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**Patient Satisfaction, Utilization, and Preference with Synchronous Virtual Primary Care
Appointments for Adult Beneficiaries at Fort Bliss, Texas**

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Table of Contents

Table of Contents	3
Abstract	5
Problem Synthesis	6
Relevance to Military Nursing	8
Clinical Question	9
Search Strategy	10
Solution Synthesis	10
Patient Utilization	10
Patient Satisfaction	11
Patient Preference	12
Business Case Analysis (BCA)	13
Organizing Framework	15
Project Design	16
General Approach	16
Setting and Population	18
Procedural Steps	18
Data Analysis Plan	20
Barriers and Limitations	21
Dissemination and Sustainment Plan	23
Project Results	24
Patient Utilization	24
Patient Satisfaction	25
Patient Preference	26
Analysis of the Results	28
Patient Utilization	28
Patient Satisfaction	29
Patient Preference	29
Organizational Impact	30
Future Directions for Research and Practice	30
Conclusion	31

References	33
Appendix A: PRISMA Diagram	39
Appendix B: Business Case Analysis Worksheet	40
Appendix C: Team Mentor (Committee Membership) Agreement Form	51
Appendix D: Framework- Iowa Model Revised	52
Appendix E: Project Timeline	53
Appendix F: DNP Project Senior Mentor Approved Abstract	54
Appendix G: DNP Project Completion Verification Form	56
Appendix H: Evidence Table	57
Appendix I: Data Analysis Table	59
Appendix J: Data Collection Tool	61
Appendix K: CITI Certificate	62
Appendix L: USU (VPR) Form 3202N	63
Appendix M: MTF IRB Letter of Determination	64
Appendix N: PAO Clearance /Level of Dissemination Classification	65

Abstract

Background: The COVID-19 public health state of emergency (PHE) caused rapid implementation and advancing interest in synchronous virtual healthcare (VH), possibly changing the culture and impacting the way forward for VH after the end of COVID-19 PHE. Recognized by the National Defense Authorization Act (NDAA) of 2017, the Military Health System (MHS) promoted VH before the COVID-19 pandemic (NDAA, 2017). This evidence-based project aims to observe how virtual compared to face-to-face (FTF) synchronous appointments impact primary care utilization, patient satisfaction, and preference for adult patients at William Beaumont Army Medical Center (WBAMC) at Fort Bliss, Texas.

Methods: First, program evaluations were conducted using retrospective analysis of synchronous virtual appointments across 2019-2021 of patient utilization data from the Composite Healthcare System (CHCS) and patient satisfaction data from the Joint Outpatient Experience Survey (JOES). Second, a needs assessment was conducted across three primary care clinics of current (2022) patient preferences for VH appointments utilizing a data collection tool.

Results: Patient utilization was unable to be analyzed; however, an association of fewer FTF cancellations/no-shows was observed when virtual appointments were higher during the COVID-19 PHE. Patient satisfaction showed significance ($p = 0.0031$) between FTF and VH appointments during 2020, with patients less satisfied with FTF. No significant difference ($p > 0.05$) between VH and FTF for 2019 or 2021. Patient preferences revealed that the majority (73%) were not offered the option to book a VH appointment; however, the majority (78%) preferred the option to choose. Most patients (40%) prefer FTF appointments, 28% prefer virtual, while 32% say it depends. The emergent theme for VH was convenience (32%), while FTF was the desire for a physical exam (49%). See Appendix F for the full abstract.

Patient Satisfaction, Utilization, and Preference with Synchronous Virtual Primary Care Appointments for Adult Beneficiaries at Fort Bliss, Texas

Recognized by the MHS and directed by the NDAA of 2017, virtual healthcare has the opportunity to improve military access to care, provide interventions, monitor health outcomes, improve communication between providers and patients, and decrease costs. Despite these benefits that align with the Defense Health Agency's (DHA) Quadruple Aim and VH adoption, MHS acceptance was slow and minimal by patients, providers, and leadership. Catalyzed by the COVID-19 PHE, VH advanced to the forefront of medical care, and healthcare organizations were obligated to increase VH utilization for safety reasons. While the momentum of VH temporarily increased due to the PHE, the impact on patients is not yet well known or understood. Understanding how patients experience VH, including utilization, satisfaction, and preferences, will highlight how to maximize VH use after the COVID-19 PHE.

Healthcare delivered through technology, also called virtual health (VH), telehealth, or telemedicine, is delivered via online scheduling, secure messaging, mobile smartphone applications, asynchronous patient care or training, and synchronous appointments (Gabrielsson-Järhult et al., 2021; Powell et al., 2017). Synchronous appointments occur from patient to provider or a provider-to-provider consultation through telephone or video platforms. This project focused on synchronous virtual telephonic and video appointments between patient and provider.

Problem Synthesis

Preventative care is vital in maintaining public health. Chronic diseases are a burden to the health care system, reduce patients' quality of life, and are the leading factor in the increased cost of healthcare in the United States (CDC, 2019). Diseases need to be prevented before they

become an issue to counteract these effects. A critical initiative of the DHA is to standardize and optimize access to care that creates alternatives for patients to receive care without visiting a healthcare facility (DHA, 2019). Before the PHE, the status quo for military healthcare patients was primarily through FTF appointments. Agboola and Kvedar (2016) found that VH is as efficacious as FTF appointments and promotes “continuity of care, decrease the cost of care, and improve patient self-management and overall clinical outcomes” (p. 95).

The literature highlighted that the most substantial justification for VH use during the COVID-19 PHE was the safety of patients and providers (Imlach et al., 2020; MHSCO, 2020; Olayiwola et al., 2020). VH reduced exposure to the coronavirus by triaging symptomatic patients at home and allowed monitoring and treatment of chronic diseases (Sikka et al., 2020). Decreased exposure also promoted the health of the medical staff, maintaining healthcare capacity (Imlach et al., 2020). Due to the reduced human interaction during VH appointments, the literature noted concerns for patient safety. Ways to minimize patient safety concerns related to VH include establishing escalation protocols, conducting morning huddles to review patient charts before appointments, and discussing challenges with telemedicine (Sikka et al., 2020).

Through funding from the NDAA, DHA promoted VH use even before the COVID-19 PHE, allotting \$1.4 million in FY2019 for telehealth programs and products (DHP, 2019). A primary care provider has a daily template consisting of twenty patients. The appointment type may be acute or future, and the ratio of those appointment types varies based on the clinic’s access to care metrics. In FY2018, 39% of military beneficiaries canceled an appointment, 10% of missed appointments were for difficulty getting to the facility, and 37% for scheduling conflicts (OUSD, 2019). Utilization of virtual health is up to local command to use DHA PI 6025.11 for guidance on VH appointments. These appointments are shorter in duration, consist

of unique coding, and are reimbursed at a lower rate than FTF appointments if they are audio-only (Drerup et al., 2021).

During the COVID-19 PHE, the Centers for Medicare and Medicaid Services (CMS) expanded telehealth services to beneficiaries. CMS allowed telephonic or audio-only appointments to be reimbursed at the same rate as FTF and video VH appointments (Adepoju et al., 2021). While the NDAA 2017 Section 718 mandates that VH will be reimbursed to the same extent as in-facility appointments; there is no guidance if this will remain policy after the PHE concludes (Waibel et al., 2019). This uncertainty for future reimbursement may cause some healthcare organizations to not invest in VH infrastructure (Adepoju et al., 2021).

Historically, some patients experienced difficulty keeping appointments due to schedule conflicts or childcare and family needs (Powell et al., 2017). VH can bridge the gap between personal and professional conflicts that impede patients from attending scheduled appointments (Gabrielsson-Järhult et al., 2021; Powell et al., 2017). VH can reclaim lost work hours, especially during times of uncertainty. It has also been shown “to expand access to health care, improve outcomes and quality, increase patient engagement, and reduce unnecessary emergency department visits” (Adepoju et al., 2019, p. 595).

Relevance to Military Nursing

The 2017 NDAA Sections 702 and 718 require the DoD to utilize VH capacities throughout the MHS (NDAA, 2017; Waibel et al., 2019). Despite mandates and allocated funding, the Department of Defense (DoD) provided only 30,000 annual telehealth appointments to active-duty servicemembers, reaching only 1% of the population in 2015 (GAO, 2016). Virtual health breaks geographical boundaries and enables access to care, qualities that the military population appreciates due to deployments and austere care, but suddenly became

relevant in the garrison environment with the COVID-19 pandemic and the announcement of the PHE (Pamplin et al., 2019).

The DHA utilizes the Quadruple Aim as a healthcare delivery model to provide better care, promote better health, increase readiness, and decrease overall costs (DHA, 2019). A critical initiative of *better care* is to standardize and optimize access to care, creating alternatives for patients to receive care without visiting a healthcare facility (DHA, 2019). Virtual appointments are an alternative for some patients needing ease of access without the added stressors of FTF appointments. As the MHS shifts from a healthcare system to a system of *better health*, primary care plays a role by encouraging healthy behaviors, preventions, and screenings, as 50% of health outcomes are related to these behaviors (DHA, 2019).

Virtual health provides an additional platform for primary care providers to work with patients on health and behavioral change. In 2017, the NDAA mandated the expanded use of VH to increase access to care in the force (Waibel et al., 2019). Virtual health allows beneficiaries to schedule and keep appointments, an essential element for a medically *ready* force and healthy families. Virtual health has the potential to *lower costs* in four ways, including maintaining equitable cost reimbursement compared to FTF appointments, reducing the cost to the patient and military with lost work hours, increasing facility reimbursement by lowering wasted capacity from patient cancellations or no-shows, and increasing incentive reimbursements if patients are more satisfied with VH (JOES, 2018; Military Health System, n.d.; Powell et al., 2018).

Economic relevance is further discussed in the business case analysis section and Appendix B.

Clinical Question

How do virtual (video and telephone) compared to face-to-face synchronous appointments impact primary care utilization (booking, cancellations, and no-shows), patient

satisfaction, and patient preference for adult patients at Fort Bliss, Texas?

Search Strategy

The clinical question guided the search strategy. A literature search was conducted in PubMed, CINAHL, and USUHS Power Search databases. A title and abstract search were performed using the Medical Subject Headings (MeSH) terms “virtual health” OR “telehealth” OR “telemedicine,” AND “patient satisfaction” OR “patient preference” OR “patient utilization” AND “primary care.” The search was limited to full-text articles published in English between 2016 and 2021. Eighty articles were initially identified, five duplicates were removed, 48 were removed during abstract screening, and 13 were removed during the full-text review. Fourteen articles were eligible for the final literature review.

Articles that compared VH appointments with FTF, patient satisfaction, preferences, and utilization analysis were included. Articles that addressed specific, specialty, or inpatient populations were excluded. Other exclusions included those with a provider focus, interdisciplinary focus, COVID-19 only patients, asynchronous VH, and letters to editors or responses to articles. Some concepts particular to this project, such as military care and cost, exist within gray literature (government documents or policy), resulting in a manual literature search. Snowballing and reverse snowballing were also utilized. Fifteen records were identified in the gray literature search, and ten records were identified through snowballing for 25 additional records in addition to the original literature search. See Appendix A for the PRISMA diagram and Appendix H for the Evidence Table.

Solution Synthesis

Patient Utilization

Virtual appointments allow patients flexibility, convenience, and decrease unnecessary

travel to the military treatment facility (OUSD, 2019; Thiagarajan et al., 2020; Vosburg & Robinson, 2022). The number of empaneled VH appointments required by each provider varies by clinic, and the templating of FTF and VH appointments is clinic specific, varying weekly based on information pooled from CHCS and MHS Genesis (DHA, 2018). The fiscal year (FY) 2018 MHS benchmark for missed appointments is less than 9% (OUSD, 2019).

The COVID-19 PHE caused a rapid implementation and advanced interest in synchronous VH. This implementation resulted in an unprecedented number of appointments occurring via telephone or video to meet beneficiary demand and minimize COVID exposure to healthcare providers and patients. Patient appointment utilization (booking and cancellations) shows how patients use VH compared to FTF. Healthcare organizations should monitor how VH appointments are utilized to determine how best to invest in and improve VH infrastructure, or determine if building new telehealth infrastructure is warranted.

Patient Satisfaction

One of VH's original and enduring concerns is that it will not provide enough of the human element shared in a FTF appointment, resulting in decreased patient satisfaction and quality of care (Bucci et al., 2019). However, the overall literature review results are contrary. A study by Powell et al. (2018) revealed that more than 80% of patients perceived their VH appointment as similar in satisfaction to their FTF appointment. Many patients are familiar with technology and report at least the same or higher satisfaction with VH as with FTF appointments (Veazie et al., 2019). Offering patients VH yields comparable satisfaction results to in-person visits (Jenkins-Guarnieri et al., 2015; Vosburg & Robinson, 2022). Determining and analyzing patient satisfaction with VH is beneficial for determining the way forward after the COVID-19 PHE ends.

Patient Preference

Many themes emerged in the literature review for patient preferences and their reasons for requiring healthcare on virtual platforms. Although VH is utilized in many specialty areas, such as mental health and palliative care, this has not translated to the primary care setting (Thiyagarajan et al., 2020). Although VH is convenient for many patient appointments, it is inappropriate for patients who lack technological knowledge or access to adequate internet service (Thiyagarajan et al., 2020). During the COVID-19 PHE, patients preferred VH to decrease their COVID-19 exposure and travel time (Alharbi et al., 2021; Imlach et al., 2020; Vosburg & Robinson, 2022). Due to the rapid implementation of VH during the COVID-19 PHE, patient preferences regarding VH may not be well understood, and further study is warranted.

Focus Areas

The doctor of nursing practice (DNP) student team completed a project with three focus areas with disparate populations on patient satisfaction with VH, utilization, and preference. The first focus area of the project was to review the utilization of VH appointments within the adult primary care footprint. This was also assessed by conducting a retrospective analysis from 2019-2021. The second focus area of the project was to observe whether patients are satisfied with VH versus FTF appointments. Patient satisfaction was assessed by conducting a retrospective analysis from 2019-2021. The third focus area was to determine patient preference regarding VH appointments. This portion of the project was conducted via a needs assessment from January to February 2022. The literature review showed that that satisfaction is usually equitable, and appointment compliance is improved with VH. Identifying patient satisfaction with VH, utilization, and whether the appointment type (VH or FTF) meets the patient's preference are fundamental goals of this project.

Business Case Analysis (BCA)

The economic analysis of VH is multifactorial and not one-directional. The first consideration is the lack of equal CMS reimbursement for total relative value units (RVU) for some VH compared to FTF appointments. The NDAA 2017 Section 718 mandates that all VH be reimbursed to the same extent as in-facility appointments; however, CMS is not supporting this outside of the COVID-19 PHE (Garcia, 2021; NDAA, 2017; Waibel et al., 2019). Video synchronous appointments are coded and reimbursed equally as FTF appointments, represented by Current Procedural Codes (CPT) 99212-99215 (0.70-2.80 RVU) and 99202-99205 (2.13-6.51 RVU) (AAFP, 2022). However, telephone or audio-only synchronous appointments, annotated by CPT 99441-99443 (0.48-1.50 RVU) with the evaluation and management (E/M) modifier G2012 or T2025 (COVID-19 interim), are not customarily reimbursed equivocal to a FTF appointment (MHS, 2020). This equates to \$40.27 - \$79.63 lost on each audio-only appointment compared to video or FTF (Garcia, 2021). During the COVID-19 PHE, CMS authorized full and equitable reimbursement for telephonic appointments (AAFP, 2022). After the PHE ends, providers may bill for the PHE amount for telephone appointments until the close of the following year (anticipated CY2023) (Garcia, 2021). Continuing equitable reimbursement of audio-only appointments may promote continued use of VH, particularly in more remote regions.

