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**The Effectiveness of a Virtual Shared Medical Appointment on
Opioid Safety Education Participation in the Veteran Population
within a VA Health Care System**

A DNP Project Submitted to the
Graduate Faculty
of Jacksonville State University
in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Nursing Practice

By

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Jacksonville, Alabama

August 5, 2022

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Abstract

Background: From 2019 to 2021, there has been an increase in opioid prescribing, leading to the current death rate of 136 Americans per day from an opioid overdose (Centers for Disease Control and Prevention [CDC], 2021). In response to these shocking statistics, a Veterans Administration (VA) health care system initiated a face-to-face interdisciplinary opioid safety shared medical appointment (SMA). Although the face-to-face Opioid Safety SMA was successful in increasing opioid safety awareness, participation, and attendance for the SMA have declined over the last year.

Purpose: The purpose of the DNP project was to improve attendance for veterans participating in the Opioid Safety SMA within a VA health care system in 60 days thus increasing opioid safety awareness.

Methods: To improve attendance throughout the five-session SMA currently being completed face-to-face, a virtual SMA (VSMA) was implemented. Outcomes were measured by comparing attendance for all virtual sessions to past practice attendance results.

Results: The outcome data from chart reviews, pre- and post-VSMA implementation, reveal that a VSMA is statistically significant in improving the average percentage of attendance, average number of participants per session, and average sessions received per patient compared to the face-to-face Opioid Safety SMA.

Conclusion:. Increasing patients' access to the opioid safety SMA via a virtual platform and the tools necessary to participate increased attendance and participation in the evidence-based patient education program.

Keywords: opioids, opioid epidemic, shared medical appointment, group visit, telemedicine, virtual, VSMA, SMA

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The Effectiveness of a Virtual Shared Medical Appointment on Opioid Safety Education Participation in the Veteran Population within a VA Health Care System

The opioid epidemic is a global and national crisis that demands attention from health care providers and policymakers. From 2019 to 2021, an increase in opioid prescribing has led to the current death rate of 136 Americans per day from an opioid overdose (Centers for Disease Control and Prevention [CDC], 2021). In 2019, 70,630 American deaths involved an opioid (CDC, 2021). The White House (2017) called to action the need for community education on opioid safety. In 2020, in response to these statistics and needs, a Veterans Administration (VA) health care facility successfully initiated a face-to-face interdisciplinary opioid safety shared medical appointment (SMA). After declining attendance over the last year, this DNP project aimed to increase accessibility to the Opioid Safety SMA utilizing a virtual platform.

Background

National Statistics

In 2017, Human Health Services (HHS) declared the opioid epidemic a public emergency. To further explain the magnitude of the problem, 91 Americans a day and over 500,000 individuals have lost their lives in the past 20 years due to an opioid-related overdose (HHS, 2021). In 2020, Americans diagnosed with opioid use disorder (OUD) rose to 1.6 million (HHS, 2021). In addition to the cost of human lives, the cost of the opioid epidemic has greatly affected our nation. In 2017, it was estimated that the treatment of the U. S. opioid epidemic cost over one trillion dollars, including costs of OUD and opioid overdose treatment (Kuehn, 2021). With one in three Medicare Part D beneficiaries receiving an opioid prescription, inappropriate prescribing of opioids is one of the leading causes of the opioid crisis (HHS, 2021). The statistics reveal a concerning issue that has detrimental effects on our population but has even more significant consequences for the veteran population.

Effect on Veterans

Veterans are at an increased risk for OUD and overdose. The VA Office of Research and Development (ORD) (2021) noted over two million veterans have a chronic pain diagnosis, and one-third of those are prescribed an opioid for treatment. Twenty-four percent of veterans are prescribed controlled substances to treat this pain, and 12% are prescribed opioids (ORD, 2021). Fifty percent of those veterans age 65 and older experience chronic pain, making them the most at risk for chronic opioid dependency (ORD, 2021). In addition, veterans are twice as likely to die from an accidental overdose compared to non-veterans (ORD, 2021). Due to the severe consequences of opioid prescribing in the veteran population, alternative methods for chronic pain need exploration.

Social Determinants

The role of social and economic health determinants for veterans in the opioid crisis creates a need for a complex and interdisciplinary solution. Communities whose populations are economically unstable and have a high unemployment rate have a higher rate of OUD, addiction, and opioid overdose (Bohler et al., 2021). In addition, education directly correlates with increased employment opportunities, and people with higher education levels have a decreased rate of opioid overdose deaths. The National Center for Veterans Analysis and Statistics (NCVAS) (2019), found that 19% of veterans have an annual income of less than \$20,000 and only 35% have some college education (NCVAS, 2019).

Like many chronic diseases, communities with limited access to proper food and nutrition, poor housing conditions, and limited access to medical treatment have poor health outcomes (Bohler et al., 2021). In 2018, the Housing and Urban Development (HUD) Exchange determined that there are 37,878 homeless veterans. These veterans are at an

increased risk for substance misuse, including opioid use, and have limited access to transportation and health care (ORD, 2021).

National Strategies

Under President Trump, national strategies proposed by HHS and CDC focused on improving access to prevention and treatment, distribution of reversal agents such as naloxone, increasing public awareness, improving public health data reporting, and sharing, and advancing research and practice of addiction and pain (HHS, 2021). Almost \$900 million in grants and funding were approved in 2020 by Congress to assist state and local governments (HHS, 2021). Specifically, the National Institutes of Health (NIH) Helping to End Addiction Long-term (HEAL) Initiative was approved to research innovative solutions to the national opioid overdose crisis (NIDA, 2020). New initiatives and the national strategies mentioned demonstrate the severity of this epidemic.

Opioid Safety Shared Medical Appointment

In response to the opioid epidemic and its impact on the veteran population, a local VA Health Care System formed an interdisciplinary team to determine a solution for VA patients. The solution was an opioid safety SMA, a five-session interdisciplinary appointment that includes nurses, dietitians, pharmacists, providers, social workers, and psychologists. The curriculum utilized throughout the sessions included opioid statistics, opioid reversal agents, opioid side effects and risks, opioid dependence and withdrawal, and opioid tapering and alternative treatments. In addition to opioid safety, the patients received health coaching, created a personal health plan, a pain care plan, and learned a complementary health exercise at each session. The exercises included mindfulness, tai chi, yoga, and guided imagery. Specialists were brought in to discuss how pain can affect sleep, diet, emotions, and mood and various interventions to improve quality of life with a diagnosis of pain. Per the Whole

Health Opioid Safety Committee data collection, the Opioid Safety SMA successfully reduced Morphine Equivalent Daily Dose (MEDD) by 21%, increased knowledge regarding opioid safety by over 45%, and decreased pain scores over 12 months by 29%.

