark for telehealth medicine (Hincapié et al., 2020). This healthcare crisis brought about the need for better access to care for those with limited access, focus on provisions for Americans with limited resources, and a more streamlined approach to providing services to healthcare populations, like the veterans, who are at risk for poor health outcomes. Measuring these directives, like implementing telehealth services and reviewing patient satisfaction for veterans in the Texas panhandle, will help build a better understanding of healthcare needs for all Americans at risk and provide future recommendations and services for those in need of optimal outcomes.

A common concern noted in the articles reviewed includes privacy and security risk concerns with the use of telehealth. While telehealth allows improved self-care, allowing patientreported information and objective data, ethical issues and questions have arisen. Hall and McGraw (2014) reported significant privacy and security risks that can adversely affect the client-patient level of trust and affect the trust and adoption of the technology system. Safe Harbor codes promote protection from legal actions for accidental breaches of privacy. In addition, having other family members present may affect the dialogue between the patient and the provider. A perfect environment is not probable with telehealth, but most experiences continue to be fruitful and beneficial for the patient. A strength noted in telehealth research conducted by Simblett et al. (2018) found that users of mobile health technology required engagement to guide the future development of remote measuring technology resources. Risks of bias, short and inconsistent reporting, and variables including 44% dropout rates, average time percentages, and small sampling sizes limited the study. They concluded that usage and acceptability of remote measuring technology continue to have sustained gaps in study designs.

Search Limitations

A search limitation experienced during the beginning of this project included a lack of current data about the effects of the pandemic on telehealth services. However, working over the next year during the pandemic period yielded more research and data to fill in the gap of information needed for a fuller view of the impact COVID presented to primary care providers using telehealth. Now, much can be gained by continuing to monitor data and research published on the effects of COVID on healthcare workers.

Chapter Summary

This project focused on investigating veteran patient satisfaction responses to the rapid increase in telehealth services provided at VA healthcare facilities during COVID-19. This survey provided additional feedback on the continuation and improvement of this service for veterans and, more specifically, rural veterans in traditionally underserved areas. The outcomes of this study will contribute to improvements in the VA health system while providing insights for providers in rural and other underserved areas.

Chapter 3: Methodology

Purpose

An issue overlooked during the rapid transition to continue VA telehealth services during the COVID-19 Public Health Emergency (PHE) was how veterans feel about telehealth care. The purpose of this formative program evaluation was to assess the satisfaction of veterans with the use of telehealth services during the COVID-19 pandemic. Patient satisfaction surveys can inform health leaders about the benefit of continuing telehealth services and provide suggestions for improving this program. Maintaining successful healthcare outcomes lead to a healthier client with a potentially better quality of life.

Project Design

A formative evaluation using the Donabedian model was utilized to assess the VA healthcare system's use of telehealth services by assessing the system's performance. The Donabedian model measures the quality assurance of a healthcare system (Berwick & Fox, 2016). Improvements to a care structure improve patient outcomes by enhancing the core process. Transactions between the system's health care providers and the patient, or in this case the veteran, was improved following the Donabedian model process using a patient satisfaction survey instrument process, thereby evaluating, and analyzing the patient experience. Data outcomes from this enhancement process provided benchmarking and assessed the patient's health delivery experience providing potential significant delivery process changes impacting and improving the patient outcomes.

Research Methodology

This project was a quantitative formative program evaluation of the VA's telehealth services using a VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009). This survey instrument was officially drafted and approved by the Office of Management and Budget (OMB) with a recent review and an updated version available offering optional expanded questions on the veteran's perception of care of all VA services. For this project, the project manager focused on the original eight questions in the VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009) originally crafted in 2009 with an optional age category question for establishing demographics (see Appendix A). This tool was used to assess the patient's perception of the use of the home telehealth program and their satisfaction and perception of health status associated with the use of this program. Program evaluation is an essential part of the quality improvement process for all organizations. Using audits like these, program managers can assess the value and impact of their work (CDC, 2020).

The VA facilities in the southwest region of the U.S. serve large areas of veteran patients with health care issues and are established in Veteran Integrated Services Networks or VISNs. These VISNs, like those in the southwest region of the U.S., encompass surrounding areas which may include other neighboring states. Many of these regions include many rural and remote areas. Accessing and assessing veterans' satisfaction with telehealth services is a continuation of the mission of the VA. This project and mission serve to provide needed research and analysis for the continued expansion of healthcare delivery services and monitoring and improving perceived patient satisfaction of care.

Feasibility and Appropriateness

According to the Guidance for Surveys used for VA Operational and Research Purposes (2016), access to veterans was deemed appropriate for this study using an approved VA survey instrument. Ease of practicality was based on contacting veterans primarily through scheduled

clinic visits and during urgent office visits. Appropriateness was founded on providing better veteran health care delivery services from patient satisfaction surveys.

IRB Approval and Process

The VA Ambulatory Chief of Staff for this southwest region of the U.S. provided written approval for the study to be conducted in the outpatient clinic (see Appendix B). A copy of this letter was submitted and approved by the Abilene Christian University Institutional Review Board (IRB). The survey tool and participant informed consent was also submitted and approved by the IRB committee. This consent was made available for clients to read prior to participation (see Appendix C). A copy of the Abilene Christian University IRB approval letter is accessible in Appendix D for review.

Interprofessional Collaboration

Each healthcare Patient Aligned Care Team (PACT) at the VA consists of a licensed primary care provider (PCP) such as an NP, an LVN, RN, and a clerk. The project manager conducted surveys of approximately 200 potential patients for 8 weeks. As the lead investigator, I completed IRB training according to the requirements of the ACU with guidelines shared and available for review for others assisting with the survey so that consistency in obtaining survey data was maintained and patient identity was protected. In addition, the Associate Chief of Staff of Ambulatory Care services and other PCPs working in the VA Ambulatory Care Department was made aware of this project focus in the case that the project manager was assisting with care for fellow teams.

Practice Setting for EBP

The practice setting and target population were veterans in the VA Health Care System in the southwest region of the United States. It was essential to understand the diversity of veteran patients in the setting for this evidence-based project. The following section discusses the appropriateness of this project for this population.

Target Population

The target population were VA veterans from the Primary Care Clinic in the southwest region of the United States. Both male and female veterans were available to be surveyed, ages 21 and older. I distributed and managed the survey in English, but it was available in Spanish. Telephone call surveys and in-person and written format surveys were available but not utilized since the primary source of collecting information was a VA-approved electronic tablet. Patient answers to the eight survey questions were related to their most recent telehealth encounter during the COVID-19 pandemic. This southwest region included 26 counties servicing approximately 22,599 veterans (Texas Workforce Investment Council, 2019). Of those veterans, 8,740 are ages 65–84, and 2,067 are ages 85 and up (Texas Workforce Investment Council, 2019). Most of the survey participants were aged 50 years or older.

Nearly one-quarter of all veterans returning from active military duties reside in rural communities (VA Rural Health, 2021). This Veteran Affair Rural Health (2021) resource notes that veterans often choose rural settings to be closer to families, friends, or supportive communities, have more leisure space for living, pursue more privacy, or seek an area of lower cost of living. Yet, they meet rural healthcare challenges that may compound their frustrations of transition to civilian life and intensify depression, combat injuries, or illnesses. Rural healthcare delivery for veterans is further impacted by the closing of rural hospitals due to financial instability, lack of housing resources and other social needs, distance, and geographic barriers, limited broadband internet, and challenges to aging in place in these rural settings (VA Rural Health, 2021). Veterans participating were from rural areas of Texas and surrounding states.