The second consideration is that VH can lower costs to the patient. Patients would not be required to spend money on travel expenses such as fuel or public transportation, lost wages from appointments and travel time, or incur childcare or caregiver costs associated with FTF appointments (Vosburg & Robinson, 2022; Waibel et al., 2019). The Joint Travel Regulation (JTR) allows mileage reimbursement at \$0.17 per mile for in-person treatment for patients outside the continental United States or who travel more than 100 miles for an appointment

(Waibel et al., 2019). Regional Health Center-Europe had a cost savings of over \$600,000 for mileage reimbursements utilizing virtual health in 2016 alone (Waibel et al., 2019). A servicemember's lost wages can range from \$10.08/hr (E-1) to \$76.68/hr (O-6) (Defense Finance and Accounting Service [DFAS], 2021). Childcare or caregiver costs are another potential recaptured cost to the patient. Average childcare costs at Fort Bliss are \$260 to \$960 per month per child for children enrolled in full-time daycare (United States Army's Family and Morale, Welfare and Recreation Program, n.d.). The local hourly rate for childcare in Fort Bliss Child Development Centers is \$5 per hour, an estimated cost savings of \$5 to \$10 per child per appointment (United States Army's Family and Morale, Welfare and Recreation Program, n.d.). These rates are for hourly care through the Child Development Centers on Fort Bliss, while other home care options cost \$11-16 per hour. These expenses are not direct facility cost savings because the local facility does not recapture this money, but the patient or their workplace will benefit.

The third consideration is that virtual synchronous appointments may lower costs by reducing missed or non-utilized appointments. Missed appointments in primary care cost the DoD \$69 million over 659,873 appointments in FY2016 (Waibel et al., 2019). Fort Bliss had 14,345 missed primary care appointments in the same fiscal year, averaging a 6.1% missed rate and a total loss of \$1,506,225 (OUSD, 2019). Virtual appointments resulted in 50% fewer missed appointments than FTF (Waibel et al., 2019). Lost reimbursement for a primary care non-utilized FTF appointment can range from \$56.88 to \$227.15 (Garcia, 2021).

The final consideration is that the facility can receive incentive payments for overall patient satisfaction from the JOES scores (Galvin et al., 2018). The Integrated Resources and Incentive System (IRIS) pays for satisfaction scores for Tiers 2–5; which equates to greater than

95% patient satisfaction ranging from \$100 to \$1,000 per survey received (Galvin et al., 2018). Since the DHA integration of WBAMC, the IRIS program was temporarily suspended; however, a restart is anticipated soon. Fort Bliss experienced a 7% JOES return rate and a 77% average overall satisfaction rate (Sanchez, 2018). Satisfaction scores may increase potential incentive funding if patients are more satisfied with their healthcare due to VH options. See Appendix B for BCA Worksheet.

Organizing Framework

With the continual turnover of military leaders, it is crucial to select a model that allows reassembly, redesign, and consideration of alternatives throughout the project to ensure quick wins that minimize resistance. Before choosing an appropriate model, healthcare scientists must assess strengths and whether they can be applied for various purposes, implementation and integration, and sustainability through program education (Melnik & Fineout-Overholt, 2019). The Iowa Model Revised provided the organizing framework for this evidence-based project.

This model is designed to promote healthcare excellence due to its organizational structure rather than an individual (provider-driven) structure (Iowa Model Collaborative, 2017). The Iowa Model Revised is a multiphase practical approach dating back to 1987 that implements various decision points into the model (Melnik & Fineout-Overholt, 2019). The algorithm and feedback loop approach to the Iowa Model Revised makes it a good fit for sustainable implementation for critical stakeholders. It is promoted by local champions, senior leaders, and hospital educators (Iowa Model Collaborative, 2017).

The triggering issue or opportunity was the rapid implementation of VH appointments in primary care in response to the COVID-19 PHE. The priorities were the COVID-19 PHE, DHA goals, and the 2017 NDAA, which address VH utilization. The team consisted of three

Uniformed Services University of the Health Sciences (USUHS) Doctor of Nursing Practice (DNP) Phase II students at Fort Bliss, Texas. The evidence showed VH is often equitable to FTF, and many patients prefer VH as an option, especially as technology integrates further into patients' lives (Carrillo de Albornoz et al., 2021; Imlach et al., 2020; Vosburg & Robinson, 2022). The practice change evaluation required engaging patients and analyzing their utilization and satisfaction. This analysis will be provided to leadership to facilitate decision-making regarding practice change adoption or further exploration of alternative options. See Appendix D for the organizational framework.

Project Design

General Approach

The first focus of this project consisted of a program evaluation of utilization using retrospective analysis of synchronous virtual appointments. Utilization data was collected from CHCS for three adult primary care clinics over the past three years (2019-2021). The focus was to determine patient cancellations or no-show rates for FTF versus VH appointments.

The second focus was a program evaluation of patient satisfaction using retrospective analysis of synchronous virtual appointments from the JOES over the past three years (2019-2021). The JOES is a standardized DHA survey mailed or emailed to patients within 90 days after an appointment (JOES, 2018). Question 15 on the JOES asks, “How did you receive care during this visit?” with options for “in person,” “via video visit,” “via telephone (audio only),” or “via email/secure messaging” (JOES, 2018). This allowed the compilation of videos with telephonic results into a virtual category. Question 23 on the JOES asks, “Overall, I am satisfied with the healthcare I received on this visit...” followed by a Likert scale of box checks for “strongly disagree,” “somewhat disagree,” “neither agree nor disagree,” “somewhat agree,”

or “strongly agree” (JOES, 2018).

Lastly, this project conducted a needs assessment of current (January to February 2022) patient preferences for primary care appointments utilizing verbal delivery of an anonymous data collection tool that received a DoD Survey License Exemption #14-Exempt #0157 through the DHA Office of People Analytics (OPA). Convenience sampling was used across three primary care clinics with a sample size of 60 adult patients. Demographics were collected on the patients, including clinic site (East Bliss Soldier Clinic, Mendoza Soldier Family Care Center, and the Soldier Family Medical Center), age (less than 40 years and 40 years or older), identified gender, military status (enlisted, officer, retiree, and dependent), and chief complaint (HEENT, cardiovascular, respiratory, gastrointestinal, genitourinary, musculoskeletal, integumentary, neurological, psychiatric, gynecological, endocrinology, hematologic, allergic/immunologic, or administrative). The demographics of age, military status, and chief complaint were only recorded as groupings to ensure patient privacy due to the small sample size.

Questions with the choice of a “yes” or “no” response included, “Were you given the option to book this appointment as virtual (telephone or video)?” and “Do you prefer to have the option to choose if your appointments are virtual or face-to-face?” The third question asked, “Do you prefer virtual or face-to-face appointments, or it depends?” with options to choose “virtual,” “face-to-face,” or “it depends.” The final question was open-ended, asking “why?” for the patient’s preference of VH, FTF, or it depends. Responses to this tool were grouped into qualitative themes based on the literature review. Themes for preferring VH included “decreased exposure to COVID-19,” “less time away from work/home,” “no commute time/cost,” “no childcare requirements,” “decreased risk to cancel/no-show,” “more comfortable over a virtual platform,” or “other” with an explanation. Themes for preferring FTF included “no technology

difficulty/stress,” “human connection with the provider,” “desired physical exam for concern,” “it has always been this way,” “more time away from work/home,” or “other” with the explanation. See Appendix J for the Data Collection Tool.

Setting and Population

William Beaumont Army Medical Center (WBAMC) is a 104-bed facility with 30 specialty clinics in El Paso, Texas, providing care to over 211,000 active duty, retiree, and dependent beneficiaries (CHCS, 2022; US Army Medical Command, 2021). In 2016, the MHS implemented the patient-centered medical home (PCMH) model. The PCMH was established to shift military healthcare from a reactionary tertiary model to one that emphasizes preventative care (Army Medicine, 2016). PCMH care encourages patients to participate in their care plan and can help reduce the number of specialty referrals (Army Medicine, 2016). Patients can contact or schedule with their primary care team or another provider on the same team through FTF or VH appointments.

The adult population analyzed during this project received care in three of six PCMHs located within the WBAMC footprint. Patients were selected to participate in the data collection tool portion of this project through convenience sampling during their scheduled synchronous primary care appointments where the DNP students were present on clinical rotations. Patients were read a pre-visit awareness statement to ensure self-selection or refusal, “I am a doctoral student from the Uniformed Services University, and I am interested in patients' preferences for virtual healthcare. The data I am collecting is anonymous, completely voluntary, and only three questions. Would you like to participate?”

Procedural Steps

Step 1: Establish a Problem or Priority

In 2019, the former USUHS Phase II Site Director at WBAMC identified an opportunity for an evidence-based project, noting a need for VH analysis. This is before the sharp rise in VH utilization at the onset of the COVID-19 PHE. A literature review was conducted to evaluate VH related evidence and best practices regarding VH in primary care. Appropriate clinical and administrative leadership were briefed on this evidence-based project. An institutional review board (IRB) application was submitted and approved for non-research status. The DNP student team notified the local facility Quality Assurance (QA) and Performance Improvement (PI) departments of the project. Both replied that this project did not fall within their realm or scope of practice.

Step 2: Explore Patient Utilization

After meeting with clinical informatics representatives, data was gathered from CHCS across three adult primary care clinics from 2019 to 2021, ensuring the period before and during the COVID-19 PHE was captured. Utilization data available at the time included total FTF and VH appointments and missed appointments.

Step 3: Explore Patient Satisfaction

After meeting with patient experience representatives, the JOES data was collected for the three clinics from 2019 to 2021, focusing only on questions #15 (VH) and #23 (overall satisfaction). Data was not explicitly defined for the adult primary care population but instead included all ages for all services provided within the clinic due to the low sample size of the number of returned surveys. The statistician assisted with the analysis of the results.

Step 4: Explore Patient Preferences

The DNP team created a three-question data collection tool based on themes from the literature. Approval through DHA OPA resulted in a DoD survey license exemption #14, granted

exemption #0157. The DNP students conducted verbal collection through convenience sampling at three primary care clinics from January to February 2022. Responses were grouped into qualitative themes. The statistician assisted with the analysis of the results.

Step 5: Create Products

The DNP students created a poster, presentation, and this paper to discuss the evidence-based project. The public affairs office (PAO) approval packets and clearance level for dissemination were submitted to WBAMC and USUHS after Senior Mentor and Phase II Site Director approval.

Step 6: Dissemination and Decision Point for Practice Change

Melnik & Fineout-Overholt (2019) note that this final step is essential for professional learning and that sharing the project with outside organizations supports growth. The last decision point of adoption in practice determines whether or not to consider alternatives (Melnik & Fineout-Overholt, 2019). In addition to presenting to the local command and stakeholders, this evidence-based project was recorded on a voice-over PowerPoint for dissemination to staff, faculty, and distinguished guests at the 2022 USUHS Research Days, with the possibility of a podium presentation. See Appendix E for the timeline.

Data Analysis Plan

The Statistical Analysis Software (SAS) was used to form summary tables, frequency tables, two-way cross-tabulations, and calculate the corresponding Chi-square tests. A p-value < 0.05 was set to determine significance. Microsoft Excel was utilized to produce graphical representations of the data.

Utilization

Utilization data was pulled from CHCS for the three adult primary care clinics for a sample size of 372,385. For comparison, the total monthly appointments that were not cancelled

were plotted for FTF versus VH over time from 2019-2021. Also plotted for comparison were FTF no-shows and cancellations from 2019-2021. This allowed general trends to be observed.

Patient Satisfaction

Regarding patient satisfaction, data was queried from the JOES website for the three clinics, including all subclinics and populations of all ages for a sample size of 7,157. A two-way cross-tabulation of satisfaction Likert scale response by type of appointment (FTF and VH) were utilized. The Chi-square test was employed to compare the distribution of satisfaction response across FTF versus VH appointments. The mean for 2019-2021 was used to determine overall returned surveys during the COVID-19 PHE. For further exploration, Likert scales were grouped into three answers. The “strongly disagree” and “somewhat disagree” were grouped for a Likert value of one. The “neither agree nor disagree” category was assigned as Likert of two. Lastly, the “somewhat agree” and “strongly agree” were grouped and given a Likert scale value of three.

Patient Preference

Regarding patient preference, data was collected from the custom data collection tool from a sample size of 60 adults in primary care appointments. Frequency tables were created for demographic information and were observed for diversity and trends. Frequency tables were also created to determine the total number and percentage of the questions “Were you given the option to book virtual?”, “Do you prefer to have the option to choose?” and “Do you prefer FTF, virtual, or it depends?” Finally, frequency tables were designed to explore categorical qualitative themes from the last question.

Barriers and Limitations

When analyzing utilization, satisfaction, and patient preferences, multiple transient variables and limitations existed during the COVID-19 PHE. One of these limitations is

considering the continued promotion of VH if equitable reimbursement for audio-only VH ends when the COVID-19 PHE declaration ends. Also of note is the lack of high-level studies in the literature review. According to the Johns Hopkins Nurse Evidence-Based Practice Evidence Level and Quality Guide (n.d.), the overwhelming majority of articles on VH utilization and satisfaction were Level IV or V. Continuing to add studies to this topic will hopefully generate Level I or II data with sufficient sample sizes and further support or limit the future use of VH.

An additional limitation to this project was three focus areas with disparate populations, as patient-level data for each sample was unavailable at the time this project was conducted therefore determining which patients were surveyed more than once between the three samples was obscured. While each sample population represented Fort Bliss beneficiaries during 2019-2022, there was no determination if these populations had overlapped and should not be assumed or construed.

Patient Utilization

One focus area of this project was incomplete due to the inability to pull retrospective data for VH cancellations or no-show appointments. These appointments are only coded as VH if they are completed, with CPT codes “T2025” or “G2012” for telephonic appointments and E/M modifier codes “GT” or “95” for video appointments (Waibel et al., 2019). Virtual health is over 30% underreported due to incorrect coding (GAO, 2016). The association between a decline in FTF cancellations and no-shows at WBAMC during the increase of VH appointments during the PHE is an observation, not a correlation.

Patient Satisfaction

WBAMC historically has a low JOES return rate. The low survey return rate did not allow this study to analyze the intended population of adult primary care appointments only; but

rather the entire clinic population (pediatrics, specialty, and dental). Non-response bias is a known limitation in survey statistics. Another limitation is that Likert scores needed to be grouped to find statistical significance in 2020.

Patient Preference

The preference evaluation was conducted using convenience sampling, resulting in a small sample size (n=60) and a non-diverse population. There was a lack of males, individuals over age 40, and the active-duty population. The majority of data collected was during FTF appointments. Furthermore, cell phone connectivity is notoriously poor in the Fort Bliss area, which may impact local VH preferences and not allow these preferences to be extrapolated to other sites.

Dissemination and Sustainment Plan

Disseminating the DNP project findings is an essential final step in the Iowa Model Revised. The DNP student team will provide leaders and stakeholders with project recommendations via PowerPoint presentation. WBAMC clinical leadership will have access to the final briefing to enable leaders to make the best decisions regarding practice changes. Final dissemination of project findings will occur during USUHS Research Days 2022 with a poster and possible podium presentation to distinguished guests, faculty, and student colleagues. Also, the DNP student team plans to submit project findings for publication in an appropriate journal.

Sustainment recommendations of VH appointments were based on outcome measures. Organizations should offer VH as an option when booking appointments. Some level of medical triage during booking may be necessary since nearly half of all face-to-face appointments are preferred when a physical exam is needed. The lower satisfaction rates for FTF appointments may have been underscored due to the PHE.

HIPAA Concerns and Ethical Considerations

The risk of violating patient privacy exists during data collection, including patient identifying information (Melnik & Fineout-Overholt, 2019). Therefore, no identifiable information was collected or included in the project's final products used. Age and military status were grouped, decreasing the likelihood of identifying patients included in the data collection. Identified gender, chief complaint, and the clinic were preserved in the data to analyze trends, but this data collection method and groupings ensure patient privacy.

The DNP student team recognized that patients might experience privacy concerns using VH. Turgoose et al. (2017) noted that the inability to find a quiet space at home or work is a possible deterrent to virtual health. The use of non-encrypted software, such as those authorized for emergency use during the COVID-19 PHE, may pose a potential threat of spillage or hacking during a patient appointment.

For ethical considerations, the DNP students who work within the same patient care realm as the project aligned themselves with staff and leadership while remaining unbiased per the APA Ethics Code- Standard 3.06, Conflict of Interest (Melnik & Fineout-Overholt, 2019). The DNP student team ensured that patient privacy was maintained during VH appointments. Potential patient harm was another ethical consideration if a VH appointment was continued when a face-to-face appointment was more clinically relevant. If identified, patients were instructed to follow up in person to schedule a FTF appointment or go to the emergency room, if appropriate.

