EVALUATION OF THE PROCESS OF IMPLEMENTING VA VIDEO CONNECT VISITS IN A VETERANS AFFAIRS BEHAVIORAL HEALTH CLINIC

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“The views expressed are those of the author(s) and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.”
Access to health care is an ongoing issue for the increasing population of United States veterans with complex health issues. To mitigate the access issue, the Veterans Affairs (VA) utilizes telehealth technology. Telehealth has evidenced its ability to not only increase access and quality of care but may do so more effectively than in-person care. VA Video Connect (VVC) visits are a technology that allows veterans to access appointments with VA clinicians from their homes. Although VVC visits are convenient, effective and safe, there are complexities to its implementation and use. Understanding implementation requires knowing authentic implementation experiences. Experiences with the implementation process of video visits within the VA have not been well examined. Thus, the purpose of this project was to help close the gap that exists regarding video telehealth implementation, by providing programmatic evaluation of the implementation of VVC visits in a VA behavioral health clinic. A one-hour process-oriented discussion with a team of ten behavioral health clinicians who have implemented VVC visits was conducted. Six open-ended discussion questions pertaining to VVC implementation were asked using SWOT (strengths, weaknesses, opportunities and threats) analysis format. Tell me about what ‘worked’...? (Strengths) Tell me about what ‘didn’t work’...? (Weaknesses/Threats) ...What would you do differently? (Opportunities). Two team members recorded notes while the project leader facilitated the discussion. Analysis of the discussion and notes informed the
evaluation. Consistent with the literature, results identified benefits (strengths), complexities (weaknesses/threats) and opportunities for improvement (recommendations for implementation) for the process of implementing VVC visits. Training challenges, workflow processes, technology functionality, scheduling, and influences on interactions with patients affect the adoption of VVC. Outcome deliverables of the project were a VA comprehensive best practice implementation guide and a case study exemplar; both of which delineate the process of implementing and conducting VVC visits for veterans with behavioral health conditions. This project informed best practices for VA clinicians and continued rollout of implementation of VVC for veterans with behavioral health conditions, perhaps in clinics where it is underutilized and in other VA clinic settings. Furthermore, it improves access while strengthening the quality care for veterans.
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This project is dedicated to my husband and children. This endeavor was a sacrifice for us all.
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Chapter I

Introduction

This chapter discusses the utilization of video telehealth within the Veterans Affairs (VA), for veterans with behavioral health conditions. The background and problem significance are detailed. An organizational needs assessment is discussed. The clinical question and its components are explained. The theoretical framework and evidenced-based practice model used to address the phenomenon is integrated. Terms related to the project are defined, and outcomes are delineated.

Background and Problem Significance

Access to health care is a significant battle for our United States veterans with complex health issues (Jacobs et al., 2019). Common factors that make access difficult are economic (Fletcher et al., 2018), transportation, and scheduling (Donelan et al., 2019). Attending in-clinic appointments often is inconvenient and financially draining, resulting in decreased appointment attendance (Ashrafzadeh & Hamdy, 2019). This in turn leads to poor health outcomes (Elliott, 2019). Employment, school and family caretaking responsibilities are other obstacles to accessing health care (Valentine, Donofry & Sexton, 2020).

There are 2.1 million veterans with behavioral health conditions (Transparency in Mental Health, 2018), who rely on the VA for health care (Maynard, Batten, Liu, Nelson, & Fihn, 2017). Inadequate health care access is pervasive among this population (Interian, King, St. Hill, Robinson, & Damschroder, 2018). Veterans with behavioral health conditions tend to be poorer and sicker (Farmer, Hosek & Adamson, 2016). Their access to health care is compounded by missed appointments (Elliott, 2019), physical disability, chronic multi-morbidities and illness.
severity along the mental health continuum (Perry, Gold, & Shearer, 2019). Low-income, housing instability, cognitive impairments, and psychosis are further challenges experienced by veterans with behavioral health issues (Thomas, Foley, Lindblom & Lee, 2017). Fear of stigma and privacy concerns for veterans with behavioral health conditions lead to health care avoidance as well (Jacobs et al., 2019). To mitigate access barriers and expand engagement for veterans, the VA utilizes telehealth technology (Jacobs et al., 2019; Perry et al., 2019; The National Academies of Sciences, Engineering, & Medicine, 2018; Veazie, Bourne, & Anderson, 2019; Wennergren, Munshi, Fajardo, & George, 2014). Telemental health care delivery via real-time video telehealth modality, has become essential for expanding access to mental health care (Shore et al., 2018).

**History of VA Telehealth**

Telehealth is defined within VA as the use of health information and multiple technological platforms to provide health care services to a veteran remotely, when the veteran and clinician are geographically separated. It is oftentimes used interchangeably with telemedicine, telecare, teletherapy, eHealth and mHealth. Telehealth technologies include real-time or synchronous video technologies or asynchronous data, images, messaging, sounds, and/or video that are stored and forwarded for later assessment (Veazie et al., 2019).

As early as 1959, the VA first used telehealth to deliver behavioral health care. From 1959 to 1994, use of telehealth was limited and rudimentary. Telemental health was solely provided, the costs of the telehealth equipment were exorbitantly high and the way in which communication technology was built was very basic. From 1994 on, the Veterans Health Administration phased telehealth incrementally. Phase 1 (1994–2003) was comprised of innovating locally, not nationally. Telehealth was piloted in multiple clinical sites and telehealth
pilots took place in 30 VAs. Phase 2 (2004–2010) was more systems oriented and three national telehealth modalities became official across more than 500 VA medical facilities: home telehealth, clinical video telehealth, and store-and-forward telehealth. A telehealth modality is the mode in which a telehealth episode of care transpires. Phase 3 (2011–2014) was established through the expansion of telehealth programs in 152 VA medical centers, more than 600 VA community-based outpatient clinics and into veterans' homes (Darkins, 2014).

Today, the VA performs over two million telehealth care encounters annually and is considered a global leader of telehealth evolution, implementation, and advancement (U.S. Department of Veterans Affairs Telehealth Services Fact Sheet, 2019). The VA has the largest telehealth program in the nation (Veazie et al., 2019). In 2018, through the home telehealth modality, the VA provided 872,705 encounters with 136,741 veterans. The store and forward telehealth modality provided 344,853 encounters with 314,487 veterans in 2018. Clinical video telehealth encounters totaled 1,074,422, which were provided with 393,370 veterans in 2018 (Elliott, 2019). In 2019, of the 9.3 million veterans enrolled in VA care, more than 900,000 veterans used VA telehealth services, and more than 2.6 million telehealth encounters occurred. Furthermore, in 2019, more than 99,000 veterans completed a total of 294,000 VA Video Connect (VVC) visit encounters, to have a live, video on demand visit appointment with their VA clinician from any location, instead of an in-person VA facility visit. Of the 294,000 VVC encounters, 200,000 were specifically for telemental health visits (U.S. Department of Veterans Affairs Office of Public and Intergovernmental Affairs, 2019b). Telehealth in the VA strives for care to be convenient, accessible, patient-centered, and strives for the home to be the optimal location of care. Management of chronic conditions and specialty care via VA telehealth modalities has been successful, evidenced by patient satisfaction ratings and good clinical
outcomes (U.S. Department of Veterans Affairs Telehealth Services, 2017). VA telehealth services are critical to VA’s mission to serve and care for America’s veterans and to the future trajectory of care to veterans within VA.

**Patient-Centered Care through Telehealth Technology**

The Institute of Medicine (IOM, 2006) *Crossing the Quality Chasm* document mandated improving health care for persons with behavioral health conditions and medically complex conditions. Telehealth, is a care model that provides health care from a distance, using a virtual technology-based platform to provide medical care, monitoring, prevention and health information, and improve access to specialized, and disease-specific care (i.e., diabetes) (Fatehi, Gray, Russell, &- Paul, 2015). Telehealth reaches patients in their homes or other private settings, where outpatient departments cannot and gives the patient more control over where, when, and how they receive care (Hogan et al., 2019). Telehealth aims to make sure patients receive the correct care in the correct place at the correct time, with the goal of making the home the most optimal place of care, when feasible (Veazie et al., 2019). Telehealth technologies improve health care services by increasing care access and promoting convenience (Donelan et al., 2019).

There are three telehealth technology modalities performed within home telehealth: (1) live video, which consists of clinical video telehealth and most recently VVC, (2) store-and-forward, and (3) remote patient monitoring. Live video transmission allows distant clinicians to see patients in real-time through telehealth technologies. Store-and-forward telehealth enhances care coordination by allowing clinicians to review health data, images, and sound at a later time, and forward to another site or specialty clinician if necessary, for diagnostic evaluation and treatment. Remote patient monitoring allows distant clinicians to monitor stored patient vitals
and conditions from another location (Trout, Rampa, Wilson, & Stimpson, 2017). Clinical video telehealth and VVC are both live video telehealth modalities. Clinical video telehealth is the first model of live video telehealth within VA that has been in existence since 2006. VVC, which was piloted in 2017, is the most recent live video telehealth innovation within VA.

**Clinical video telehealth.** Clinical video telehealth (CVT) is a real-time interactive form of telehealth that occurs from VA facility to VA facility (Elliott, 2019). It allows a VA clinician located in a VA facility to access a veteran patient who is located in another VA facility closer to that veteran’s home, for an appointment, to view, monitor, diagnose and treat (Elliott, 2019). Despite the limitation of veterans having to travel from their home to the nearest VA facility or clinic to utilize CVT, between 2009 and 2018, the VA provided over five million CVT encounters. This demonstrates veterans are interested in receiving care via live videoconferencing (Elliott, 2019).

Videoconferencing also known as video telehealth, video consultation, and video visits, is the live video synchronous modality of telemedicine (Fatehi et al., 2015). It is akin to an in-clinic visit because it allows for real-time encounter exchange between clinician and patient (Fatehi et al., 2015). It is a mode of health care delivery that goes beyond the brick-and-mortar VA facility building, by using information and communication technology to remotely access a VA clinician (Elliott, 2019). There is no in-person requirement to receive VA health care services via video telehealth, which allows for care without disruption to daily life activities (Elliott, 2019). Also, it is utilized as an adjunct to face-to-face care not a replacement (Elliott, 2019). Video telehealth has evidenced its ability to not only increase access and quality of care but may do so more effectively than in-person care (Shore et al., 2018).
**VA Video Connect technology.** VA Video Connect (VVC) video visits are a video telehealth technology that allows veterans to remotely access appointments with VA clinicians from their homes (Interian et al., 2018) or anywhere (Elliott, 2019). The VVC format of telehealth is more convenient for veterans than is CVT, which requires travel to the nearest VA facility. VVC mitigates barriers to access. VVC combines two telehealth modalities - VVC mobile application technology and CVT. The VVC application allows veterans to meet and interact with their VA health care team over live video. It uses the camera on one’s smart phone, computer, or tablet to provide direct real-time access to VA care. The VVC application can be installed through the application store icon on one’s smart phone, tablet, or computer. The veteran is required to have stable internet connectivity to utilize the technology. VVC application links veterans with their VA health team from anywhere, using encryption to guarantee a private and secure virtual appointment. VVC works on most devices that have internet connection and a web camera. It works on Windows-based personal computers and laptops, Windows mobile devices, iOS mobile devices, Android mobile devices, etc. (U.S. Department of Veterans Affairs VVC Mobile, 2018).

The use of VVC visits places VA health care within easy reach and eliminates travel burden. Further, it allows for convenient health care access from any mobile or web-based device. Veterans and their health team use shared decision-making to determine if VVC should be used for a medical appointment (U.S. Department of Veterans Affairs VVC Mobile, 2018).

In comparing VVC to CVT, there are a few drawbacks of VVC. CVT has the advantage of onsite services such as pharmacy, vital sign monitoring, and access to in-person health care immediately if a problem is discovered (Perdew, Erickson & Litke, 2017). VVC requires additional hardware in the home for the care to be comprehensive. VVC can be potentially less
convenient in some cases. For instance, a patient may require a urine drug screen before a prescription can be written. In this case a trip to a brick-and-mortar VA facility would be needed before the assessment and plan of the VVC visit can be completed.

In 2016, according to the National Center for Veterans Analysis and Statistics, 97.9% of veterans who were enrolled in VA health care owned a smartphone and 78.3% owned a computer or tablet. The VA will provide veterans with a tablet to conduct remote visits if they do not have a smart phone, tablet, or computer. VVC video visits are used to serve patients living in both rural and urban environments (Chakrabarti, 2015). Veterans in rural locations have to travel far distances to reach a VA health care facility (Elliott, 2019). Veterans in urban areas also face access impediments such as having to wait more than 30 days to receive an in-person appointment at the VA (Elliott, 2019), transportation constraints such as travel time (Fletcher et al., 2018) and the overall burden of travel (Hogan et al., 2019). Veterans in urban areas can experience drive times that are as long or longer than veterans in rural or remote areas (U.S. Department of Veterans Affairs Office of Community Care, 2019). Furthermore, many behavioral health patients utilize public transit, which can lengthen travel time to and from appointments. VVC is convenient, empowering, improves access (Chakrabarti, 2015) and eradicates transportation burden (Interian et al., 2018). Consequently, VVC is being implemented in a variety of settings within the VA system (Powell, Henstenburg, Cooper, Hollander, & Rising, 2017). VA priority areas for video telehealth are currently behavioral health and primary care.

**Organizational Needs Assessment**

Despite the plethora of telehealth technology used within the VA, and its demonstration to be well-received among veterans, little is known about VVC implementation and conduction
among clinicians in the outpatient behavioral health department. This Doctor of Nursing Practice (DNP) project addressed this gap with hope to increase its utilization within outpatient behavioral health and other clinics throughout the medical center. As of 2019, VVC training compliance was near 100%. However, only 67% of clinicians within the behavioral health department of this project site completed one VVC visit.

**Project Site Overview**

Across the U.S. veteran’s health care is separated geographically into 18 regions known as Veterans Integrated Service Networks (U.S. Department of Veterans Affairs Data, 2019). Each service network (or region) is comprised of several VA medical centers and VA community-based outpatient clinics. Service network four is located in the northeastern portion of the U.S. and is comprised of nine VA medical centers, 44 outpatient clinics, one mobile clinic, and 17 veteran centers. The site for this project was the VA behavioral health outpatient clinic located within one VA medical center in network four.

Behavioral health within this VA site is divided into two inpatient units, one behavioral health emergency care unit located in the emergency room (open 24 hours, seven days a week), one outpatient clinic, the residential rehabilitation treatment program, the outpatient methadone clinic, three community based outpatient clinics, and two annex clinics. The two inpatient acute behavioral health units can treat up to 40 veterans. The behavioral health emergency care unit within the emergency room can hold up to five veterans. The outpatient behavioral health clinic is located on two floors of the medical center. There are approximately 8,200 veterans registered and seen in the outpatient behavioral health clinic. The clinic offers extended outpatient hours, twice per week, from 8:30 AM to 7:30 PM and Saturdays, 8 AM to 4:30 PM. Furthermore, this
site is home to three nationally recognized research centers of excellence focused on addiction, behavioral health, and homelessness.

**National VA Telehealth Initiatives**

July 2017 began the pilot of the VVC application. With VVC on a desktop, smartphone or tablet, veterans can participate in video appointments that are encrypted to ensure a secure, private session. In the first five months, a total of 8,067 veterans attended 24,752 VVC appointments with more than 2,100 VA care team members (U.S. Department of Veterans Affairs VVC Mobile, 2018). According to the VA, the VVC application logged more than one million video visits as of February 2019. The application’s rollout will continue until all VA facilities have implemented VVC visits (U.S. Department of Veterans Affairs Office of Public and Intergovernmental Affairs, 2019a).