Needs Analysis

Although the face-to-face Opioid Safety SMA was considered an overall success, participation, and attendance for the five-session SMA have declined by 44% in sessions 3-4 and 49% by session 5 (three cohorts of 15 patients). A strengths, weaknesses, opportunities, and threats (SWOT) analysis was completed to assess current internal strengths and weaknesses, and external opportunities and threats. Internal strengths include that the current SMA has proven successful in decreasing opioid reliance. In addition, it determined that an interdisciplinary team is a robust approach that assists in addressing many issues related to pain and ultimately patients are satisfied. Internal weaknesses include space limitation, patient attendance, the time commitment for patients and providers, and buy-in from patients and leadership. After further assessment, barriers to attendance included transportation, cost of travel, and lack of time. External opportunities include making this successful program more accessible to other patients and patients throughout the VA utilizing a virtual shared medical appointment (VSMA). External threats include voluntary attendance and buy-in from patients and leadership to change the conversation and use new techniques to treat pain.

Problem Statement

The Opioid Safety SMA has proven successful in treating OUD. Continuous attendance and participation in the five-session SMA are vital to improved veterans' health outcomes. Attendance to the Opioid Safety SMA addresses opioid knowledge deficiencies and increases population knowledge of opioid safety practices and alternative pain treatments. This could ultimately lead to a decrease in opioid overdose among veterans. The PICOT question utilized in this DNP project is: for veterans who are participating in the Opioid

Safety shared medical appointment (SMA) at a VA Health Care System (P), what is the effect of an interdisciplinary virtual shared medical appointment (VSMA) (I) compared to a face-to-face interdisciplinary SMA (C) on attendance (O) in 60 days (t)?

Aims and Objectives

The overarching aim of this DNP project is to increase participation and attendance to the Opioid Safety SMA at a VA Health Care system in 60 days. To accomplish this aim, the delivery of the curriculum was modified to consider the new virtual format. This aim will increase opioid safety awareness and could potentially lead to decreased incidence of opioid overdose.

Review of Literature

Search Methodology

A literature review was performed to support this project utilizing the following dates: January 2015 to February 2022. Fifty-six articles were reviewed to ensure the most relevant evidence. The search revealed 28 randomized controlled trials (RCT) but currently no systematic reviews specific to VSMA were found; however, there were systematic reviews related to face-to-face SMAs. The author believes this is due to the concept of VSMA being a relatively new technique versus face-to-face models. The inclusion criteria included full-text articles published in English from 2015 to 2022 and from a peer-review journal. The search generated 18 studies. These studies included research, non-research, and a few editorials that supported the author's project with additional evidence and data. After a thorough appraisal of evidence, articles were selected based on the strength of evidence and relevance to the topic. Numerous databases were searched to acquire ample evidence, including Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, and Cochrane Library. The search used the following keywords: opioids, telemedicine, virtual

shared medical appointments, virtual group appointments, attendance, participation, and no-show rates.

Summary of Evidence

Evidence reviewed (Appendix A) concludes that SMAs or group visits successfully improve health outcomes in many chronic diseases, including chronic pain (Wadsworth et al., 2019). SMAs improve patient-provider relationships, patient trust, quality of care, quality of life, and clinical parameters reviewed. Specifically, with veterans and opioid usage, Romanelli et al. completed a study that concluded increased confidence levels of veterans who attended an opioid SMA on managing and treating their pain and decreased reported opioid use (2017). Although the evidence shows the success of SMAs, Wadsworth, et al. (2019) completed a systematic review of 26 studies utilizing face-to-face SMAs to treat chronic diseases that noted attendance and participation as a barrier. Integrating the virtual platform could potentially increase accessibility and attendance.

Ramdas and Swaminathan (2021), with the Cleveland Clinic, reported that during a time of decreased access to care and a provider shortage, alternative health care delivery systems, such as VSMAs, are critical in providing care to underprivileged and rural populations. The authors also cited that VSMAs increase patient self-care, compliance with medications, and engagement with health care.

Several smaller studies revealed relevant findings to the DNP Project. A study completed on young cancer patients receiving group psychotherapy, in-person and virtual appointments indicated that lower attrition rates were noted with the VSMA, ultimately leading to higher satisfaction rates among patients (Melton et al., 2017). In addition, a study completed on utilizing telemedicine to deliver a group intensive outpatient service with a large sample of 869 patients saw an improvement of attendance in their adult and adolescent

population. Considering other factors besides attendance, a cohort study by Reid et al. (2018) concluded that implementing a VSMA for Type 1 Diabetes led to high engagement, satisfaction, and improved peer support and relationships with the health care team.

Increasing accessibility to health care is of top priority, especially considering the current pandemic. In response, Patel et al. (2020) completed a feasibility and acceptability study on utilizing telemedicine for group visit provider encounters. Post-survey results showed that “participants (N=19) found telemedicine useful and easy to use (4.9/5.0, 4.4/5.0, respectively) and with excellent interface (4.3/5.0), interaction (4.6/5.0), reliability (4.2/5.0), and satisfaction (4.4/5.0)” (Patel et al., 2020, p. 1). In addition, the clinical improvements from the in-person group visits compared to the virtual group visits did not show a significant difference. Despite the small sample size, the study concluded that utilizing telemedicine in group visits is feasible, acceptable, and improves access to care.

Theoretical Model

Rosemarie Rizzo Parse’s Human Becoming Theory (2016) guides the practice of nurses to focus on quality of life as it is described and lived. Parse’s model, outlined in Appendix B, rates quality of life from each person’s perspective as the goal of the nursing practice (Parse, 2016). The model gives the nurse the ability to see the patient’s perspective. This allows the nurse to be ‘with’ the patient and guide them toward health goals (Parse, 2016). Patients with a diagnosis of opioid use disorder must be placed at the center of their health. Evidence shows patient outcomes are more successful when the patient is involved in health care decisions (Parse, 2016). Utilizing a patient-centered care approach in treating opioid use disorder will yield better outcomes. This theoretical model gives control to the patient to guide their health care. Utilizing the Human Becoming theory when implementing strategies to treat opioid use disorder will allow patients to use self-perspective and quality of life when considering this life change.

Methodology

This project was developed to increase accessibility to crucial opioid safety education for opioid use disorder. The primary intervention of this project was to implement an Opioid Safety VSMA instead of the current face-to-face Opioid Safety SMA. The hypothesis of this study was that the Opioid Safety VSMA would increase attendance compared to the face-to-face SMA. The literature has been reviewed and referenced for evidence to successfully implement this practice change.

Patients identified by their provider as being prescribed opioids for greater than 3 months were offered a recruitment flyer and received a follow-up call by a clerk to create appointments if interested. They were asked the following questions to determine if they were eligible: Can you participate in technology training? Do you have the ability to operate technology? Are you willing to participate in the virtual setting? If they answered yes to the above three questions, they were enrolled in the Opioid Safety VSMA.