Project Results

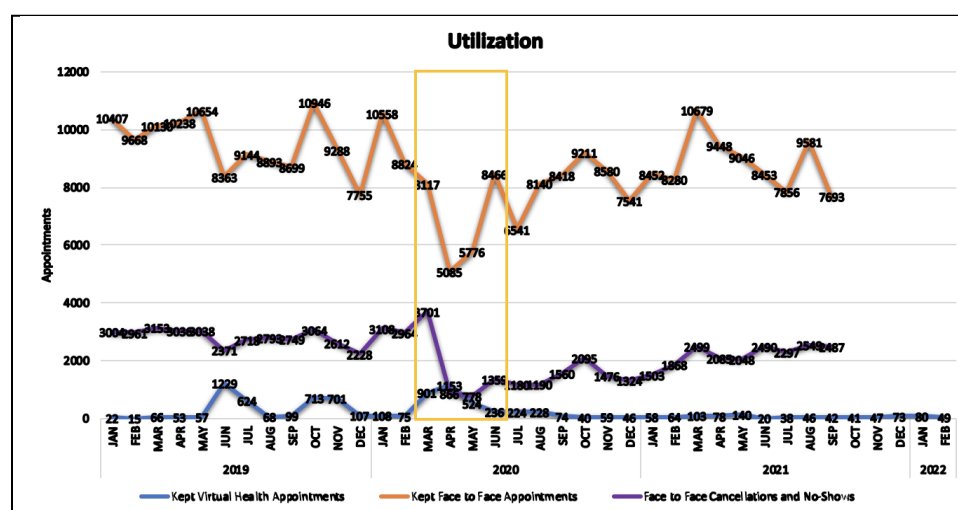
Patient Utilization

For the utilization focus area, the DNP student team could not complete the analysis due

to incomplete data. CHCS utilization data showed overall FTF versus VH appointments and only FTF cancellation and no-show rates. However, obtainable results identified that 4.8% of PC appointments across the three clinics from 2019 to 2021 were conducted virtually. Other observations include an increase in VH appointments from March to June 2020, and a decrease in FTF appointments and missed appointments during that same time frame. See Figure 1 for a graphical representation of utilization.

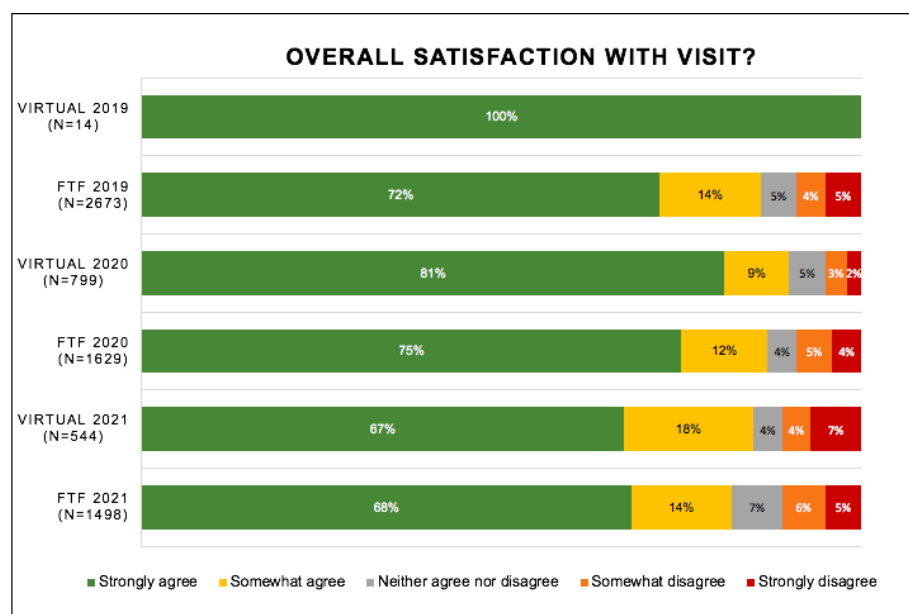
Figure 1

Patient Utilization Comparing FTF and VH



Patient Satisfaction

The JOES sample represented the population of the entire three clinics, not limited to adult primary care as initially intended, due to small sample sizes. The JOES website will not generate an annual report if there are fewer than 10 returned surveys per clinic for any month (JOES, 2018). Therefore, the satisfaction data of the entire clinic population was utilized in order to obtain annual results. Smaller sample sizes were noted for VH surveys, as an average of 19% of the JOES returned during 2019-2021 were for VH appointments. See Figure 2 for graphical representation.

Figure 2*Patient Satisfaction Comparing VH and FTF***Patient Preference**

The DNP student team created a DHA-approved data collection tool to collect information through verbal convenience sampling from January through February 2022. A total of 60 surveys were completed with no patient refusals to participate. Of the three clinics used to obtain information, 50% of the surveys were collected from the Mendoza Family Clinic, 30% from the East Bliss Soldier Clinic, and 20% from the Soldier and Family Medical Clinic.

The information collection occurred during a FTF appointment (75%) or a VH appointment (25%). The military affiliation was 62% dependents (family members), 32% active duty, and 6% retirees of the survey participants. The identified gender breakdown was 72% female and 28% male. The majority (82%) of participants were under 40 years of age. Chief complaints about appointments were spread across all categories, with the most frequent types being gynecological (25%) and musculoskeletal (16.6%). See Table 1 for a representation of demographics.

Table 1

<i>Patient Preference Demographics</i>	
	%
Clinics	
Mendoza	50
Soldier Family	30
East Bliss	20
Method of Collection	
FTF	75
VH	25
Military Status	
Dependent	62
Active Duty	32
Retiree	6
Identified Gender	
Male	28
Female	72
Age	
< 40 years	82
> 40 years	18

Several questions were asked to assess preference. For the first question, “Were you given the option to book this appointment as virtual (telephone or video)?” 27% answered “yes.” The next question was, “Do you prefer to have the option to choose if your appointments are virtual or face-to-face?” 78% of patients answered yes. The final quantitative question asked, “Do you prefer virtual or face-to-face appointments, or it depends?,” with options to choose “virtual,” “face-to-face,” or “it depends.” Forty percent of patients prefer FTF, 28% prefer virtual appointments, and the remaining (32%) responded that it depends. The final question was open-ended, asking “why?” for the patient’s preference of VH, FTF, or it depends. For the patients answering “it depends,” two responses were collected, representing their preferences for VH and FTF. Themes from open-ended responses in the “Other” category were reviewed for consistency to ensure no significant missing findings would require the creation of an emerging

theme as a new qualitative category. See Figure 3 for a graphical representation of descriptive data and Figure 4 for qualitative themed data.

Figure 3

Descriptive Patient Preferences from Data Collection Tool

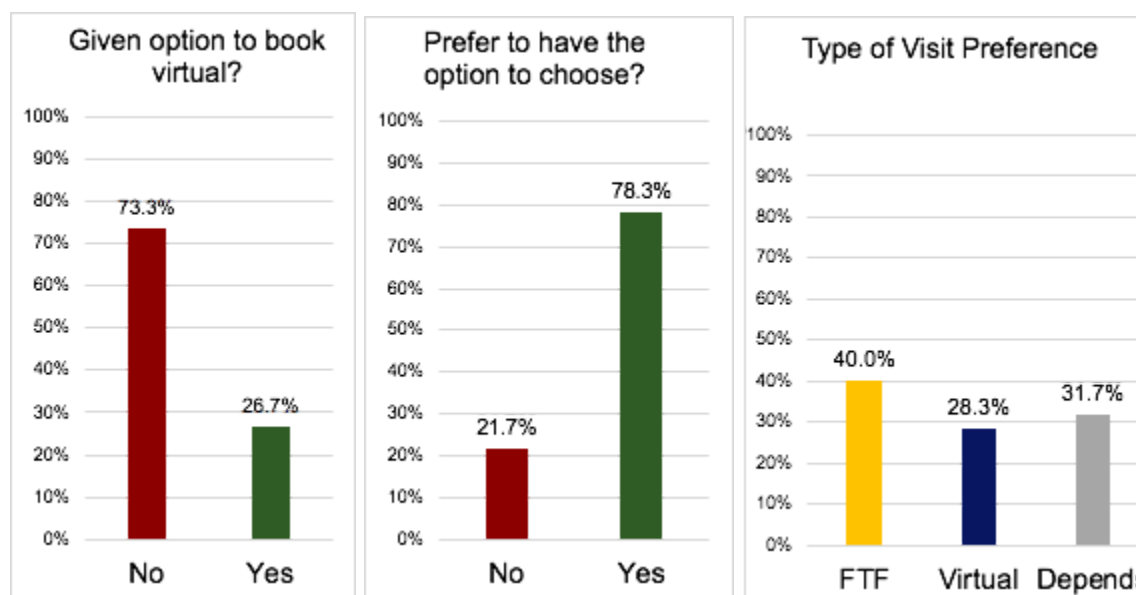
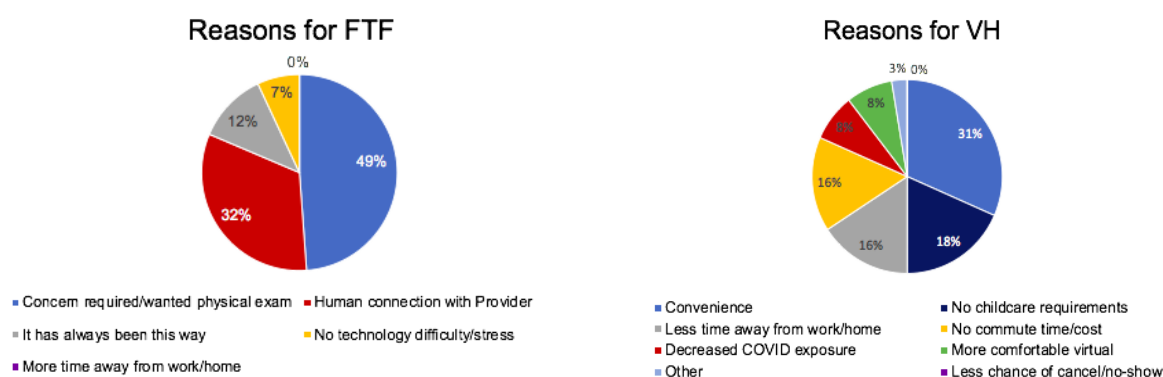


Figure 4

Qualitative Preferences from Data Collection Tool



Analysis of the Results

Patient Utilization

The DNP student team was only able to evaluate FTF appointment utilization. Analysis

of VH cancellations and no-shows was impossible because these appointments were coded after completion. For this reason, a comparison of the distribution of utilization data (kept, no shows, canceled appointments) between FTF and VH was not possible. Despite the increase in VH utilization during the COVID-19 PHE, only 4.8% of synchronous appointments were conducted virtually between 2019 and 2021. There was an association between fewer FTF cancellations and no-shows with increased VH appointment utilization during the COVID-19 PHE. However, a causal relationship is not defined due to multiple and unseen variables and is valued as observational only.

Patient Satisfaction

To evaluate the data on patient satisfaction, the Chi-square test was performed. It showed a significance ($p = 0.0031$) between FTF and virtual appointments during 2020, with patients less satisfied with FTF appointments. No significant statistical difference was observed ($p > 0.05$) between VH and FTF for 2019 ($p = 0.3426$) or 2021 ($p = 0.0798$). The decreased satisfaction with FTF appointments during 2020 could be construed as efficacy for patient satisfaction for VH. However, the COVID-19 PHE came with many multifactorial and transient variables that require further evaluation and consideration. Also, less satisfaction with a FTF appointment does not equate to increased satisfaction with a VH appointment. Finally, 19% of returned JOES surveys were for virtual appointments, not representative of the 4.8% of appointments coded as VH.

Patient Preference

The majority of patients surveyed (73%) were not offered the option to book a VH appointment, but 78% of patients preferred to choose. Almost half of the patients surveyed (40%) prefer FTF appointments, while 28% prefer virtual, and 32% say it depends. While many

of the patients surveyed prefer FTF, up to 60% of appointments may be desired as virtual, depending upon the situation. The emergent theme for why patients prefer VH appointments was convenience (32%), followed by no childcare requirements (18%). The main reason why patients prefer FTF appointments is to have a physical exam completed (49%), closely followed by the desire for a human connection with the provider (33%).

Organizational Impact

Virtual health modernization and expansion are strategic-level goals that align with and support the DHA Quadruple Aim. Patient considerations regarding VH are essential, both looking forward to the end of the COVID-19 PHE and as technology integrates all aspects of life. Based on the results of this project, the healthcare facility should offer VH as an option when booking. Approximately 30% of patients prefer VH primarily for convenience, and another 28% would consider VH based on their circumstances, totaling nearly 60% of appointments with the potential for VH delivery. Medical triage during or after booking may be necessary, as almost half of all FTF appointments are preferred for a physical exam concern. Dissatisfaction with FTF appointments was slightly higher in 2020; however, there are many variables to consider during that time frame. Otherwise, there was no significance based on patient satisfaction between F2F and VH appointments. VH may be correlated with fewer cancellations and no-shows, as observed in 2020, but this was observational only.

Future Directions for Research and Practice

The DNP student team was unable to complete the utilization arm of the study due to the inability to pull retrospective data for VH cancellations or no-show appointments, as appointments are coded only after completion. To thoroughly assess the utilization of VH, additional education and training in coding in the electronic health record (EHR) for providers

and coders would be recommended. There was also a difference in terminology when discussing VH with data analysts. For data analysts, VH comprises synchronous and asynchronous appointments. Filtering out asynchronous appointments significantly decreased the number of overall VH appointments for each primary care clinic. Differentiating synchronous versus asynchronous VH appointments will more thoroughly portray actual utilization. Further study is recommended for determining VH's impact on patient utilization of appointments.

To assess patient satisfaction, a minimum of 10 JOES surveys per clinic every month are required to receive data for the year. Unfortunately, the clinics involved in this project did not meet this minimum for at least one month of the year for the analyzed years. As a result, data was pulled for the entire clinic, not just adult primary care, based on the low JOES return rate. Education for medical staff on JOES advertisement may improve local JOES return rates.

For patient preferences, further study is recommended to analyze if preferences continue or change for a more extensive and diverse population. The end of the COVID-19 PHE may also impact patient preference for VH, and further study after the PHE is needed. Further investigation is also recommended to determine if the active-duty population has unique VH needs, preferences, or considerations.

Further study on VH is recommended from the provider and healthcare staff perspective. It would prove valuable to study and analyze data on provider and staff satisfaction and preferences before practice change, as technology and staffing challenges are likely confounding factors for VH promotion and integration.

Conclusion

In conclusion, patients were less satisfied with face-to-face appointments in 2020, with no significant difference in patient satisfaction in 2019 or 2021. Overall, patients prefer to choose

whether or not their appointment is virtual, mainly for convenience reasons. The majority of patients that preferred a FTF appointment desired a physical exam. Due to constraints in the EHR, the DNP student team was unsuccessful in analyzing whether the COVID-19 PHE impacted VH utilization; however, FTF cancellations and no-shows decreased during the timeframe that VH increased. Patient considerations regarding VH should be considered after the COVID-19 PHE, particularly as technology continues to integrate into all aspects of life. Further study is recommended to examine VH utilization, satisfaction, and preference in the active-duty military and MHS beneficiary population.

References

- Adepoju, O. E., Chae, M., Ayadi, M. F., Matuk-Villazon, O., & Liaw, W. (2021). Early impacts of the covid-19 pandemic on telehealth patterns in primary care, mental health, and specialty care facilities in Texas. *Southern Medical Journal*, 114(9), 593–596.
<https://doi.org/10.14423/smj.0000000000001289>
- Agboola, S., & Kvedar, J. (2016). Telemedicine and patient safety. *Patient Safety Network*.
<https://psnet.ahrq.gov/perspective/telemedicine-and-patient-safety>
- Alharbi, K. G., Aldosari, M. N., Alhassan, A. M., Alshallal, K. A., Altamimi, A. M., & Altulaihi, B. A. (2021). Patient satisfaction with virtual clinic during Coronavirus disease (COVID-19) pandemic in primary healthcare, Riyadh, Saudi Arabia. *Journal of Family & Community Medicine*, 28(1), 48–54. https://doi.org/10.4103/jfcm.JFCM_353_20
- American Academy of Family Physicians (AAFP). (2022). *Frequently asked questions on telehealth and COVID-19*.
<https://www.aafp.org/family-physician/patient-care/current-hot-topics/recent-outbreaks/covid-19/covid-19-telehealth/telehealth-faqs.html>
- Army Medicine. (2016). *Patient centered medical home*. Patient portal- Army medicine.
<https://armymedicine.health.mil/Patient-Centered-Medical-Home>
- Bucci, S., Schwannauer, M., & Berry, N. (2019). The digital revolution and its impact on mental health care. *Psychology and Psychotherapy: Theory, Research, and Practice*, 92(2), 277–297. <https://doi.org/10.1111/papt.12222>
- Carrillo de Albornoz, S., Sia, K.-L., & Harris, A. (2021). The effectiveness of teleconsultations in primary care: Systematic review. *Family Practice*, 39(1), 168–182.
<https://doi.org/10.1093/fampra/cmab077>

Centers for Disease Control and Prevention (CDC). (2019). *Health care industry insights: Why the use of preventive services is still low.*

https://www.cdc.gov/pcd/issues/2019/18_0625.htm

Composite Healthcare System [CHCS]. (2022). Beneficiary enrollment for William Beaumont Army Medical Center. Fort Bliss, Texas.