Risks to Humans

Minimal risks to human subjects were expected. The project manager made every effort to protect private health information. Participation was voluntary and freely agreeable with the ability to withdraw or decline from participation. All data and results were available for review without any identifying features to ensure the privacy and security of information. There were no conflicts of interest for the project manager of this research study.

Benefits

This evidence-based project benefitted this veteran population by bringing attention to potential improvements in healthcare service delivery with data on the enhanced health outcomes patients reported during the COVID-19 pandemic public health crisis. Further benefits are expected to address the enhancement of the availability of services for underserved communities of veterans. Finally, the advancement of quality payment programs using telehealth services potentially benefitted healthcare systems by providing clinicians with an appropriate merit-based incentive payment system and ensuring more meaningful participation with improved outcomes. This project result can be used to inform federal policymakers of the need for updating and improving reimbursement strategies for telehealth services for veterans and the general population.

Instrument/Measurement Tools

The Home Telehealth Patient Satisfaction Survey (DOVA, 2009; see Appendix A) was used to collect patient satisfaction responses. The collection of information required an estimated average time of 1.5 minutes per response and utilized eight questions of patient satisfaction with a multiple-choice answer series of *Always, Usually, Sometimes, or Never*. Only one answer could be chosen but patients were allowed to choose to decline to answer questions. There were no negatively written questions.

The survey instrument was established and approved by the VA Office of Management and Budget (OMB) and was recently reviewed again on January 1, 2021. The survey was available for further review in the OMB report (OMB, 2021). Although its reliability and validity are not well documented, the VA continues to use this instrument in reviewing patient satisfaction with its telehealth services since the collection of information is required for continued telehealth program evaluation with statistical analysis (Office of Management and Budget, 2022). An enhanced version that includes additional, optional survey questions on patient satisfaction with all VA services is available for other services to utilize. However, for this project, which was focused on telehealth, only the original eight questions regarding home telehealth satisfaction were used. Limitations of the study were the convenience sampling of respondents from one primary care team from the VA, which is limited primarily to the southwest U.S. region and some surrounding areas.

Data Collection and Management

An estimated 10,000 veteran patients use telehealth services in the Ambulatory Care Department at this VA. There were 10 patient care teams with approximately 900–1,000 veteran patients on each PACT team. Only one patient care team was surveyed to achieve a sample size of roughly 200 patients in 8 weeks to allow for statistical analysis (G*Power). Data were not collected from clients with incomplete or brief visits, those who refused to participate, and clients with no previous history of telehealth care at the VA.

The project manager administered the survey tool. Surveys were primarily implemented during regular face-to-face visits by the project manager. These sessions were completed during regular medical center hours. The data collection period was two months. Approximately 5-10 veterans were encountered each business day, lending potential assessment to approximately 200 potential patients out of a potential 950 patients census meeting the criteria. As part of the consent process, the participants were informed in writing and verbally of their rights and the opportunity to decline participation. Written or verbal consent was noted on the survey document. The collection of information assisted in the fulfillment of the Department of Veterans Affairs mission for evaluation and improvements to the patient satisfaction program, in addition to providing data for this DNP project (VA Mission Statement, 2021).

All survey documents were coded with a sequential number so that no individual patient health information (PHI) was identifiable during analysis. This process ensured that I, as the researcher, only used de-identified data for analysis. Data and survey responses were stored behind a secure VA firewall utilizing Health Insurance Portability and Accountability Act (HIPAA) guidelines for patient confidentiality. The electronic tablet I used containing any patient data was password encrypted and stored onsite at the VA in a secure, locked area during this project timeline. All PHI identifiers were removed from the database during the data analysis. Data will be kept in a password-protected cloud-based site following ACU guidelines. As a condition of ACU, the university will own data in case access is needed at a future date. According to the IRB guidelines, the university provided IT department support for security purposes and will keep the data for a minimum required time.

Timeline

The VA hospital facility department administrator approved the proposed project to be conducted by the project manager, so no staff recruitment was needed, and all surveys were conducted during VA outpatient office times. The timeline for completion (see Tables 1 and 2) was approximately 11 months following approval of the proposal committee and the ACU IRB. The data collection period took approximately 2 months. Evaluation and analysis of the survey data took approximately 6 months, with the organization of statistical data took another 3 months.

Table 1

n	• .	m •	1.
Pr	niect	Time	lino
1 / (1 11110	inc

Project dates	Project tasks
September 15, 2021	EBP approval by ACU Project Committee
November–December 2021	Conduct surveys: During office visits
December 31, 2021	Surveys Close: December 31
January–May, 2022	Evaluation of Survey Data
June–July, 2022	Completions of project data analysis
August–September, 2022	Submit Final Paper to Committee for Review
September 15, 2022	Planned Defense
September–November, 2022	Complete Postings on Website, Press Release, Publishing

Table 2

Task Timeline

Project task timeline	Sept 2021	Oct 2021	Nov 2021	Dec 2021	Jan/ Feb 2022	Mar/ April 2022	May/ July 2022	Aug/ Sept 2022	Sept/ Nov 2022
Organize Survey Time/Paperwork Conduct Survey	Х	Х	X	X					
Survey Closed				Х					
Evaluation of Survey Data					Х	Х	Х		
Present Results								Х	
Post Survey Results								Х	
Final Project /Chair Approval /Defense									Х
Submit for Publishing									Х

Data Analysis Plan

This project was a quantitative formative program evaluation of the VA's telehealth services using the VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009). This tool was used to assess approximately 200 veteran patients' perceptions about the use of the home telehealth program and their satisfaction and perception of health status associated with this type of visit. All surveys were conducted by the program manager and data were stored in a locked, secured area behind VA electronic firewalls. Data were collected and downloaded in an excel spreadsheet and imported into SPSS stored on a password-protected device. A G*Power Analysis process using calculated statistical power helped determine the randomized sample size needed for this study. Quantitative statistical analysis was conducted using an analysis of variance (ANOVA) for testing differences in satisfaction of those receiving telehealth communications for healthcare compared to their satisfaction with clinic visits. Lastly, a Mann-Whitney Test was used to measure the mean analysis for telehealth services comparing younger and older populations of veterans.

Role of the DNP Student

Study findings and the personal experience of having an elderly veteran parent who still lives in one of these remote, rural communities have led this project manager to become deeply passionate about finding ways to positively impact this population's clinical challenges. This project manager intends to conduct data research supporting telehealth in underserved, rural areas, to develop a potential theoretical/conceptual framework regarding telehealth and the veteran's perception of wellness. With the analysis findings of the data from this survey tool, applying additional research, and addressing factors with variables that affect the health and well-being of underserved clients like the elderly in rural settings, I hope to positively impact these clients, families, and community resources while exploring opportunities for optimal health outcomes.