Setting

The virtual appointments were held for an urban VA hospital for patients in primary care (PC) in Alabama. There are three primary clinics at this facility: gold, red, and blue providing active care to 32,591 patients. These patients are seen for a variety of chronic conditions and preventative care. On average, together these clinics see approximately 108 patients daily.

To conduct the VSMA, a virtual appointment was hosted on VA Video Connect, a virtual platform. Patients could utilize a mobile device, computer, or tablet to access the appointment from a place of comfort. Patients without a mobile device, computer, tablet, and/or WIFI access could opt-in to utilize a VA-loaned tablet. This tablet would be mailed to the patient's home along with troubleshooting instructions and a user's manual. The tablets have built-in Wi-Fi or 4G mobile data connectivity and pre-paid access to a national wireless

provider's data secure network. The tablets were limited to video communication and were loaded with videoconferencing software. The tablets did not allow for other connectivity outside of the VA Video appointments, such as outside internet access or phone calls.

Tablets were loaned out to the patient for the duration of the VSMA. At the end of the VSMA, the patient had 14-days to return the tablet utilizing the pre-paid shipping box sent to their home mailing address. Once returned, the tablets were disinfected by the local telehealth office. Only seven out of the 45 patients opted in to utilize a tablet. Of the seven that were utilized, five have currently been returned to the facility. The other two tablets are pending return.

Population

The target population were patients currently enrolled in the VA health care system who are prescribed opioids for greater than 3 months. Overall, 98 participants were referred by their providers to this program. Forty-five patients participated in the study, 22 opted to participate in the face-to-face SMA instead of the VSMA, and 31 patients opted not to participate in either version of the SMA. Due to the success of smaller groups in the face-to-face SMA, the 45 patients who participated in the VSMA were randomly divided into three cohorts.

Inclusion/Exclusion Criteria for Patients

Inclusion criteria included patients of the local VA health care system prescribed opioids for greater than 3 months, could participate in technology training, had the ability to operate technology, and were willing to participate in the virtual setting. Exclusion criteria included those that were not prescribed opioids or prescribed opioids for less than 3 months, patients outside of the local VA health care system, and patients who were unwilling or unable to operate technology or attend and participate in training. Local VA patients who

were excluded continued with face-to-face SMA sessions but were not included in project data.

Recruitment

Patients prescribed opioids greater than 3 months were asked by their primary care provider to attend the Opioid Safety SMA via a virtual platform. Patients who met the above criteria received a recruitment flyer and a phone call from the clerk to schedule their appointments. Participants were notified that the Opioid Safety VSMA was voluntary.

Consent

Prior to project participation, consent was obtained from all project participants (Appendix C). Participants were informed that participation in the quality improvement (QI) project was voluntary and of the process to stop participating at any point throughout the project. Participants were also notified that the sessions would not be recorded, although the appointment was virtual. Due to the limitations of confidentiality in a group appointment, specific ground rules were outlined in the consent. The ground rules were as follows:

- Participants were only required to share what they felt comfortable sharing
- Providers would not call on any patient for information. Patients would only share if they were willing and wanted to volunteer the information.
- Privacy and Confidentiality of the conversations that occurred during the VSMA did not leave the room of the VSMA
- All participants and providers would let participants share without unnecessary interruption

Design

Education regarding the virtual platform and equipment was provided before the sessions to ensure a successful virtual SMA. Participating veterans were mailed a kit that

included informed consent with a return envelope, the Opioid Safety SMA workbook, and detailed instructions on downloading and using VA Video Connect. If the participants notified the provider that they did not have the proper equipment or WIFI, they could opt-in to be provided a WIFI-enabled tablet with a hot spot for the duration of the VSMA. Prior to their appointment, participants were contacted as a reminder of their scheduled appointment. Participants also completed a tutorial on their equipment and the use of the virtual platform before their appointment. Once the VSMA was completed, the patients were required to return the tablets via a prepaid shipping box.

Framework

The Mobilize-Assess-Plan-Implement-Track (MAP-IT) framework was utilized to assess the interventions in this project for effectiveness. This framework was developed to assist communities in solving local health issues and developing community-wide health initiatives. The MAP-IT framework (Appendix D) prioritizes collaboration and building coalitions to improve health. Utilizing this framework assisted the author in outlining and organizing all objectives and strategies in the implementation of the Opioid Safety VSMA. The MAP-IT process started with gaining buy-in from the medical center leaders, who ensured a smooth and efficient process throughout the DNP project.

Risk and Benefits

The risk for patients was minimal for this DNP project and primarily centered around confidentiality. Risks were mitigated by breakout rooms for virtual patients who needed to speak privately with their providers which assisted in protecting privacy. In addition, creating and ensuring ground rules were enforced made participants feel safe sharing. The QI project adhered to all ethical standards to protect all patients involved.

The benefit of establishing a technique to disseminate opioid safety education outweighs the minimal risk. Community outreach and the opportunity to further educate patients on opioid safety could decrease the rate of opioid overdose and misuse.

Compensation

Participation in the study was completely voluntary and no compensation was provided to the patients.

Timeline

The project spanned 13 months, beginning in June 2021 and ending in July 2022 (see Appendix E). The timeline consisted of three phases: planning, implementation, and dissemination. Project preparation and planning occurred over six months and included gaining agency support, receiving Proposal Evaluation Review Committee (PERC) approval, completion of Collaborative Institutional Training Initiative (CITI) training (Appendix F), and obtaining approval from the relevant Institutional Review Board (IRB) (Appendix G). The implementation phase (January 2022-May 2022) consisted of project implementation, data collection, data analysis, and manuscript composition. The dissemination phase consisted of the final DNP Project presentation to end the timeline.

Budget and Resources

The resources utilized in this project include all members of the interdisciplinary team and the mailing and printing of materials. The DNP project reveals a cost savings of over \$5,000 associated with the use of VSMAAs over face-to-face SMAAs. The budget and resources utilized in this DNP project are summarized in Appendix H.

Evaluation Plan

Chart reviews were completed to collect attendance from three cohorts that participated in the Opioid Safety SMA via face-to-face from February to April 2021. This data was compared to the attendance collected from three cohorts that completed the Opioid

Safety VSMA from February to April 2022. The outcomes collected from both virtual and face-to-face sessions were compared via the attendance tracking sheet (Appendix I). It is important to note that participation was voluntary, and the Opioid Safety SMA was not a requirement currently to continue opioid therapy.

Statistical Considerations

Descriptive statistics were performed to analyze each participant's average and frequency of attendance. Utilizing excel, a two-tailed independent t-test was performed to ascertain a statistical difference between the two groups, face-to-face and virtual.