Defense Finance and Accounting Service (DFAS). (2021). *Military benefits: Monthly basic pay table.* DFAS.

<https://www.dfas.mil/Portals/98/Documents/militarymembers/militarymembers/pay-tables/2021%20MilPay%20General.pdf?ver=MkfmQyc245XzKP414-iRVA%3d%3d>

Defense Health Agency (DHA). (2019). *Quadruple aim performance process: Transforming performance improvement.*

<https://health.mil/ReferenceCenter/Presentations/2019/02/11/Quadruple-Aim-Performance-Process-Transforming-Performance-Improvement>

Defense Health Program (DHP). (2018). *Defense Health Program: Agency financial report.*

https://comptroller.defense.gov/Portals/45/Documents/afr/fy2018/DoD_Components/20

Drerup, B., Espenschied, J., Wiedemer, J., & Hamilton, L. (2021). Reduced no-show rates and sustained patient satisfaction of telehealth during the COVID-19 pandemic. *Telemedicine and e-Health*, 27(12), 1409–1415. <https://doi.org/10.1089/tmj.2021.0002>

Gabrielsson-Järhult, F., Kjellström, S., & Josefsson, K. A. (2021). Telemedicine consultations with physicians in Swedish primary care: A mixed methods study of users' experiences and care patterns. *Scandinavian Journal of Primary Health Care*, 39(2), 204–213.

<https://doi.org/10.1080/02813432.2021.1913904>

Galvin, J. W., Thompson, J. C., Thompson, A. M., Parada, S. A., Eichinger, J. F., Dickens, J. F.,

- & Gillingham, B. L. (2018). A guide to understanding reimbursement and value-based care in the Military Health System. *Military Medicine*, 184(3-4), e205-210.
<https://doi.org/10.1093/milmed/usy206>
- Garcia, P. (2021). 2021 *Coding for telehealth, telephone E/M and virtual check-ins*.
<https://webfiles.gi.org/links/pm/GarciaSlides.pdf>
- Government Accountability Office (GAO). (2016). *Congressional committees report on DoD telehealth use in fiscal year 2016*. <https://www.gao.gov/products/GAO-18-108R>
- Imlach, F., McKinlay, E., Kennedy, J., Pledger, M., Russell, L., Churchward, M., Cumming, J., & McBride-Henry, K. (2020). Telehealth consultations in general practice during a pandemic lockdown: Survey and interviews on patient experiences and preferences. *BMC Family Practice*, 21(269). <https://doi.org/10.1186/s12875-020-01336-1>
- Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175-182.
<https://doi.org/10.1111/wvn.12223>
- Jenkins-Guarnieri, M. A., Pruitt, L. D., Luxton, D. D., & Johnson, K. (2015). Patient perceptions of telemental health: Systematic review of direct comparisons to in-person psychotherapeutic treatments. *Telemedicine and e-Health*, 21(8), 652–660.
<https://doi.org/10.1089/tmj.2014.0165>
- Johns Hopkins Nursing Evidence-Based Practice Evidence Level and Quality Guide. (n.d.). *Appendix C: Final evidence level and quality guide*.
https://www.hopkinsmedicine.org/evidence-based-practice/_docs/appendix_c_evidence_level_quality_guide.pdf
- Joint Outpatient Experience Survey (JOES). (2018). *JOES Adult Survey 2018*.

- https://joesreports.com/Secured/Documents/JOES/JOES_Survey_Adult_202108.pdf
- Melnyk, B. M., & Fineout-Overholt, E. (2019). *Evidence-based practice in nursing & healthcare: A guide to best practice (4th ed.)*. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.
- Military Healthcare System (MHS). (2020). *William Beaumont Army Medical Center spreadsheet of metrics*. <https://www.health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Patient-Portal-for-MHS-Quality-Patient-Safety-and-Access-Information/See-How-Were-Doing/Army/AMC-WILLIAM-BEAUMONT-BLISS>
- Military Health System. (n.d.). *Virtual health clinical integration office*. Military Health System. <https://health.mil/Military-Health-Topics/Technology/Connected-Health/Telehealth>
- Military Healthcare System Communications Office (MHSCO). (2020). *DHA increases access to telehealth during the COVID-19 pandemic*. <https://health.mil/News/Articles/2020/05/19/DHA-increases-access-to-telehealth-during-COVID-19-pandemic?type=Policies&page=2#pagingAnchor>
- National Defense Authorization Act. (2017). *National Defense Authorization Act of Fiscal Year 2017*. <https://www.congress.gov/114/plaws/publ328/PLAW-114publ328.pdf>
- Office of Undersecretary of Defense (OUSD). (2019). *FY2019 Tricare program effectiveness*. <https://health.mil/Reference-Center/Congressional-Testimonies/2019/04/08/TRICARE-Program-Effectiveness>
- Olayiwola, J. N., Magaña, C., Harmon, A., Nair, S., Esposito, E., Harsh, C., Forrest, L. A., & Wexler, R. (2020). Telehealth as a bright spot of the COVID-19 pandemic: Recommendations from the virtual frontlines. *JMIR Public Health and Surveillance*, 6(2). <https://doi.org/10.2196/19045>

- Pamplin, J. C., Davis, K. L., Mbuthia, J., Cain, S., Hipp, S. J., Yourk, D. J. & Poropatich, R. (2019). Military telehealth: A model for delivering expertise to the point of need in austere and operational environments. *Health Affairs*, 38(8), 1386–1392.
<https://doi.org/10.1377/hlthaff.2019.00273>
- Powell, R. E., Henstenburg, J. M., Cooper, G., Hollander, J. E., & Rising, K. L. (2017). Patient perceptions of telehealth primary care video visits. *The Annals of Family Medicine*, 15(3), 225–229. <https://doi.org/10.1370/afm.2095>
- Powell, R. E., Stone, D., & Hollander, J. E. (2018). Patient and health system experience with implementation of an enterprise-wide telehealth scheduled video visit program: Mixed-methods study. *JMIR Medical Informatics*, 6(1), e10.
<https://doi.org/10.2196/medinform.8479>
- Sanchez, M. (2018). *Patient feedback drives service at WBAMC*.
<https://www.dvidshub.net/news/287145/patient-feedback-drives-service-wbamac>
- Sikka, N., Willis, J., Fitall, E., Hall, K. K., & Gaye, B. (2020). *Telehealth and patient safety during the COVID-19 response*. Patient Safety Network.
<https://psnet.ahrq.gov/perspective/telehealth-and-patient-safety-during-covid-19-response>
- Thiyagarajan, A., Grant, C., Griffiths, F., & Atherton, H. (2020). Exploring patients' and clinicians' experiences of video consultations in primary care: A systematic scoping review. *BJGP Open*, 4(1). <https://doi.org/10.3399/bjgpopen20x101020>
- Turgoose, D. Ashwick, R., & Murphy, D. (2017). Systematic review of lessons learned from delivering tele-therapy to veterans with post-traumatic stress disorder. *Journal of Telemedicine and Telecare*, 0(0), 1-11. <https://doi.org/10.1177/13576333X17730443>
- United States Army's Family and Morale, Welfare and Recreation Program. (n.d.) *School Year*

20-21 Child development centers Fort Bliss monthly fee chart.

https://bliss.armymwr.com/application/files/2516/1895/4581/SY_20-21_fee_charts.pdf

U.S. Army Medical Command. (2021). *William Beaumont Army Medical Center.*

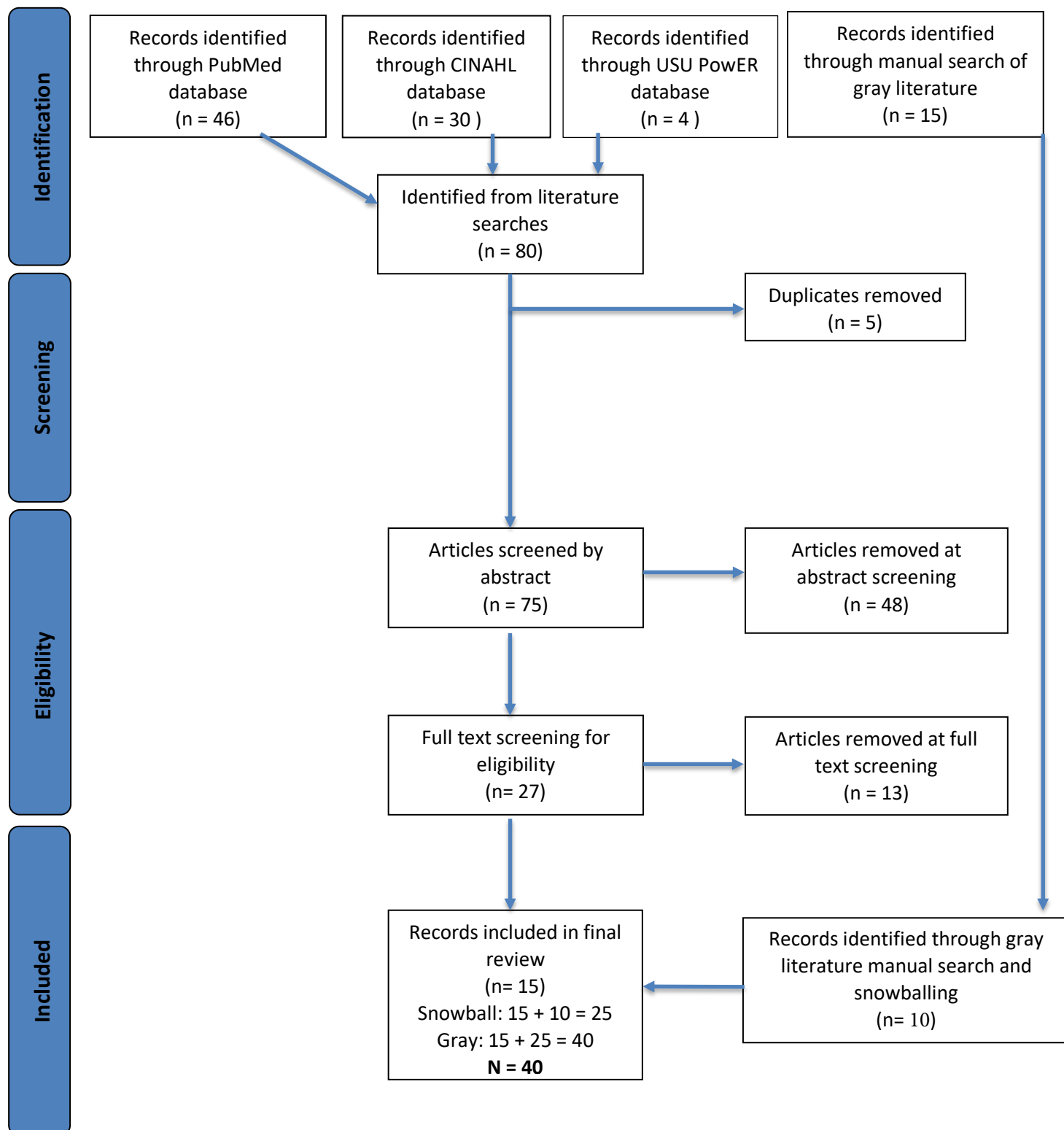
<https://www.wbamc.amedd.army.mil/>

Veazie, S., Bourne, D., Peterson, K., & Anderson, J. (2019). *Evidence brief: Video telehealth for primary care and mental health services for the Veterans Affairs evidence synthesis program.* <https://www.ncbi.nlm.nih.gov/books/NBK538994/>

Vosburg, R. W., & Robinson, K. A. (2022). Telemedicine in primary care during the COVID-19 pandemic: Provider and patient satisfaction examined. *Telemedicine and e-Health*, 28(2), 167–175. <https://doi.org/10.1089/tmj.2021.0174>

Waibel, K. H., Cain, S. M., Huml-VanZile, M., Kreciewski, N., Hall, T. E., Nelson, K., Everitt Johnson, L., Black, I., & Keen, R. S. (2019). Section 718 (Telemedicine): Virtual health outcomes from Regional Health Command Europe. *Military Medicine*, 184(1), 48-56. <https://doi.org/10.1093/milmed/usy349>

Appendix A: PRISMA Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

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Appendix B: Business Case Analysis

BUSINESS CASE ANALYSIS with VALUE-BASED CARE ASSESSMENT

Title for Project/Initiative/Opportunity to Improve

Patient Satisfaction, Utilization, and Preference with Synchronous Virtual Primary Care Appointments for Adult Beneficiaries at Fort Bliss, Texas

Opportunity Statement

How do virtual compared to face-to-face (FTF) synchronous appointments impact primary care utilization (booking, cancellations, and no-shows), patient satisfaction, and patient preferences for adult patients at Fort Bliss, Texas?

Recognized by the National Defense Authorization Act (NDAA) of 2017 and catalyzed by the COVID-19 pandemic, the Military Health System (MHS) significantly expanded the use of Virtual Health (VH) to meet beneficiary demand while minimizing unnecessary risks for patients and staff. Virtual health has the opportunity to improve access to care, provide equitable health outcomes and patient satisfaction, and decrease costs for both the patient and healthcare facility.

Business Opportunity/Objectives

MACRO (the overall objectives):

1. Increase or maintain access to care with virtual synchronous appointments
2. Increase or maintain patient satisfaction with virtual synchronous appointments
3. Promote NDAA guidelines and Defense Health Agency (DHA) goals for virtual healthcare appointments
4. Lower cost to the patient and maintain reimbursement for William Beaumont Army Medical Center (WBAMC)

MICRO (the objectives to meet to reach your overall goal)

5. Analyze utilization of synchronous virtual encounters within three Ft. Bliss primary care clinics with current technology infrastructure
6. Collect Joint Outpatient Experience Survey (JOES) patient satisfaction from the primary care patient encounters across the past three years, showing pre and during COVID-19 data
7. Conduct data collection tool questionnaires with patients to determine their preferences for virtual primary care appointments
8. Utilization of the COVID-19 public health state of emergency to implement synchronous virtual health appointments as appropriate

Potential Impact of the Initiative/Project

o Identify **metrics** (the formula used) to measure the outcomes in support of the objectives outlined.

-Utilization: What is the booking for virtual vs. FTF synchronous primary care appointments. Separate virtual appointment CPT codes and E/M modifiers. Cancellation and no-show % for FTF vs. virtual appointments.

-Patient Satisfaction: JOES Question #15 indicating virtual encounter and Question #23 indicating overall satisfaction with appointment

-Patient preferences: 3 question verbal data collection tool to collect patient preferences surrounding virtual health choice

o Identify the **benchmarks** (desired goals) that are used within the Federal Health Care System or have been identified as national benchmarks that will be used as optimal targets to be achieved in this project.

-Access to care/Utilization: Expand the use of Virtual Health (VH) to meet beneficiary demand while minimizing unnecessary risks for patients and staff.

-Cancellation and no-show: Benchmark is less than the FY2018 direct care Military Health System (MHS) wide average of 9% (TRICARE, 2019). 39% of direct care beneficiaries canceled an appointment in FY2018 (TRICARE, 2019). 10% of missed appointments were for difficulty getting to the facility and 37% for scheduling conflicts (TRICARE, 2019). One

NOTE: Modified from Harvard Business Review Press. (2011). *Pocket mentor: Developing a business case*. Boston: Author (pp 82-85).

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no-show appointment utilizes two appointments, the currently scheduled appointment and the next appointment the patient will utilize (MHS, 2017).

-Patient satisfaction: At least 80% positive satisfaction compared to the civilian benchmark (AHRQ, 2018). A civilian study showed satisfaction with virtual appointments was 82% completely satisfied, and a 62% rate of no difference in care compared to in-person visit (Donelan et al., 2019). Ft. Bliss currently has a 77% overall patient satisfaction rating (MHS, 2020). Only 7% of Ft. Bliss JOES are returned (Sanchez, 2018).