Chapter Summary

Changes in healthcare delivery associated with the impact of COVID-19 have created some clinical gaps in practice. Telehealth and video-based healthcare services play a fundamental role in meeting quality patient care with some questions about current patient satisfaction. The lack of formative assessment data on patient satisfaction with telehealth services at the VA and the perception of the use of telehealth on their health status during the COVID-19 pandemic was the focus of this project. These data were needed to complete the feedback loop as part of continuous quality improvement and patient satisfaction survey affirmation. Patient satisfaction should be assessed to consider any remedial measures in the telehealth program and review the VA telehealth initiatives. This chapter provided an overview of the implications and use of telehealth services, especially on underserved populations like the elderly or disabled, focusing on the veteran population. The overall purpose of the data collected during these evaluations was to improve the telehealth program's quality of care. This project assisted with the collection of data regarding telehealth services, managed, reviewed, and analyzed veteran patient population responses, and dispensed information in a professional writing format contributing to future planning and objectives for this service.

Chapter 4: Results

Findings: Results

The COVID-19 public health emergency resulted in a pandemic that required a rapid transition of patient care from face-to-face clinic visits to telehealth visits in the VA's healthcare system as well as other healthcare organizations. Patient-centered care continues to be an ongoing focus for the VA to pursue healthcare excellence while maintaining a focus on the patient's perception of care. This project was a quantitative program review of the VA home telehealth program using the VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009). The Qualtrics online software was used to collect data from veterans during clinic visits over 2 months. The statistical consensus and analysis were overwhelmingly positive for the telehealth program.

Purpose of the Project

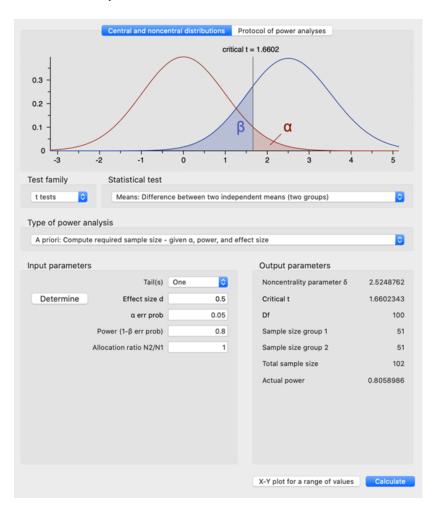
Patient satisfaction surveys continue to gain popularity in measuring quality improvement for healthcare organizations. Yet, Al-Abri and Al-Balushi (2014) maintained that published reports remain inconclusive with contradictory findings. The purpose of this study was to review and analyze veteran patient satisfaction with their healthcare services while using the telehealth program over the last year during the COVID-19 pandemic. Recommendations can be made for future telehealth services to key stakeholders based on the analysis of data obtained from this survey project. The program review can help to assess the continued value of the telehealth program and for future billing and delivery service planning.

This survey study analyzed patient satisfaction of telehealth services and determined if patients felt their healthcare issues were managed well during the COVID healthcare crisis. The system review plan collected data on patients' responses regarding their telehealth equipment being adequate and working properly, ease of use, and if the client felt that telehealth services resulted in changes to their self-care. Finally, this project reviewed the VA telehealth services that made a positive difference in their health outcomes and if they would recommend them to other veterans.

A G*Power 3.1 analysis (Figure 2) was done using SPSS software with an actual power of 0.8 for a sample size of 102. Our sample size was 129 total participants with the largest sample age group of 51 responders being 70–79 years of age.

Figure 2

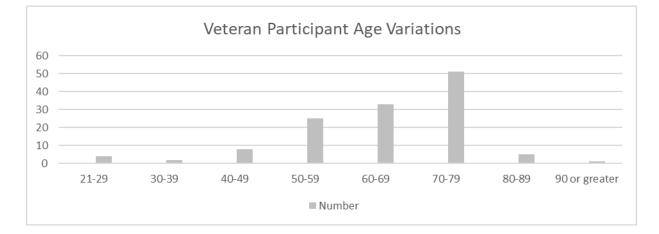
G*Power Analysis



Demographic Data

The gender of the veteran patient team was predominately male, so no gender-identifying markers were used when developing the survey tool. The sample population was a random convenience sampling using office visit opportunities during 8 weeks in the winter months when the VA census is usually heavier. Approximately 200 veterans were potentially scheduled during this timeline, with daily census varying during this time due to walk-ins, no-shows, inclement weather, or other cancellations outside of the control of this project. All veterans were screened to have had a previous visit history establishing them with the PACT and/or a previous telehealth visit within the last year which coincided with the COVID-19 pandemic. As illustrated in Figure 3, the patients responding to the telehealth survey included veteran population age categories 21-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, and 90 or greater years of age. New veteran patients were not given opportunities to complete the survey if they had no documented history with telehealth services in the area's VA system. Appendix E shows the age category field yielded M = 5-01, SD = 1.3, and a variance of 1.7 with a total count of 129 participants answering this question.

Figure 3



Demographic Data: Veteran Participant Age Variation for Veteran Telehealth Survey

Organization of Findings

Survey research questions included those from the VA-approved VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009) plus the participant age category. These practiceguided questions convey the relevance of the PICOT question, "What is the veteran satisfaction telehealth care experience and their perception of the impact on their health status during COVID-19?" The telehealth patient satisfaction survey questions were organized into the original eight questions with four potential multiple-choice answers (Always, Usually, Sometimes, or Never), and an age category question (see Appendix A).

Using Qualtrics Online Survey Software and SPSS for Program Review Analysis of Data

Due to the nature of this project, a quantitative formative program evaluation was chosen modeled by the Donabedian model using the VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009) with Qualtrics as an online software to collect data from veterans during office visits in 8 weeks. The Donabedian model process focuses on the evaluation and correlation of transactions between providers and patients by reviewing the client's perception of the delivery of healthcare and its impact on patient outcomes (Berwick & Fox, 2016). The focus was to measure the quality assurance of the area's VA telehealth system. The timeline predicted for conducting surveys was October through November 2021 but was changed to November through December 2021 due to the availability of the VA-approved tablet for this later date. A VA-approved tablet was provided by the telehealth program department and clients were offered an opportunity to complete the nine-question survey during their brief waiting time following their clinic visit. The Qualtrics tool was used to access a potential 200 veteran patients or 20% of the veteran panel census of approximately 950 patients. The approved VA tablet with collected data

required a digital key to access the screen and was stored nightly in a locked cabinet in a secure, keycard-accessed area in the outpatient clinic at the VA facility.

The methodology of this process included downloading Qualtrics's survey data onto a Microsoft Excel spreadsheet and importing it into an online SPSS software where analysis of variance (ANOVA) was conducted for testing differences in satisfaction for those receiving telehealth communication access for healthcare visits. The ANOVA of each is presented below (Table 3) and indicates that there is a statistical difference between the means of the two independent groups of ages 49 and younger, and 50 years and older age groups including ages within these groups. Examination of Table 3 revealed that Q1 and Q6 to both be statistically significant with Q1 (p = .006) and Q6 (p = .023).