Data Maintenance & Security

All efforts were made to keep personal information in the research record confidential. Only a randomized ID code was utilized without any other personal identifiers on the excel spreadsheet where attendance was recorded. Attendance records remained double locked (in a locked file cabinet within a locked room) within the medical facility, and information was not removed from the premises until all identifiable information was removed. Data from the past attendance records and chart reviews were recorded similarly. After all aspects of the project were completed and the IRB was closed, all data was destroyed and disposed of per university and VA policy.

Results

Thorough data analysis occurred pre-and post-implementation of the VSMA. Variables and interventions remained consistent throughout the DNP project. Chart reviews were completed to collect attendance from three cohorts that participated in the Opioid Safety SMA via face-to-face from February 2021 to April 2021. This data was compared to the attendance collected from three cohorts that completed the Opioid Safety VSMA from February 2022 to April 2022 (see Table 1). A two-tailed, independent t-test was performed, with an alpha of ≤ 0.05 to test for significance. Clinical significance was calculated by the

average of SMA attendance pre- and post-VSMA implementation. The statistical data from this project are summarized in Table 2 and depicted via a graph in Figure 1.

Pre-implementation Results

The review of 45 charts established that the attendance of participants in the face-to-face Opioid Safety SMA varied from February to April 2021. An average of 9.47 participants attended each session of the face-to-face SMA and the average number of sessions attended per participant was 3.16. The average percentage of attendance across all three cohorts was 57.33%. It is important to note a consistently decreasing trend of attendance across the sessions. Forty-five patients were enrolled in the three face-to-face SMAs. In session 1, 35 of the 45 patients were present. By session 2, a total of 32 patients were in attendance and 27 in attendance for session 3. The two concluding sessions 4 and 5, had 23 and 25 patients, respectively.

Post-Implementation Results

The review of 45 charts following implementation of the Opioid Safety VSMA from February 2022 to April 2022 showed an average of 12.27 participants attended each session of the VSMA and the average number of sessions attended per participant was 4.09. The average percentage of attendance across all three cohorts was 81.78%.

A two-tailed, independent t-test was performed, with an alpha of ≤ 0.05 to test for significance for both average number of sessions attended per participant and the average number of participants who attended each session. The t-test performed on the average number of sessions attended per participant generated a p-value of 0.0001 which indicates a clinical significance in the findings. A p-value of 0.0009 was calculated for the average number of participants per session which also indicates clinical significance. An increase was also noted in the average number of sessions by +0.93 attended by each patient and an overall increase in attendance per session by an average of +2.8 patients. The average percentage of

attendance improved from 57.33% to 81.78% ascertaining a 24.45% increase. When examining attendance trends across the sessions of the VSMA, an improvement was noted with sessions 2-4 remaining consistent with 37 patients after the first session of 41 of 45 patients attending. By session 5, 32 of the 45 patients were in attendance.

Table 1

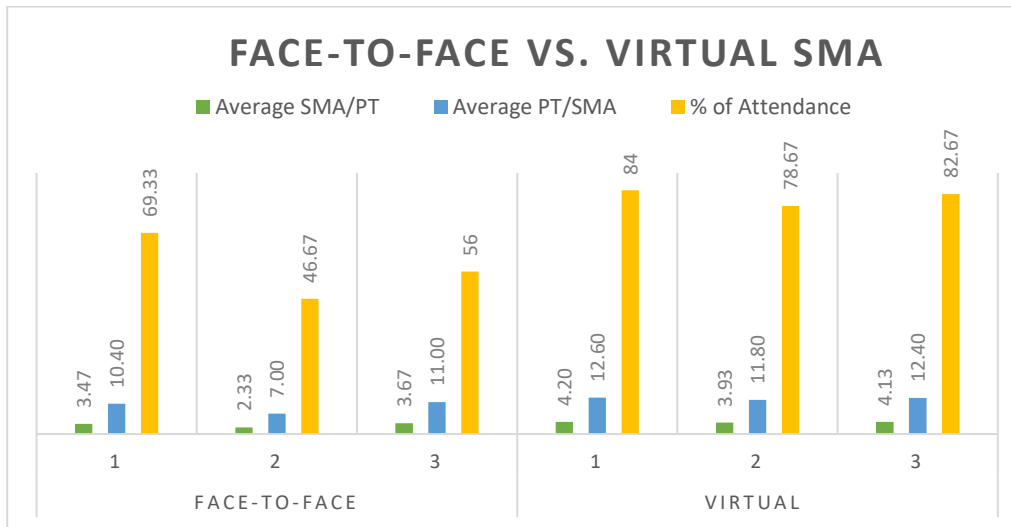
Pre- and Post-Implementation Results

	Face-to-Face			Virtual		
Cohort	1	2	3	1	2	3
Average SMA/PT	3.47	2.33	3.67	4.20	3.93	4.13
Average PT/SMA	10.40	7.00	11.00	12.60	11.80	12.40
% of Attendance	69.33	46.67	56	84	78.67	82.67

Table 2

Statistical Analysis

Attendance			Average SMA/PT		
	Face-to-Face	Virtual		Face-to-Face	Virtual
Mean	9.47	12.27	Mean	3.16	4.09
SD	2.53	1.44	SD	1.22	0.9
SEM	0.65	0.37	SEM	0.18	0.13
N	15	15	N	45	45
P value= 0.0009 $\alpha=0.05$ Increase in attendance by an average of +2.8 patients			P value=0.0001 $\alpha=0.05$ Increase in the average # of sessions by +0.93 attended by each patient		

Figure 1*Visual Representation of Results***Discussion**

The aim of this DNP project was to increase participation and attendance in the Opioid Safety SMA at a VA Health Care facility over 60 days. The theoretical framework utilized in this DNP project afforded a structure for curriculum development that is patient-centric and emphasizes self-efficacy. To accomplish this aim, the curriculum was delivered virtually to patients meeting inclusion criteria. The outcome data from chart reviews pre- and post-VSMA implementation suggests the DNP project aim was successfully achieved. Significant findings of this project include a statistically significant increase in attendance and individual SMA participation. Although the project was successful, data showed a consistent trend of declining attendance in both the face-to-face and virtual formats as sessions progress. This decline suggests that pertinent education should be shared in SMAs 1, 2, and 3 to ensure the greatest number of participants receive the most significant opioid safety education.

Implications for Clinical Practice

The DNP project contributes to existing evidence to show that VSMA's are an alternative care delivery model that increases accessibility and provides comparable

outcomes. VSMAAs have proven successful in increasing patient access to providers and increasing the efficiency of providers in their care (Ramdas & Swaminathan, 2021). The increased peer support provided through the SMA format allows patients with chronic diagnoses to hold each other accountable and relate to one another's individual experiences. This type of care delivery model could be utilized for various chronic diseases, such as cancer, diabetes, and/or heart disease.