-Primary care preference for virtual appointments: Around 35% of civilians prefer the option to book primary care appointments virtually.

o Describe how the objectives align with the **Quadruple Aim** and **Value-Based Care**:

(1) Increased Readiness: This project can lead to a significant impact on readiness. Virtual appointments allow beneficiaries to schedule and keep appointments for various personal and professional reasons and preferences.

(2) Better Care: A critical initiative of better care is to standardize and optimize access to care that creates alternatives for patients to receive care without visiting a healthcare facility (DHA, 2019). Virtual appointments are an alternative that assists this aim. Greater patient flexibility with appointment type can lead to better compliance with healthcare.

(3) Better Health: As we shift from a healthcare system to a system of health, primary care plays a role by focusing on encouraging healthy behaviors, preventions, and screenings, as 50% of health outcomes are related to these behaviors (DHA, 2019). Virtual appointments provide an additional platform for primary care providers to work with patients on health and behavioral change.

(4) Lower Cost: Eliminating wasteful processes and recapturing wasted capacity can lower costs for both the patient and the facility (DHA, 2019). Virtual healthcare has the ability to maintain or lower cost in four ways:

(a) Maintain cost reimbursement with virtual encounters: The NDAA 2017 Section 718 mandates that telehealth will be reimbursed to the same extent as in-facility appointments. Video synchronous encounters are coded the same as in-person appointments, 99212-99214. Telephone synchronous encounters are annotated with CPT codes 99441-99443 or the E/M modifier G2012 or T2025 (COVID interim), which are not normally reimbursed to the full Relative Value Units (RVU) as a video encounter. For the duration of the COVID-19 public health emergency, the Centers of Medicare and Medicaid (CMS) will cover telephone appointments at full reimbursement (\$56-130), with 99441 aligning with 99212, 99442 aligning with 99213, and 99443 aligning with 99214 (AAFP, 2021).

(b) Lower cost to the patient: When utilizing virtual healthcare, patients will not have costs associated with transportation, lost work hours, childcare, or dependent care. While not directly reimbursed to the patients in the continental United States (CONUS), these cost savings are calculated at \$0.17/mile (Waibel et al., 2019). Servicemembers or dependents often have appointments during the workday. Lost work hours of the servicemember paid by the taxpayer can range from \$10.08/hr (E-1) to \$76.68/hr (O-6).

(c) Lower cost by reducing missed/canceled appointments: Missed appointments in primary care cost the DoD \$69 million over 659,873 appointments in FY2016. (MHS, 2017). The average cost per primary care appointment is \$105. This does not include the \$60-80 of prospective earnings for each appointment (OUSD, 2017). In FY2016, Ft. Bliss had 14,345 missed primary care appointments out of their total 236,138 primary care appointments booked, averaging a 6.1% missed appointment rate and a total revenue loss of \$1,506,225 (OUSD, 2016). Virtual appointments have approximately 50% fewer missed appointments than in-person (Waibel et al., 2019).

(d) Increase reimbursement from the JOES satisfaction scores: Research shows patients consider virtual healthcare equivalent to in-person encounters (Waibel et al., 2019). "IRIS will pay for satisfaction scores for Tiers 2–5, with a payout of \$100 (Tier 2 – 95–95.99%), \$300 (Tier 3 – 96–96.99%), \$500 (Tier 4 – 97–98.99%) to \$1,000 (Tier 5 – 99% and above) per survey received. The percentage/tiers achieved and adjustments are calculated at the MTF and clinic level every month. For example, if the MTF aggregate surveys have greater than 99% (Tier 5) strongly agree for question 23, the MTF would receive \$1,000 per survey received to fund facility improvements" (Galvin et al., 2018, p.333).

(5) Value-based care is patient outcomes determining costs for care, where value is the competitive measure that allows a positive-sum approach compared to the current fee-for-service approach, where providers are motivated to perform a higher volume of procedures and interventions, despite the patient outcome (Galvin et al., 2018). Moving from process measures to outcome measures is vital to value-based care (Galvin et al., 2018). Offering virtual

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appointments for appropriate primary care concerns based on preference reflects an outcome versus a process measure. Reimbursement for the JOES satisfaction scores with virtual appointments aligns financial incentives with operational and strategic goals.

Alternatives (courses of action) chosen for Analysis

1. Establish a benchmark of established, future, provider-initiated synchronous virtual encounters in response to 96% of healthcare facilities projecting to expand their virtual healthcare, with 39% projecting to add established virtual encounters (Zipnosis, 2019).

2. Conduct a program evaluation and needs assessment to establish the correlation of utilization, patient satisfaction, and patient preferences to provide to the command and healthcare teams to make best decisions regarding virtual healthcare status-post the COVID-19 pandemic.

3. "Status Quo": Continue to allow the COVID-19 pandemic or other external causes to direct how virtual healthcare is utilized, with no analysis or plan to maximize virtual health utilization outside of emergency authorization.

Alternative 1:	Establish a benchmark (example: 30% or average 6 encounters) of established, future, provider-initiated synchronous virtual encounters, in response to 96% of healthcare facilities projecting to expand their virtual healthcare, with 39% projecting to add established virtual encounters (Zipnosis, 2019).
-----------------------	--

Pros	Cons
-Better ability to establish clear value of virtual synchronous appointments if patients and providers are mandated to utilize virtual-only appointment slots -Full RVU reimbursement if appointments are mandated to be video encounters or telephone during the COVID-19 state of emergency -Sometimes culture change is dependent upon mandated adaptation with a step-wise approach -If patients are more satisfied with virtual encounters, this may be reflected on the JOES surveys, which equates to savings for the facility -A set benchmark will help assess any logistical challenges that local leadership would need to address to allow lasting change	-Current technological challenges at Ft. Bliss, including no video equipment for most providers and poor Wi-Fi connectivity for patients in the local area -Little flexibility dependent upon COVID-19 or post-COVID-19 culture of virtual healthcare delivery and reimbursement rates -Mandated buy-in from patients and providers to promote and conduct virtual encounters -Medical personnel required to triage what appointments are appropriate for virtual encounters

Alternative 2:	Conduct a program evaluation and needs assessment to establish correlation of utilization, patient satisfaction, and patient preferences to provide to the command and healthcare teams to make best decisions regarding virtual healthcare status-post COVID-19 pandemic.
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Pros	Cons
-Improved buy-in from all parties if a needs assessment is completed to show value or preferences -Shows if military beneficiary population preferences for virtual health are different from the literature -Brings spotlight to how virtual health has been utilized during the COVID-19 pandemic -Allows flexibility with decision making during the dynamic climate associated with the COVID-19 pandemic -If patients are satisfied with virtual encounters or the choice to book virtual encounters, this may be reflected on the JOES, which equates to potential reimbursement for the facility	- Possibility of limited ability to establish clear value of virtual synchronous appointments due to limited availability of data -Limited by proper coding, lacks full RVU benefit unless all appointments are coded as virtual -Uncertainty of full reimbursement for telephonic appointments after the end of the COVID-19 PHE. This would result in loss of revenue if telephone appointments are continued at a greater rate than video or FTF. -Lacks implementation of an established best practice (virtual encounters), based on preferences and patterns that have outlying limitations and confounding variables, such as

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Alternative 3:	<i>"Status Quo"</i> : Continue to allow the COVID-19 pandemic or other external causes to direct how virtual healthcare is utilized, treated as a contingency option instead of an asset, with no analysis or benchmark for utilization.	
Pros		Cons
-No change required. -No additional virtual equipment or coding is required. -Allows the current need to dictate the ebb and flow of virtual health use.		-Virtual healthcare appointments become a fallback option for face-to-face appointments instead of establishing the innate value of virtual appointments -MHS does not keep up with civilian counterparts, and expectations of virtual healthcare delivery -Patients do not recoup lost travel time, cost, and work hours -Providers are less familiar with healthcare delivery tools that can be utilized during deployment/Outside the Continental United States (OCONUS)
Assumptions		
-Primary care providers have the capacity to conduct virtual synchronous appointments. Equipment and bandwidth are available, and approved platforms are utilized. -The COVID-19 public health emergency remains in effect during this project, allowing full legality and reimbursement of all virtual encounters. -Primary care managers are currently conducting some appointments via virtual healthcare platforms due to COVID-19 restrictions. -Patients will choose to participate in voluntary data collection. -JOES data is limited in specificity related to small sample sizes, relying on overall clinic data and not specific to the adult primary care population. -Virtual appointments will be coded appropriately. -Virtual healthcare has many confounding variables outside of patient preference, satisfaction, and utilization. These include provider satisfaction and ability, appropriate support staffing, appropriate technology, clinical appropriateness of virtual concern, booking considerations, and reimbursement considerations.		
Recommendation and Rationale		
Recommendation		
Alternative #2 is recommended.		
Rationale		
Alternative #2 balances data collection, a needs assessment, and current program evaluation to provide quality initiative recommendations. Virtual health research and interest have gained rapid interest and implementation; however, it is first important to understand what is currently occurring at a local level and how patients feel in order to optimize appropriate VH use during and after the COVID-19 pandemic.		
Value-Based Care - Investment Required by the Organization and the Associated "VALUE" or \$ GAINED.		
<i>Value = <u>Service</u> + <u>Quality</u></i>		
I. SERVICE		
Facility Reimbursement (Garcia, 2021)		2021 CMS Payment

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<u>Video encounters with -95 modifier and Place of Service (POS) 11 Code such as Q3014</u> 99212 CPT Code: straightforward 99213 CPT Code: low complexity 99214 CPT Code: moderate complexity 99215 CPT Code: high complexity 99202 CPT Code: new patient straightforward 99203 CPT Code: new patient low complexity 99204 CPT Code: new patient moderate complexity 99205 CPT Code: new patient high complexity Video encounters will bring equal RVU reimbursement value compared to an in-person encounter. 2022 Medicare reimbursement value for 1 RVU = \$34.61	0.70 RVU = \$56.88 1.30 RVU = \$92.47 1.92 RVU = \$131.20 2.80 RVU = \$183.19 2.13 RVU = \$74.32 3.28 RVU = \$114.45 4.93 RVU = \$173.02 6.51 RVU = \$227.15
<u>Telephone encounters with -95 modifier and POS 11</u> 99441 5-10 minutes 99442 11-20 minutes 99443 21-30 minutes <u>Telephone encounters with -95 modifier and POS 11</u> 99441 5-10 minutes 99442 11-20 minutes 99443 21-30 minutes Telephonic encounters do not bring equal RVU reimbursement outside of the COVID-19 emergency authorization. After the PHE ends, providers may bill for PHE amounts for telephone appointments until the close of the following year (anticipated CY2023) (Garcia, 2021).	<u>2021 CMS Public Health Emergency (PHE) payments:</u> 0.48 RVU = \$56.88 0.97 RVU = \$92.82 1.50 RVU = \$131.55 <u>Non-PHE payment:</u> 0.48 RVU = \$16.61 0.97 RVU = \$33.57 1.50 RVU = \$51.92
TOTAL	Equal reimbursement for all synchronous virtual encounters during PHE and through end of CY2023 Loss of reimbursement for audio-only appointments after PHE ends and end of CY2023. Loss of \$40.27 - \$79.63 per audio-only appointment after PHE (CY2023)

II. QUALITY

<i>Patient Satisfaction</i> JOES Question #23 can generate incentive revenue per survey received	\$0-1000/per survey received. 20 appts/day x 5 days/week = \$0 - \$100,000/week However... 7% JOES response rate = $100 \times 0.07 = 7$ surveys = \$0-\$7000 at >95% best case scenario
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\$100 (Tier 2 – 95–95.99%) \$300 (Tier 3 – 96–96.99%) \$500 (Tier 4 – 97–98.99%) \$1,000 (Tier 5 – 99% and above) The percentage/tiers achieved and adjustments are calculated at the Military Treatment Facility (MTF) and clinic level monthly. For example, if the MTF aggregate surveys have greater than 99% (Tier 5) strongly agree for question 23, the MTF would receive \$1,000 per survey received	However.... If overall JOES are <95%, no reimbursement = \$0 Historically, WBAMC has <77% satisfaction = \$0 per survey, this has not improved with virtual health increase during the COVID-19 pandemic. However.... Since DHA integration of WBAMC, all incentive payments have been temporarily suspended. Anticipate a re-start of incentive payments at an undetermined future date.
TOTAL	\$700 - \$7000 / week potential incentive payment costs

III. POTENTIAL COST:

Patient Benefit: Recaptured Cost

These costs will not be directly in our BCA as facility cost savings because the facility does not recapture this money; the patient and workplace do. However, these benefits are themes in the literature of why patients are satisfied with virtual health care appointments. These numbers would also be helpful for another facility to recreate our study, one that has to reimburse for mileage or account for lost work hours, such as an OCONUS facility or a rural facility that pays for network appointments >100mi away.	Reimbursement for transportation to face-to-face medical appointments: \$0.17/mi Lost hourly work wages for active-duty servicemembers who must leave work for face-to-face appointments: \$10.08 - \$76.68/hour (E1 - O6) Estimated childcare/caregiver cost savings: \$5/hour/child
	TOTAL: \$0
Total	\$0

VALUE Promoting video > telephonic virtual appointments =
\$40-80/appointment

>95% patient satisfaction on JOES = **\$700-7000/week**

Potential recaptured mileage costs for travel >100mi to healthcare facility
= \$0.17/mi

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Potential recaptured lost AD
work hours: **\$10-80/hour**

Potential recaptured
caregiver costs =
\$5/hour/child

Risks and Mitigation Plan:

Risks	Plan
1. Command/OIC buy-In	1. Recommend tying provider performance to recoup the funds from the JOES since the Hospital Commander directs the utilization of these funds. This creates an incentive for the providers.
2. Provider buy-In	2. Organizational reimbursement from the JOES, appropriate coding on virtual patient encounters. Appropriate staffing to support virtual healthcare needs. Appropriate technology and education on virtual platforms as needed to support virtual healthcare.
3. GPM and RN buy-In	3. Appropriate scheduling algorithm utilization and template management. Appropriate staffing and time are allotted to support virtual healthcare.
4. Appropriate coding	4. Appropriate meeting/training with coders as needed
5. Technological challenges to complete virtual encounters	5. Utilize Adobe Connect training tools to patients and providers as needed to support HIPAA compliant platforms; continue to use COVID-19 approved platforms (Apple FaceTime, Google Duo) until the end of the PHE.

Implementation Plan

Phase 1:	Gather data on virtual healthcare. Literature review. Assess utilization and patient satisfaction with synchronous virtual appointments from 2019 to 2021 to see a trend throughout the COVID-19 pandemic.	
Milestone Description:	Gather baseline data on patient satisfaction scores BHC utilization (booking, no show rates, and cancellations).	
Deliverables	Due Date	
JOES scores	MAR 2022	Patient advocate, Family Nurse Practitioner (FNP) students
#/% of virtual synchronous appointments utilized in Primary Care	MAR 2022	GPM, RMD, FNP students
Literature Review	MAR 2022	USUHS online library access, FNP students
Expected Level of Benefit		
Resources needed: Access to above systems and points of contact. This will provide data that can be used to compare synchronous virtual health appointments compared to face-to-face appointments throughout the COVID-19 pandemic.		
Phase 2:	Disseminate anticipated plan to the clinic leadership and appropriate staff.	

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Milestone Description:	Maintain transparency of Evidence-Based Project intentions expectations, and relay goals for virtual appointments in the next phase.	
Deliverables	Due Dates	
Briefing products	SEP-DEC 2021	
Resources Needed		
Meeting space and technology Time and schedule for briefing appropriate parties		
Expected Level of Benefit		
Increase buy-in from providers and staff due to project transparency.		
Phase 3:	Create, obtain approval, and collect data collection tool for current patient preferences regarding virtual healthcare.	
Milestone Description:	Gathering current patient preferences based on themes found in the literature review will allow the best decisions for virtual healthcare after the COVID-19 pandemic.	
Deliverables	Due Dates	
Data collection tool creation	OCT 2021	FNP students
Approval through DHA and Office of People and Manpower Analytics (OPMA)	NOV-DEC 2021	FNP students
Collection of data from 30-90 primary care patients across three primary care clinics	JAN-FEB 2022	FNP students
Expected Level of Benefit		
Obtaining current patient preferences, which are not currently well known.		
Phase 4:	Collect, analyze, and disseminate final data gathered to the clinic leadership and appropriate staff.	
Milestone Description:	Repeat Phase 2 but with analysis of retrospective and current data. Maintain transparency of Evidence-Based Project intentions, expectations, and results.	
Deliverables	Due Dates	
Briefing products	APR 2022	
Resources Needed		
Meeting space and technology Time and schedule to brief appropriate parties		
Expected Level of Benefit		
Phase 5:	Final products: PowerPoint, Paper, and Poster for USU Research Days 2022. Consider for publication in a peer-reviewed journal.	
Milestone Description:	Present at USU Research Days 2022 with verbal and poster presentations.	
Deliverables	Due Dates	
Poster, PowerPoint presentation, paper, PAO approval.	MAY 2022	

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Resources Needed
PowerPoint voice-over recording for poster presentation Registration for Research Week Requirements for publication process
Expected Level of Benefit
Final project brief to colleagues, faculty, and poster presentation open to USUHS. Publication to share lessons learned and add value to the profession.