Table 3

ANOVA Analysis

ŧ	Question	Analysis areas	SS	df	MS	F	Sig
1	My care coordinator explains things in	Between Groups	.981	7	.140	2.984	.006
	a way that is easy to understand.	Within Groups	5.636	120	.047		
		Total	6.617	127			
2	The information provided by my care	Between Groups	2.416	7	.345	1.653	.12
	coordinator has helped me manage my health problems.	Within Groups	24.844	119	.209		
		Total	27.260	126			
3	Over the past 3 months, my home	Between Groups	8.182	7	1.169	1.174	.32
	telehealth equipment works.	Within Groups	98.603	99	.996		
		Total	106.785	106			
4	My home telehealth equipment is easy	Between Groups	3.259	6	.543	.899	.49
	to use.	Within Groups	59.836	99	.604		
		Total	63.094	105			
5	I have made changes in the way I take	Between Groups	3.942	6	.657	1.179	.32
	care of myself as a result of the VA home telehealth program.	Within Groups	57.412	103	.557		
	nome coloneatai programi	Total	61.355	109			
6	When I have questions, I am able to	Between Groups	9.464	7	1.352	2.455	.02
	contact my care coordinator during business hours.	Within Groups	63.028	114	.553		
		Total	72.492	121			
7	Using the VA home telehealth	Between Groups	4.911	6	.818	1.378	.23
	program has made a positive difference in my health.	Within Groups	60.006	101	.594		
	difference in my nearth.	Total	64.917	107			
8	I would recommend a home telehealth	Between Groups	6.574	6	1.096	2.036	.06
	program to others.	Within Groups	54.343	101	.538		
		Total	60.917	107			

To determine if there was a significant difference between the two groups of 49 years or young versus 50 years or older, the level of agreement participants had with an online component of the program, a series of Mann-Whitney analyses were performed. The reason this nonparametric test was employed was that the scale used for the study was considered ordinal in nature. It could not, therefore, be examined accurately using only parametric models such as independent samples t tests or ANOVAs. Examination of Tables 4 and 5 show the basic descriptive statistics for the Mann-Whitney U test. Next, Figure 3 shows that two of the eight questions were statistically significant: Q1 "My care coordinator explains things in a way that is easy to understand" and "The information provided by my care coordinator has helped manage (my) health problems." Figure 3 shows statistical test combinations with Tables 4 and 5 giving descriptive Mann-Whitney U Test analysis and statistics for these questions. Those participants 50 years of age or older had a statistically greater mean rank (65.77) compared to their counterparts, who were 49 years of age or less (53.23). Therefore, those who were older than 50 agreed more than the younger group of 49 years and younger that the care coordinator explained things in a way that accommodated their level of understanding and need.

The ANOVA used for testing differences in satisfactions scores resulted in probability value scores of .006 (p = .006) for question 1, and .023 (p = .023) for question 6. This supported the findings that patients understood their care coordinator easily and their questions were answered. These outcomes presented strong evidence to reject the null hypothesis of Ho1, "The VA clients will report negative or neutral satisfaction with their telehealth experience" and Ho2, "The VA clients will perceive no improvement in health status following the telehealth experience."

Table 4

Descriptive for Mann-Whitney U Test

Survey questions	Age	Ν	Mean rank	Sum of ranks
Q1. My care coordinator	49 yrs. or Less	13	53.23	692.00
explains things in a way	50 yrs. or More	115	65.77	7564.00
that is easy to	Total	128		
understand				
Q2. The information	49 yrs. or Less	13	42.58	553.50
provided by my care	50 yrs. or More	114	66.44	7574.50
coordinator helped me manage my health problems	Total	127		
Q3. Over the past 3 months,	49 yrs. or Less	11	46.5	511.5
my telehealth equipment	50 yrs. or More	96	54.86	5266.5
works.	Total	107		
Q4. My home telehealth	49 yrs. or Less	12	49.25	591.00
equipment is easy to	50 yrs. or More	94	54.04	5080.00
use.	Total	106		
Q5. I have made changes in	49 yrs. or Less	13	50.35	654.5
the way I take care of	50 yrs. or More	97	56.19	5450.50
myself as a result of the VA home telehealth program	Total	110		
Q6. When I have questions,	49 yrs. or Less	13	50.65	658.50
I am able to contact my	50 yrs. or More	109	62.79	6844.50
care coordinator during business hours.	Total	122		
Q7. Using the VA home	49 yrs. or Less	12	48.50	582.00
telehealth program has	50 yrs. or More	96	55.25	5307.00
made a positive difference in my health.	Total	108		
Q8. I would recommend a	49 yrs. or Less	13	47.15	613.00
home telehealth	50 yrs. or More	95	55.51	5273.00
program to others.	Total	108		

Table 5

Tests	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Mann-Whitney	601.0	462.0	445.5	513.5	563.5	567.5	504.0	522.0
Wilcoxon W	692.0	553.5	511.5	591.0	654.5	658.5	582.0	613.0
Z	-2.934	-3.213	988	561	685	-1.385	774	-1.002
Asymp. Sig (2-	.003*	.001*	.323	.575	.493	.166	.439	.316
tailed								

Test Statistics for Mann Whitney U

a. Grouping Variable Age for questions 1-8

Figure 4

Statistical Test Combinations for Survey Questions

		Test	Statistics			
	Q 1. My care coordinator explains things in a way that is easy to understand.	Q. 2 The information provided by my care coordinator has helped me manage my health problems.	Q 3. Over the past 3 months, my home telehealth equipment works:	Q4. My home telehealth equipment is easy to use.	Q 5. I have made changes in the way I take care of myself <u>as a</u> . <u>result of the</u> VA home telehealth program.	Q 6. When I have questions, I am able to contact my care coordinator during business hours.
Mann-Whitney U	601.000	462.500	445.500	513.000	563.500	567.500
Wilcoxon W	692.000	553.500	511.500	591.000	654.500	658.500
Z	-2.934	-3.213	988	561	685	-1.385
Asymp. Sig. (2-tailed)	.003	.001	.323	.575	.493	.166

Test Statistics

	Q 7. Using the VA home telehealth program has made a positive difference in my health.	Q 8. I would recommend a home telehealth program to others.	
Mann-Whitney U	504.000	522.000	
Wilcoxon W	582.000	613.000	
Z	774	-1.002	
Asymp. Sig. (2-tailed)	.439	.316	

a. Grouping Variable: Age

The overall percentage of answers to Questions 1–8 were positive and indicated higher satisfaction with indications of answers *1 Always* or *2 Usually Agree* and/or *1 Strongly or 2 Agree* to questions on the survey (see Table 6). One hundred and fifteen patients surveyed were ages 50–90 plus years of age or 89%, with a proportionally higher number of clients in the age category of 70–79 years of age (51 or 39.5%). The results of the inferential analysis support a higher degree of satisfaction to a more aged population with health care service delivery using telehealth services as indicated in Figure 4 and can be communicated to key stakeholders for future planning of telehealth services.

Table 6

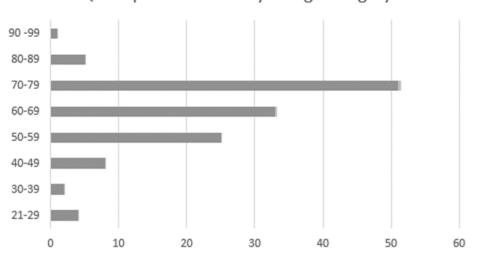
Overall Percentages of Veterans Answering Survey Questions and Answers

Answer #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
A1, 2	100%	99.22%	84.12%	88.67%	89.09%	89.34%	87.97%	90.74%
A3	0%	0%	4.67%	7.55%	7.27%	7.38%	8.33%	5.56%
A4	0%	1%	11.21%	3.77%	3.64%	3.28%	3.70%	3.70%

Note. A1, 2 = Always, Usually /Strongly Agree, Agree A3= Sometimes /Disagree A4= Strongly Disagree/Never.