In August 2017, President Trump and former VA Secretary Shulkin held a White House meeting that revealed the nationwide telehealth plan for veterans that would enable veteran patients to reach VA clinicians via videoconferencing on smartphones, tablets and computers. They discussed how the VA will expand its use of telehealth under a nationwide program called VVC, branded with the tagline “anywhere to anywhere” (WhiteHouse.gov, 2017).

The VA Maintaining Systems and Strengthening Integrated Outside Networks (MISSION) Act of 2018 eliminated geographical and licensure barriers for clinicians to provide telehealth. Effective May 8, 2018 the U.S. Department of Veterans Affairs amended its medical regulations by standardizing the delivery of care of VA clinicians through telehealth. The MISSION Act ensures VA clinicians can offer the same level of care to all beneficiaries, irrespective of the state or location of the VA health care clinicians or the beneficiary. This
legislation expanded the availability of behavioral health, specialty, and general clinical care for all beneficiaries (Elliott, 2019).

However, Section 311 of the Controlled Substance Act, which was added as Section 3 of the Ryan Haight Act, authorized the special registration for telemedicine with the goal of increasing patient access to clinicians that can prescribe controlled substances via telemedicine in limited circumstances (H.R. Res. Public Law 110 - 425, 2008). The special registration would allow a VA clinician to prescribe a controlled substance in a state where the clinicians is not licensed to practice. The MISSION Act, in contrast to the special registration, does not supersede state laws regarding the prescribing of controlled substances. VA clinicians must be licensed in each state where the clinician intends to prescribe a controlled substance (Elliott, 2019). This requirement for an initial face-to-face visit before controlled substances can be prescribed as mandated by the 2008 Ryan Haight Act poses a barrier to the implementation of telehealth for outpatients.

June 8, 2018, a national VA telehealth expansion directive was enacted for all outpatient clinics, and specialty care clinicians, to be capable of providing outpatient services into the veteran’s home, via a veteran’s smart phone, tablet or computer, using VVC by the end of fiscal year 2021.

Site Specific Project Need

Although VVC visits are convenient, effective and safe, there are complexities to its implementation and use. Workflow logistics, personnel, scheduling, training (Interian et al., 2017), technology (Shulman, John, & Kane, 2017) and influences on interactions with patients may all affect the adoption of VVC (Sturesson & Groth, 2018). Additionally, inadequate patient and clinician education and training, need for additional telehealth clinicians, and patient and
clinician preference for in-person care present barriers to its adoption as well (Veazie et al., 2019). Experiences with the implementation of video visits within the VA and public sector, have not been well examined (Powell et al., 2017; Sturesson & Groth, 2018). Furthermore, there is a dearth of studies pertaining to implementation, satisfaction with and barriers to video telehealth among behavioral health clinicians (Perry et al., 2019). The national initiatives related to the implementation of telehealth within the VA have forced VA facilities to prioritize accordingly. The outpatient behavioral health clinic is the first department to rollout VVC visit appointments at this VA medical center. Presently within this VA medical center, approximately 30 behavioral health clinicians within the outpatient behavioral health clinic have conducted VVC appointments.

**Clinical Question**

The formation of a clinical question grounded with an evidence-based framework requires a PICOT question that seeks the most appropriate and obtainable evidence to impact and translate a practice change (Melnyk & Fineout-Overholt, 2015). PICOT is an acronym that addresses the five elements of clinical research question- patient population (P), intervention or issue of interest (I), comparison (C), outcome(s) (O), and time (T) (Melnyk & Fineout-Overholt, 2015).

Utilizing the PICOT format, the clinical question for this project was as follows: *How do behavioral health clinicians in a Veterans Affairs clinic setting evaluate the process of implementing VA Video Connect visits?* The population of interest for the project was behavioral health clinicians within the outpatient behavioral health department. Although there was no intervention implemented, the issue of interest was the process involved in the implementation and conduction of VVC visit appointments. There was no comparison action involved because
The design of the project was programmatic evaluation. However, clinicians were able to
anecdotally compare clinic visits, access, and ease of conducting an appointment before and after
VVC implementation. The outcome of this project was to inform best practices for VA clinicians
and continued rollout of implementation and conduction of VVC appointments for veterans with
behavioral health conditions in other VA clinics. Informing best practices would not be possible
without incorporating current best practices for videoconferencing-based telemental health. The
American Psychiatric Association in conjunction with the American Telemedicine Association
set forth official guidelines that focus on interactive videoconferencing-based mental health
services. The guidelines educate and guide in the development, implementation, administration
and provision of telemental health services (Shore et al., 2018). The timeframe for this project
occurred in a one-hour process-oriented team discussion, per clinician participant. A second
group discussion was held to bolster recruitment totals.

Evidence-Based Practice Model

The project was guided by an evidenced-based practice (EBP) model. EBP is a method
that utilizes the best, well designed research-based practice evidence to provide measurable high-
quality nursing care (Doody & Doody, 2011). To maintain congruence with the current EBP
model being utilized within the VA system, the Iowa EBP model was used for this project. It
provided a guide for searching and evaluating research evidence to improve care, nursing
decisions, actions, and interactions with patients. The Iowa model focuses on identifying
clinical, administrative, or educational triggers, which leads staff to question the existing practice
and then synthesize and evaluate solutions, based on current evidence (Doody & Doody, 2011).
The seven steps of the Iowa model are explicated through the lens of this principal investigator’s
(PI) quality improvement project.
Step One: Selecting a Topic

The personal experiences of behavioral health clinicians implementing and conducting VVC visits within the VA is limited. Understanding requires exploring real experiences (Powell et al., 2017). This VA site identified the issue and asked the PI to examine the issue as a quality improvement project. This project was expected to facilitate the continued rollout of implementation and conduction of VVC appointments for veterans with behavioral health conditions in subsequent VA clinics (i.e., the behavioral health primary care clinic).

Step Two: Forming a Team

This PI worked with the Primary Care Nurse Executive and the Chair of the EBP Committee. They were key stakeholders who helped to inform the issue and guide the project. The issue was timely and important. The Primary Care Nurse Executive was interested in rolling out VVC visit appointments in the behavioral health primary care department. This department is integrated in the outpatient behavioral health clinic. It provides primary care services exclusively to veterans with behavioral health conditions. VVC visit appointments within this department will expand primary care access to veterans with behavioral health conditions.

Behavioral health clinicians who have already implemented and conducted VVC appointment visits in the outpatient behavioral health clinic are psychiatrists, psychologists, advanced practice nurses, RNs, and social workers who perform therapy. The goal is for all mental health specialties, including social workers and registered nurses doing case management, to be trained and equipped to do VVC appointment visits in the near future. There is one facility telehealth coordinator and one behavioral health educator within the project site facility.
Step Three: Retrieving the Evidence

A literature search based on each element of the project’s PICOT question was conducted using several professional databases. The elements included the differing aspects related to video telehealth, clinical and practical issues with implementation, utilization and clinician buy-in, mental health patients, veterans with mental health conditions, best practices and clinician and patient satisfaction. Comprising the nine articles selected for literature review, there were three qualitative studies, three systematic reviews, one collection of case studies, one descriptive study and one survey design.

Step Four: Grading the Evidence

Studies selected for the literature review for this project were evaluated using an established and frequently used appraisal tool. Let Evidence Guide Every New Decision (LEGEND) is an evidence evaluation appraisal tool (Clark, Burkett & Stanko-Lopp, 2009). LEGEND evaluates quantitative, qualitative, mixed methods research, simulation, and bench studies. The tool provides a standardized way for clinicians to synthesize and evaluate published studies individually and grade as a whole body of evidence, to use for supporting recommendations for practice (Clark et al., 2009).

Step Five: Developing an EBP Standard

This project evaluated current processes and experiences of implementation of VVC visits. From this evaluation a best practice guide for VA clinicians of the process of implementing and conducting VVC visits with veterans with behavioral health conditions was created.
Step Six: Implementing the EBP

This entailed the implementation and conduction of the VVC visit appointments based on the best practice guide for VA clinicians that is developed from the programmatic evaluation.

Step Seven: Evaluating Outcomes

Structured evaluation occurred through notes transcription, thematic delineation, incorporation of best practice clinical guidelines for videoconferencing and content expert review. Project objectives were operationalized from transcribing the written notes from the two, one-hour process-oriented team discussions. Recurring themes from the discussions were described. Best practice clinical guidelines for videoconferencing in mental health from the American Psychiatric Association and the American Telemedicine Association were consulted as appropriate. These organizations collaborated to provide best practice guidance with the development, implementation, administration and provision of mental health services via live video visits (Shore et al., 2018). Subsequently, a VA best practice guide with an algorithm and a case study exemplar for VVC conduction were created as the project’s deliverables. Content review of these deliverables occurred through consultation with two members of the national Personalized Implementation of Video Telehealth (PIVOT) team. Deliverables were also reviewed by the project site.

Definition of Terms

Behavioral Health Clinician: For the purposes of this project, a behavioral health clinician was any licensed health professional at the project site who provides behavioral health care to patients with behavioral health conditions. This included nurses, advanced practice nurses, physicians, psychologists, and social workers.
Implementation Process of VVC: For the purposes of this project, the implementation process of VVC was comprised of the set-up, conduction, and wrap-up needed to complete a VVC visit appointment.

Programmatic Evaluation: A systematic process of collecting evidence that a project, program, or policy is effective and efficient (Moran, Burson & Conrad, 2017). For this project, the programmatic evaluation was the detailed examination of the implementation and conduction process of VVC at the project site. This evaluation was operationalized via two, one-hour guided team discussion with participating clinicians. Terms such as team-based discussion, team discussion, group discussion, lunch-and-discussion are used interchangeably throughout the paper.

Best Practices: A way of doing something that has been demonstrated by research and experience to produce optimal results and that is established as a standard for widespread adoption (Merriam-Webster website, 2020).

Clinical Video Telehealth: A telehealth modality that uses real-time synchronous video conferencing, to evaluate, and deliver care to a veteran from a distance. This modality works from VA site to VA site, meaning the patient is located in a VA facility and the clinician is located in a different VA site, usually the main hospital/medical center (U.S. Department of Veterans Affairs Telehealth Services Fact Sheet, 2019). It necessitates both veteran and health professional simultaneously connect to the virtual video technology platform and a communication link between them allows for a live interaction to occur (U.S. Department of Veterans Affairs Telehealth Services, 2017).
**VA Video Connect (VVC):** A telehealth modality that enables patients to connect with a VA clinician directly from home or any location of their choice (Lindsay et al., 2019). VVC is also known within the VA system as video on demand.

**Conclusion**

This chapter addressed barriers to health care access for the general population of veterans and those with behavioral health conditions. Telehealth technology improves convenience of access via VVC appointment visits. VA telemedicine was discussed from its beginnings in the 1950s to present day. The three telehealth modalities were delineated, followed by an in-depth discussion of the real-time formats of clinical video telehealth and VVC. A needs assessment of the organization was portrayed, and national VA telehealth initiatives were detailed. The clinical question and its PICOT components were explained. The Iowa EBP model guiding this project was outlined. The chapter concluded with important definitions relevant to the project.
Chapter II

Review of Literature

This chapter details the review of literature for video telehealth. The search strategy is explained. A literature review, critique and synthesis are explicated. Leveling and grading of the literature is provided. Lastly, the rationale for the project is delineated.

Search Strategy

An in-depth literature search was carried out using three professional databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, and PsycINFO. These databases were used to perform a comprehensive search through evidence-based, peer reviewed, high-quality journals of nursing, medicine, psychiatry and the health care system. A research librarian from the biomedical library was consulted to assist with the search. The major elements of the project’s PICOT question were identified and translated into keyword and medical subject headings (MeSH) subject descriptors.

The following search terms were used to retrieve studies: VA Video Connect (VVC), video visits, video telehealth, telemental health, telepsychiatry, video telemedicine, video conferencing, veterans, virtual visits, virtual video visits, home-based videoconferencing, home-based telepsychiatry, implementation process of virtual visits, VVC evaluation, implementation process of video telehealth, implementation process of virtual visits, telepsychiatry implementation, telebehavioral health, home-based telepsychiatry, video conferencing evaluation, experiences with video visits. The Boolean operator AND was used to connect the terms video visits AND veterans, VVC AND veterans, video telehealth AND veterans, video telehealth implementation AND veterans, video conferencing AND veterans, VVC visits AND
VA. Each of the search phrases were used in each of the databases. Inclusion criteria were specified as articles within the past five years (from 2014 to 2019), in English language, adult population, original research, and systematic reviews. Exclusion criteria were specified as manuscripts not translated into English and articles not pertaining to video telehealth. All potential articles retrieved by the searches were screened for relevance to the PICOT question.

The systematic search of terminology components related to the PICOT question, yielded 444 results in the PubMed database, 412 in CINAHL, and 775 in PsycInfo. To narrow the numbers of articles to less than 100 per database, the search had to be filtered further using the exact words contained in the clinical question combined with the word AND. Saturation of selected articles was reached upon seeing the articles repeated across each database. Nine articles were selected for further analysis and for adherence to the inclusion and exclusion criteria. Articles were retained if they were tailored specifically for a population of clinicians’ experiences with VVC visits. Articles with a general telehealth modality focus were excluded if video telehealth specifically was not the modality used.

Nine articles comprised the final sample of literature selected to inform the project. The literature consisted of three qualitative studies (Donelan et al., 2019; Interian et al., 2018; Sturesson & Groth, 2018), one case study (Hogan et al., 2019), one descriptive study (Lindsay et al., 2019), one survey design (Perry et al., 2019, 2019) and three systematic reviews (Abrams et al., 2017; Chakrabarti, 2015; Fletcher et al., 2018).

**Literature Evaluation and Grading System**

The retained studies were evaluated and synthesized using the evidence evaluation appraisal system, Let Evidence Guide Every New Decision (LEGEND). LEGEND evaluates quantitative, qualitative, mixed methods research, simulation, and bench studies. Further, the
LEGEND appraisal system can equip health care professionals with the tools to help synthesize the literature and generate care proposals based on research findings. There are two phases incorporated within the LEGEND tool. First, individual studies are examined. Second, the entire body of evidence are evaluated (Clark et al., 2009).

Assessment criteria to decide the strength of the literature is based on three aspects of the individual studies. These aspects are the quality of the studies, the quantity of studies and the consistency of the findings of related and unrelated study designs. A good quality study is assigned an ‘a’. A lower quality study is assigned a ‘b’. Numbers 1 through 4 represent the type of study/study design. For instance, a randomized controlled trial study design would be assigned a number 1 while an expert opinion would be assigned a number 4 (Clark et al., 2009).

The overall quality of the entire body of literature is then assigned with grades of high, moderate, low, or grade-not-assignable. High grade indicates multiple high-quality studies with consistent results. A moderate grade indicates multiple studies of lesser quality or with inconsistent results, or a single well-done study. Low grade is indicative of local opinion, case reports, case studies and general reviews. Grade-not-assignable is used when all studies are of insufficient design or execution, when there are too few studies, or when there are inconsistent results in the body of evidence (Clark et al., 2009).

**Critique and Synthesis of the Previous Evidence**

The VA is tasked to provide care for all veterans, regardless of location or complexity of health condition. VVC visit appointments brings VA care to veterans in their homes or any location of their choice, especially those with behavioral health conditions, who face socio-economic, geographic barriers, and co-morbidities, exacerbated by perceived stigma, and trajectory along the mental health spectrum. National mandates make the telehealth initiative
time sensitive. Veterans are interested in video conferencing technology and according to the VA, telemental health care is the telehealth service most frequently accessed (Elliott, 2019). VVC visits strengthen the provision of care, so veterans receive the care they need and deserve.

After careful review of the final sample of literature, five themes emerged and overlapped throughout the studies. These themes are benefits, complexities, conducting VVC with patients with behavioral health conditions, implementation recommendations, and best practices. As such, the following sections are designed to synthesize the current evidence by theme.