References

American Academy of Family Physicians (AAFP). (2022). *Frequently asked questions on telehealth and COVID-19*.

<https://www.aafp.org/family-physician/patient-care/current-hot-topics/recent-outbreaks/covid-19/covid-19-telehealth/telehealth-faqs.html>

Agency for Healthcare Research and Quality (AHRQ). (2018). CAHPS Aggregated data: Clinician and group. <https://cahpsdatabase.ahrq.gov/CAHPSIDB/CG/about.aspx>

Defense Health Agency (DHA). (2019). Quadruple aim performance process: Transforming performance improvement.

<https://health.mil/Reference-Center/Presentations/2019/02/11/Quadruple-Aim-Performance-Processes-Transforming-Performance-Improvement>

Donelan, K., Barreto, E. A., Sossong, S., Michael, C., Estrada, J. J., Cohen, A. B., Wozniak, J., & Schwamm, L. H. (2019). Patient and clinician experiences with telehealth for patient follow up care. *American Journal of Managed Care*, 25(1), 40-44.

<https://www.ajmc.com/view/patient-and-clinician-experiences-with-telehealth-for-patient-follow-up-care>

Galvin, J. W., Thompson, J. C., Thompson, A. M., Parada, S. A., Eichinger, J. F., Dickens, J. F., &

Gillingham, B. L. (2018). A guide to understanding reimbursement and value-based care in the

NOTE: Modified from Harvard Business Review Press. (2011). *Pocket mentor: Developing a business case*. Boston: Author (pp 82-85).

The views expressed in this paper are those of the authors and do not necessarily reflect the official policy or position of the Uniformed Services University, the Department of Defense, the Department of the Army, the Defense Health Agency, William Beaumont Army Medical Center, or the United States Government.

Military Health System. *Military Medicine*, 184(3-4), e205-210.

<https://doi.org/10.1093/milmed/usy206>

Garcia, P. (2021). *2021 Coding for telehealth, telephone E/M and virtual check-ins*.

<https://webfiles.gi.org/links/pm/GarciaSlides.pdf>

Military Healthcare System (MHS). (2017). Report on missed appointments in military treatment facilities.

[https://www.health.mil/Reference-Center/Reports/2017/03/27/Standardized-System-for-Scheduling-Medical-Appointments-at-MTFs#:~:text=Missed%20appointments%20negatively%20impact%20access,Health%20System%20\(MHS\)%20resources.&text=1%20In%20FY%202016%2C%20the,%24265%20Million%20in%20specialty%20care](https://www.health.mil/Reference-Center/Reports/2017/03/27/Standardized-System-for-Scheduling-Medical-Appointments-at-MTFs#:~:text=Missed%20appointments%20negatively%20impact%20access,Health%20System%20(MHS)%20resources.&text=1%20In%20FY%202016%2C%20the,%24265%20Million%20in%20specialty%20care)

Military Healthcare System (MHS). (2020). William Beaumont Army Medical Center Spreadsheet of Metrics.

<https://www.health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Patient-Portal-for-MHS-Quality-Patient-Safety-and-Access-Information/See-How-Were-Doing/Army/AMC-WILLIAM-BEAUMONT-BLISS>

Military Healthcare System Communications Office. (2020). DHA increases access to telehealth during COVID-19 pandemic.

<https://health.mil/News/Articles/2020/05/19/DHA-increases-access-to-telehealth-during-COVID-19-pandemic?type=Policies&page=2#pagingAnchor>

Office of Undersecretary of Defense (OUSD). (2019). FY2019 Tricare program effectiveness.

<https://health.mil/Reference-Center/Congressional-Testimonies/2019/04/08/TRICARE-Program-Effectiveness>

NOTE: Modified from Harvard Business Review Press. (2011). *Pocket mentor: Developing a business case*. Boston: Author (pp 82-85).

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Sanchez, M. (2018). Patient feedback drives service at WBAMC.

<https://www.dvidshub.net/news/287145/patient-feedback-drives-service-wbame>

Tricare. (2020). Telemedicine billing tips.

https://www.tricare-west.com/content/hnfs/home/tw/prov/claims/billing_tips/telemedicine.html

Waibel, K. H., Cain, S. M., Huml-VanZile, M., Kreciewski, N., Hall, T. E., Nelson, K., Everitt-Johnson,

L., Black, I., & Keen, R. S. (2019). Section 718 (Telemedicine): Virtual health outcomes from Regional Health Command Europe. *Military Medicine*, 184(1), 48-56.

<https://doi.org/10.1093/milmed/usy349>

Zipnosis. (2019). 2018 On-demand virtual care benchmark survey report.

https://www.zipnosis.com/wp-content/uploads/2019/03/2018-On-Demand-Virtual-Care-Benchmark-Survey-Report.pdf?utm_source=ATA+Website

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Appendix C: Team Mentor (Committee Membership) Agreement Form
DOCTOR OF NURSING PRACTICE PROJECT
DNP Project Clinical Question and Team Mentor (Committee Membership) Agreement Form
Graduation Year: 2022

Name(s) of DNP Project Student Team:

1. MAJ Peterman, Ebony A. Phase II Site: Fort Bliss, Texas AGCNS ☐ FNP ☒ PMHNP ☐
RNA ☐ WHNP ☐
2. MAJ Kuyt, Lori S. Phase II Site: Fort Bliss, Texas AGCNS ☐ FNP ☒ PMHNP ☐
RNA ☐ WHNP ☐
3. CPT(P) Masten, Titisha C. Phase II Site: Fort Bliss, Texas AGCNS ☐ FNP ☒ PMHNP ☐
RNA ☐ WHNP ☐

The tentative title of the DNP Project Proposal for this student group is:

The Impact of Virtual Synchronous Appointments on the Utilization and Patient Satisfaction for Behavioral Health Consultants (BHC) for Active Duty Servicemembers at Fort (Ft.) Bliss, TX

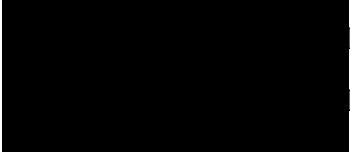
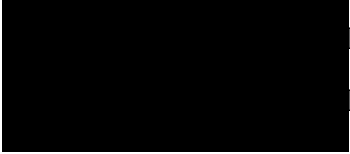
Committee Approved DNP Project Clinical Question:

How does Behavioral Health Consultant (BHC) utilization (booking, cancellations, and no shows) and patient satisfaction (JOES) change with the use of synchronous virtual health appointments (video and telephone) compared to in-person synchronous appointments for active duty (AD) soldiers assigned to Ft. Bliss over 12 weeks?

Names of DNP Project Team Mentors:

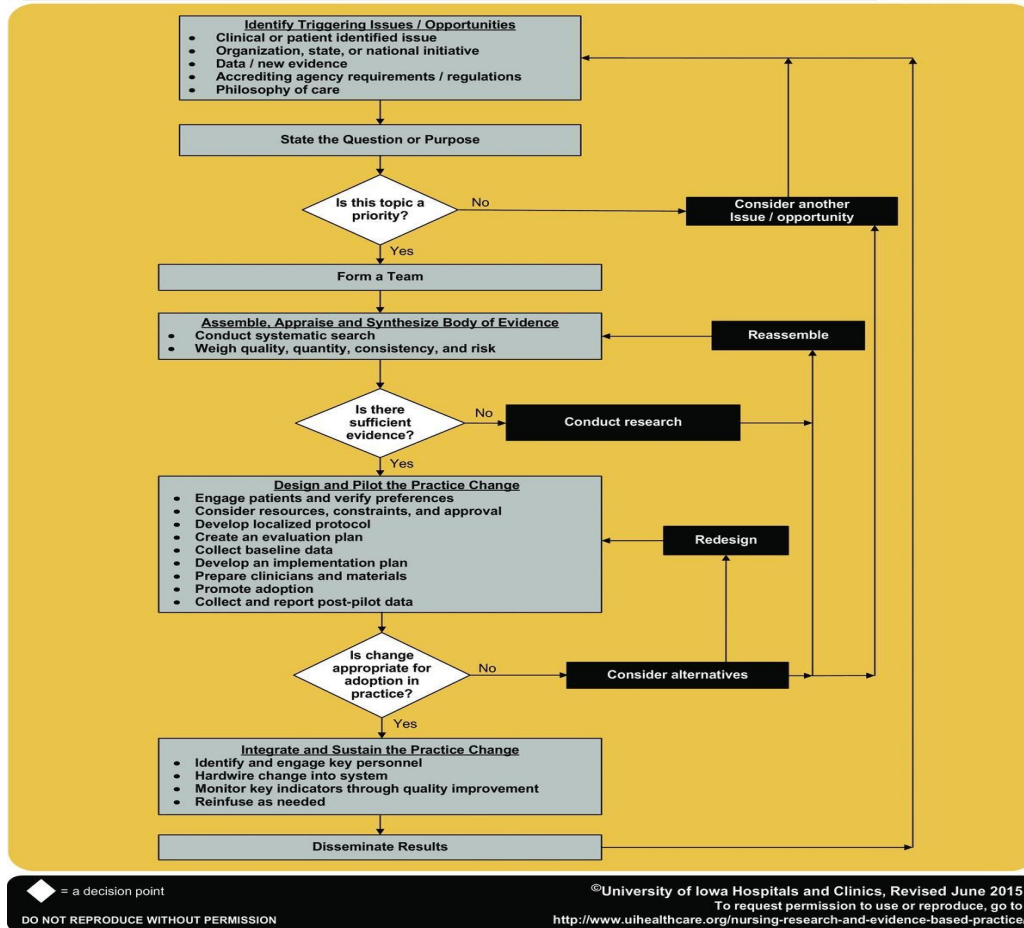
I agree to serve as a member of the DNP Project Team (Team Mentors) for the above DNP Student Project Team. As a Project Team Mentor, I agree to the duties and responsibilities outlined within the DNP Project Manual which include but are not limited to the provision of consultation and guidance supporting the entire DNP project journey and to ensure the DNP project is of sufficient rigor and demonstrates doctoral level scholarship to meet the requirements for USUHS GSN graduation.

NOTE: *You may have 3-4 DNP Team Mentors [committee members including your DNP Senior Mentor (Chair)]. The Phase II Site Director may also be a member of the group, as well as other USUHS faculty or others who may serve as content experts. All non-USUHS faculty selected as a Team Mentor must be approved by the DNP Project Director.*

Senior Mentor (Chair): Dr. Khalilah McCants	Signature:		Date: 11/19/2020
Team Mentor (Committee): LTC Deanna Sheets	Signature:		Date: 11/24/2020

Appendix D: Framework- Iowa Model Revised

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care



From: Kimberly Jordan - University of Iowa Hospitals and Clinics survey-bounce@survey.uiowa.edu
Subject: Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care
Date: October 12, 2020 at 1:23 PM
To: ebonyandrea@gmail.com



You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care*. Click the link below to open.

[The Iowa Model Revised \(2015\)](#)

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Citation: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175-182. doi:10.1111/wvn.12223

In written material, please add the following statement:

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Appendix E: Project Timeline

Project Year 1 (2020)												
Activity/Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Step 1: Literature search and review Tasks: - Review literature to understand the best practices in telehealth use in behavioral health - Review gray literature and snowballing literature, as much of our study focuses on government resources and the military population, which can be difficult to find within databases.	X	X	X						X	X		
Step 2: Establish a problem/priority Tasks: - Priority identified by Phase II Site Coordinator (P2SC) - Establish the problem/need assessment based off the priority - Discuss problem/priority with subject matter experts - Engage new stakeholders as they are identified by the P2SC									X	X	X	X
Project Year 2 (2021)												
Activity/Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Step 3: Reestablish and redirect a new problem/priority Tasks: - Priority identified to change by leadership once on ground at Phase 2 site - COVID-19 pandemic onset required change of project as well					X	X	X					
Step 4: IRB Process & Approval Tasks: - Write and submit IRB waiver or approval - Submit to Quality Assurance department for their jurisdiction approval/waiver - Submit to Performance Improvement department for their jurisdiction approval/waiver - Keep P2SC and Senior Mentor informed on IRB approval status							X	X	X			
Step 5: DHA/OMPA approval of data collection tool Tasks: - Create a data collection tool - Submit to DHA and OPA for approval									X	X	X	X
Step 6: Brief key stakeholders Tasks: - Establish key stakeholders and departments needed to gather data • OIC/CNOIC of PCMHs, Chief of Primary Care, GPMs - Send invite and follow up emails as appropriate - Create presentation									X			X
Project Year 3 (2022)												
Activity/Month	JAN	FEB	MAR	APR	MAY							
Step 7: Gather current patient preferences with data collection tool Tasks: - Goal of 10-30 tools collected within each of the 3 primary care clinics - Send data to statistician for analysis	X	X										
Step 8: Gather retrospective data Tasks: - Gather utilization data from CHCS, GPM, & RMD as appropriate - Gather JOES Question #15, #23 data - Send data to statistician for analysis	X											
Step 9: Rewrite and revise all original project products in accordance with project plan change Tasks: - Conduct a new literature search and review - Revise paper - Revise all appendixes - Revise PowerPoint		X	X									
Step 10: Prepare final DNP report. Tasks: - Create poster presentation and send for printing/record voiceover - Create verbal briefing and PowerPoint - Consider publication - Podium and poster presentations at Research Week at USUHS		X	X	X								
Step 11: Brief key stakeholders Tasks: - Disseminate final data gathered to the clinic leadership and appropriate staff. - Send invite and follow up emails				X	X							

Appendix F: DNP Project Senior Mentor Approved Abstract

DOCTOR OF NURSING PRACTICE PROJECT **FINAL REPORT ABSTRACT/IMPACT STATEMENT OUTLINE**

ABSTRACT

Phase II Site: Fort Bliss, Texas (TX)

Project Title: Patient Satisfaction, Utilization, and Preference with Synchronous Virtual Primary Care Appointments for Adult Beneficiaries at Fort Bliss, Texas

Authors: Kuyt, L.S., Masten, T.C., & Peterman, E.A.

Background or Problem/Issue: The COVID-19 public health state of emergency (PHE) prompted rapid implementation and advancing interest in synchronous virtual healthcare. An unprecedented number of appointments were completed virtually via telephone or video. The literature reflects evidence both for and against virtual synchronous healthcare. Limited literature exists for virtual health (VH) use in the military beneficiary population.

Clinical Question or Purpose: How do virtual compared to face-to-face synchronous appointments impact primary care utilization, patient satisfaction, and patient preference for adult patients at Fort Bliss, Texas?

Project Design: A program evaluation using retrospective analysis of synchronous virtual appointments across the past three years (2019-2021) of patient utilization data from the Composite Healthcare System (CHCS) and patient satisfaction from the Joint Outpatient Experience Survey (JOES), and a needs assessment of current (2022) patient preferences for primary care appointments utilizing a three-question data collection tool across three primary care clinics at Ft. Bliss, TX.

Results: During the COVID-19 pandemic, 4.8% of synchronous primary care appointments were conducted virtually, and 30% of returned JOES were for VH. Analysis of cancellations/no-shows could not be performed due to coding issues. However, overall fewer FTF cancellations or no-shows occurred concurrently with the increase in VH utilization. Patient satisfaction showed a statistically significant difference for less FTF satisfaction in 2020, no significant difference in 2019 or 2021. Patient preference revealed that 73% were not offered the option to book a VH appointment, yet 78% preferred the option. Overall, 40% prefer FTF appointments, desiring a physical exam as the primary reason, 28% prefer VH with convenience as the primary reason, and 32% express their preference depending upon the situation.