Figure 5

Optional Survey Question 9 What is Your Age Category



Q9: *Optional: What is your age category?

This study answers and validates our research questions by indicating that the satisfaction of veterans' telehealth delivery experience is positive and has a positive effect on their health status. It also supports our hypothesis that the VA client will report positive satisfaction with their telehealth experience and that they perceived improved health status. This was especially evident in our 70–79-year-old veteran clients participating in this study. Our general results indicate that a higher percentage of clients recommended the continued use of telehealth as an effective means of healthcare delivery. Eighty-seven percent of participants perceived improved health status following their telehealth experience validating the continued importance of providing telehealth care services to all ages of veterans. This result was particularly evident in our older patient population of 50-year and older veterans.

Results: Strengths and Weaknesses of the Project

This project provided valuable information to the VA telehealth program. The strengths of this project included the collection and completion of analysis of patient satisfaction surveys

regarding the telehealth program during the last year which coincided with the COVID-19 pandemic. The data analysis outcome can be shared with the telehealth programs at the VA and directed to key stakeholders for interdisciplinary collaboration with other departments as a means of monitoring quality assurance using telehealth services while conducting patient care visits to project potential changes and weaknesses with this type of delivery of care for veterans. Another strength of this study was the evidence-based benefits of the veteran population using telehealth as a convenient method of care while limiting exposures to potentially dangerous infectious organisms. It was perceived as a healthcare enhancement focusing on underserved populations in more remote areas of the country who may have geographical, financial, and social barriers such as poor means of transportation to traditional in-office care. Lastly, it is hoped that the advancement of quality payment programs indicated by successful telehealth programs may be a result of this project ensuring more meaningful improved health outcomes and potential positive policy healthcare reforms for the general population as well as for veterans.

Limitations of this study included the small sample size afforded during face-to-face office visits in 8 weeks, possibly underestimating data analysis impact. Another limitation was the inability to modify questions or leave open-ended survey questions due to restrictions placed by the VA on changing the questionnaire. Rewriting or altering the patient survey questionnaire eliciting a fuller expression of patient telehealth experience for measuring a more in-depth quality assurance survey study would have been more desirable. Due to the limited program availability of the patient online portal site, My HealtheVet, survey sampling was limited to the use of a government-issued tablet using Qualtrics with face-to-face visits for a limited time of 8 weeks. Also, this study was essentially limited to male veterans since the team surveyed had only 2% of women patients, and none presented for office visits during this timeline. Therefore, women veterans were not represented.

Recommendations for Future Research and Implications for Nursing Practice

Additional research on the impact of telehealth on patient health outcomes is needed to continue to improve patient care delivery systems and collaborate with other disciplines and healthcare systems to expand and make positive changes in healthcare by addressing clinical gaps and continued quality care. Ongoing data analysis will complete feedback loops with patient satisfaction survey affirmation. Addressing gaps in healthcare will benefit underserved populations by dispensing information that contributes to the planning and objectives for future services.

Conclusion

Telehealth continues to provide a cost-effective means of care, allowing increased access capabilities with continued positive patient satisfaction. Addressing continued veteran patient satisfaction input regarding the use of telehealth services increases the ability to maintain quality care for many populations over the spectrum of healthcare delivery. Successfully obtaining the fundamental needs of patients in a safe, convenient format of care while meeting their perception of improved health outcomes is a goal of healthcare systems like the VA. Expanding options for continuous quality improvement and reaching objectives for optimal performance with maximum reimbursement continue to be the goals of this project. Patient satisfaction assessment for remedial measures of continued telehealth programs will assist in maintaining appropriate VA directives and initiatives while continuing to focus on the needs of the patient and the future expansion of services. Chapter 5 contains recommendations for the VA telehealth program based on the findings of this study. The study concluded with a planned handoff of information to the

VA administrators for continued collaboration and planning of potential changes in the conduction of future telehealth visits.

Chapter 5: Discussion of Findings

The Veteran Telehealth Survey Questionnaire (DOVA, 2009) findings indicate a strong signal for the need for the continued use of telehealth services and ongoing monitoring of patient satisfaction. Historically, most younger clients can use computerized information technology daily with ease. Yet, 51% of those participating in this survey were 70–79 years of age and indicated a positive survey response to telehealth delivery of care. This indicates a growing number of older patients successfully utilizing technology to access healthcare with a higher satisfaction rate based on the mean statistical data presented in this study.

Interpretation and Inference of the Findings

Out of eight age groups surveyed in this veteran study, 51% of these patients were aged 70-79. Out of this population, which has been historically known for being less comfortable and savvy with information technology than their younger counterparts, the majority of 70–79-year-old veterans preferred home telehealth services. The inference is that telehealth care is continuing to be a more acceptable means of delivering health care and will need to be continually monitored and analyzed for a growing older population that previously was not preferable or successful with telehealth medicine. The ANOVA of statistical data and Mann-Whitney analysis indicated a statistical difference between the means of the two independent groups of age 40 and younger, and the 50-year-old and older groups supporting growing support for the use of technology for older populations. Finally, there is a growing trend that telehealth can lead to better healthcare outcomes leading to a healthier veteran client population with a potentially better quality of life.

Implications of Analysis for Leaders

Patient satisfaction surveys can inform health leaders of the positive benefits of continuing telehealth services with further research and patient surveys providing suggestions for improvement of this program. This can lead to better recognition of the success of health outcomes for not only veterans but the general population of all patients. This successful groundwork can result in better representation of healthcare providers and better reimbursement opportunities. The increased awareness of veteran clients' perception of positive health outcomes using telehealth can also be a driving force for better representation of broadband services for those living in more remote areas of the country accessing health care through telehealth services. Likewise, lawmakers can also be influenced to support changes in reimbursement strategies to support ongoing telehealth expansion services for meeting telehealth demands. The result can lead to recommendations for managing weak technological infrastructures toward more accessibility to healthcare by utilizing telehealth and telemonitoring services.

EBP Findings and Relationship to DNP Essentials

The curriculum standards for DNP programs observe eight areas of essentials for the DNP student for meeting practice competencies. This project closely addresses Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking, and Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care (Chism, 2015). Using an evidence-based practice approach to understanding more fully the impact of patient satisfaction with telehealth services, organizations and system leaders can benefit from the findings of this project. This can further facilitate future organization-wide changes to practice delivery. By using informational technology, this project also supports the improvement of patient care outcomes. This was done by investigating the impact of telemedicine delivery on the veteran population during the COVID-Pandemic using online technology. Collected data on healthcare consumer information was analyzed to present supportive evidence of the positive impact of telehealth practice outcome patterns for veteran clients. This project observed ethical and legal standards of practice while demonstrating the use of information technology within the healthcare setting to evaluate and resolve questions regarding the efficacy and relevance of using telehealth to improve patients' perceptions of health and outcomes.

Recommendations for Future Research

The VA Home Telehealth Patient Satisfaction Survey (DOVA, 2009) is a limited questionnaire produced and approved by the U.S. Department of Veteran's Administration for assessing patient quality assurance with the home telehealth program. And although this service provides care to all veterans across the lifespan of veterans both males and females entering the civilian lifestyle to the aging veteran client, more research is recommended to continue to expand this survey tool by using more qualitative data with open-ended questions. This would give a more realistic view of the veteran client's perception of health care using telemedicine and better shape reform efforts in meeting their health care needs in the future.