Implications for Health Care Policy

The history and current state of the opioid epidemic has demanded government attention (APHA, 2015). The widespread use and prescribing of opioids contributed to the current opioid crisis (APHA, 2015). Current established efforts to decrease opioid reliance focus on forced tapering that produces short-lived results and leaves patients unsatisfied (APHA, 2015). Further funding for research, innovative strategies, and public awareness is necessary. The advanced practice nurse must continue to advocate for policies and laws to assist in combating this terrible epidemic.

This QI project outlines the success of alternative and innovative education regarding opioid safety. Other facilities and insurance companies may soon mandate opioid safety education for patients who are prescribed opioids for greater than 3 months. By mandating this education, an emphasis will be placed on health care facilities to find innovative methods to deliver this life-saving education to patients and prevent long-term complications, such as opioid neurotoxicity, increased risk for fractures, clinical depression, and sleep-disordered breathing (Baldini et al., 2012).

Implications for Quality/Safety

Birrell et al. (2020) found that VSMAAs provide patients with the ability to have increased time with their health care providers and receive peer support. Quality of care is not compromised as it is the same care patients would receive face-to-face. It is imperative to

ensure patients can speak to providers individually if requested. VSMA allows providers to see 2 to 10 times more patients to provide primary and preventative care (Birrell et al., 2020). Utilizing this care delivery model increases access to care for patients in rural areas and addresses a looming provider shortage.

Implications for Education

Evidence and health care policy discussed previously confirm education is a key component of preventing opioid overdose and encouraging opioid safety (APHA, 2015). The Opioid Safety SMA was an innovative approach to providing effective education. Although it was showing great success in increasing opioid safety awareness, a decline in attendance due to various factors called for a change in practice. This DNP project produced clinically significant results showing VSMA's provide an alternative process of disseminating this innovative education. VSMA's effectively deliver education when face-to-face sessions cannot occur or participant attendance is declining.

Limitations

Several limitations have been noted in this project and should be considered. Both face-to-face and virtual SMAs were conducted in a single-center VA facility. Demographic information including sex, race, and age was not collected from participants and could add value. The participants of the VSMA's received greater support for attendance as most received multiple forms of contact to ensure they received adequate training on the virtual platform and equipment which may have affected the results. In addition, the limited amount of level 1 and level 2 evidence reveals that there is a greater need for more research to be completed on VSMA's. To increase the clinical significance of this study, there is a need for larger cohorts, disseminating practice, and collecting data from other VA facilities that implement VSMA's.

An additional barrier to implementation was protected time to develop the VSMA for all participating providers. Leadership support for protected clinical time was supported at the start of the project but was inconsistent due to the COVID-19 pandemic and competing priorities. Engagement in the project by both providers and patients varied.

Another limitation noted was with connectivity problems. Some of the patients that did not opt-in to utilize the tablet, lived in rural areas and had poor broadband connection. After the first appointment with these issues, three of the patients opted-in to receive the tablet. Technology troubleshooting also cut into the appointment time. There was a 30-minute time commitment for each patient at the start of each cohort who participated in the VSMA to be educated on the virtual platform and equipment. A centralized number to receive technical assistance is needed for success. Currently, clinical staff are completing this role.

Dissemination

Results were presented to the Whole Health Opioid Safety Committee and the Medical Center Director. The presentation included a cost-benefit analysis to show cost savings and avoidance when opioid safety education is provided via a VSMA. The findings were also presented at the university's DNP Dissemination Conference via poster and presentation. In addition, the DNP manuscript will be placed in the University's Digital Commons Repository system.

Sustainability

The virtual delivery of the Opioid Safety SMA was adopted by the health care system and will be continued. This educational and care delivery practice will assist in improving attendance and provide social distancing and care during the endemic. It also assists with other barriers such as travel costs and transportation. The project will be shared regionally throughout the Veterans Integrated Service Network (VISN) as a proposed best practice. Greater clinical significance of the intervention can be achieved with implementation across

multiple health care facilities and in various patient populations. This project can be continued by future students addressing the barriers and limitations mentioned above.

Plans for Future Scholarship

This QI project identifies a new approach to delivering patient care, treatment, and education regarding opioids; however, further research is needed to determine the effectiveness of VSMA. This project focused primarily on attendance, but additional studies regarding outcomes, satisfaction, and overall feasibility would help support this evidence. In addition, further research is needed to overcome barriers identified such as improving confidentiality, providing technical support, and collecting data on demographics to determine if this approach is more significant in specific groups.

Since this project only reviewed 3 months of data across two different years, longer studies should be conducted to include hospitals in multiple locations and different populations. A study over a larger period could reveal additional barriers and/or continued compliance. Lastly, there is a need for more level 1 evidence to support findings and is imperative to broad practice change.

Conclusion

The opioid epidemic is taking the lives of hundreds of U. S. citizens a day, many of those are veterans. There is a demand for innovative methods to treat opioid use disorder and provide opioid safety education to patients and communities. The face-to-face SMA was proven successful with patients reporting decreased pain levels, decreased MEDD, and increased knowledge regarding opioid safety; however, the face-to-face SMA was showing decreased attendance and participation. The purpose of the DNP project was to improve attendance for veterans participating in the Opioid Safety SMA utilizing a VSMA. Although limitations were present, the project revealed statistically significant results on attendance when using the VSMA approach. These findings help support similar results from other

RCTs and studies. Further evidence should be completed to increase the body of research and to examine ways to mitigate the identified barriers. Increasing patient access to opioid safety education via VSMA could decrease opioid overdose rates, decrease complications from long-term use of opioids, and provide a strategy to end the opioid epidemic.