Organizational Impact/Implications for Practice: Modernization and expansion of VH are strategic-level goals. Patients prefer VH as an option. Consider offering VH as an option when booking; however, medical triage may be necessary, as nearly half of FTF appointments are preferred for a physical exam. Patients were less satisfied with FTF only during the onset of the COVID-19 PHE. Fewer cancellations/no-shows existed concurrently with increase in VH use.

ABBREVIATED VERSION

Project Purpose: To evaluate and analyze adult patient utilization, satisfaction, and preferences with synchronous virtual primary care appointments at Fort Bliss, TX to help guide virtual health decisions after the COVID-19 pandemic.

Impact: Utilization was not able to be correlated; however fewer cancellations occurred with the increase of VH appointments. Satisfaction was not statistically different except for lower satisfaction with FTF in 2020. Patients prefer to choose if their appointments are virtual or face-to-face, which aligns with strategic goals of modernization and promotion of VH.

APPROVED:

Dr. Khalilah McCants

Senior Mentor (*type name*)

MCCANTS.KHALILA
H.M.1555397484

Digitally signed by
MCCANTS.KHALILAH.M.1555397484
Date: 2022.04.10 22:29:42 -04'00'

(*Signature*)

10 April 2022

(*Date*)

Form Version: 4 Sept 2016

Appendix G: DNP Project Completion Verification Form

DOCTOR OF NURSING PRACTICE PROJECT Completion Verification Form

The DNP Project titled: Patient Satisfaction, Utilization, and Preference with Synchronous Virtual Primary Care Appointments for Adult Beneficiaries at Fort Bliss, Texas was completed at William Beaumont Army Medical Center was completed by the following students:

(Student Name)

(Digital Signature)

MAJ Lori Kuyt

Lori Kuyt

Digitally signed by Lori Kuyt
Date: 2022.03.01 12:38:01
-07'00'

MAJ Titisha Masten

MASTEN.TITISHA.CO
CHRAN.1235105531

Digitally signed by
MASTEN.TITISHA COCHRAN 12
35105531
Date: 2022.03.11 08:44:25 -07'00'

MAJ Ebony Peterman

Ebony
Peterman

Digitally signed by Ebony
Peterman
Date: 2022.03.11 20:35:43
-06'00'

The DNP Practice Project Team verifies that the following components of the DNP project, accomplished by the above students, is of sufficient rigor and demonstrates doctoral level scholarship to meet the requirements for USUHS GSN graduation:

- Presentation of DNP project to the leadership/stakeholders at the Phase II Site,
- Abstract/Impact Statement (*Appendix F*), and
- DNP Project written report (*Appendix E*).

Verified by:

(type name)

(Digital Signature)

Dr. Khalilah McCants

MCCANTS.KHALILAH.M.1555397484

Digitally signed by
MCCANTS.KHALILAH.M.1555397484
Date: 2022.04.09 19:27:52 -04'00'

Senior Mentor

Team Mentor

Team Mentor

LTC Deanna Sheets

SHEETS.DEANNA.MARIE.1258631761

Digitally signed by
SHEETS.DEANNA.MARIE.1258631761
Date: 2022.04.07 14:27:53 -06'00'

Team Mentor
& Phase II Site Director

For RNA Students only - add the following additional signature for final verification of project completion:

RNA Project Director (type name)

(Digital Signature)

Appendix H: Evidence Table

Source	1st Author Name (Publication Yr)	Study Purpose/Aims	Research Questions/Hypotheses (If different from/specifically described separately from study purpose & aims)	Study Design	Total Sample Size (How many initially, how many at final analysis?)	Sampling Plan	Independent Variables AND LEVEL OF MEASUREMENT	Dependent Variables AND LEVEL OF MEASUREMENT	Statistical Analyses - what tests were used for which research questions?	Results	Strengths (how promoted internal/external validity)	Weaknesses (biases; poorly controlled threats to internal/external validity)	LEVEL OF EVIDENCE - using JHNEBP tool (Strength and Quality)
PubMed	Powell (2017)	Describe patient experience with video visits with their PCM	n/a	Qualitative with semistructured interviews	19/32 eligible patients were interviewed	All patients 18 years old or older who had a video visit with their existing primary care physician were eligible for inclusion.	n/a	n/a	Nvivo software used to create codes attached to themes to be analyzed	Thirty-two patients were eligible to participate. Twenty-one (66%) were successfully contacted, and all consented to be interviewed. Two interview recordings failed, leaving 19 interviews for analysis. Several study participants found the connection process easy, while others reported technical challenges such as problems with visit codes or passwords. Most participants reported a positive experience with video visits, citing conveniences of not having to miss work, travel, or change attire. Participants raised cost and transportation as the main considerations favoring video visits over office visits. All patients voiced interest in future video visits, though for varying reasons and situations.	- Defined the population in which they had access to and the methods used to access to population	Future research is needed to purposefully sample patients who have no prior experience with video technology and to solicit opinions of patients who experience challenges with connectivity. Small sample size- 19 patients	Level II- C- low quality: insufficient sample size; the questionnaire had 15 questions, at a minimum they should have sampled 150 patients
PubMed	Drenup (2021)	This study aimed to identify patient perspectives and behaviors toward virtual primary care appointments at a telehealth-naïve institution during the COVID-19 pandemic, and establish the rate of missed appointments to help guide future implementation of telehealth services	n/a	Retrospective study	65 pt completed survey for telehealth; not clear on how many patient completed the survey in office	Patients who underwent traditional in-person office visits self-completed a paper survey in the office immediately after their appointment. Conversely, patients who attended a telehealth visit were contacted by phone to complete the survey following the appointment. March-May 2020	Pre-COVID appointments during COVID	patient cancellation rates	Fisher's exact test	The no-show rate of telehealth visits during the COVID-19 pandemic was 2.5% (14/186), lower than both the no-show rate of 36.1% for in-office visits (56/155) (p < 0.0001) and a pre-pandemic in-office no-show rate of 29.8% (129/433) (p < 0.0001)	n/a	Insight is needed on the rate of missed appointments stratified by patient demographics, access to technology, and insurance coverage	Level III- C- low quality: insufficient sample size; the questionnaire had 9 questions, at a minimum they should have sampled 90 patients
PubMed	Orange (2021)	The aim of this study is to examine correlates of patients' satisfaction with a telemedicine visit.	n/a	Retrospective study	A link to a survey was emailed to 1624 patients; there were 368 respondents.	We performed a retrospective study of patients aged 18 years and older who had one or more telemedicine visits with a provider in the internal medicine department at the Keck Medical Center between March 10th and April 17th, 2020. This timing corresponds with a Keck Medical Center mandate to shift the majority of outpatient care from in-person to telemedicine visits.	virtual health appointment	- satisfaction - trust in physician	Descriptive statistics were used to summarize visit-related concerns, patient characteristics, and satisfaction with the telemedicine visit - Likert scale satisfaction item with trust in physician was evaluated with a Spearman rank-order correlation	Across the study, respondents were very satisfied (179/365, 47.4%) or satisfied (n=129, 35.3%) with their telemedicine visit, and 77.3% (276/361) reported that they "look forward to using telehealth in the future."	- no comparison to in-person visit satisfaction during the same period or before the pandemic - web-based survey prevents recruiting patients without an email address - low response rate - respondents were significantly older than nonresponders, yet findings support younger age as a factor correlated with satisfaction with their visit	Level III- B- good quality: sufficient sample size	
PubMed	Powell (2018)	The objective of this study is to report health system and patient experiences with implementation of a telehealth scheduled video visit program across a health system.	n/a	This is a mixed methods study including (1) a retrospective descriptive report of implementation of a telehealth scheduled video visit program at one large urban academic-affiliated health system and (2) a survey of patients who participated in scheduled telehealth visits.	3018 visits total; 764 pt had telehealth visits	Patients aged 18 years and older with an existing relationship with a Jefferson provider who was trained on telehealth use were eligible to participate in scheduled telehealth visits	telehealth visit	impact on access; patient satisfaction; effectiveness of care	none noted	91.6% (728/795) reported satisfaction with the scheduled visits and 82.7% (628/759) reported perceived quality similar to an in-person visit. A total of 86.0% (652/758) responded that use of the scheduled video visit made it easier to get care. Nearly half (46.7%, 346/740) of patients estimated saving 1 to 3 hours and 40.8% (302/740) reported saving more than 3 hours of time.	n/a	No statistical analysis used for results; just reported frequency of answers using a Likert scale	Level III- C- low quality: no statistical analysis
PubMed	Kendzierska (2022)	Determine how individuals with chronic conditions have been affected by changes in (1) adaptations in the healthcare system for both primary and specialty care, (2) levels of healthcare utilization (eg, hospitalizations, emergency department [ED] visits, use of ancillary testing, medications supply), and (3) socioeconomic and environmental risk factors, in response to the COVID-19 pandemic.	N/A	Narrative review/Literature search in PubMed, Google Scholar, Science Direct, and Scopus for articles published between January 2020 and January 2021	N/A	N/A	N/A	N/A	N/A	Utilization rates of telemedicine increased compared to the preCOVID-19 period. Potential benefits of a virtual-care framework during the pandemic include more effective routine disease monitoring, improved patient satisfaction, and increased treatment compliance and follow-up rates. However, more needs to be done on the part of healthcare systems to ensure timely and effective access to telemedicine, particularly for individuals with lower digital literacy, notably in people with lower socioeconomic status	N/A	Narrative review rather than systematic review. July 2020 and January 2021; thus, due to the rapid rate. Databases searched to specific keywords, restricted to articles in English language, and restricted the types of literature. As more literature becomes available, researchers should conduct systematic reviews with focused questions pertaining to the care of individuals with chronic conditions during the COVID-19 pandemic and should broaden the search strategy to include all potentially relevant literature, such as grey literature and other non-peer reviewed sources. Of knowledge advancement and new publications on the management of patients with chronic diseases during the COVID-19 pandemic, this review only captures peer reviewed articles related to the early and middle stages of the pandemic.	Level III-B good quality
PubMed	Gabrielsson (2021)	The study aimed to explore users' experiences and care patterns concerning telemedicine consultations with physicians in Swedish primary care from 2017 to 2019	N/A	A mixed methods study involving 26 qualitative interviews with users of telemedicine consultations from a national sample, complemented by a quantitative registry study of data from 10,400 users in a Swedish region.	26 interviews from a registry of 10,400 users	N/A	N/A	N/A	N/A	Users expressed satisfaction with this up-to-date use of health care resources for them as individuals, the health care system, and the environment. Telemedicine consultations were perceived as efficient and safe according to users. In addition, the study shows a low degree of further physical contacts in primary care or in acute care related to the telemedicine consultations.	The mixed methods design strengthens the credibility of the results [34,41,42]; the qualitative data added valuable knowledge and supported the interpretation of the quantitative data. We used purposive sampling regarding age, gender, urban or rural living across Sweden for the qualitative data collection, however, not for attitudes to telemedicine.	This study needs to be complemented by studies on primary care users choosing to not use telemedicine consultations with physicians to explore their reasons for not using the service. This study has not explored ethnicity or socioeconomic factors or health economics in relation to using telemedicine consultations.	Level IV-C low quality
PubMed	Thiyagarajan, (2019)	The study aimed to explore both patients' and clinicians' experiences of VCs in primary care.	N/A	A systematic scoping review was carried out of empirical studies	All major databases were searched for empirical studies of any design, published from 1 January 2010 to 11 October 2018 in the English language. Studies were included where synchronous VCs occurred between a patient and a clinician in a primary care setting. Outcomes of interest related to experience of use. The quality of included studies were assessed. Findings were analysed using narrative synthesis	N/A	N/A	N/A	N/A	Seven studies were included in the review. Patients reported being satisfied with VC, describing reduced waiting times and travel costs as a benefit. For patients and clinicians, VC was not deemed appropriate for all presentations and all situations, and a face-to-face consultation was seen as preferable where this was possible.	The low number of existing studies highlights the paucity of evidence in this area and limits the extent of the findings.	While a systematic search was conducted, the review was limited to studies from 2010 onwards. Expanding the inclusion criteria to include studies prior to 2010 may have resulted in studies that contained relevant data. The study examined the experience of staff delivering the consultations, but did not include other staff, such as practice staff members who may be involved in set up and scheduling of VC, and this limits the applicability of the findings to the wider general practice setting. The participants in the included studies may be viewed as self-selecting populations, and this may introduce a confirmation bias with regards to the baseline attitude to VC.	Level III-B good quality