**Benefits of VA Video Connect Visits**

Across studies, a plethora of the benefits of VVC visits were discussed. However, Chakrabarti (2015) and Fletcher et al., (2018) significantly detailed the benefits of real-time video visits. Increasing access to care has been evidenced as the foremost benefit of video visits. Videoconferencing was initiated to increase access to care for patients in remote and inaccessible locations. However, it is now used to increase care access for patients in urban areas as well.

Patient satisfaction is another top benefit. Based upon evidence from multiple research studies, patients are satisfied with video visits (Chakrabarti, 2015; Fletcher et al., 2018; Hogan et al., 2019; Lindsay et al., 2019). Patient satisfaction occurs because of the convenience and elimination of travel and transportation burden, the elimination of wait times in the clinic, and the privacy it affords. Additionally, the alliance between patient and clinicians who use telehealth has demonstrated beneficial outcomes. The quality of the therapeutic relationship between patient and clinician can be just as strong virtually as in-person (Abrams et al., 2017; Chakrabarti, 2015; Donelan et al., 2019; Fletcher et al., 2018; Hogan et al., 2019). Furthermore, the efficaciousness in treatment outcomes of real-time virtual video visits has demonstrated it is
clinically comparative to face-to-face in-clinic care (Abrams et al., 2017; Chakrabarti, 2015; Donelan et al., 2019; Fletcher et al., 2018; Lindsay et al., 2019; Sturesson & Groth, 2018).

Chakrabarti (2015) performed a critical evaluation using reviews, guidelines, and original randomized controlled trial research studies of videoconferencing-based approaches for telepsychiatry. A total of 9 articles were included in this review. This review evaluated the usefulness and efficacy of telemental health care delivery. Chakrabarti looked at studies conducting randomized controlled trials among patients with depression, phobias, obsessive compulsive disorder, panic disorders, post-traumatic stress disorder, eating disorders, substance abuse, psychosis, dementia, and suicidal ideation. Chakrabarti found videoconferencing to be an excellent adjunct to in-person care via randomized controlled trial design studies, demonstrating videoconferencing to be as effective as face-to-face patient care in multiple clinical environments, based on equivalent clinical outcomes. LEGEND leveling of the evidence is 1a.

Donelan et al., (2019) described patient and clinician experiences with real-time virtual video visits for one-year of patient follow-up care compared to in-person office visits. Five specialty areas (psychiatry, neurology, cardiology, oncology, primary care) implemented and conducted virtual visits. A total of 254 patients and 61 clinicians (nurse practitioners, psychologists, and physicians) completed an online questionnaire survey. Most clinicians and patients reported no difference in the quality of a virtual visit versus an in-clinic visit. Virtual video visits experiences were positive, well-received by clinicians and patients, were deemed clinically efficacious, and were said to be less expensive. LEGEND leveling of the evidence is 4a.

Fletcher et al., (2018) reviewed literature on the delivery of mental health treatment via VVC. The review was based on 10 treatment outcome studies, eight randomized controlled trials,
and two pilot studies. The clinical efficacy of mental health treatment outcomes from psychotherapy and a psychiatric consult intervention via VVC appointments was comparative to in-person treatment. Efficacy was defined by large effect sizes and significant improvements in outcomes of mental health conditions, which included depression, post-traumatic stress disorder, substance use and obsessive compulsive disorders. LEGEND leveling of the evidence is 1a.

Across studies, the evidence reveals consensus pertaining to the multitude of benefits of video visits. Other benefits discussed in the literature state real-time video visit appointments are safe (Fletcher et al., 2018; Sturesson & Groth, 2018), patient-centered (Hogan et al., 2019), cost-effective (Abrams et al., 2017; Donelan et al., 2019; Fletcher et al., 2018; Hogan et al., 2019; Perry et al., 2019); improve treatment adherence (Fletcher et al., 2019), and serve as an excellent adjunct to in-clinic care (Chakrabarti, 2015; Donelan et al., 2019; Perry, Gold & Shearer, 2019). Nonetheless, there are complexities to its implementation and use.

**Complexities of VA Video Connect Visits**

Four of the selected studies focused on the challenges by clinicians related to implementing and conducting video visit appointments (Abrams et al., 2017; Interian et al., 2018; Perry et al., 2019, 2019; Sturesson & Groth, 2018).

Commonly cited complexities of video visit implementation are technology functionality (Abrams et al., 2017; Interian et al., 2018; Perry et al., 2019; Sturesson & Groth, 2018), clinician buy-in (Interian et al., 2018), preference for in-person care (Perry et al., 2019), training effectiveness (Perry et al., 2019), workflow (Interian et al., 2018; Sturesson & Groth, 2018), and support logistics (Interian et al., 2018; Perry et al., 2019). In the private-sector, legal and regulatory issues pertaining to clinician licensure, telehealth parity or lack thereof and lower reimbursement rates for tele-psychiatry add to the complexities (Abrams et al., 2017; Hogan et
Technology issues related to functionality/connectivity quality of the virtual video appointment are prevalent in the literature (Abrams et al., 2017; Interian et al., 2018; Sturesson & Groth, 2018). For instance, poor sound and video image quality (Abrams et al., 2017; Interian et al., 2018; Sturesson & Groth, 2018), concerns related to privacy of surroundings (Abrams et al., 2017; Sturesson & Groth, 2018), and issues related to cyber security (Abrams et al., 2017) are some challenges faced by video appointment users.

Abrams et al., (2017) reviewed technology, legal, regulatory, clinical, and cost savings factors as they relate to conducting psychiatry and psychology virtual visits in an academic medical center. Telebehavioral health was found to be just as effective as in-clinic treatment, cost savings were difficult to determine, and legal and technological considerations must be factored into the implementation and conduction of virtual video visits. LEGEND leveling of the evidence is 1a.

One VA specific study surveyed 159 VA mental health staff comprised of nurses, psychologists, psychiatrists, social workers, researchers, and administration to evaluate barriers to CVT implementation and compare responses of CVT users with non-CVT users (Perry et al., 2019). Behavioral health clinics represented included outpatient behavioral health, residential and inpatient, primary care behavioral health integration, and others within behavioral health such as research and administration. From this study, it was discovered that clinicians who stopped utilizing video visits did so because of lack of patient knowledge about the technology, lack of physical contact, difficulties establishing therapeutic relationship, lack of sufficient training, and preference for face-to-face appointment. Furthermore, clinicians who never implemented video visits had not done so because of uncertainty about VVC set up and
operation, and/or because their patients did not have the needed technology. LEGEND leveling of the evidence is 4a.

Sturesson and Groth (2018) examined the effects video visits can have on workflow and work processes, by evaluating clinicians perceived challenges from conducting video visits in outpatient care. Clinicians were physicians, nurses, psychologists, nutritionists, occupational therapists, and physiotherapists. There were 13 video visits observed at two different outpatient obesity clinics and 14 follow up interviews with clinicians were conducted. Disturbances and limitations were related to a lack of timeliness of starting appointments, poor sound and video quality, the experience of conducting an appointment via video, and the content of what the appointment was about. LEGEND leveling of the evidence is 4a.

Additional challenges of implementing video telehealth visits were found in the literature. Stronger logistical support from a facilities expert or local champion are needed to be available to clinicians to assist with set-up and conduction, and provide on-going, individualized facilitation (Interian et al., 2018). Workflow burden difficulties become commonplace because of changes that occur in workflow due to video visits adding nuances that are not part of a traditional in-person visit (Sturesson & Groth, 2018). Limited protected time, which is the time provided/allotted specifically for clinicians to conduct video appointments, is another challenge. These challenges, discussed above, have led to sluggish or absence of clinician adoption of VVC (Interian et al., 2018; Perry et al., 2019; Sturesson & Groth, 2018).

Interian et al., (2018) evaluated the implementation of home-based videoconferencing for the provision of behavioral health services. Thirty-three semi-structured interviews were conducted with VA behavioral health clinicians from three VA facilities. Equipment challenges, limited technical support, lack of dedicated time, functionality/technical problems, and
inadequate availability of local champions were challenges regarding implementing VVC visits. The clinician’s level of experience with VVC influences their barriers and facilitators with implementation. Clinicians with no VVC experience verbalized the greatest need for knowledge about step by step setup and operational logistics. Clinicians with limited VVC experience voiced concerns about having technical problems (i.e., connectivity and sound), locating patients who were interested in using VVC, and determining patients who had the necessary technology in their homes. Clinicians with the most VVC experience reported considerable functionality problems with the technology and inadequate availability of local technical support for their telehealth visits. Clinician buy-in and technical support were noted as crucial factors for implementation success. LEGEND leveling of the evidence is 4a.

Each of the four articles above discussed complexities of implementation and conduction of video visits among behavioral health clinicians and two of the studies included additional specialties of primary care, neurology, oncology and cardiology. Challenges experienced with implementation and conduction may affect adoption and utilization of video visit appointments.

**Conducting VA Video Connect Visits with Veterans with Behavioral Health Conditions**

There are additional nuances involved with conduction of video visits depending on the patient population. VVC visits can be conducted with patients who fall at any point on the behavioral health continuum (Abrams et al., 2017). This includes persons with severe psychosis, paranoia, impaired reality testing, poor impulse control or severe mood dysregulation, active suicidal or homicidal ideation, active/severe substance use disorder or intoxication, severe cognitive impairment, and severe sensory impairments (Hogan et al., 2019).

Hogan et al., (2019) conducted several patient-related case reviews describing clinical challenges clinicians face when conducting a VVC visit appointments with veterans and non-
veterans with varying degrees of behavioral health conditions. Prior to this study, certain populations of persons with behavioral health conditions were considered ineligible to have a live video visit appointment because they were deemed clinically inappropriate and not a good fit for this care modality. However, this study allowed clinicians to shift away from excluding complex patients and circumstances and focus more on becoming more competent to handle varying degrees of clinical challenges a patient may present with during a live video visit. The clinical challenges of conducting VVC with patients with varying behavioral conditions included (1) low technological literacy of the patient; (2) the provision of specialized mental health treatment to a patient via a video visit because there are no nearby local clinicians for them with the expertise; (3) maintaining continuity of care for a new patient via a video visit, because they lost their long-time local clinician and did not have a clinician replacement in their geographical area; (4) stigma and severe post-traumatic stress disorder; and (5) treatment-interfering behaviors over VVC, such as poor eye contact, positioning oneself away from the camera, being disruptive by engaging in other activities during the VVC appointment (Hogan et al., 2019). The purpose of explicating case scenarios was to strengthen confidence and competence of clinicians who are novices at conducting VVC visit appointments and for those clinicians seeking to expand their repertoire with more challenging populations and circumstances. The authors then provided solutions to the challenges.

Proposed solutions for clinically challenging case scenarios were to (1) provide additional set up support and training for patients with low technology literacy; (2) conduct a live video visit as a means to mitigate access barriers such as long distance to specialty clinicians, work schedules, and non-existent specialty clinician within a geographic area; and (3) utilize
video visits to overcome stigma-related barriers of getting mental health treatment in a public outpatient setting. LEGEND leveling of the evidence is 4a.

Implementation Recommendations

Knowing the VVC implementation and conduction experiences of behavioral health clinicians allows the organization to address complexities before they arise and informs implementation best practices. To increase the utilization of VVC within the VA, an implementation strategy standard is necessary to provide the supportive guidance needed for the adoption of this innovation (Lindsay et al., 2019). Lindsay et al. (2019) developed Personalized Implementation of Video Telehealth (PIVOT), an implementation approach to increase adoption of VVC in a large, urban VA medical center. There are five recommendations included in PIVOT: (1) Engage leadership from the outset and frequently, their buy-in is crucial to clinician adoption. (2) Secure assistance at the local level. This is paramount. Local site adoption facilitators (i.e., champions) must have protected time to support implementation and provide training. National mandates are not enough to promote usage. (3) Start small to enhance success, pilot the telehealth innovation with early adopters. (4) Ensure flexibility, tailor the implementation to the needs of the facility. (5) Assess multiple outcomes, outcomes should have value to the stakeholders (Lindsay et al., 2019). LEGEND leveling of the evidence is 4a.

Hogan et al., (2019) recommended strategies for conducting VVC for complex patients with behavioral health conditions who suffer with challenging circumstances or behaviors. These strategies included providing comprehensive individualized support to assist patient’s with set-up and technology training; offering VVC as an option to every patient; and addressing treatment-interfering behaviors directly with the patient during the VVC visit.
Fletcher et al., (2018) recommended implementation strategies that are critical for clinician buy-in as well as adoption success of telemental health care. Sites should ensure the use of VVC facilitators who are experts in VVC implementation, training, and education. Organizations should develop VVC communities of practice. These communities afford clinicians a venue to discuss VVC clinical issues, learn about changes in technology, examine reimbursement topics, and consider policy implications.

**Best Practice Guidelines for Telebehavioral Health**

The American Psychiatric Association (APA) and the American Telemedicine Association (ATA) together developed best practice guidelines for mental health clinical video conferencing (Shore et al., 2018). The APA is the largest psychiatric organization in the world and the main professional organization of psychiatrists in the U.S. The ATA has global membership, that brings together telemedicine practitioners, health care institutions, government agencies, vendors and others involved in providing remote health care using telecommunications.

The best practice guidelines from both the APA and ATA cover comprehensively administrative, technical, and clinical considerations of telebehavioral health clinical video conferencing usage. The administrative considerations include the implementation/program development, legal and regulatory issues and standard operating procedures/protocols. Technical considerations are outlined that pertain to videoconferencing platform requirements; integrating videoconferencing into other technology and systems; privacy and security (i.e., Health Insurance Portability and Accountability Act [HIPAA]); and physical location/room requirements. Clinical considerations include patient and setting selection, management of patient-clinician relationships, ethical issues, cultural considerations, specific populations and
settings. The purpose of the guidelines is to provide guidance in the development, implementation, administration, and provision of telebehavioral health services; and to assist clinicians with the provision of quality medical care founded on expert consensus, research evidence, available resources, and patient needs (Shore et al., 2018).

Having more than five years of experience implementing VVC within the VA, Fletcher and colleagues (2018) developed best practices for implementing VVC for behavioral health within the VA. Their best practice recommendations include: (1) Offer VVC frequently as a treatment option but allow patient choice. (2) Consider clinician competency, expertise, and training not patient exclusion criteria. (3) Emphasize VVC use for patient populations that experience barriers to accessing behavioral health care. (4) Develop a method to implement involving the facility VVC coordinator or experienced facilitators. (5) Create a community of practice with other VVC clinicians to stay up to date on relevant issues, procedures and the technology. (6) Develop a risk management plan, using telehealth patient safety recommendations from APA, ATA, and relevant research. (7) Become familiar with available assistive technologies for patients with vision, hearing, and physical disabilities. (8) Train and educate clinicians across behavioral health and medical disciplines about VVC benefits and utilization (Fletcher et al., 2018).

**Summary of the Body of Evidence**

All selected literature retained for this review were clinician focused. More than half used VA specific settings and pertained specifically to behavioral health clinicians’ experiences with VVC visit appointments (Fletcher et al., 2018; Hogan et al., 2019; Interian et al., 2018; Lindsay et al., 2019) and clinical video telehealth (Perry et al., 2019). Two studies discussed behavioral health clinicians in the private-sector experiences with telemental health video conferencing
(Abrams et al., 2017; Chakrabarti, 2015). The remaining studies examined primary care and specialty care clinician experiences with video conferencing in outpatient care clinics treating patients with obesity (Sturesson & Groth, 2018), and in five specialties (psychiatry, neurology, cardiology, oncology, primary care) (Donelan et al., 2019). In two studies, clinician satisfaction with VVC was low as evidenced by the slow adoption/utilization (Chakrabarti, 2015; Fletcher et al., 2018). Limited clinical usage of video visits was noted to be multifactorial (i.e., technology functionality, clinician buy-in, preference for in-person care, training effectiveness, added workload burden, support logistics). In addition, clinician skepticism/negative attitude about video visits were found to be one of the most significant barriers to video visit adoption (Chakrabarti, 2015).