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Appendix A

Table of Evidence

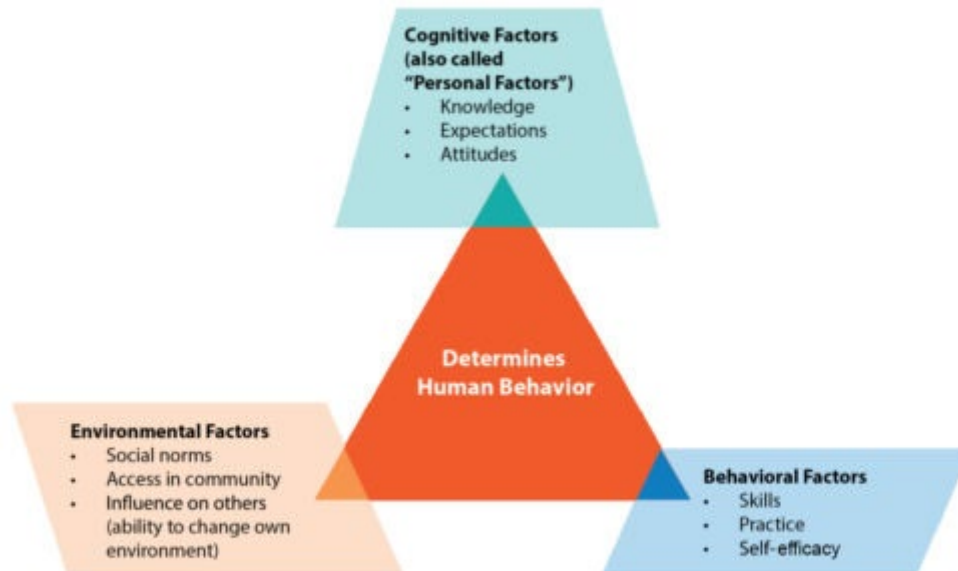
Article #	Citation	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Limitations	Evidence Level
1	<p>Melton, L., Brewer, B., Kolva, E., Joshi, T., & Bunch, M. (2017). Increasing access to care for young adults with cancer: Results of a quality-improvement project using a novel telemedicine approach to supportive group psychotherapy. <i>Palliative and Supportive Care</i>, 15(2), 176-180.</p> <p>doi:10.1017/S1478951516000572</p>	QI Project	<p>Setting: virtual-primary Care</p> <p>Sample: 8 pts (18-40 years old, 5-206 miles away from the facility)</p>	<p>Low attrition rates due to the virtual format of SMA</p> <p>Successfully increased access to care in rural areas.</p>	Small sample size	Level V
2	<p>Reid, M., Krishnan, S., Berget, C., Cain, C., Thomas, J., Klingensmith, G., & Raymond, J. (2018). coyot1 clinic: home telemedicine increases young adult engagement in diabetes care. <i>Diabetes Technology & Therapeutics</i>, 20(5), 370-379.</p> <p>http://doi.org/10.1089/dia.2017.0450</p>	Cohort Study	<p>Setting: Virtual-Primary Care</p> <p>Sample: 81 patients with type 1 diabetes (18–25 years of age)</p>	<p>High engagement, increased attendance, retention, and satisfaction among patients.</p> <p>Improved peer support and relationships with the health care team</p>	<p>Not randomized</p> <p>Appointments were free</p> <p>More direct contact versus the in-person appointments</p>	Level II

3	Wadsworth, K. H., Archibald, T. G., Payne, A. E., Cleary, A. K., Haney, B. L., & Hoverman, A. S. (2019). Shared medical appointments and patient-centered experience: a mixed- methods systematic review. BMC family practice, 20(1), 97. https://doi.org/10.1186/s12875-019-0972-1	Systematic Review	13 quantitative controlled trials, 11 qualitative papers, and two mixed methods studies	Improved patient trust, quality of care, quality of life, health outcomes, and decreased health care costs. Overall, attendance and participation are significant barriers in almost all studies utilized in the systematic review.	A limited number of articles to review due to specific search Inability to double-blind research Sampling bias may be noted in some of the reviewed articles	Level I
4	Patel, T. A., Johnston, C. A., Cardenas, V. J., & Vaughan, E. M. (2020). Utilizing Telemedicine for Group Visit Provider Encounters: A Feasibility and Acceptability Study. International journal of diabetes & metabolic syndrome, 1(1), 1–6.	Cohort Study	Setting: Virtual- Primary Care Sample: 19 patients with type 2 diabetes	Increased access to care and attendance Same improved outcomes were noted in the face-to- face appointments	Not randomized	Level II
5	Ramdas, K., Swaminathan, S. Patients could share virtual medical appointments for better access to telemedicine. Nat Med 27, 14–16 (2021). https://doi.org/10.1038/s41591-020-01187-4	Editorial	N/A	Virtual SMAs created greater access to underprivileged populations. Increase patient capacity for self-care, compliance with medications, engagement with health care.	N/A	Level V
6	Childs, A., Bacon, S., Klingensmith, K., Li, L., Unger, A., Wing, A., & Fortunati, F. (2021).	Cohort Study	Setting: Clinic, Virtual: Mental Health	Appointment attendance increased for telehealth versus in-person services for adolescents (χ^2	All markers of acceptability or outcomes were not examined	Level II

	<p>Showing up is half the battle: the impact of telehealth on psychiatric appointment attendance for hospital-based intensive outpatient services during COVID-19. Telemedicine and e-Health.835-842.http://doi.org/10.1089/tmj.2021.0028</p>		<p>Sample: 869 patients</p>	<p>(df = 1) = 27.49, $p < 0.0001$) and adults (χ^2 (df = 1) = 434.37, $p < 0.0001$).</p>		
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Appendix B

Theoretical Model: Human Becoming Theory



Appendix C

Participant Consent Form

Title of Study: The Effectiveness of a Virtual Shared Medical Appointment on Opioid Safety Education Participation in the Veteran Population within a VA Health Care System

Principal Investigator: Jana Falkner, MSN, RN

This consent form is part of an informed consent process for a DNP student project, and it will provide information that will help you decide whether you wish to volunteer for this project. It will help you understand what the study is about and what will happen during the project. If you have questions at any time during the project, you should feel free to ask them and should expect to be given answers that you understand entirely. After all your questions have been answered, you may complete the attached survey and participate in the educational sessions if you still wish to participate in the project. You are not giving up any of your legal rights by volunteering for this research project.

Purpose of the project

Due to various barriers, including transportation, cost of travel, time, and the current COVID-19 pandemic, a decline in attendance and participation in the current face-to-face interdisciplinary Opioid Safety Shared Medical Appointments (SMA) has been noted. With the opioid crisis rapidly growing, opioid safety education is imperative to decrease opioid overdose and abuse. This DNP project aims to increase accessibility to the interdisciplinary Opioid Safety SMA through a virtual platform. The study will take place over 60 days and review three virtual SMAs (5 sessions each) and be compared to the past practice of the face-to-face Opioid Safety SMAs to determine if the virtual platform increases attendance and accessibility.

What will you be asked to do if you participate in this research project?

You will not be asked to do anything additional to the Opioid Safety SMA curriculum. You will be provided with the equipment needed to participate in the virtual appointment, including a webcam. Please know that participants are not required to enable or turn on their webcam, although encouraged. A simple comparison of attendance will determine the outcomes of this project. Participation in this project is of no cost to you.

How will information about you be kept private or confidential?

All efforts will be made to keep your personal information in your research record confidential, but total confidentiality cannot be guaranteed. There will be no personal identifiers placed on the attendance tracking spreadsheet. The spreadsheet will remain double locked (in a locked file cabinet within a locked room) within the medical facility, and information will not be removed from the premises.