Chapter Summary

The Centers for Medicare & Medicaid Services (CMS; 2021) stated that they are "proposing changes to address the widening gap in health equity highlighted by the COVID-19 PHE and to expand patient access to comprehensive care, especially in underserved populations" (para. 1). The promotion of health equity expanded services, and access to services such as telehealth and other telecommunications continue to be growing healthcare service options. The expansion of telehealth services can impact and enhance programs such as behavioral medicine, diabetes maintenance, COPD, or congestive heart disease prevention and ensure quality care for Medicare and other beneficiaries. This can create better healthcare providers' opportunities for delivering optimal healthcare for those with limitations to care or services in the future. More and more patients, like those during the COVID-19 healthcare crisis, are choosing to find a means to access their healthcare services despite their location by using alternative healthcare delivery services like telehealth. Continuous monitoring and reassessing of telemedicine opportunities is recommended for further planning and implementation of care for a growing population that is becoming more comfortable with technology use and the concept of self-care.

References

Agency for Healthcare Research and Quality. (2012). Evidence Report/Technology Assessment 206: Enabling patient-centered care through health information technology.

https://effectivehealthcare.ahrq.gov/products/hit-patient-care/research

Agency for Healthcare Research and Quality. (2021). What is patient experience?

https://www.ahrq.gov/cahps/about-cahps/patient-experience/index.html

Al-Abri, R., & Al-Balushi, A. (2014). Patient satisfaction survey as a tool towards quality improvement. *Oman Medical Journal*, 29(1), 3–7. <u>https://doi.org/10.5001/omj.2014.02</u>

- American Association of Nurse Practitioners. (2021). *State practice environment*. https://www.aanp.org/advocacy/state/state-practice-environment
- Bailey, S. (2022). Technology: Health care solve for elders? *Today's Geriatric Medicine*. <u>https://www.todaysgeriatricmedicine.com/news/ex_091415.shtml</u>
- Berwick, D., & Fox, D. M. (2016). "Evaluating the quality of medical care": Donabedian's classic article 50 years later. *The Milbank Quarterly*, 94(2), 237–241. https://doi.org/10.1111/1468-0009.12189
- Brooks, A. (2019). What is health information technology? Exploring the cutting edge of our healthcare system. Rasmussen University. <u>https://www.rasmussen.edu/degrees/health-sciences/blog/what-is-health-information-technology/</u>
- Centers for Disease Control and Prevention. (2020). Program Performance and Evaluation Office (PPEO). <u>https://www.cdc.gov/program</u>
- Center for Medicare & Medicaid Services/Newsroom. (2020). CMS press release: Trump administration finalizes permanent expansion of Medicare telehealth services and improved payment for time doctors spend with patients. Press release.

https://www.cms.gov/newsroom/press-releases/trump-administration-finalizes-

permanent-expansion-medicare-telehealth-services-and-improved-payment

Centers for Medicare & Medicaid Services. (2021). CMS press release: CMS proposes physician payment rule to improve health equity, patient access. CMS.

https://www.cms.gov/newsroom/press-releases/cms-proposes-physicians-payment-ruleimprove-health-equity-patient-access

Chism, L. A. (2015). The Doctor of Nursing Practice (3rd ed). Routledge.

- Classen, B., Tudor, K., du Preez, E., Day, E., Ioane, J., & Rodgers, B. (2021). An integrative review of contemporary perspectives on videoconference-based therapy-prioritizing indigenous and ethnic minority populations in the global south. *Journal of Technology in Behavioral Science*, 6(3), 1–14. <u>https://doi.org/10.1007/s41347-021-00209-3</u>
- Department of Veterans Affairs. (2009). VA home telehealth patient survey. Version 2.0. VA Form 10-0481. December 2009. <u>https://omb.report/icr/201001-29-003/doc/15196802.pdf</u>
- Department of Veteran Affairs. (2016). *Guidance for surveys used for VA operational and research purposed (Updated 2016)*. Office of Research & Development. <u>https://www.research.va.gov/resources/SurveyGuidance.pdf</u>

Eysenbach, G. (2001). What is e-health? *Journal of Medical Internet Research*, *3*(2), e833. <u>https://doi.org/10.2196/jmir.3.2.e20</u>

Gros, D. F., Lancaster, C. L., López, C. M., & Acierno, R. (2016). Treatment satisfaction of

Fenton, J. J., Jerant, A. F., Bertakis, K. D., & Franks, P. (2012). The cost of satisfaction: A national study of patient satisfaction, health care utilization, expenditures, and mortality. *Archives of Internal Medicine*, 172(5), 405–411. <u>https://doi.org/10.1001/archinternmed.2011.1662</u>

home-based telehealth versus in-person delivery of prolonged exposure for combatrelated PTSD in veterans. *Journal of Telemedicine and Telecare*, 24(1), 51–55.

https://doi.org/10.1177/1357633X16671096

- Gonçalves-Bradley, D. C., Maria, A. R., Ricci-Cabello, I., Villanueva, G., Fønhus, M. S.,
 Glenton, C., Lewin, S., Henschke, N., Buckley, B. S., Mehl, G. L., Tamrat, T., &
 Shepperd, S. (2020). Mobile technologies to support healthcare provider to healthcare
 provider communication and management of care. *Cochrane Database of Systemic Reviews*, (8). <u>https://doi.org/10.1002/14651858.CD012927.pub2</u>
- Hall, J. L., & McGraw, D. (2014). For telehealth to succeed, privacy and security risks must be identified and addressed. *Health Affairs (Millwood)*, 33(2), 216–221. <u>https://doi.org/10.1377/hlthaff.2013.0997</u>
- Healthcare Market Review. (2019). Avedis Donabedian and the birth of Healthcare Quality Assurance. <u>https://healthcaremarketreview.com/avedis-donabedian-and-the-birth-of-healthcare-quality-assurance/</u>
- Health Resources & Services Administration. (2021). What is telehealth? Telehealth. Department of Health and Human Services. <u>https://telehealth.hhs.gov/patients/understanding-telehealth/</u>
- Heath, S. (2021). V.A. sees improvement in patient satisfaction, care access. Patient Engagement HIT. Xtelligent Healthcare Media. <u>https://patientengagementhit.com/news/va-sees-</u> <u>improvements-in-patient-satisfaction-care-access</u>
- Henry, T. A. (2020). After COVID-19, \$250 billion in care could shift to telehealth. Digital Health. American Medical Association. <u>https://www.ama-assn.org/practive-</u> <u>management/digital/after-covid-19-250-billion-care-could-shift-telehealth</u>