Evidence Table

Source	1st Author Name (Publication Yr)	Study Purpose/Aims	Research Questions/Hypotheses (if different from/specifically described separately from study purpose & aims)	Study Design	Total Sample Size (How many initially, how many at final analysis?)	Sampling Plan	Independent Variables AND LEVEL OF MEASUREMENT	Dependent Variables AND LEVEL OF MEASUREMENT	Statistical Analyses - what tests were used for which research question?	Results	Strengths (how promoted internal/external validity)	Weaknesses (biases; poorly controlled threats to internal/external validity)	LEVEL OF EVIDENCE - using JHWP tool (Strength and Quality)
PubMed	Ackerman (2020)	Compare experiences with eConsult and referral for in-person specialist consultation.	N/A	Online survey 2-6 weeks following eConsult or referral at 9 US academic medical centers.	Adult patients with no more than one eConsult or referral from a primary care provider (PCP) in the prior month. Over 9 months, 25,251 email invitations were sent (88% referral; 12% eConsult).	N/A	N/A	N/A	N/A	Many patients find virtual consultation to be an acceptable strategy for the management of their medical condition and that trust and confidence in one's PCP are crucial ingredients for a satisfying eConsult experience. A 27.6% response rate yielded 8087 respondents (88.4% referral; 11.6% eConsult). Many did not know that their PCP had placed a referral (12.8% unaware) or eConsult (52.9%), and eConsult awareness was significantly higher among patients reporting better health (OR 1.62, 95% CI 1.18-2.23). Most (81.4% eConsult; 82.0% referral) were satisfied with the specialist's recommendations. Those who had a good primary care experience were more likely to be satisfied (eConsult: OR 10.63, 95% CI 2.95-38.32; referral: OR 2.87, 95% CI 1.46-4.44). For a similar problem in the future, 78% of eConsult and 32% percent of referral patients preferred eConsult.	None disclosed	Use of a web-based survey prevented them from recruiting patients without an email address, which may have biased our sample toward respondents with higher digital literacy and educational attainment, excluding patients with more than one order in the previous month. This limits the generalizability of our findings, particularly because patients with multiple orders may be more positively inclined toward a service that reduces wait times for specialist advice.	Level IV-C
PubMed	Carrillo de Albornoz (2022)	To evaluate the impact of telephone or video consultations compared to face-to-face on key patient-relevant outcomes and healthcare utilization in primary care, mental health and allied health services, which have had a critical role in the management of the wider and longer-term consequences of COVID-19	N/A	A systematic review of primary studies comparing telephone or video consultations versus face-to-face visits, following the PRISMA guidelines	N/A	N/A	N/A	N/A	N/A	Overall, consultations delivered by telephone and videoconference were as effective as face-to-face visits to improve clinical outcomes in adults with mental health conditions and those attending primary care services. Patient satisfaction with telephone and video consultations and the therapeutic alliance was high across the studies. However, high discontinuation rates in patients receiving teleconsultations indicate this may not be a suitable modality of healthcare delivery for all patients.	None disclosed	Teleconsultations offer significant patient time savings in primary care, but appropriate implementation including training of healthcare professionals and management of technical issues, is essential to ensure effective and valuable clinical interventions. This systematic review was limited to studies published from 2010 onwards. This was considered an appropriate time frame as technology has changed considerably since then, especially in regard to cell phone use.	Level III-B good quality
PubMed	Olayiwola (2020)	In this paper, we share clinician recommendations and guidance gleaned from this transition to the frontweb and offer a systematic approach for ensuring "webisode" success.	N/A	Opinion	N/A	N/A	N/A	N/A	N/A	Rapid adoption or expansion of telehealth care has become one of the central components of the pandemic response.	None disclosed	None disclosed	Level IV-C
CINAHL	Imlich (2020)	To determine patient satisfaction and reasons with VH during the first few months of the pandemic in a general practice environment	n/a	Mixed methods: Online survey from convenience sampling broadcasted on social media & in-depth interviews with qualitative analysis of open ended questions	Survey = 1010, Interview = 38	Self-selected convenience sampling broadcast via social media and email lists	Survey questions = nominal	Respondents = nominal	none noted	Satisfaction with telehealth = 86%. Satisfaction with FTF = 92%, 29-30% of telephone and video respondents concerned there was no PE. Overall, most respondents regardless of age or other demographics were willing to try telehealth in the future. Patient responded positive to the abrupt switch, especially considering only 17% had used TH prior to the pandemic. Patients carefully weighed options on why they prefer VH or FTF. Convenience and cost/time savings was the #1 for VH and connection with provider/PE were #1 for FTF.	Used Levesque's Access to care framework for their demographic collection	Non-heterogeneous sample likely due to snowball sampling methods, majority female, European descent, mostly telephonic encounters	Level VI-A
USU Power Search	Vosburg (2022)	To identify factors associated with both provider and patient satisfaction with TH visits in primary care during the COVID-19 pandemic (will focus on the patient aspect of this study only)	n/a	Survey-based study distributed electronically by email using the Qualtrics survey software	6626 patients received email -> 1692 completed survey	Stratified convenience sampling	Survey questions = nominal and internal	Patient respondents	Univariate logistic regression with satisfaction to east of connection and travel time; Odds ratio	Patient reports high levels of satisfaction with VH and desire to use it continue after the pandemic. Reasons VH were rated higher: Travel time saved > 30min, having an easy connection at the visit, use of Zoom video > telephone, & being female. Reasons VH were rated lower: Telephone visits < video. Other findings: 95% felt comfortable sharing personal information over VH, 78% found connectivity easy, 76% were very satisfied with their VH visit, 1% very dissatisfied, 97% saved time with VH. Preference: 70% prefer combo of VH and FTF, 26% prefer FTF only. NOT correlated with VH satisfaction: Age, race, ethnicity, or binary age (50+ years).	Large sample size, high survey completion rates	Narrow demographic range elicited non heterogeneous population: 70% female, 90% white. Stated need for future studies to elaborate on gender preferences and why older adults have the same preferences as younger adults for VH. Limitations: Recall bias, response bias, sampling bias	Level VI-B
USU Power Search	Saigal (2021)	Review of 1 systematic review and 2 cross sectional studies to determine if patient satisfaction with video PC visits are comparable to FTF PC visits	n/a	Review of 3 articles	3 articles, no search criteria listed	n/a	n/a	n/a	n/a	2000 Systematic review: No significant difference in patient satisfaction between VH and FTF. 2018 Cross sectional study: 85% satisfaction with VH. 86% said VH made getting care easier. 82% report same level of care as FTF, 86% said >1hr time saved. Primary reason for dissatisfaction was technical issues. 2016 cross sectional study: 89% preferred and liked VH > FTF. Lack of insurance was only statistically significant variable for predictor of favoring VH.	None disclosed	Self-selection bias for surveys, self-selection for VH visits, no measurement of baseline, unclear methodology of qualitative analysis in 2000 systematic review	Level V-C
USU Power Search	Alharbi (2021)	To assess patient satisfaction with virtual PC clinics during 5 months of the COVID-19 pandemic	n/a	Cross sectional study with online validated questionnaire sent via email	439	Convenience sampling via self-selection for survey completion	Survey	Overall level of satisfaction with clinic (ordinal), advantages of virtual clinic (nominal)	SPSS Ver 24 with descriptive analysis for frequencies and percentages for categorical variables. Median, mean, and standard deviation for continuous variables. Mann-Whitney U test and Kruskal Wallis to compare satisfaction scores between groups. p = 0.05 significance level	Virtual health was convenient for 68%, neutral for 16%, and inconvenient for 15%. Use of virtual clinic reasons from highest to lowest: No exposure to COVID, no travel need, same day availability at the time that is convenient, prescription refill, desire to confirm a self-diagnosis. Disadvantages were from highest to lowest: Prefer FTF report, Thought providers cannot diagnose appropriately over VH, did not know their provider, prior bad experience with VH. 66% increased willingness to use VH, while only 17% would have said this prior to the pandemic. However, 50% say quality of VH will never be equitable to FTF.	States similar results to a US study. Statistically significant and non-significant results are listed. Bias in the clinics that were available for study. Convenience sampling. Urban population only. Limited to time when curfews and social distancing were mandated in the country.	This is a Saudi Arabian study. VH was only introduced to the country 2 years prior to the pandemic.	Level VI-A

Appendix I: Data Analysis Table

Patient Satisfaction		Variable Name	Variable Description and Type of Measure	Data Source	Possible Range of Values	Level of Measurement	Time Frame for Collection	Statistical Test	Decision Rule
E v e n t	IV (descriptive variable)	JOES Patient satisfaction survey completion	JOES Question #15 indicating virtual encounter	Yes or No	Yes or No	Nominal	2019-2021	None. Frequency tables used. Mean for total VH returned.	n/a
			and	Likert scale 1-5	1-5	Interval	2019-2021	Chi square	p < 0.05
			Question #23 indicating overall satisfaction with appointment		1-3	Interval	2019-2021	Chi square	p < 0.05
	DV (outcome variable)	Respondents	Patients who had an appointment at 3 chosen clinics and received survey in mail	JOES website	Yes or No	Nominal	2019-2021	n/a	n/a

Patient Utilization		Variable Name	Variable Description and Type of Measure	Data Source	Possible Range of Values	Level of Measurement	Time Frame for Collection	Statistical Test	Decision Rule
E v e n t	IV (descriptive variable)	Virtual health utilization	% of scheduled synchronous virtual appointments	CHCS	0-100%	Ratio	2019-2021	n/a	Unable to access due to coding issues.
	DV (outcome variable)	Cancellation and no-show %	% of virtual appointments canceled or no-showed	CHCS	0-100%	Ratio	2019-2021	n/a	Unable to access due to coding issues. Total FTF and VH appointments and total missed appointments accessed only. Observational study only; the causal relationship of VH to fewer non-utilized appointments cannot be identified due to multiple or transient variables.

The views expressed in this paper are those of the authors and do not necessarily reflect the official policy or position of the Uniformed Services University, the Department of Defense, the Department of the Army, the Defense Health Agency, William Beaumont Army Medical Center, or the United States Government.

<u>Patient Preference</u>		Variable Name	Variable Description and Type of Measure	Data Source	Possible Range of Values	Level of Measurement	Time Frame for Collection	Statistical Test	Decision Rule
E v e n t	IV (descriptive variable)	Question 1: Were you given the option to book this appointment as virtual?	Yes or No	Patient	Yes or No	Nominal	JAN-FEB 2022	Frequency tables	Majority decision rule
		Question 2: Do you prefer to have the option to book?		Patient	Yes or No	Nominal		Frequency tables	
		Question 3: Do you prefer virtual, FTF, or depends?			Virtual or FTF or Depends	Nominal		Frequency tables	
		Question 4: Why?	Yes or No	Patient					
			Virtual or FTF or Depends	Patient	14 themes	Nominal		Direct exploration	
	DV (outcome variable)	Respondents	Patient participates in data collection regarding their preferences on virtual healthcare	Patient	Yes or No	Nominal	JAN-FEB 2022	None	n = 30 set as minimum requirement (10 x # of questions [3])

Appendix J: Data Collection Tool

Fort Bliss EBP Class of 2022 Data Collection Tool



Pre-visit awareness: "I am a doctoral student from the Uniformed Services University, and I am interested in patient's preferences for virtual healthcare. The data I am collecting is anonymous, completely voluntary, and only three questions. Would you like to participate?"

Virtual vs. Face-to-Face Appointments

Demographics

Age (in years)

18- 21	22-29	30-39
40- 49	50-59	60- 69
70- 79	80+	

Identified Gender

Male Female

Military Status

Active Duty
E1-E4 E5-E6 E7-E9
O1-O3 O4-O6
Dependent
Retiree

Clinic

SFMC Mendoza East Bliss

Chief Complaint Concern

HEENT Cardiovascular
Respiratory Gastrointestinal
Genitourinary
Musculoskeletal
Integumentary Neurological
Psychiatric
Endocrinology Hematologic
Allergic/Immunologic
Administrative (PHA, etc.)

1) Were you given the option to book this appointment as virtual (telephone or video)?

Yes No

2) Do you prefer to have the option to choose if your appointments are virtual or face-to-face? Yes/No

3) Do you prefer virtual or face-to-face appointments?

Virtual Face to Face It Depends

If you prefer virtual appointments, why?

If you prefer face-to-face appointments, why?

Appendix K: CITI Certificate

		Completion Date 26-Mar-2020
		Expiration Date 26-Mar-2023
		Record ID 35984332

This is to certify that:

Lori Kuyt

Has completed the following CITI Program course:

OUSD P&R Human Research (Curriculum Group)
Biomedical Investigators and Research Study Team (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

Verify at www.citiprogram.org/verify/?w84ef4a9c-5869-47f7-99cc-d565c52f1ad5-35984332

		Completion Date 30-Mar-2020
		Expiration Date 30-Mar-2023
		Record ID 36015424

This is to certify that:

Titisha Masten

Has completed the following CITI Program course:

OUSD P&R Human Research (Curriculum Group)
Biomedical Investigators and Research Study Team (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

Verify at www.citiprogram.org/verify/?w85f54ac3-bc03-4fe1-b5b5-59b15622838f-36015424

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

		Completion Date 05-May-2020
		Expiration Date 05-May-2023
		Record ID 36533968

This is to certify that:

Ebony Peterman

Has completed the following CITI Program course:

OUSD P&R Human Research (Curriculum Group)
Biomed Research Coordinators, Clinical Coordinators, Study Coordinators & Research Administrators (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

Verify at www.citiprogram.org/verify/?w6254e030-ec99-4c98-9f4c-04771ba528db-36533968

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Appendix L: USU (VPR) Form 3202N



OFFICE OF RESEARCH

4301 JONES BRIDGE ROAD

BETHESDA, MARYLAND 20814

PHONE: (301) 295-3303; FAX: (301) 295-6771

NOTICE OF PROJECT APPROVAL

Change Number: Original

VPR Site Number: GSN-61-11963
Principal Investigator: Peterman, Ebony
Department: Graduate School of Nursing
Project Type: Student
Project Title: The Impact of Virtual Synchronous Appointments on Patient Satisfaction for Behavioral Health Consultants (BHC) for Active Duty Servicemembers at Fort (Ft.) Bliss, Texas
Project Period: 6/22/2021 to 6/22/2022

Assurance and Progress Report Information:

Name	Sup	Approval Type	Status	Approved On	Forms Received
Progress Report	0			To be Submitted	N/A

Remarks:

This Notice Of Project Approval has been reviewed and approved. Please remember that you must submit a final Progress Report (Form 3210) upon completion of this project.

Questions regarding this approval should be directed to the following person in the Office of Research:
 Sharon McIver, (301) 295-9814.

RANDOLPH.TOY
A.V.1242107698

Digitally signed by
 RANDOLPH.TOY A.V.1242107698
 Date: 2021.06.22 13:45:20 -04'00'

Mark G. Kortepeter, MD, MPH
 FACP, FIDSA, FASTMH
 COL (R) MC US Army
 Vice President for Research
 Uniformed Services University of the Health Sciences

Date

cc: File

Taylor, Laura

Radford, Kennett

Appendix M: MTF IRB Letter of Determination



DEPARTMENT OF THE ARMY
WILLIAM BEAUMONT ARMY MEDICAL CENTER
18511 HIGHLANDER MEDICS STREET
FORT BLISS, TX 79918

MCHM-DQS

16 September 2021

MEMORANDUM FOR MAJ Ebony Peterman, William Beaumont Army Medical Center (WBAMC), 18511 Highlander Medics Street, Fort Bliss, TX 79918

SUBJECT: Not Research Status Determination

STUDY TITLE: The Impact of Synchronous Virtual Health Appointments versus Face to Face Appointments on Primary Care Utilization, Patient Satisfaction, and Patient Preference at Fort Bliss, Texas

REFERENCE: #21-32

REVIEW TYPE: Determination

ACTION: NOT RESEARCH STATUS DETERMINATION

DETERMINATION DATE: 16 September 2021

1. This memo is in response to your request for a "not research" determination review for the above-referenced project. The following documents were reviewed as part of this determination:

- a. eIRB Protocol, v1.0
- b. Project Data Collection Tool

2. A William Beaumont Army Medical Center (WBAMC) Exemption Determination Official has reviewed your proposed project and has determined that your project does not meet the definition of research as defined under 32 CFR 219.102(l). The EDO concurs with the NMSU human research protections program's determination that the project does not constitute human subjects research.

3. Research is defined under 32 CFR 219.102(l) as follows:

"Research means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge."

4. Based on the information you provided, the proposed project does not meet the definition of research because it is not a systematic investigation designed to develop or contribute to generalizable knowledge. The project is an evidence-based practice

MCHM-DQS

SUBJECT: Not Research Status Determination

project to evaluate primary care utilization, patient satisfaction, and patient preference for virtual health appointments compared to in-person appointments. The project findings are intended to inform WBAMC leadership's decision making related to virtual health appointments.

5. Because this project has been determined to be "not research," it is not subject to further review by the Human Research Protections Program or the Regional Health Command – Central IRB. **This determination should not be construed as approval to initiate the project.** Other institutional approvals may be required and should be coordinated through your department.

6. Any collection of information via surveys as defined by DoDI 8910.01 must comply with DoDI 1100.13 "DoD Surveys." It is the responsibility of the Project Lead to ensure that any additional reviews and approvals specific to these regulations are obtained.

7. Your project may become research subject to IRB review if it is modified to include a systematic investigation to develop or contribute to generalizable knowledge. Please notify the WBAMC Human Research Protections Program Office of any proposed modifications to the project that may result in a change in status.

8. Publication clearance is required prior to the release of any information outside of the institution. Please contact the WBAMC Department of Clinical Investigations (DCI) for specific requirements.

9. The POC for this action is the WBAMC Human Research Protections Program Office at 915-569-3777 or larissa.a.schmersal.civ@mail.mil.

Signature applied by Larissa A Schmersal
on 09/16/2021 11:43:47 AM CDT

Larissa A. Schmersal, PhD
Determination Official

Appendix N: PAO Clearance /Level of Dissemination Classification

Uniformed Services University PAO Approval

William Beaumont Army Medical Center Approval



DEPARTMENT OF THE ARMY
WILLIAM BEAUMONT ARMY MEDICAL CENTER
CLINICAL INVESTIGATIONS BUILDING
18509 HIGHLANDER MEDICS STREET
FORT BLISS, TX 79918

MCHM-DCI

26 April 2022

MEMORANDUM FOR MAJ Lori Kuyt, MAJ Titisha Masten, and MAJ Ebony Peterman, USU DNP Phase II, William Beaumont Army Medical Center (WBAMC), 18511 Highlander Medics St., Fort Bliss, TX 79918

SUBJECT: Clearance of the Manuscript, Poster and Slide Presentation entitled "Patient Satisfaction, Utilization, and Preference with Synchronous Virtual Primary Care Appointments for Adult Beneficiaries at Fort Bliss, Texas" for presentation at the Uniformed Services University of the Health Sciences (USUHS) Research Week, Bethesda, MD, May 2022.

1. Under the provision of AR 360-1, The Public Affairs Office, Readiness Division, and the Department of Clinical Investigation have cleared the subject material for presentation. It is approved with the stipulation that the following disclaimer be reflected on any written or oral publication: "The views expressed in this publication are those of the author(s) and do not reflect the official policy or position of William Beaumont Army Medical Center, Department of the Army, Defense Health Agency, or the US Government."
2. The subject material is cleared for the sole and specified purpose of presentation at the Uniformed Services University of the Health Sciences (USUHS) Research Week, Bethesda, MD, May 2022. Any changes to the material submitted will require a subsequent clearance review prior to publication. Reuse of this approval is not authorized, as review and approval are required for every proposed use of the material.
4. If approached by the media for questions or comments regarding this material, please refer them to the WBAMC public affairs office or notify the WBAMC public affairs office as soon as possible thereafter if avoiding the interview is not an option.
7. The point of contact for this memorandum is the undersigned, William Beaumont Army Medical Center at (915) 569-3776; nicole.l.rowley.mil@mail.mil.

X ROWLEY NICOLE L. Digitally signed by ROWLEY NICOLE L. EIGH:1257619920
Date: 2022.04.26 12:08:28 -0500
MAJ Nicole Rowley, DVM, VC
Acting Chief, WBAMC-DCI