Limitations of the selected literature were less-rigorous study designs (i.e., survey and case reviews). Cost-effectiveness of VVC was determined to be uncertain (Chakrabarti, 2015) or was not discussed in multiple studies (Interian et al. 2018; Lindsay et al., 2019; Sturesson & Groth). Further, studies pertaining to implementation processes of VVC visits were very limited. Lack of internet connectivity and strategies to overcome that obstacle were not discussed in the literature reviewed for the project.

**Grading the Body of Evidence**

Overall, the body of evidence is evaluated as low. This evaluation is based on multiple lesser quality study designs. Six studies of the nine studies were rated as low. Three were reviews and, as such, were rated as higher level. The three reviews were leveled via the LEGEND appraisal tool as 1a, and the remaining six studies were leveled as 4a. See Appendix A - Literature Summary Table.
**Rationale for Project**

Access barriers to health care are pervasive in the U.S. veteran population. Access is also a consistent problem for U. S. veterans with behavioral health conditions. VVC visits provide a wide array of benefits for both patients and clinicians. Health care access, convenience, empowerment, and elimination of travel burden are just a few of the benefits. Nonetheless, there are also many challenges which impact its utilization. Technology functionality issues during conduction of a video visit, increased workload burden, insufficient training, and logistical support are some of the complexities. Experiences with the implementation process of video visits within the behavioral health department of the VA project site have not been well examined. The paucity of studies specifically related to VVC implementation processes, coupled with this literature review, highlights the need and value of evaluating the processes involved in VVC implementation within the VA.

Furthermore, the national VA telehealth expansion directive enacted June 8, 2018, mandates VVC be implemented in all VA outpatient clinics by the end of fiscal year 2021. As it is currently 2020, the timeline grows shorter for VA facilities to implement, evaluate, and modify as needed. This project helped this VA project site meet the nationally mandated initiative.

Understanding implementation requires knowing authentic implementation experiences. This knowledge will help close the gap that exists regarding video telehealth visit implementation. Therefore, the purpose of this project was to conduct a programmatic evaluation of the implementation processes of behavioral health clinicians who use VVC. The ultimate goal was to improve satisfaction with care, strengthen health care access for veterans, improve patient quality of care, and maintain cost-efficiency. The project informed best practices for VA
clinicians and enlightened subsequent rollout of implementation of VVC for veterans with behavioral health conditions in other VA clinic settings. This project was timely and valuable to both clinicians in the VA behavioral health primary care clinic and clinicians in the behavioral health clinic. Implementation of this project was requested and endorsed by VA leadership at this VA project site.
Chapter III

Methods

This chapter describes the methods of the project linking it to the purpose of this project and describing how the clinical question was answered. The design, implementation framework, and plan are discussed. Project sponsors and human subject reviews are detailed. Setting and sample are explained. Procedures and timeline are delineated. The tools used to evaluate the phenomenon of interest are outlined. Proposed data collection, management, and analysis is mapped.

Project Design and Type

This project was designed as a detailed programmatic evaluation. Program evaluation is one of several DNP projects designs (Moran et al., 2017). Program evaluation involves a methodical process of collecting and analyzing data to determine the effectiveness and efficiency of programs in order to contribute to continuous program improvement (Kidder & Chapel, 2018). This project was intended as a quality improvement (QI) project and evaluated the processes of implementation of VVC visits within the VA. Health care quality improvement projects target a specific area of care performance to ascertain improvement within an organization (Moran et al., 2017).

Primary and Secondary Objectives

The primary objective of the project was to evaluate current processes and experiences of implementation of VVC visits. There were two secondary objectives: (1) The creation a VA comprehensive best practice implementation guide for VA clinicians of the process of implementing and conducting VVC visits with veterans with behavioral health conditions and
the (2) The creation of a case study exemplar demonstrating a VVC appointment from set-up through conduction and wrap-up.

**Project Sponsors and Resources**

An aggregate of sponsors was needed for the project to come to fruition. Sponsors included the VA Evidence-Based Practice (EBP) Committee, that preliminarily approves all EBP projects at their outset and the Substance Abuse Behavioral Health Services Administration (SAMHSA) in partnership with the American Nurses Association. SAMHSA appointed this author as a member of the Minority Fellowship program from 2018-2020.

**Sponsor: VA Evidence-Based Practice Committee**

The PI is not employed by the project site. Thus, support from key stakeholders at the project site was imperative for its success. The EBP Committee at the project site reviewed the project proposal and preliminarily approved it as quality improvement. The EBP Committee has two co-chairs. Project acceptance was also secured from the VA Primary Care Nurse Executive. After project approval by the EBP committee, PI onboarding took place to ensure access to any necessary VA systems as part of the project. This onboarding is required for any non-employee conducting a project within the VA.

The PI attended an EBP committee meeting, at the outset of the project, to present the project to the committee. The PI’s report included: the project title, description, strategic themes addressed, rationale, objective, expected outcomes and evaluation plan, project partners, who the project will affect, and what the project will involve. Although the EBP committee is not the final approval body, it does guide all EBP projects and PIs to formulate a quality project that meets the PI’s needs as well as the VA site’s needs. After a project’s first round of approval through the EBP committee and VA leadership, it is moved through the VA research and
development committee, via the institutional review board or QI department. The research and development committee is the official approval body that deems projects either research or QI. Official approval by the QI department occurred in August 2019. The project was deemed QI. At the conclusion of the project, a presentation was conducted for the EBP committee, and a second presentation was conducted for all behavioral health clinicians and behavioral health primary care clinicians.

A VA EBP mentor was assigned to this PI in August 2019. Assignment of the mentor was crucial for engaging stakeholders relative to the project, ensuring the procurement of resources needed to support the project, and avoiding obstacles with project implementation.

**Sponsor: Substance Abuse Behavioral Health Service Administration**

The PI was funded in part by the Substance Abuse Mental Health Services Administration (SAMHSA), in partnership with the American Nurses Association. Funding for this quality improvement project was made possible (in part) by Grant Number 5H79SM080386-02 from SAMHSA. The views expressed in written training materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

**Resources: Human and Physical**

Human resources were necessary for the project to come to fruition. The co-chair of the EBP committee was also the PI’s VA mentor. The liaison between the PI and the behavioral health clinic leadership and behavioral health clinicians was the VA primary care nurse executive. Hereafter, she will be referred to as the site liaison. The site liaison was very interested in this project to inform her department with rollout of VVC in the behavioral health
primary care clinic. Both this PI’s EBP mentor and the site liaison were resources and project partners. The VA EBP mentor is dually appointed at the VA project site and at a large local university affiliated with the VA. She holds the position of clinician scientist and educator. She also serves as the co-chair of the EBP committee. The project site EBP mentor assisted with participant recruitment. The site liaison was the VA primary care nurse executive who oversees the entire primary care nursing department, which also includes the behavioral health primary care clinic. The behavioral health primary care clinic is co-located within the behavioral health clinic and provides primary care exclusively to veterans with behavioral health conditions. Leadership personnel within behavioral health assisted with procurement of names of eligible clinicians who received an invitation to participate.

Physical resources were also necessary for project implementation. A conference room was secured for two days, based upon response totals. Two tables (one for clinicians to sit around and the second to hold refreshments) and at least 10 chairs set up around the table, were necessary to accommodate participants, the PI, and the note takers. Labels were provided, so each clinician could place their role on the label and place the label on their shoulder. Pens and markers were provided for all clinician participants to write their clinician roles and for the note takers to write the responses of the participants.

**Setting and Sample**

The setting of a project is integrally linked to its feasibility. Prior to carrying out the project the setting must be identified and accessibility for participants should not be a barrier (Melnyk & Fineout-Overholt, 2015). The setting of the project was determined and was convenient for the participants because it took place within their work setting during their lunch time.
**Project Setting**

The setting for the project was one outpatient behavioral health clinic in one VA medical center in the northeastern part of the U.S. Veterans treated in the behavioral health clinic have behavioral health conditions that range from mild to serious behavioral illness. Veterans are either self-referred to the behavioral health clinic, and seek treatment independently, or are referred from a health care clinician. Based upon individual evaluations, veterans receive behavioral health services that range from general outpatient behavioral health to specialized high intensity outpatient behavioral health (The National Academies of Sciences, Engineering, & Medicine, 2018). There are 8,200 veterans registered and who receive services in the behavioral health clinic. There are 1,215 veterans with serious mental illness who are registered and seen in the behavioral health primary care clinic. There are approximately 138 outpatient clinicians employed in the outpatient behavioral health clinics.

**Sampling Framework**

A convenience sample was used, drawn from the behavioral health clinicians at the project site. Convenience sampling is a non-probability sampling method based on the PI’s choice and the accessible population (Setia, 2016). Individuals were screened for eligibility if they were a VA behavioral health clinician at the project site who conducted a VVC appointment.

Inclusion criteria were as follows: (1) VA project site behavioral health clinician who are a psychiatrist, psychologist, advanced practice nurse, registered nurse, or social worker who performs therapy, and who have performed a VVC visit; (2) employed at the VA project site as full-time, part-time, or per diem; (3) are 18 years of age or older; (4) can understand and speak English; and (5) are willing to participate in a one-hour team discussion. Exclusion criterion was
behavioral health clinicians employed at the project site who have not yet implemented VVC appointments. None of the following special populations were included in the project: (1) adults unable to consent, (2) individuals who are not yet adults (younger than 18 years), or (3) prisoners. This quality improvement project did not cause any harm or pose any risks to a behavioral health clinician who may be pregnant. No veteran (patient) at the project site was contacted or recruited for the project.

The potential number of clinicians eligible to participate in this team discussion was approximately 30. The PI anticipated at least half of the eligible behavioral health clinicians would participate in this experience-based discussion to set forth best practices. No \textit{a priori} power analysis was computed. All clinicians who met inclusion criteria were invited to participate.

\textbf{Team-Based Discussion}

A one-hour process-oriented team discussion with behavioral health clinicians who have implemented VVC visits took place. This team discussion was the means by which the PI completed programmatic evaluation. Program evaluation is a systematic process of collecting evidence that a project, program, or policy is effective and efficient (Moran et al., 2017).

The Strengths, Weaknesses, Opportunities, Threats (SWOT) format was the process used to collect evidence from behavioral health clinicians about the VVC appointment program. A SWOT analysis is a business strategy tool that evaluates how an organization compares to its competition (Teoli & An, 2019). The PI used the SWOT format in the context of it being internal to the organization. There was no competitor. This was an internal analysis. There are both internal and external considerations built into the SWOT tool. Strengths and weaknesses are internal aspects. Strengths represent elements of an organization which are advantageous.
Weaknesses are elements which are disadvantageous. Opportunities are external elements which benefit the organization. Threats are external realities that may lead to problems for the organization (Teoli & An, 2019).

At the start of the meeting, the PI introduced herself and stated the purpose of the discussion. Participants were informed that the purpose of the group was to discuss their VVC implementation processes in an open, non-judgmental, non-threatening way. Participants were verbally informed that their responses would not be identified with any personal information. Their responses were written without any assignment to any specific clinician. They were told that thoughtful opinions and comments are encouraged. Their open and honest feedback was stated to be appreciated. The PI stated the ground rules: (1) The discussion is only about VVC implementation processes, what worked, what did not, and what would make the process more efficient. (2) No individual patient encounters (or patient names) should be discussed. (3) Allow everyone the chance to speak. (4) This is a no judgment zone, so please be honest and open. (5) There are no right or wrong answers.

Anchoring the framework of this quality improvement project, were six open-ended discussion questions pertaining to VVC implementation using SWOT format. Questions asked of the group were:

1. Tell me about what ‘worked’ during your implementation of VVC? (Strengths)
2. Tell me about what ‘didn’t work’ during your implementation of VVC? (Weaknesses/Threats)
3. If you were implementing VVC again, what would you do differently? (Opportunities)
4. Walk me through how you prepare for a VVC visit?
5. Walk me through how you actually conduct a VVC visit?
6. Walk me through how you wrap-up or conclude a VVC visit?

Two team members recorded notes while the PI facilitated the discussion. No specific, identifiable personal information obtained via the discussion was used or shared for this project.

**Timeline and Data Collection Procedures**

Data collection must be congruent with study purpose and design (Moran et al., 2017). Data for the project were collected in the winter of 2020 after Georgetown University institutional review board (IRB) approval was obtained.

**Recruitment and Consent**

Numerous meetings were held with the stakeholders at the project site to ensure their willingness to assist and to determine approximate numbers of clinicians who have implemented VVC. Buy-in of leadership was secured via the VA project site liaison. Potential participants were identified with the assistance of the project site liaison.

Participant recruitment was completed via a recruitment email, created by the PI, and sent by the EBP site mentor to all eligible clinicians in the behavioral health clinic three weeks prior to the date of the team-based discussion. This email introduced the PI and invited clinicians to the discussion (including date, time, and location) to share their experiences with the process of implementing VVC appointments. The email stated how their voice and input were valuable, necessary, and important to inform VVC best practices. The email informed them refreshments would be provided. Clinicians were informed that no personal identifiers would be collected, only their professional role would be noted during the discussion. The email asked them to reply to the project site EBP mentor if they were interested in attending. The project site EBP mentor provided the PI with a list of possible attendees. Based upon response totals, a second discussion was scheduled. Two email reminders were sent to the behavioral health clinicians to maximize
attendance. The reminder emails were sent out one week before and one day before the meeting. Each behavioral health clinician was invited to participate in just one group discussion.

This group discussion did not involve any procedures for which written documentation of consent is required. It was not human subjects research. The project site determined the project to be quality improvement. As such, no consent was allowed according to their organizational policy. Attendance at and participation in the group discussion implied consent. Participants discussed in a group setting their processes of implementing VVC visits in their clinic. Thus, the project was expected to entail no more risk to participants than occurs when participating in any usual staff meeting. The topics discussed were not intended to be sensitive or emotionally charged in any way.

**Data Collection Tools**

The primary means to collect data was through the PI-led group discussion. No pre-existing, validated research instruments or surveys were used per VA project site mandate. No demographic questionnaire was completed by any participant per VA project site mandate. Only clinician type was captured (i.e., psychiatrist, psychologist, etc.). No specific data collection instrument was used for the project. The group discussion was one-hour in length. The team-based discussion was NOT audio or video recorded per VA project site mandate. As such, two team members were asked to be note takers.

The project site behavioral health primary care RN and the project site behavioral health educator agreed to be note takers during the discussion. Both individuals are VA employees who collaborate with staff in the behavioral health clinic on a regular basis and are familiar with the concept of VVC visits. The PI informed them about the project, its aims, and discussed their role as note takers. Pre-meeting preparation for the note takers entailed: (1) meeting with the PI the
day before the team-based discussion to provide them with templated sheets on which to take detailed written notes during the group discussion; (2) instructing the note takers to write comments made during the discussion; (3) instructing note takers to write the role of the clinician with their corresponding answer to the specific question; and (4) instructing note takers to note only the clinician’s role; no clinician’s names were to be written in the notes. The templated sheets included the six discussion questions, each written on a new page. A final page was added to the template to denote any additional comments as the meeting concluded. Pages flowed in the order the questions were asked.