- Health Information and Management Systems Society, Inc. (2020). *The history of HIMSS and telehealth advocacy*. Healthcare Reform. <u>https://www.himss.org/news/history-himss-and-</u> <u>telehealth-advocacy</u>
- Hincapié, M. A., Gallego, J. C., Gempeler, A., Piñeros, J. A., Nasner, D., & Escobar, M. F.
 (2020). Implementation and usefulness of telemedicine during the COVID-19 pandemic: A scoping review. *Journal of Primary Care & Community Health*, *11*.
 https://doi.org/10.1177/2150132720980612
- Hirsch, S. (2019). Rural America by the numbers. Generation. *Generations: Journal of the American Society on Aging*, 43(2), 9–16. <u>https://www.jstor.org/stable/26760109</u>
- Humphreys, B. E. (2019). Demand for broadband in rural areas: Implications for universal access. Congressional Research Service. December 9, 2019. <u>https://crsreports.congress.gov/product/pdf/R/R46108</u>
- Jia, H., Chuang, H. C., Wu, S. S., Xinping, W., & Chumbler, N. R. (2009). Long-term effect of home telehealth services on preventable hospitalization use. *Journal of Rehabilitation Research & Development*, 46(5), 557–566. <u>https://doi.org/10.1682/jrrd.2008.09.0133</u>
- Larson, F., Sharma, J., Bohren, M., & Tuncalp, O. (2019). When the patient is the expert: Measuring patient experience and satisfaction with care. Policy & practice. *Bulletin of the Work Health Organization*, 97(8), 563–569. <u>https://doi.org/10.2471/BLT.18.225201</u>

Lawinsider.com. (2021). Underserved populations definition.

https://www.lawinsider.com/dictionary/underserved-populations

Lyerly, M., Selch, G., Martin, H., LaPradd, M., Ofner, S., Graham, G., Anderson, J., Martini, S.,
& Williams, L. (2021). Provider communication and telepresence enhance Veteran satisfaction with telestroke consultations. *Stroke*, *52*(1), 253–259.

https://doi.org/10.1161/STROKEAHA.120.029993

- Malek, L., & Mowad, K. (2019). *Rapid expansion of telehealth comes with new challenges*. First Opinion. STAT. <u>https://www.statnews.com/2019/10/21/telehealth-rapid-expansion-offers-challenges/</u>
- Mooney, B. (2020). Satisfaction with telehealth visits building among VA-treated Veterans. U.S. Medicine. <u>https://www.usmedicine.com/non-clinical-</u> <u>topics/technology/telemedicine/satisfaction-with-telehealth-visits-building-among-va-</u> <u>treated-veterans/</u>
- Moore, L., Lavoie, A., Bourgeois, G., & Lapointe, J. (2015). Donabedian's structure-processoutcome quality of care model: Validation in an integrated trauma system. *Journal of Trauma and Acute Care Surgery*, 78(6), 1168–1175.

https://doi.org/10.1097/TA.000000000000663

National Council of State Board of Nursing. (2021). APRN in the U.S.

https://www.ncsbn.org/aprn.htm

North Texas Regional Extension Center. (2015). *The physician workforce in Texas*. Prepared for North Texas Regional Extension Center by Merritt Hawkins.

https://dfwhcfoundation.org/wp-content/uploads/2015/04/mhaNTREC2015studyfinal.pdf

Office of Management and Budget. (2022). CCHT_Justification_B_2900-0766. Care

Coordination Home Telehealth (CCHT) Patient Satisfaction Survey.

https://omb.report/icr/201512-2900-010/doc/60955501

Office of Management and Budget. (2021). White Paper - Changes to Care Coordination Home Telehealth (CCHT) Patient Satisfaction Survey - OMB 2900-0766 and Form 10-0341 VHA Telehealth Services H.T. Patient Satisfaction Survey - OMB 2900-0766

- Office of the National Coordinator for Health Information Technology. (2019). What is Health IT? Health IT. <u>https://www.healthit.gov/faq/what-health-it</u>
- Organization for Economic Co-operation and Development. (2020). *Elderly population*. https://doi.org/10.1787/8d805ea1-en
- Olenick, M., Flowers, M., & Diaz, V. J. (2015). U.S. veterans and their unique issues: Enhancing health care professional awareness. *Advances in Medical Education and Practice*, 6, 635–639. <u>https://doi.org/10.2147/AMEP.S89479</u>

Oxford University Press. (2021). Oxford languages. <u>https://languages.oup.com/google-</u> <u>dictionary-en/</u>

Radley, D. C., McCarthy, D., & Hayes, S. L. (2018). 2018 scorecard on state health system performance. The Commonwealth Fund.

https://interactives.commonwealthfund.org/2018/state-scorecard/

- Simblett, S., Greer, B., Matcham, F., Curtis, H., Polhemus, A., Ferrão, J., Gamble, P., & Wykes, T. (2018). Barriers to and facilitators of engagement with remote measurement technology for managing health: Systematic review and content analysis of findings. *Journal of Medical Internet Research*, 20(7), e10480. https://doi.org/10.2196/10480
- Slightam, C., Gregory, A. J., Hu, J., Jacobs, J., Gurmessa, T., Kimerling, R., Blonigen, D., & Zulman, D. M. (2020). Patient perceptions of video visits using Veterans Affairs telehealth tablets: Survey study. *Journal of Medical Internet Research*, 22(4), e15682. <u>https://doi.org/10.2196/15682</u>
- Southern Illinois University Medicine Department of Population Science and Policy. (2022). COVID-19 and an aging rural population.

https://www.siumed.edu/sites/default/files/u8191/covid19_and_an_aging_rural_populatio

<u>n_policybrief.pdf</u>

- Sundeen, E., Powel, W., & Deuell, R. (2020). Leveraging the annual wellness visit to improve rural depression management. *Online Journal of Rural Nursing & Health Care*, 20(1), 6– 31. https://doi.org/10.14574/ojrnhc.v20il.602
- Strazewski, L. (2020). *Telehealth's post-pandemic future: Where do we go from here?* American Medical Association. <u>https://www.ama-assn.org/practice-management/digital/telehealth-</u> <u>s-post-pandemic-future-where-do-we-go-here</u>
- Health Resources & Services Administration. (2020). *What is telehealth?* Health Resources & Services Administration. <u>https://telehealth.hhs.gov/patients/understanding-telehealth/</u>
- Texas Workforce Investment Council. (2019). Veterans in Texas: A demographic study. https://gov.texas.gov/uploads/files/organizatin/twic/Veterans-0Update-Summary.pdf
- U.S. Census Bureau. (2021). 65 and older population grows rapidly as baby boomers age. https://www.census.gov/newsroom/press-releases/2020/65-older-population-grows.html
- U.S. Department of Veterans Affairs. (2020). *How telehealth works*. https://telehealth.va.gov/how-telehealth-works-va
- U.S. Department of Veterans Affairs. (2021). *My HealtheVet*. https://www.myhealth.va.gov/mhv-portal-web/home
- U.S. Department of Veterans Affairs. (2021). *Rural veterans*. Office of Rural Health. <u>https://www.ruralhealth.va.gov/aboutus/ruralvets.asp</u>
- U.S. Department of Veterans Affairs. Office of Research & Development. (2021). *Diabetes*. <u>https://www.research.va.gov/topics/diabetes.cfm</u>
- VAntage Point. (2020). VA is ready for coronavirus and working to protect you. Official Blog of the U.S. Department of Veterans Affairs. <u>https://blogs.va.gov/VAntage/72615/vas-</u>

recommendations-help-slow-covid-19-virus/

- V.A. Strategic Plan. (2020). Department of Veterans Affairs FY 2018-2024 Strategic Plan. https://www.va.gov/VHASTRATEGY/Docs/FY2020-2024
- Veterans Benefits and Health Care. (2021). *The study supports increased distribution of video tablets and telehealth for rural Veterans*. Health Services Research & Development. <u>https://www.hsrd.research.va.gov/impacts/telehealth-rural-vets.cfm</u>
- Veterans Health Administration. (2020). Veterans Health Administration Office of Emergency Management COVID-19 Response Plan.