As this is a group appointment, it is essential to realize that other patients, caregivers, and spouses will hear the information that you share. Please understand that participants are not required to share any information that they do not feel comfortable sharing in front of the group. Providers will not call on any participants to provide information unless they are willing and volunteer the information. If participants would like to participate in the group visit model but would like to ask a provider in a private setting, a private room can be requested by the participant at the end of the virtual Opioid Safety SMA through the course leader. Instructions will be shared on how to do this. Participants will be informed as soon as they enter the room of the ground rules of the SMA, which include:

- Participants are only required to share what they feel comfortable sharing

- Providers will not call on any patient for information. Patients will only share if they are willing and volunteer the information.
- Privacy and Confidentiality of the conversations that occur during the SMA do not leave the room of the SMA
- All participants and providers will let participants share without interruption

At this time, if the participant does not feel comfortable participating in the group visit model, they will be provided the option to schedule a traditional provider appointment.

It is important to note that it will not be recorded although this session is virtual.

What will happen if you do not wish to participate in the project or if you later decide not to stay in the project?

Participation in this project is voluntary. Suppose you do not want to enter the project or decide to stop participating. You may choose not to participate, or you may change your mind at any time. You may also withdraw your consent to use data already collected about you, but you must do this in writing to Jana Falkner at jfalkner@stu.jsu.edu.

Who can you call if you have any questions?

If you have any questions about participating in this project, you can call the principal investigator: Jana Falkner, MSN, RN, at jfalkner@stu.jsu.edu.

AGREEMENT TO PARTICIPATE**Subject consent:**

I have read this entire form, or it has been read to me, and I believe I understand what has been discussed. All my questions about this form or this study have been answered. I agree to take part in this research study.

Subject Name (printed name):

Signature:_____ **Date:**_____

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed the study's complete contents, including all of the information contained in this consent form. All questions of the research subject and those of their parent or legally authorized representative have been accurately answered.

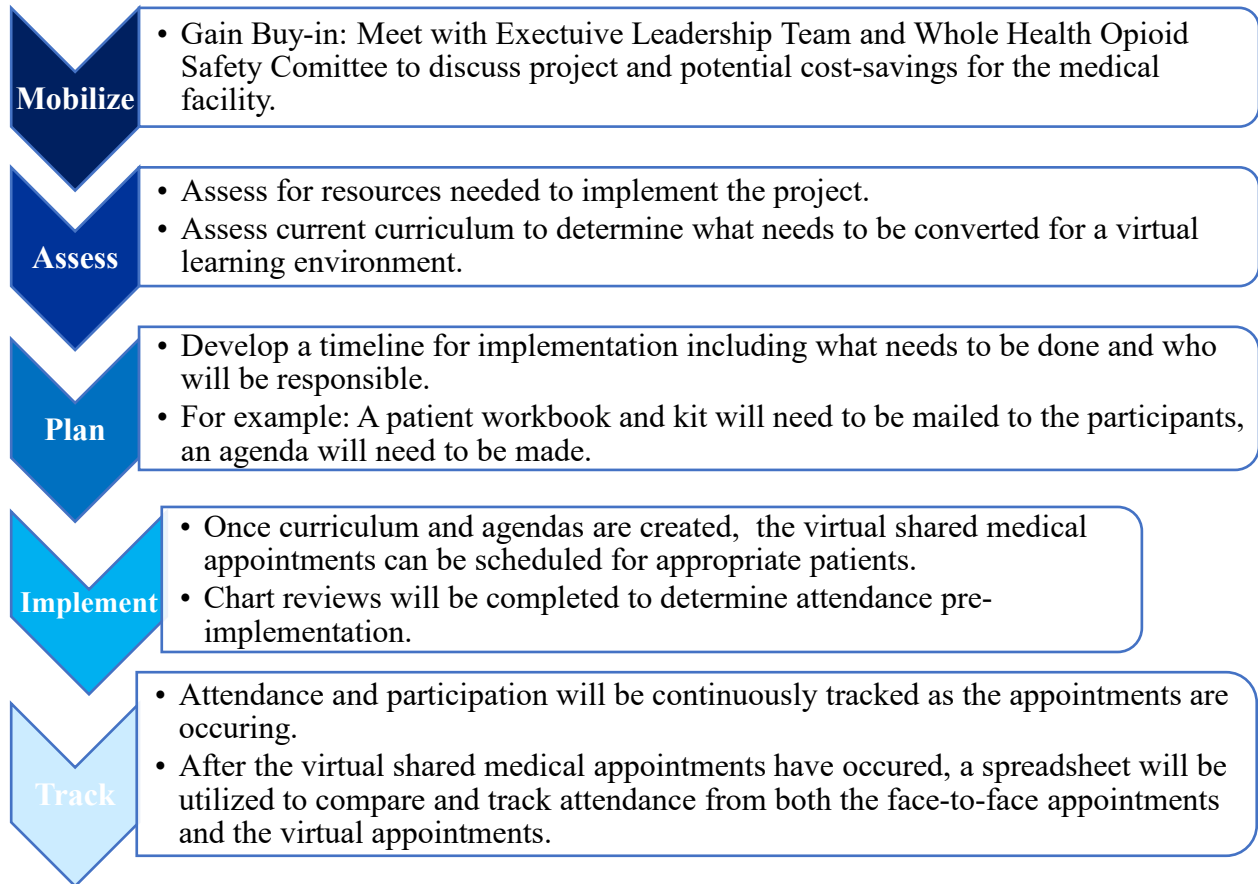
Investigator/Person Obtaining Consent (printed name):