Data Collection Procedures

Clinician attendance at the meeting inferred consent to participate. Participation was voluntary. As willing participants entered the meeting room, they were asked by the PI to write their clinician role on a label and place it on their shoulder. For instance, MD for psychiatrist, PSY for psychologist, RN for nurse, CNS for Clinical Nurse Specialist, SW for social worker. No names were written on the labels. They were invited to enjoy refreshments. Approximately seven minutes were allotted for everyone to enter, write their clinician role on a label, place the label on their shoulder, get refreshments and be seated.

Five minutes were allotted for the introduction of PI, meeting purpose, and ground rules. Seven minutes were allotted for each open-ended question to be answered. If no response was initially garnered from the open-ended question, prompting or probes were utilized to generate discussion. Responses were acknowledged with active listening from the PI and eye-contact. If clarity was needed from an answer, the PI asked for clarity immediately following the clinician’s answer by re-stating how she understood the answer and asked for confirmation.
After the last question was answered, *two minutes* were allotted for anyone to add any additional information. *Four minutes* were allotted to conclude the meeting. The PI thanked everyone for attending, summarized the discussion, and reiterated the ultimate goal of the discussion (i.e., to assist other VA departments with their rollout of VVC implementation and to inform best practices).

After the team-based discussion concluded and participants left the room, the PI collected the notes from the note takers and conducted a short debriefing with them. Subsequently, the PI also manually recorded notes ascertained from the meeting and wrote a reflection about the entire meeting. Thus, all data collected from the group discussions were obtained from the two note takers and the PI. There were no plans for long-term follow-up with project participants.

**Protection of Human Subjects**

The ethical conduct of research and clinical practice is paramount to nursing. Human research must not bring any harm to humans. Federal legislation mandates any research involving human subjects undergo an IRB process. An IRB is responsible for making sure human rights are kept safe from harm or injury and that research is done ethically and in compliance with federal laws. No research should be conducted without first obtaining IRB approval. Based upon their review, an IRB decides if submitted research proposals are exempt from review, can be reviewed expeditiously or needs to undertake a complete review (Burns & Grove, 2001). Projects considered to be QI (non-human subjects research) must also undergo review by IRB to make that determination (Moran et al., 2017).

After the VA research and development committee review, the project was designated as QI. Additionally, Georgetown University IRB review was completed and was assigned a determination of not human research.
**Data Management**

Data security is critical in any clinical inquiry project (Moran et al., 2017). Data collected from the team-based discussions were secured in several ways. Participants were not anonymous but the VVC implementation processes they discussed are being kept confidential. No participant names were used. No individual responses were noted. All results were reported in aggregate. There was no discussion of any specific patient encounters with VVC visits. No patient names were used. Discussion focused only on the processes of implementation and conduction of the visits. Notes transcribed from the note takers had no identifiable information, other than clinician role. Note takers written template documents were collected immediately after the team discussion concluded. Handwritten notes are being kept with the PI in a portable lock box.

Data were handled in several ways. Data collected was only the minimum data necessary to answer the six open-ended questions and capture the conversation of the discussion. No audio or video recording occurred based on VA project site mandate. Data will be stored for three years in the portable lock box in the PIs office in a locked file cabinet. The PI only has keyed access to the portable lock box. The faculty project mentor does not have access to the information in the lock box. The PI remains responsible for the data. After the three-year retention period, the note takers template documents and the summary notes from the discussion will be shredded by the PI.

**Data Analysis Plan**

No demographic (other than clinician role) or quantitative data were collected in the project. Thus, no statistical analysis was necessary. To meet project objectives, analysis of the data occurred via incorporation of: (1) transcription of written notes from
the meeting from the note takers and the PI (2) delineation of themes from the meeting and (3) best practice clinical guidelines for videoconferencing telemental health from the American Psychiatric Association (APA) and the American Telemedicine Association (ATA).

The PI read through all written notes to achieve a general sense of what was written and reflected on possible meanings. The PI expanded the analysis with detailed written description to gather deeper meaning and insight. Based on the written notes, the PI looked for recurring themes and patterns and chunked them into categories. By integrating all data collected, interpreting meaning and themes, and examining best-practice guidelines from the APA, the ATA, and the manuscripts by Fletcher et al. (2018) and Lindsay et al., (2019), the PI created a best practice guide for VA clinicians and provided a case study exemplar detailing the entire process of VVC.

**Conclusion**

This chapter discussed the project design and type. Primary and secondary objectives were described. Project sponsors and resources were delineated. The setting and sample were outlined. The team-based discussion was detailed. The particulars of recruitment and consent were demonstrated. The protection of human subjects was included. Data collection, management and analysis was explained. The chapter concluded with a review of the methods to carry out the project.
Chapter IV

Results

This chapter details the results of two group discussions pertaining to the current processes and experiences of implementing VVC visits in one outpatient behavioral health clinic within one VA medical center. The results reported are descriptive. Data were collected only through the group discussions. Analyses occurred through transcription of written notes, delineation of themes from the group discussions, and consultation with the best practice clinical guidelines for video-conferencing temental health from the American Psychiatric Association (APA) and the American Telemedicine Association (ATA). Finally, two outcome deliverables are explained.

Participants

The evaluation of VVC implementation processes occurred by learning from the experiences of clinicians. Without participants, there would be no experiences to evaluate or from which to learn. In an effort to garner participants, email invitations were sent to all behavioral health clinicians who conduct VVC visits at the project site. The email included an introduction of the PI, the purpose of the project, and the location, date, and time of the team-based discussions. Potential participants were instructed to respond to the project site EBP mentor if interested in attending. Two reminder emails were sent as planned.

Of the 30 eligible participants, twelve responded they would attend. Ten behavioral health clinicians took part in the two group discussions. Six participants attended the first group discussion while four attended the second group discussion. The second group discussion occurred three business days after the first group discussion. One participant (a pharmacist) did not meet inclusion criteria and thus, was not included in data analysis. Furthermore, not every
participant partook in answering each question. Clinician roles for the final sample (N = 9) were as follows: two RNs, one advanced practice nurse, one social worker, three psychiatrists, and two psychologists. No other demographic characteristics were collected due to project site mandate.

**Experiences with VA Video Connect**

The primary objective of this QI project was to evaluate the processes of implementation of VVC visits within the VA. A SWOT format was used as the means of programmatic evaluation. As such, the following section is structured to delineate Strengths, Weakness/Threats, and Opportunities of these processes. This section concludes with results from the discussion about how an actual VVC visit is conducted.

**Strengths of Implementation Processes**

Participants were asked to discuss their experiences about what ‘worked’ during implementation of VVC. *Expansion of patient access* and *logistical support* were the two themes prevalent under strengths. Clinicians wholly agreed that VVC *expanded patient engagement and behavioral health care access*. They addressed how expanding access to care for patients is critical for veterans who are unable to attend appointments in-person because of family responsibilities, limited finances (to pay for public transportation), or they simply do not wish to travel to a VA facility. Attending a face-to-face visit was reported to take a considerable amount of time in a person’s day. This time-related burden depends on travel conditions and wait time for the appointment. Participants perceived that younger patients, especially those with young children, and those who live long distances from the VA have a favorable opinion of VVC appointments. They also revealed that many veterans prefer VVC to face-to-face visits because they appreciate that they can complete the appointment from their homes.
The second theme revealed as a strength of the implementation process was logistical support by the organization. Each clinician who conducts VVC requires a second monitor and a webcam. Clinicians reported logistical support with the set up and procurement of equipment was readily available for the initial go-live of VVC. Questions and concerns from clinicians sent via phone or email to the telehealth department were quickly addressed. One clinician reported happily that their equipment was provided promptly, even on New Year’s Eve. Table 1 denotes examples of quotes from participants related to strengths of VVC implementation.

**Table 1 Direct Quotes Related to Strengths**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Clinician Role</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Access Expansion</td>
<td>Psychiatrist</td>
<td>“Many veterans do not want to come in…and prefer VVC over on-site visits.”</td>
</tr>
<tr>
<td></td>
<td>Psychiatrist</td>
<td>“It’s good for patients that cancel at the last minute or are potential no-shows.”</td>
</tr>
<tr>
<td></td>
<td>Psychiatrist</td>
<td>“It works for people with little kids and people who can’t afford to come in.”</td>
</tr>
<tr>
<td>Administrative support</td>
<td>Psychiatrist</td>
<td>“I felt there was always help available when I needed via phone or email - and I needed a lot of help.”</td>
</tr>
<tr>
<td></td>
<td>CNS</td>
<td>“I was able to get my equipment quickly and the people who set it up did it quickly.”</td>
</tr>
<tr>
<td></td>
<td>Social Worker</td>
<td>“I received my second screen and camera easily.”</td>
</tr>
</tbody>
</table>

**Weaknesses/ Threats of Implementation Processes**

Participants were asked to discuss what did not work well during VVC implementation. Overwhelmingly, this question generated the most discussion among participants. The consensus among clinicians revealed five weaknesses or threats. These weaknesses related to training, technology issues, the provision of dedicated time to prepare for VVC, scheduling, and preference for face-to-face visits.

First, participants discussed concerns with their initial VVC training. Training was stated to be hurried and sometimes not well planned. Often, prior to training, multiple sets of
instructions were sent through multiple emails causing confusion among trainees. Training was completed using online modules only. There was no difficulty in following the instructions of the training modules, but considerable time was spent keeping pace with numerous steps to follow. Training time to complete the online VVC modules was approximately 1.5 hours. One clinician stated that had they not already been committed to telehealth, or been less motivated, they would have abandoned the training process.

Second, technology issues were prevalent amongst clinicians. Clinicians reported technical issue such as ‘snags’, ‘glitches’, ‘freezing’, audio disconnects, video delays, and signal issues with Wi-Fi. The technical issues were reported to take as long as 10 minutes of a 30 minute VVC visit to troubleshoot. Numerous clinicians voiced frustration with the general lack of technology functionality. Two clinicians reported technology issues occur approximately two thirds of the time. Some clinicians did note however, when the veteran uses a VA issued iPad, there seems to be less technical issues because of more stable Wi-Fi connectivity and processor speeds.

Third, many clinicians reported having a lack of dedicated time to prepare for VVC appointments. Those who reported having dedicated time appreciated it because they utilized that time to prepare for the VVC visit. Those clinicians not having dedicated time in their schedules reported dissatisfaction with a lack of time to prepare for a VVC visit. Some participants stated although they do not have specific dedicated time for preparation, if they have several minutes to spare before a VVC visit they will complete some preparatory assessment. For example, they might check to ensure there is a VVC link for the appointment and that the link is functional. Clinicians were unsure about the rationale for the inconsistencies among clinicians
regarding having dedicated VVC preparatory time. They were also uncertain if work time allowance for VVC existed in an organizational policy pertaining to VVC.

Fourth, issues with scheduling VVC visits were systemic. Scheduling was said to be very difficult and wrought with challenges. The ideal scheduling process is as follows: (1) The clinician submits a ‘return-to-clinic’ order in the veteran’s electronic health record and the scheduling department receives the order. The official terminology used for scheduling a VVC appointment is submission of a ‘return-to-clinic’ order. (2) Once the order is received, the scheduling department schedules the VVC appointment in the software system which generates the web-link for that appointment. (3) The VVC appointment link is emailed automatically to both clinician and veteran.

Numerous clinicians revealed that often the VVC appointment link is not generated, indicating the appointment was not scheduled by the scheduling department. Since non-scheduling occurs with regular frequency, some clinicians acknowledged they set reminders in their own calendars with veteran name and the ‘return-to-clinic’ appointment. Thus, if the VVC appointment link is never generated, and is caught in enough time, the clinician can reach out to the scheduling department and request a VVC appointment be created and the link sent. If time permits, some clinicians noted they confirm they have an appointment link prior to the time they need to log on to conduct the VVC visit.

Other scheduling issues were also discussed. Clinicians stated sometimes they receive multiple VVC links for the same visit. Receiving multiple links results in each party (the patient and the clinician) potentially entering a different virtual room at the VVC appointment time. Clinicians also noted sometimes the VVC appointment link generated is non-functional. Therefore, it becomes important for clinicians to allow time prior to the VVC visit to verify
several items: there is a VVC appointment link, there is only one appointment link, and the appointment link is functional.

Persistent and pervasive scheduling process issues are troublesome for clinicians. As such, several clinicians admitted their anxiety and initial resistance to VVC usage resulted from conversations with colleagues who experienced problems around scheduling. Several clinicians communicated successful workarounds to the scheduling problems. One workaround is to create their own on-demand scheduling link and sharing the link with veterans. The creation of on-demand links allows the clinician to independently schedule the VVC appointment; thus, eliminating the need for the schedulers. Those participants who were not familiar with creating on-demand links were interested in discussing this workaround. Overall, scheduling seemed to be the most cumbersome aspect of VVC.

Lastly, some clinicians admitted preference for face-to-face visits. Clinicians who stated a preference for face-to-face visits over VVC felt the identification of non-verbal cues is too difficult with webcams. Clinicians discussed discomfort with what they feel are video appointment etiquette violations by the veteran. They indicted such violations typically do not occur during face-to-face visits. Clinicians reported VVC appointment behaviors such as the veteran is driving, in bed, wearing pajamas, in the bathroom, has a child or others present in the room, or is obviously intoxicated.

Clinicians also reported VVC appointments do not allow sufficient time for them to conduct certain psychiatric assessments (i.e., the patient health questionnaire-9 [PHQ-9] and the post-traumatic stress disorder [PTSD] checklist). Some clinicians stated they are not comfortable conducting certain types of therapy via VVC, such as seeking safety therapy. They verbalized the need to be in the same room with the veteran when conducting certain therapies in the event the
veteran becomes overly distressed. During a face-to-face appointment the clinician would be able to provide immediate assistance; however, such assistance is not possible during a virtual VVC appointment.

Other clinician challenges related to the virtual environment pertained to not being able to provide the veteran with necessary printed materials when conducting certain evidence-based therapies. Regarding medication assisted therapy, some clinicians noted they provide medication assisted therapy via VVC with established stable patients while some psychiatrists noted they prefer to prescribe medication assisted therapies only in-person. In order to provide medication assisted therapy via VVC, the veteran has to have had one in-person appointment. Furthermore, blood work and urine drug screens can only be completed at a VA lab in VA health care facility. Table 2 denotes examples of quotes from participants related to weaknesses or threats to VVC implementation.

Table 2 Direct Quotes Related to Weaknesses/Threats

<table>
<thead>
<tr>
<th>Theme</th>
<th>Clinician Role</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>Psychologist</td>
<td>“Had I been less motivated, I wouldn’t have completed the process.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“There were a lot of different steps and emails to follow.”</td>
</tr>
<tr>
<td>Technology</td>
<td>Psychiatrist</td>
<td>“It is annoying and demoralizing that I have technical problems that take up 5-10 minutes of a 30-minute appointment.”</td>
</tr>
<tr>
<td>Functionality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Time</td>
<td>CNS</td>
<td>“I have no dedicated time.”</td>
</tr>
<tr>
<td>Scheduling</td>
<td>RN</td>
<td>“The scheduling piece is the most tedious part.”</td>
</tr>
<tr>
<td></td>
<td>Social Worker</td>
<td>“The scheduling piece of it initially deterred me from doing video visits.”</td>
</tr>
<tr>
<td></td>
<td>CNS</td>
<td>“…there’s always some problem with the scheduling.”</td>
</tr>
<tr>
<td></td>
<td>Psychiatrist</td>
<td>“Scheduling is extremely difficult and the bane of my experience with telehealth. It has limited my desire to offer it as an option to patients.”</td>
</tr>
<tr>
<td>Face-to-Face</td>
<td>Psychiatrist</td>
<td>“VVC visit is not as good as in in-person visit…I cannot get the pulse [of the visit].”</td>
</tr>
<tr>
<td>Preference</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Opportunities for Subsequent Implementation Processes

Participants were asked what they would do differently if they were implementing VVC again. Based upon the weaknesses and threats discussed, clinicians were clear about what quality improvement opportunities might be. Opportunities included *in-person training for clinicians*, *adopting a different/better video telehealth software platform*, *policy implementation/changes*, *VVC self-scheduling*, *video appointment etiquette education for veterans*, and *beginning a VVC community of practice*.