https://www.va.gov/opa/docs/VHA_COVID_19_03232020_vF_1.pdf

- Texas Workforce Investment Council. (2019). *Veterans In Texas: A Demographic Study*. June 2019 Update. <u>https://gov.texas.gov/uploads/files/organization/twic/Veterans-in-Texas-2019.pdf</u>
- Wicklund, E. (2020). VA sees a surge in Veterans using Telehealth to access healthcare.
 mHealth Intelligence. xtelligent HEALTHCARE Media.
 <u>https://mhealthintelligence.com/news/va-sees-a-surge-in-veterans-using-telehealth-to-access-healthcare</u>
- Welfare Info Organization. (2019). *Poverty in Texas*. <u>https://www.welfareinfo.org/poverty-</u> <u>rate/texas/</u>
- World Population Review. (2016). *Darrouzett, Texas, population 2022*. <u>https://worldpopulationreview.com/us-cities/darrouzett-tx-population</u>
- World Health Organization. (2020). WHO Director-General's opening remarks at the media briefing on COVID-19-11 March 2020. WHO. <u>https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-</u>

on-covid-19---11-march-2020

World Health Organization. (2022). *Listings of WHO's response to COVID-19. Listings of WHO's response to COVID-19.* WHO. <u>https://www.who.int/news/item/29-06-2020-</u> <u>covidtimeline</u>

Appendix A: VA Home Telehealth Patient Satisfaction Survey

VA Home Telehealth Patient Satisfaction Survey Version 2.0 (DOVA, 2009).

Home Telehealth Patient Satisfaction Questionnaire Content:

1. My care coordinator explains things in a way that is easy to understand.

- Always (1)
- Usually (2)
- Sometimes (3)
- Never (4)

2. The information provided by my care coordinator has helped me manage my health problem(s).

- Strongly Agree (1)
- Agree (2)
- Disagree (3)
- Strongly Disagree (4)

3. Over the past 3 months, my home telehealth equipment works:

- Always (1)
- Usually (2)
- Sometimes (3)
- Never (4)

4. My home telehealth equipment is easy to use.

- Strongly Agree (1)
- Agree (2)
- Disagree (3)
- Strongly Disagree (4)
- 5. I have made changes in the way I take care of myself as a result of the VA home telehealth program.
 - Strongly Agree (1)
 - Agree (2)
 - Disagree (3)
 - Strongly Disagree (4)

6. When I have questions, I am able to contact my care coordinator during business hours.

- Always (1)
- Usually (2)
- Sometimes (3)
- Never (4)
- 7. Using the VA home telehealth program has made a positive difference in my health.
 - Strongly Agree (1)
 - Agree (2)
 - Disagree (3)
 - Strongly Disagree (4)

8. I would recommend a home telehealth program to others.

- Strongly Agree (1)
- Agree (2)
- Disagree (3)

• Strongly Disagree (4)

9. What is your age category?

- 21-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80-89
- 90 or greater

Appendix B: Measurement Tool Permission Letter

C		DEPARTMENT OF VETERANS AFFAIRS VA Health Care System Medical Center
Date:	May 14, 2021	
From:	Associate Chief of Staff	- Ambulatory Care, VAMC
Subj:	VA Letter of Support	
To:	Abilene Christian Unive	rsity Advisor

 Ms. Rhonda Howard has full VA support to utilize the VA791-15-R-0020-030 Vet Satisfaction Survey and complete telephone calls/Vet outreach as part of her DNP thesis for her Abilene Christian University project. This project study is IRB process exempted as it is Exempt Category 2.

Point of Contact on this is Cynthia L. Heins, MD, MPH, Associate Chief of Staff available at

Cynthia L. Heins	Digitally signed by Cynthia L Heins 326559 Date: 2021.05.14 18:24.01 - 05'00'
	eins, MD, MPH nief of Staff – Ambulatory Care

Appendix C: Participant Information Sheet for Verbal Consent

Assessment of Veteran Satisfaction with Telehealth Services During the COVID-19 Pandemic Doctor of Nursing Practice Project Questionnaire

You are being invited to participate in research regarding your personal satisfaction with the VA telehealth services. This information is intended to assist us in providing the highest standard of care. All the information is anonymous so your name and personal information will not appear. An optional age category question is available. You have the right to refuse to participate without it affecting your standing as a valued patient. Moving ahead with the 8-question survey serves as your consent to participate in this electronic survey using Qualtrics software. Written copies of this survey are available for completion upon request. All data will be stored electronically on a VA-approved electronic device with a protective firewall using password protection and kept in a secure, locked area of the VA during this project.

This survey project focuses on investigating veteran patient satisfaction responses to the rapid increase in telehealth services provided at the Amarillo VA healthcare facility in the last year. The outcomes of this survey will provide additional feedback on the continuation and improvement of this service. The VA Home Telehealth Patient Satisfaction Survey is officially approved by the Office of Management and Budget with approval number 2900-0766. Participation is voluntary. There are no penalties and no loss or gain of benefits to which you are otherwise entitled. There are no human risks to taking part in this study. The estimated burden time is 1-2 minutes. No raw data or scores from surveys will be identifiable by the VA staff.

Appendix D: Abilene Christian University IRB Approval Letter

ABILENE CHRISTIAN UNIVERSITY Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs 320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103 325-674-2885

October 6, 2021

Æj

Rhonda Howard Department of Nursing Abilene Christian University

Dear Rhonda,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Assessment of Veteran Satisfaction with Telehealth Services During the COVID-19 Pandemic",

(IRB# 21-122)is exempt from review under Federal Policy for the Protection of Human Subjects.

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D. Director of Research and Sponsored Programs

Appendix E: Mann-Whitney Table

	Ranks Age	N	Mean Rank	Sum of Ranks
Q 1. My care coordinator	1	13	53.23	692.00
explains things in a way	50 to 90 or greater	115	65.77	7564.00
that is easy to understand.	Total	128	00.11	7504.00
Q. 2 The information	1	120	42.58	553.50
provided by my care	50 to 90 or greater	114	66.44	7574.50
coordinator has helped me manage my health problems.	Total	127	00.11	1014.00
Q 3. Over the past 3	1	11	46.50	511.50
months, my home	50 to 90 or greater	96	54.86	5266.50
telehealth equipment works:	Total	107		
Q4. My home telehealth equipment is easy to use.	1	12	49.25	591.00
	50 to 90 or greater	94	54.04	5080.00
	Total	106		
Q 5. I have made changes	1	13	50.35	654.50
in the way I take care of	50 to 90 or greater	97	56.19	5450.50
myself as a result of the VA home telehealth program.	Total	110		
Q 6. When I have	1	13	50.65	658.50
questions, I am able to	50 to 90 or greater	109	62.79	6844.50
contact my care coordinator during business hours.	Total	122		
Q 7. Using the VA home	1	12	48.50	582.00
telehealth program has	50 to 90 or greater	96	55.25	5304.00
made a positive difference in my health.	Total	108		
Q 8. I would recommend a	1	13	47.15	613.00
home telehealth program	50 to 90 or greater	95	55.51	5273.00
to others.	Total	108		