Signature:_____

Date:_____

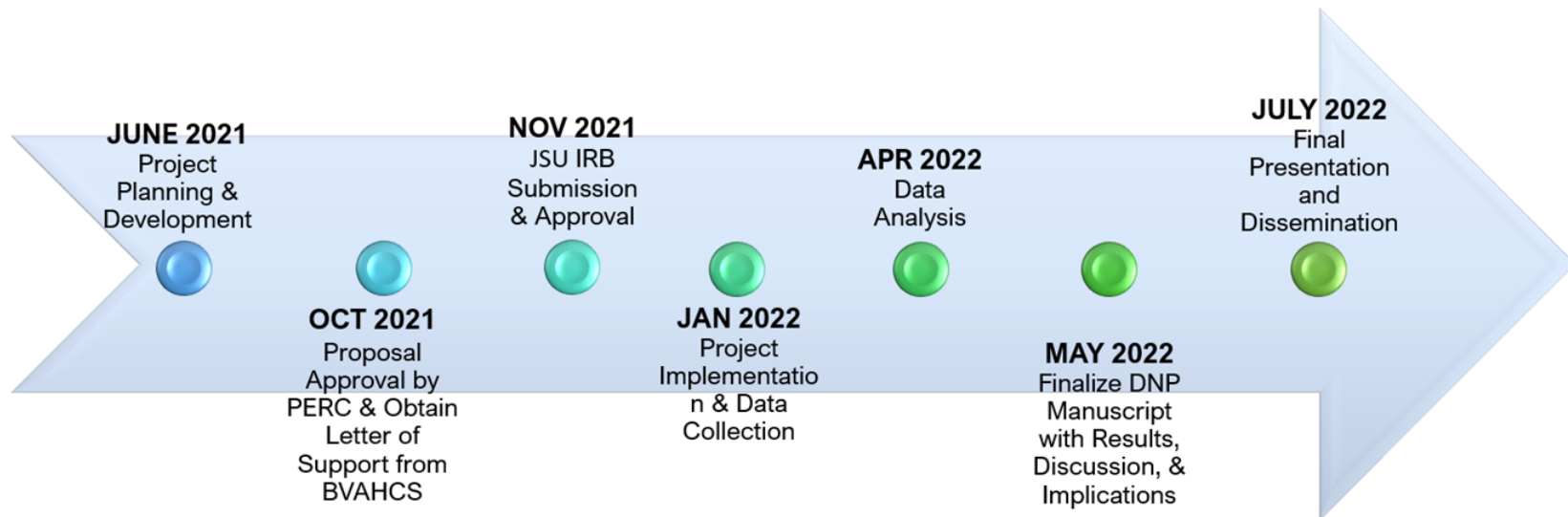
Appendix D

Mobilize-Assess-Plan-Implement-Track (MAP-IT) framework



Appendix E

DNP Timeline



Appendix F

CITI Training Certificate



Completion Date 13-Sep-2021
Expiration Date 12-Sep-2024
Record ID 45032778

This is to certify that:

Jana Falkner

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Social and Behavioral Responsible Conduct of Research

(Curriculum Group)

Social and Behavioral Responsible Conduct of Research

(Course Learner Group)

1 - RCR

(Stage)

Under requirements set by:

Jacksonville State University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w50446d1e-b562-477a-8a75-cd8d3cf99971-45032778

Appendix G

University IRB Approval



Institutional Review Board for the Protection of Human Subjects in Research

203 Angle Hall
700 Pelham Road North
Jacksonville, AL 36265-1602

December 3, 2021

Jana Falkner
Jacksonville State University
Jacksonville, AL 36265

Dear Jana:

Your protocol for the project titled "The Effectiveness of a Virtual Shared Medical Appointment on Opioid Safety Education Participation in the Veteran Population within a VA Health Care System" 12032021-02 has been granted exemption by the JSU Institutional Review Board for the Protection of Human Subjects in Research (IRB).

If your research deviates from that listed in the protocol, please notify me immediately. One year from the date of this approval letter, please send me a progress report of your research project.

Best wishes for a successful research project.

Sincerely,

A handwritten signature in black ink, appearing to read "Lynn Garner".

Lynn Garner
Associate Human Protections Administrator, Institutional Review Board

Appendix H

Budget

PROGRAM EXPENSE	FACE-TO-FACE SMA COST	VSMA COST
Salaries, wages (<i>Admin support, practitioners, statistics, or writing consultation</i>)	<ul style="list-style-type: none"> • Medical Doctor (MD) \$ 1,922.66 • Pharmacist (PharmD) \$ 1,061.21 • Dietician \$ 621.00 • Registered Nurse (RN) \$ 561.82 • Licensed Practical Nurse (LPN) \$ 387.03 • Medical Service Assistant (MSA) \$ 337.09 	<ul style="list-style-type: none"> • Medical Doctor (MD) \$ 1,922.66 • Pharmacist (PharmD) \$ 1,061.21 • Dietician \$ 621.00 • Registered Nurse (RN) \$ 561.82 • Licensed Practical Nurse (LPN) \$ 387.03 • Medical Service Assistant (MSA) \$ 337.09
Training Costs	\$ 6,129.00	\$ 6,129.00
Travel Pay	\$5,805.00	\$0
Supplies	\$ 55.14	\$ 805.14
Total Project Expenses	\$ 16,879.94	\$ 11,879.14

Appendix I

Attendance Tracking

Retrospective Review of Attendance for Past Face-to-Face SMA																	
COHORT #1- FACE-TO-FACE						COHORT #2- FACE-TO-FACE						COHORT #3- FACE-TO-FACE					
Name	SMA #1	SMA #2	SMA #3	SMA #4	SMA #5	Name	SMA #1	SMA #2	SMA #3	SMA #4	SMA #5	Name	SMA #1	SMA #2	SMA #3	SMA #4	SMA #5
Participant 1						Participant 1						Participant 1					
Participant 2						Participant 2						Participant 2					
Participant 3						Participant 3						Participant 3					
Participant 4						Participant 4						Participant 4					
Participant 5						Participant 5						Participant 5					
Participant 6						Participant 6						Participant 6					
Participant 7						Participant 7						Participant 7					
Participant 8						Participant 8						Participant 8					
Participant 9						Participant 9						Participant 9					
Participant 10						Participant 10						Participant 10					
Participant 11						Participant 11						Participant 11					
Participant 12						Participant 12						Participant 12					
Participant 13						Participant 13						Participant 13					
Participant 14						Participant 14						Participant 14					
Participant 15						Participant 15						Participant 15					
Participant 16						Participant 16						Participant 16					
Participant 17						Participant 17						Participant 17					
Participant 18						Participant 18						Participant 18					
Participant 19						Participant 19						Participant 19					
Participant 20						Participant 20						Participant 20					
X-Absence+1:24	✓-Attended																
POST-IMPLEMENTATION REVIEW OF ATTENDANCE WITH VIRTUAL PLATFORM																	
COHORT #1- VIRTUAL						COHORT #2- VIRTUAL						COHORT #3- VIRTUAL					
Name	SMA #1	SMA #2	SMA #3	SMA #4	SMA #5	Name	SMA #1	SMA #2	SMA #3	SMA #4	SMA #5	Name	SMA #1	SMA #2	SMA #3	SMA #4	SMA #5
Participant 1						Participant 1						Participant 1					
Participant 2						Participant 2						Participant 2					
Participant 3						Participant 3						Participant 3					
Participant 4						Participant 4						Participant 4					
Participant 5						Participant 5						Participant 5					
Participant 6						Participant 6						Participant 6					
Participant 7						Participant 7						Participant 7					
Participant 8						Participant 8						Participant 8					
Participant 9						Participant 9						Participant 9					
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Participant 12						Participant 12						Participant 12					
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Participant 17						Participant 17						Participant 17					
Participant 18						Participant 18						Participant 18					
Participant 19						Participant 19						Participant 19					
Participant 20						Participant 20						Participant 20					
X-Absence	✓-Attended																