*In-person training sessions* provided at least twice per year was suggested by clinicians. Some clinicians reported having to train each other on the details of navigating VVC. Others stated hands-on training with actual practice with the software would have helped significantly. It was suggested the VA *adopt a different/better video telehealth software platform* that is more stable regarding connectivity, technology functionality, and interface with the electronic health record system. However, they acknowledged that changing an entire systemic telehealth software platform may not be feasible. The opportunity to implement/change policy and workflow processes to *include dedicated VVC time provision for all clinicians utilizing VVC* was discussed.

Although busy clinicians have numerous veterans to see and tasks to complete during the workday, some voiced a desire to do *VVC self-scheduling*. They recognized self-scheduling would add to their workload. Nevertheless, self-scheduling VVC visits would allow clinicians to have control over their own virtual visits and eliminate time spent tracking the efficiency of the scheduling process. Another opportunity that was discussed related to scheduling was having the scheduling department confirm only one link is sent to both parties and that the link is functional.

The provision of *a video visit etiquette education for veterans* was an opportunity suggested consistently. Clinicians stated many veterans do not understand appropriate video
appointment etiquette. A possible solution was proposed; to conduct a video telehealth education for veterans that goes beyond the logistics of VVC set up and a test call. Veteran education would involve VVC etiquette, including what is and is not appropriate behavior during a virtual appointment. This suggestion of etiquette education shows that comprehensive patient evaluation and education related to VVC is key for clinicians. A comprehensive patient evaluation for VVC would entail not only video etiquette knowledge and understanding, but would also assess veteran’s desire for VVC, feasibility and eligibility (internet access and equipment), and digital health literacy. Digital health literacy has been defined as the capacity to understand health information from an electronic source, and the ability to use computers and similar technology well enough to complete tasks (Smith & Magnani, 2019).

Lastly, the weaknesses/threats discussed above demonstrate the need and opportunity for the project site to establish and embrace a VVC community of practice. A VVC community of practice is a community of clinicians that utilize VVC, that come together to discuss VVC cases, ask questions, and discuss challenges (Hogan et al., 2019). A VVC community of practice would provide a forum among clinicians utilizing VVC to discuss VVC process changes, updates, policies, challenging cases, have questions answered, disseminate education, provide clarity on who the superusers are, what evidence-based therapies are being conducted via VVC, and all other matters of importance pertaining to VVC.

Creating a VVC community of practice would be the perfect venue to discuss matters crucial to clinicians. Clinicians discussed that process changes related to VVC appointments are not always communicated uniformly to all staff. For instance, process changes such as how scheduling occurs and who performs this task are perceived to be ill-communicated. Further, VVC software platform changes have occurred with similar perceived lack of communication.
Clinicians stated they have not been asked about their expectations for telehealth. Clear parameters about who and what is appropriate for telehealth have not been clearly explicated. Clinicians have complete autonomy to decide which patient is and is not appropriate for VVC. Despite this autonomy, some clinicians stated they have felt certain veterans are inappropriate for VVC but fear telling them for worry of retribution. Some clinicians noted they are unaware who their VVC superusers/clinical champions are and therefore suggested all VVC superusers be made known to clinicians as an additional resource to go to for VVC support. Table 3 reveals examples of quotes from participants about opportunities for enhancement of VVC.

**Table 3 Direct Quotes Related to Opportunities**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Clinician Role</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-person Educational Offerings</strong></td>
<td>Psychiatrist</td>
<td>“There should have been teaching sessions / education for staff training…maybe twice per year demos can be given…”</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>RN</td>
<td>“The software platform is unstable for [scheduling] return to clinic orders.”</td>
</tr>
<tr>
<td><strong>Dedicated Time</strong></td>
<td>Psychologist</td>
<td>“There must be more clear policies…”</td>
</tr>
<tr>
<td><strong>Scheduling</strong></td>
<td>Psychiatrist</td>
<td>“Improve the scheduling process….perhaps eliminate [VVC scheduling department]…”</td>
</tr>
<tr>
<td><strong>VA Video Connect Etiquette for Veterans</strong></td>
<td>Psychologist</td>
<td>“Sometimes patients are in bed expecting therapy; patients connect while driving or other various inappropriate locations, like the bathroom.” “I cannot do meaningful sexual trauma therapy with a 2-year-old on [their] lap.”</td>
</tr>
<tr>
<td></td>
<td>Social Worker</td>
<td>“Veterans need orientation and education. Some patients don’t realize what is appropriate and what is not.”</td>
</tr>
<tr>
<td><strong>VVC Community of Practice</strong></td>
<td>Social Worker</td>
<td>“Staff are training each other…who are the super users?”</td>
</tr>
<tr>
<td></td>
<td>Psychiatrist</td>
<td>“Patients my feel you are being contrary to their care if you have telehealth available and they are told that they do not qualify.”</td>
</tr>
</tbody>
</table>
Conduction of a VA Video Connect Visit

The final three open-ended questions asked of participants related to how they prepare for, conduct, and conclude a VVC visit. These questions did not generate much discourse.

First, clinicians were asked how they prepare for VVC visits with patients. Considerable variation was noted. One clinician reported prepping 30 minutes before a VVC visit and having dedicated unscheduled clinic time do so. She uses this time to verify her webcam is working, check that her appointment link works, call the veteran to see if their link works, and confirm lighting in the room is in order (for example, the window blinds are not open directly in the webcam causing a glare). Others reported they do not have the luxury of considerable preparatory time. Some clinicians reported they prepare for virtual visit by simply checking to see if the VVC appointment was scheduled (especially if they placed a reminder in their work calendars) and clicking the link to ensure it works. Most clinicians, however, reported having no dedicated time to prepare or conduct pre-checks prior to the actual VVC visit. Most stated if they have the VVC appointment email sent by the scheduling department, they just click the link and hope it works.

Second, participants were asked to walk the PI through the actual VVC visit. All clinicians reported conducting a VVC visit just as they would a face-to-face visit. One clinician reported asking the veteran at the start if they have a private space to do the VVC appointment. Another reported telling the veteran at the start of the VVC visit they will call them if video functionality problems arise. Other clinicians stated the VVC visit is better than a telephone call because a clinician can get a glimpse into the veteran’s living space.

Clinicians reported a difference with conducting a VVC appointment compared to a face-to-face appointment is their inability to respond to situations that might arise with a veteran
during an appointment. For example, one clinician reported a veteran was inebriated during the VVC visit. Although she was able to directly address the veteran’s inebriated state during the VVC appointment, she was unable to give a breathalyzer as she would have during an in-person visit. Another clinician reported not being able to fully ‘feel the pulse’ or identify the mood of the veteran via video. Another clinician reported a discomfort level with performing certain therapies via VVC. Based on the intensity of certain therapies, they prefer to be in the same room with the veteran to provide support. For example, they stated they would never do prolonged exposure therapy via VVC. Another clinician reported ‘freezing’ himself during a VVC appointment because he was caught off-guard by a veteran’s co-worker walking into the veteran’s work office and in front of the webcam. Many clinicians reported they often resort to telephone calls when the VVC appointment is disrupted by technology functionality issues.

Finally, clinicians were asked to articulate how they concluded a VVC. Clinicians stated they wrap-up a VVC visit as if in-person. The difference discussed with concluding a VVC visit, in comparison to an in-person visit, is that at the end of the VVC visit they must submit a return-to-clinic order which begins the scheduling process. Clinicians reported a lot of time spent troubleshooting VVC appointment scheduling issues.

**Best Practice Guide for VA Video Connect**

The first secondary aim was to create a best practice guide for VA clinicians about the process of implementing and conducting VVC visits with veterans with behavioral health conditions. Clinical practice rooted in evidence strengthens health care quality, patient outcomes, safety and decreases costs (Fencl & Matthews, 2017). Best practices minimize variances in clinical care, present the evidence and provide recommendations to clinicians (Kredo et al., 2016). The intent of the best practice guide is to inform best practices for VA clinicians and
subsequent rollout of implementation and conduction of VVC appointments for veterans with behavioral health conditions in other VA clinics.

The guide is not a fixed protocol that must be followed, rather it is intended for VA clinicians to consider as a recommended path to follow based on evidence. It details in step-by-step fashion, the process of clinicians implementing VVC appointments from start-up through conduction and wrap-up. The creation of the guide was informed by the structured evaluation in the team-based discussions, thematic delineation from those discussions, and appraisal of the guide through consultation with two behavioral health telehealth implementation facilitators / members of the national Personalized Implementation of Video Telehealth (PIVOT) team. Additionally, incorporation of best practice clinical guidelines for videoconferencing from the APA and the ATA (Shore et al., 2018), and best practice recommendations from two VA video to home studies (Fletcher et al., 2018; Lindsay et al., 2019) helped to create the guide.

The sections of the best practice guide fall into five categories: (1) implementation facilitation; (2) patient assessment/evaluation; (3) scheduling; (4) conducting the VVC appointment; and (5) telehealth support. See Appendix B – VA Video Connect Best Practice Guide and Appendix C - VA Video Connect Best Practice Algorithm.

**Case Study Exemplar**

The second secondary aim was to create a case study exemplar presenting a patient scenario describing a veteran’s request for VVC, and the sequence of actions that should occur in the VVC implementation process, according to the best practice guide. In general, a case scenario can entail a person, a social policy, a crisis, organizational change, an event, or a process. Data from a case study is yielded through observation, interviews, and/or analysis of the data (Ylikoski & Zahle, 2019). A case study is presented in narrative format and provides a
complete and detailed account of a case. Furthermore, case studies provide a means to link evidence to practice by syncing actual observations and interventions that have taken place in real life, as a learning tool (Ruddock, Boyd, Winter, & Ranchordas, 2018).

The intent of this case study exemplar is to serve as an educational tool by showcasing the entire VVC implementation process from start to finish in a detailed real-world format. The case study provides a descriptive narrative account of a scenario of a VA behavioral health clinician’s implementation process of VVC, coupled with a veteran’s process of starting VVC for the first time with that clinician. The case study acts as a visual illustration of the best-practice guide. Names and circumstances used in the case study are fictitious. See Appendix D – Case Study Exemplar.

**Conclusion**

The results presented in this chapter revealed the current processes of VVC implementation among behavioral health clinicians after team-based discussions. Clinician role of participants were explained. Results were explicated based on the primary and secondary aims of the project. Experiences of the implementation processes of VVC were described in detail related to common themes. Recommended best practices of VVC for VA clinicians and a case study exemplar that portrays the best practices were presented.
Chapter V
Discussion

This chapter answers the clinical question: *How do behavioral health clinicians in a Veteran Affairs clinic setting evaluate the process of implementing VVC visits?* through a discussion of the meaning of the results. Limitations of the project are noted. Implications and recommendations for practice are explained.

**Summary and Interpretation**

In congruence with the literature, the results of this programmatic evaluation identified benefits (strengths), complexities (weaknesses/threats) and opportunities for improvement (recommendations for implementation) for the process of implementing VVC visits.

**Expanded Access to Care**

Clinicians unanimously agreed VVC expands veteran’s access to mental health care. It was the first factor mentioned as a strength of what worked during VVC implementation. This finding was not surprising. Existing literature, particularly among the VA studies, supports improved access occurs when telemental health care is used through real-time video visits (Fletcher et al., 2018; Hogan et al., 2019; Jacobs et al., 2019). Clinicians report veterans appreciate VVC and it is a desirable alternative for them. It is convenient, removes travel from the equation, and saves money and time. According to Hale, Haverhals, Manheim, and Levy (2018) VVC is beneficial because it increases access, care efficiency, decreases costs and travel; veterans are satisfied with it and it is similar to an in-person appointment (Veazie, 2019). Clinicians voiced they felt younger veterans value VVC. Although not explored in detail during the team discussion, this may be explained by the fact that younger adults are very comfortable
with technology because it has always been part of their daily lives. Paige, Miller, Krieger, Stellefson and Cheong (2018) report younger generations are inclined to adopt technology, find it easy use, and it is important to them. VVC also bolsters treatment attendance and adherence. The VA’s rollout of VVC is part of its strategic mission to improve access and retention to mental health treatment (Fletcher et al., 2018; Hogan et al., 2019; Interian et al., 2018; Jacobs et al., 2019; Lindsay et al., 2019; Lindsay et al., 2019; Perry et al., 2019, 2019 Gold, & Shearer, 2019). Participants in the current QI project also noted this to be the case.

**Logistical Support During Initial Implementation**

Among the strengths of VVC implementation reported by clinicians was strong logistical support with the initial rollout of VVC. Overall, participants indicated support was available readily, equipment procured quickly, and set up expediently. Strong logistical support was important for VVC implementation because clinicians had numerous questions, concerns, fears, along with many steps to complete to get implementation completed. Strong logistical support during VVC rollout also meant that the mandated metric of clinicians completing one VVC appointment by August 2019 was more likely achieved.

Regarding logistical support, findings from this project are congruent with the literature. Strong logistical telehealth support increases the chances of VVC implementation adoption and sustainability. “If you want people to use ‘telemental’ health, you need to have a very hands-on procedure in place so that someone can come, call, set it up for you, take you through it” (Interian et al., 2018, p.71). Expeditious support during initial VVC set up with trainings/certification protocol, equipment setup and usage, is part of implementation facilitation (Lindsay et al., 2017). Readily available logistical support increases adoption of video visit utilization (Abrams et al., 2017; Lindsay, et al., 2019).
Training Challenges

Although logistical support during the initial rollout was available by phone and email, many clinicians would have appreciated modifications to their VVC training sessions. In-person educational training was suggested in addition to the required online web-based training to ensure competency with skills. The in-person, hands-on, live practice and training desired by many clinicians could serve as an adjunct to the online training modules. Clinicians often seek out each other for VVC assistance because an in-person human experience to demonstrate what needs to be done and to answer questions in real-time is helpful. Literature indicates details of how support is offered during telehealth implementation affects adoption and usability (Baker & Stanley, 2018). According to behavioral health telehealth implementation facilitators and telemental health video-conferencing experts, implementation facilitation and program development should be strategically planned, carried out, and tailored to the needs assessment of the facility (Fletcher et al., 2018; Lindsay et al., 2017; Lindsay et al., 2019; Shore et al., 2018). Such strategic planning can significantly increase systemwide VVC utilization. A comprehensive needs assessment, which includes training needs, should be undertaken prior to the video conferencing telemental health rollout (Shore et al., 2018). One study discovered that the lack of comprehensive training was found to be a significant barrier to video visit utilization (Perry et al., 2019).

Technology Functionality Issues

Despite required test calls being completed by clinicians with the telehealth department to confirm audio and video functionality, all clinicians admitted challenges associated with VVC technology. When technology mishaps occur, during a time-limited appointment, a telephone call is placed to the veteran to complete the visit. Findings uncovered in this project are
congruent with the literature regarding technology complexities faced with the audio or visual quality of the video (Abrams et al., 2017; Interian et al. 2018; Perry et al., 2019; Sturesson & Groth, 2018). Further, literature supports the need to pretest the audio and video connections but have a telephone available as a contingency plan in case of technology mishap (Abrams et al., 2017; Shore et al., 2018).

**Lack of Dedicated Time**

Only one psychiatrist reported having unscheduled clinic time (i.e., VVC preparatory time) prior to VVC appointments. The psychiatrist appreciated having approximately 30 minutes to prepare for a VVC visit. Although the topic of dedicated time for VVC or unscheduled clinic time to prepare for their VVC appointments was not explored further during the discussions, all other clinician roles reported not having dedicated time. These clinicians had to make time to go through ‘checks’ and ensure they had what was needed to conduct the VVC appointment. These preparatory checks prior to a VVC appointment, make workflow processes for clinicians less efficient, exhaust time, and add to workload burden. Additionally, this time is not taken into account for work productivity. Although most clinicians do not have dedicated time for a VVC visit, it seems as though most could benefit from dedicated time to prepare for the VVC appointment. Perhaps policy implementation or changes related to dedicated time would be helpful. Such policies would allow for consistency among providers. The home-based video conferencing study by Interian and colleagues (2018) discovered a link between increased video visit utilization by clinicians and having protected time for clinicians to adopt the technology. The VA facilities that allowed clinicians protected time had higher rates of video appointments usage and sustainability. Perry et al. (2019) found that allowing clinicians protected time in their work schedules for managing video visit preparation tasks was necessary.
Scheduling Challenges

Scheduling was the number one challenge amongst clinicians implementing VVC. Since the initial implementation of VVC at this project site, the process by which VVC appointments are scheduled has been revised, the departments that manage the scheduling have been altered, and the protocols related to scheduling have changed. These are some examples of scheduling changes that have occurred: (1) VVC appointments were initially scheduled by the telehealth department, now they are scheduled by the health administration service (HAS) scheduling department. (2) Formerly a consult was submitted by a clinician into the electronic health record to have a VVC appointment scheduled. Currently a ‘return-to-clinic’ order must be submitted into the electronic health record. (3) A video on demand software platform was previously used for scheduling. Presently a virtual care manager software platform is being utilized.

What does remain constant are the mixed reviews of clinicians about VVC software and scheduling processes, new or old. Some clinicians liked the previous software platform while some did not. Some reported the previous process to schedule a VVC appointment created more challenges than the present scheduling process. Perhaps a systemic software patch update is needed, and it is simply a matter of the software platform creators knowing this information about the systemic scheduling issues. Although scheduling is an administrative function completed by the scheduling department, clinicians spend a significant amount of time managing this task. A quality improvement undertaking regarding the scheduling difficulties could uncover an integration issue with the VVC software and the electronic health record. A resolution to scheduling may in fact improve VVC adoption and diminish frustration among clinicians.

Scheduling frustrations noted by the participants in this project are consistent with the video visit literature. Abrams et al., (2017) suggested having a designated telehealth or
administrative person manage VVC scheduling or, depending on the VVC software platform, allow for self-scheduling. Scheduling was found to be a significant logistical barrier among clinicians in several studies (Interian et al., 2018; Lindsay, et al., 2019). Perry et al., (2019) categorized scheduling as an administrative task that can add up over time, especially as clinicians VVC case load increases. They found that asking leadership for more administrative support with this task was necessary. Shore et al. (2018) best practices in videoconferencing-based telemental health discussed having a systematic quality improvement and performance management process in place. This would be helpful for the VA clinicians at the project site to identify the gap in the scheduling process of VVC appointments.

Presently, the scheduling process is complex and sometimes ineffective. Two possible solutions may help streamline scheduling of VVC visits. First, in lieu of the inability to completely change the VVC software, many clinicians suggested the ability to self-schedule their VVC appointments would be helpful. Several clinicians currently use workarounds and self-schedule VVC appointments by creating their own on-demand VVC appointment links. Adding in clinician time for scheduling purposes may not be cost-effective for the organization as their time is be more costly than administrative support staff who schedule. However, most clinicians are not aware of how to do the workaround that affords the ability to self-schedule a VVC appointment. They would appreciate the ability to cut out the ‘middle-man’, which is the scheduling department, and have scheduling ability within their control. The second solution is for clinicians to be allotted dedicated time so they can prepare for VVC visits and manage the scheduling aspects of the appointment.
Face to Face Preference

Many clinicians favor the face-to-face visit with veterans over VVC visits. They prefer the physical connection inherent in the in-person visit that is hard to overcome via a VVC appointment. This preference for face-to-face contact is found in the literature also. Perry et al. (2019) reported the lack of physical contact during virtual visits is a challenging obstacle when the clinician and patient are in different locations. The preference for face-to-face visits may be a factor in the discomfort some clinicians have with performing certain therapies or assessments with veterans. While individual preference regarding practice is quite normal, it should not restrict the openness to try a different health care delivery modality during virtual visits. Novel information can be garnered from a veteran via VVC that could never be gleaned face-to-face. For instance, as one clinician stated, “I get to see their living space.”

Video Appointment Etiquette

Several clinicians stated many veterans do not possess video etiquette and therefore engage in inappropriate behaviors during the VVC appointment. Such behaviors may be related to the removal of the formal medical space to which patients are accustomed during in-person visits. As a result, patient and professional clinician roles can become skewed. Because the VVC appointment occurs in the patient’s home, they may believe it is acceptable to carry out their usual at-home behaviors (i.e., being in bed, having children in the room, drinking alcohol, etc.). Challenges with video etiquette are discussed in the study by Sturesson and Groth (2018) who articulated how video visits may add nuances to the patient-clinician encounter. Any deviation from the traditional patient-clinician norm is considered a disturbance. Sturesson and Groth (2018) suggested minimizing the risks of disturbances by having a direct conversation about appropriate and inappropriate behaviors. This discussion can occur between clinician and veteran
during the patient assessment / evaluation conversation, where the clinician assesses the veteran’s ability and feasibility to conduct VVC appointments.

**Super Users, Clinical Champions, and Experienced Facilitators**

There are early adopters of VVC who are known by various names such as super users, clinical champions, or experienced facilitators. These clinicians are heavily engaged in VVC utilization and adoption. Video telehealth experts explained that clinical champions or early adopters of the VVC should be identified, their successful outcomes should be shared with their colleagues, and they should be asked to assist colleagues with VVC implementation (Lindsay et al., 2017; Lindsay et al., 2019; Perry et al., 2019). However, at this project site, super users are not necessarily known by their colleagues. Because clinicians already seem to be leaning upon one another for VVC assistance, knowing who the clinical champions are would be useful.

**VA Video Connect Community of Practice**

The designated person who communicates to every clinician at the project site about VVC process changes and updates is the facility telehealth coordinator. According to the literature, the telehealth team facilitators are the telehealth staff with the responsibility for training, implementing VVC services, and addressing systemic barriers (Fletcher et al., 2018; Lindsay et al., 2019). However, technology is constantly changing and sometimes VVC process changes and updates sent to clinicians electronically (via email) are missed. This supports the need for a creating a VVC community of practice. A VVC community of practice would fost the facilitation of communication of information among clinicians utilizing VVC.

A VVC community of practice would provide a venue for the facility telehealth coordinator, superusers, and novice and experienced clinicians conducting VVC to discuss case consultations and have important conversations about all matters pertaining to VVC (Lindsay, et al., 2017).
For instance, a VVC community of practice would be an appropriate forum for clinicians to get clarity on who VVC superusers are and gain their support; obtain education regarding what kinds of evidence-based therapies can be successfully conducted via VVC and how; discuss various options of VVC appointment lengths and for what purposes; share examples with colleagues about successful and unsuccessful VVC visits; and receive updates about process, technology, or policy changes.

**Limitations**

Several limitations of this project are noteworthy. Inclusion criteria may have been too narrow. Therefore, an entire category of clinicians was excluded (i.e., pharmacists) and data could not be used in the analysis. Demographic information from participants was limited only to clinician role. It would have been useful to gather information such as age of the participant, prior technology experience related to video visits, and technology literacy of those using VVC.

Anticipated participant numbers (of approximately 15 clinicians) were not reached. Reasons for this may have included scheduling conflicts with grand rounds, a lack of desire to attend a meeting during one’s lunch break, and a limited ability for the PI to recruit. As a result of small participant numbers, group trends such as SW versus nursing versus physician, could not be generalized or explored. Email invitations were the only means of recruitment per project site mandate. It may have been helpful to post fliers in the breakroom, put fliers in mailboxes, or walk through the unit to remind clinicians of the discussions. Further, the PI was not an employee at the site; thus, autonomy was limited to independently send invitational emails, reminders, and promote recruitment. Offering participation via remote videoconferencing platform may have improved response rate; nevertheless, could have also biased participation.
toward those more comfortable with video-teleconferencing. Allowing attendance via videoconferencing would have provided clinicians more flexibility.

Implications and Recommendations for Practice

Based on the results of this project, five measures are suggested for practice. First, having access to ‘pocket-tools’ related to VVC for trouble shooting is imperative for evidence-based clinical guidance (i.e., best practice guides/ algorithm/ case examples are helpful). An implementation facilitation strategic plan should be enacted by the facility telehealth coordinator and the telehealth team. The plan would entail: Time and effort securing buy-in from all clinicians and staff, educational gatherings discussing the value in VVC, dispelling myths, and ascertaining clinician needs and expectations. Second, in addition to online training modules, training should occur face-to-face. The inclusion of picture-based guides or screenshots for step-by-step training information might be useful. There is value in being able to practice with the actual equipment, take skills assessments, and strengthen confidence and competency with the VVC technology. Participants in this project overwhelmingly voiced this need and desire. Time should be allotted in clinicians’ schedules for quality training.

Third, securing designated clinical champion(s) who are willing to assist, is important for VVC rollout and sustainability and they should be identified. This may be an early adopter(s) that can share their experience and promote VVC in the department. Fourth, embracing the VVC community of practice is also important for sustainability, on-going educational lunch-and-discussions, national conference calls, and overall VVC updates pertaining to technology, policy, clinical issues and legal and regulatory matters.

Fifth, scheduling continues to be problematic. The culmination of scheduling issues has led to many clinicians employing workarounds for VVC visits. A quality improvement
undertaking specifically focused on the VVC scheduling process is recommended. Continuous quality monitoring of VVC systems and processes are encouraged so that opportunities for improvement are addressed. If scheduling issues continue, subsequent steps could be taken to create policies regarding the allowance of pre-VVC visit preparatory protected time. Protected time allows clinicians the opportunity to check proper scheduling and assess the functionality of appointment links.

Conclusion

This project examined programmatic evaluation of the VVC implementation process among behavioral health clinicians in a VA medical center. The evaluation highlighted key findings consistent with the literature. Outcomes included evidenced-based clinician ‘pocket tools’ - a VVC based best practice guide, algorithm, and case study exemplar. These tools are intended to guide, streamline and improve the VVC implementation process for VA clinicians and ultimately improve access and provide the best quality care for veterans. The importance of this work has only been magnified by the need for telehealth during the COVID-19 pandemic and the VA’s massive institutional response to provide telehealth.
## Appendix A

### Literature Summary Table

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<tr>
<th>Year</th>
<th>Author(s)</th>
<th>Purpose</th>
<th>Design</th>
<th>Sample/Setting</th>
<th>Interventions &amp; Outcomes</th>
<th>Data Collection &amp; Analysis</th>
<th>Findings &amp; Conclusions</th>
<th>Strengths &amp; Limitations</th>
<th>Implications for Practice &amp; Research</th>
<th>LEGEND Level of Evidence</th>
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<tbody>
<tr>
<td>2019</td>
<td>Donelan et al.</td>
<td>To describe the experiences with video visits and office visits after a full year of operation</td>
<td>Qualitative (surveys)</td>
<td>Sample: 61 clinicians who provided at least 1 video visit. 254 patients who had at least 1 video visit during accrual period and at least 1 office visit in the 6-month period prior. Setting: MA, USA</td>
<td>N/A</td>
<td>Surveys, open-ended items</td>
<td>Positive/high satisfaction, and for most encounters for both patient and clinician. Video visits as effective, less expensive than in-person visits.</td>
<td>Strength: 1 full year of implementation. Limitations: Surveys subject to sources of error and bias.</td>
<td>Improved models needed to compensate clinicians. Define appropriate mix of virtual office visits. Understand the role of other modes of care.</td>
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<td>2019</td>
<td>Perry et al.</td>
<td>To better understand barriers to implementing CVT and to compare responses of CVT utilizers to non-utilizers</td>
<td>Quality Improvement</td>
<td>Sample: 159 mental health staff</td>
<td>N/A</td>
<td>Online surveys Descriptive statistics Chi square analyses Independent t tests</td>
<td>Less than half reported using CVT for patient care. Utilizers reported administrative burden as significant barrier to CVT use. Non-utilizers reported lack of training as a significant barrier to using CVT.</td>
<td>Strength: Training on CVT technology is not the complete solution to increasing utilization of CVT. Limitation: lack of generalizability, self-reports.</td>
<td>Encourage and convince mental health clinicians to try CVT. There remains much to be explored related to mental health provider satisfaction, barriers to implementation, and utilization of telemental health.</td>
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<td>2019</td>
<td>Lindsay et al.</td>
<td>To provide an effective, replicable V2H video visit implementation approach, to increase adoption and utilization of V2H video visits among clinicians.</td>
<td>Descriptive study</td>
<td>Sample: Houston VA Medical Center, which serves 130,00 veterans at its main VA medical center and 11 VA community clinics. Setting: Houston Texas, USA</td>
<td>Outcome evaluation of the impact of the PIVOT implementation approach was tested by comparing the rates of V2H use in the Houston VA Medical center and its network of 11 VA community clinics to national metrics.</td>
<td>Qualitative and quantitative data collection.</td>
<td>V2H requires a flexible implementation strategy. Dedicated clinical champions should be identified for sustainability. Metrics to evaluate the delivery of V2H and an implementation strategy can increase its impact.</td>
<td>Strengths: PIVOT allows for a sustainable V2H telehealth program to expand access to mental health care. Limitation: Slow adoption of video visit technology.</td>
<td>Implementation approaches with specific steps and guidance are needed for widespread video telehealth use.</td>
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| 2019 | Hogan et al.   | To help clinicians strengthen confidence and competence of clinicians new to using V2H telehealth and those wanting to expand their repertoire of patients with more challenging populations. | Case studies | Sample: 5 VA clinical case studies  
Setting: Rural areas in Salt Lake City, Utah, USA | Provide increased individualized support to assist patient with set-up and training with the technology; offer V2H as an option to every patient; and address treatment-interfering behaviors over V2H directly with the patient. | Clinical cases encountered when using V2H to provide mental health care to patients with varying demographic and clinical Features. | Clinicians should be creative when integrating video visits into their practice. Evidence-based guidelines, techniques and tools recommended for face-to-face care can be adapted for video visits. | Strength: Video visits allow for greater flexibility in how, when and where patients receive services.  
Limitation: There is minimal guidance for dealing with complex, non-emergent challenging situations via video visits. | Education and training will help with comfort and competence of implementing and conducting video visits. Start or join a community of practice of other clinicians conducting video visits, to strengthen comfort and confidence with this telehealth modality and enhance communication of information. | 4a. |
| 2018 | Fletcher et al. | To review the literature on V2H delivery of mental health services. | Review       | Sample: 10 treatment outcome studies  
Setting: N/A | The review compiled findings for video visits  
(1) comparing the clinical efficacy  
(2) assessing the impact on treatment adherence,  
(3) patient and clinician satisfaction  
(4) cost effectiveness and  
(5) clinical utility. | Clinical efficacy, treatment adherence, and patient satisfaction are comparable for video visits and in-person delivery of psychotherapy and behavioral health consultation services. Video visits are less costly than in-person treatments when patients use their own technologies. | Clinical visits increase care access, are safe, patient-centered, and effective as in-person appointments.  
Limitations: Much of the video visit literature focuses on white privileged male population. Clinician satisfaction with video visits are lower than patients. | A video visit implementation strategy is critical for securing buy-in and adoption.  
Video telehealth facilitators/superusers can increase clinician confidence with use by providing trainings, education, and practice communities.  
Offer video visits to populations with disparities in mental health care access and utilization. | 1a. |
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<td>2018</td>
<td>Stuesson &amp; Groth. Effects of the digital transformation: Qualitative study on the disturbances and limitations of using video visits in outpatient care, <em>Journal of Medical Internet Research</em></td>
<td>This study examines clinicians’ perceived limitations and disturbances, and how the conditions between patients and clinicians may change when using video visits instead of in-person meetings in outpatient care.</td>
<td>Qualitative (observations and interviews)</td>
<td>Sample: 13 observations of video visits at two different clinics and 14 follow up interviews with clinicians (13 in-person interviews and one telephone interview). Setting: Sweden (Europe)</td>
<td>Video visits were conducted in outpatient setting to evaluate how work processes change, and new tasks are introduced, in order to improve the video visits.</td>
<td>All data was collected for three consecutive months in 2016. The analysis process was qualitative. Interview transcripts were analyzed into themes. Spreadsheets were used to organize and sort data.</td>
<td>Disturbances and limitations related to video visit technology were related to time, sound, video image quality, and patient and clinician environment.</td>
<td>Strengths: Video visits increase health care access and provide a gateway between the patient’s home environment and the health care institution. Limitations: Medical settings help maintain professional and patient roles. Privacy may be an issue for the patient depending where they are during the video visit.</td>
<td>The clinician should inform the patient of requirements and environment that need to be addressed to ensure the best video visit appointment. Checklists may provide support with video visit implementation and conduction.</td>
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<td>2018</td>
<td>Interian et al.,</td>
<td>To identify barriers and facilitators encountered by behavioral health staff in 3 different VA facilities with differing levels of experience and performance with V2H video visits.</td>
<td>Qualitative (semi-structured interviews)</td>
<td>Sample: 33 VA mental health providers from 3 VAs. Setting: 3 VA facilities in the United States.</td>
<td>Interviews were conducted between September 2014 and April 2015; and ranged from 30 to 60 minutes.</td>
<td>Data analyzed using a mixed-methods design.</td>
<td>Different barriers and facilitators were experienced depending on experience level with V2H. Critical factors for implementation success pertain to logistical support and clinician buy-in. Hands on guidance with setup, training and continuous operation is key to sustainability.</td>
<td>Strengths: Several issues with gaining clinician buy-in for adopting V2H was identified because of this evaluation. Limitations: small sample of VA facilities evaluated. Patient’s perspectives not evaluated only staff. The degree to which issues occurred were measured. Large amount of staff not included in simple.</td>
<td>Implement V2H in areas of greatest patient need and create protected time for clinicians to learn and utilize the V2H technology. Have a local video telehealth champion, have them conduct meetings and discussions. A local point of contact is valuable to provide ongoing individualized facilitation. Quality monitoring systems should be set in place to track how well logistical support is given.</td>
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<td>2017</td>
<td>Abrams et al.,</td>
<td>To provide an overview of technology, legal, regulatory, clinical issues, and cost savings, related to practicing psychiatry and psychology via virtual visits in an academic medical center.</td>
<td>Review</td>
<td>Sample: A review of 16 telepsychiatry/ telemental health effectiveness studies. Setting: N/A</td>
<td>N/A</td>
<td>A review of the current issues involved in practicing telepsychiatry from the perspective of an academic medical center group. Technological, legal, regulatory, clinical issues and potential cost savings are examined.</td>
<td>Starting a telepsychiatry service requires a comprehensive approach with up-to-date legal and technological considerations. Many behavioral health disorders can be managed safely and effectively via video visits. Cost savings are difficult to accurately determine.</td>
<td>Strengths: The benefits of mental health video visits outweigh barriers to use. Limitations: This review does not generalize to all settings starting a telepsychiatry practice—only an academic medical center.</td>
<td>Regulatory issues in telepsychiatry and telemental health vary from state to state and change quickly over time. Clinicians need to ensure continuous compliance when creating or maintaining a telepsychiatry program.</td>
<td>1a.</td>
</tr>
<tr>
<td>2015</td>
<td>Chakrabarti</td>
<td>This review focuses on the usefulness of videoconferencing-based approaches to deliver mental health care.</td>
<td>Review</td>
<td>Sample: Nine articles used for this review. Setting: N/A</td>
<td>N/A</td>
<td>A critical evaluation was conducted, using reviews, guidelines, and original randomized controlled trial research studies of videoconferencing-based approaches for telepsychiatry.</td>
<td>Chakrabarti found videoconferencing to be an excellent adjunct to in-person care via RCT design studies demonstrating videoconferencing to be as effective as face-to-face patient care.</td>
<td>Strength: reviewed studies conducting RCTs. Limitation: lack of cost-effectiveness data.</td>
<td>Hybrid models of care should be developed, that incorporate both in-person and video visits.</td>
<td>1a.</td>
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Appendix B

VA Video Connect Best Practice Guide

This guide is a comprehensive best practice implementation guide for VA clinicians with the process of implementing and conducting VA Video Connect visits with veterans with behavioral health conditions. It was created from direct input from VA behavioral health clinicians and a culmination of best practices in videoconferencing-based telemental health from the American Psychiatric Association (APA), American Telemedicine Association (ATA), and experts in implementation and facilitation of VA video visits with veterans with behavioral health conditions.

Implementation Facilitation

- VA Talent Management System TMS trainings for VVC for clinician (check with facility telehealth coordinator for most up-to-date training requirements) (1.5 hours)
  - #4279741 Telehealth to Home Using VA Video Connect Provider Training (1 hour)
  - #4551375 Telehealth Emergency Plans Memorandum Course (30 minutes)
- VVC training completion certificate sent to Facility Telehealth Coordinator (FTC)
- Obtain equipment and set up - web camera and second computer monitor from FTC. FTC will set up equipment
- Clinic profile set up for clinician by FTC
- VVC test call with clinician and telehealth technician. Practice VVC prep environment - close doors to mitigate ambient noise and distractions, lighting to illuminate face, avoid sitting in front of windows with too much light, silence cell phone.

Patient Assessment / Evaluation

- Clinician asks veteran if they are interested in video visit appointments
- Based on clinician assessment, ascertain if video appointments are feasible for veteran.
  - If veteran does NOT have any internet access, veteran is not VVC eligible
- Clinician assesses if veteran has the technology, equipment, internet, digital health literacy
  - Ask veteran about internet access, computer or cell phone ownership and if they have an email address
  - Computer bandwidth 384 kilobits/second or higher or mobile wireless broadband
  - Digital health literacy – assess if veteran understands / has the cognitive capacity to navigate the VVC mobile app, download it and follow the instructions (telehealth department will also help veteran to download and navigate the VVC mobile app)
  - Does veteran have the equipment? If not, contact FTC so a VA issued iPad can be secured for them via the telehealth department.
- Video visit etiquette is discussed with veteran by clinician
  - Appropriate dress- no wearing pajamas, lingerie, underclothes
  - Private, quiet place, without distractions (people, television, cell phone, etc.)
  - No driving during VVC appointment
  - No one should be intoxicated during VVC appointment
Scheduling

- For VVC initial scheduling: Veteran is oriented to VVC / test call conducted by telehealth department
  - This is completed after the clinician assesses and evaluates veteran for VVC eligibility
- Clinician forwards veteran’s information to the telehealth department so they can conduct VVC test call with veteran and orient them to VVC via telephone
- Once a successful test call with the veteran is completed, a telehealth team member will notify the clinician
- The clinician negotiates a VVC appointment date/time with veteran and places a return-to-clinic order into the veteran’s computerized patient record
- The Health Administration Service (HAS) department receives the return-to-clinic order in the computerized patient record system, schedules the VVC appointment, and sends the VVC appointment link to veteran and the clinician
  - Clinician should confirm VVC appointment was scheduled by the HAS department (via phone call or email). This is done at clinician convenience.
  - If able, the clinician should check functionality of appointment link
- For VVC follow-up scheduling: A return-to-clinic order, which includes VVC appointment date/time, should be sent to HAS by the requesting clinician via the computerized patient record system

VVC Appointment

- At the start of the appointment clinician ensures they have up-to-date phone number for the veteran, the current location for veteran, and an emergency contact information
- Conduct video appointment
- Wrap up appointment / Schedule follow up visit by placing the return-to-clinic order!
- Technology functionality / audio / visual / connectivity issues may occur during the virtual visit. If so, do the following troubleshooting options:
  - Call Telehealth Help Desk 1.866. 651.3180 (time permitting)
  - Exit out of virtual room and then re-enter
  - Telephone the veteran if necessary

Telehealth Support

- Facility telehealth coordinator contact: During hours 8am – 4pm
- Local clinical champion(s) / super user(s) / experienced facilitator(s)
  - Ask FTC who these persons are.
- VVC community of practice created (for VVC education related to clinical practice, updates/changes, discussions of challenging VVC clinical encounters)
- National Telehealth Technology Help desk for questions or trouble shooting : 1.866. 651.3180 or 703.234.4483; vha_ntthd@va.gov or vhaphiTelehealthScheduling@va.gov (they are available live for a quick chat)
- National telehealth intranet site (only accessible on VA system):
  http://vaww.telehealth.va.gov/index.asp
Additional Telemental Health Resources:
- APA Web-Based Telepsychiatry Toolkit (2016)
- ATA Telemental Health Resource Toolbox (2017)
- ATA Online Training for Mental Health Service (2014)
- A Lexicon of Assessment and Outcome Measures for Telemental Health (2013)
- Practice Guidelines for Video-Based Online Mental Health Service (2013)
Appendix C

VA Video Connect Best Practice Algorithm

#1. Implementation / Facilitation

Clinician completes VVC trainings

Yes - forward certificate onto FTC

No - complete trainings in TMS #4279741 / #4551375 and forward certificate to FTC

Need to have necessary equipment setup (webcam/2nd monitor)

Yes - Clinic profile is set up by FTC

No - contact FTC for web camera and 2nd computer monitor set up

Yes - VVC test call is conducted between clinician and telehealth technician

Test call is completed

Yes - Great. You are ready to conduct a VVC appointment

#2. Patient Assessment / Evaluation

Clinician asks veteran if they are interested in VVC

Yes – Veteran needs to have internet access, a computer or iPad, a cell phone, and an email address
Veteran needs to be digitally literate

No – Veteran needs equipment

Yes – Video visit etiquette is discussed with veteran

No – Assess why, document, continue face to face visits and reassess VVC interests periodically

Yes – Time to schedule the VVC appointment for veteran

Contact the FTC so a VA issued iPad can be secured for veteran

No – Veteran needs equipment
Appendix C

VA Video Connect Best Practice Algorithm
(continued)

#3. Scheduling

Return-to-clinic (RTC) order sent to HAS by requesting clinician so VVC appointment can be scheduled

Yes - Test call conducted with veteran by telehealth department and veteran oriented to VVC

No – RTC order must be placed into CPRS

If VVC email has not been received, clinician confirms with HAS, via email or phone, that RTC order has been received

VVC link is sent via email to clinician and veteran

On the day of appointment, click on VVC link to conduct appointment

#4. VVC Appointment

At the start, clinician asks veteran for: current phone number, location, emergency contact number

Conduct VVC appointment with veteran

Wrap up visit, schedule follow up visit, place RTC order into CPRS

Technology issues
(sound/image/freezing/delays/timed out)

Yes – Exit out of VVC and re-enter time permitting, call telehealth help desk (1.866. 651.3180) OR Call veteran and conduct appointment by telephone

No – RTC order must be placed into CPRS
Appendix D

Case Study Exemplar

A VA behavioral health clinician, Dr. Hill is interested in conducting VVC appointments. Dr. Hill contacts her facility telehealth coordinator and reports her interest in VVC. The facility telehealth coordinator informs Dr. Hill to complete Training #4279741- Telehealth to Home Using VA Video Connect Provider Training; and Training #4551375 Telehealth Emergency Plans Memorandum Self-Certification Course via talent management system. After Dr. Hill completes training, she emails her certificate of completion to the facility telehealth coordinator. After receiving the certificate of training completion, the facility telehealth coordinator provides Dr. Hill with the equipment needed for VVC, a second monitor and a web camera, and assists with the equipment set up and software installation. The facility telehealth coordinator then sets up a VVC clinic profile for Dr. Hill. She then conducts a VVC test call with the telehealth department staff and after completion, she is ready to conduct a VVC appointment.

As it happened, the next day after Dr. Hill conducted her VVC test call, one of her patients, Dianne, a 43 year old veteran with a history of bipolar disorder and military sexual trauma expresses interests in VVC. Dianne explains to Dr. Hill she would like to continue with psychotherapy by way of VVC, instead of discontinuing treatment. Dianne reports changes to her present life circumstances. Dianne is part of the compensated workers therapy program and her work schedule was recently changed from day shift to night shift. However, Dianne will also begin caring for her infant granddaughter and two-year-old grandson every day. Dr. Hill assesses Dianne’s digital health literacy by asking Dianne about previous exposure, experience, and comfort with technology/ video conferencing. Dr. Hill asks the veteran if she has internet, an email address, a mobile phone, laptop computer, or tablet. Dianne reports having a mobile
phone, a laptop computer, internet access, and an email address. Dr. Hill deems VVC feasible for Dianne.

Following this positive assessment of feasibility and eligibility for the veteran to move forward with VVC, Dr. Hill discusses with Dianne what is and is not appropriate video visit appointment etiquette. Dr. Hill informs her that driving during a VVC appointment and drinking alcohol or being under the influence are not appropriate during VVC appointments. A private environment must be maintained during the video appointment for privacy. Actively using the toilet or laying in the bed is not appropriate during a VVC visit. Veteran visibility and eye contact must be maintained, and dress must be appropriate. No one should be within earshot of the health care visit. Children and others should not be present on camera during the VVC visit.

Following VVC assessment and video etiquette education, Dr. Hill refers Dianne for VVC with the telehealth department and requests a test call/connectivity set up for veteran. Once a successful test is completed between Dianne and the telehealth department staff, Dr. Hill is notified so that a VVC appointment is scheduled. Dr. Hill then places a return-to-clinic order into Dianne’s electronic health record in the VA computerized patient record system. To ensure receipt of submission of the return-to-clinic order, Dr. Hill emails the health administration service department to see if they received the order. The health administration service department schedules the VVC appointment, enters it into Dianne’s electronic health record; and an appointment link is sent to Dr. Hill and Dianne (via their respective email addresses). If time permits Dr. Hill calls Dianne a few days prior to the appointment and asks her to check to see if she received a link via email and to check that her link is functional.

The day of the VVC appointment Dr. Hill takes time prior to the visit to ensure proper set up of the equipment and that the VVC link is functional. She ensures proper lighting and a quiet
distraction-free environment. At the time of the appointment, Dr. Hill and Dianne click the appointment link provided in their email and enter the virtual medical room. After greeting Dianne, Dr. Hill immediately verifies Dianne’s telephone number, current location, and emergency contact information. Dr. Hill then asks Dianne if her grandchildren are okay, before beginning the therapy session, in case Dianne needs to get either of them settled. The video visit is conducted. If audio or video image is disrupted or disconnected, attempts to reconnect are made by exiting out of the VVC appointment and re-entering. If necessary, Dr. Hill calls Dianne, and the remainder of the encounter takes place via telephone.

Upon conclusion of the video appointment, Dianne reports the experience of the video visit was very convenient for her and she would like to make a follow-up appointment with Dr. Hill, via VVC. After Dianne and Dr. Hill negotiate a VVC follow up appointment date and time, the VVC appointment is concluded. When Dr. Hill ends the VVC session with Dianne and exits out of the virtual medical room, Dr. Hill completes and submits a return-to-clinic order for a follow up VVC appointment for Dianne. Dr. Hill also places the VVC appointment date and time with Dianne in her work calendar and sends an email to the health administration services department to confirm the return to clinic order for the VVC appointment was received.
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